

THE CONSTRUCTION PROJECT MANAGER AS COMMUNICATOR IN THE
PROPERTY DEVELOPMENT AND CONSTRUCTION INDUSTRIES

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Approval

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Signed: Date:
Prof JJP Verster (Head of Department and Study leader)

Declaration

I Benita Zulch declare that:

The thesis hereby submitted by me for the degree Philosophiae Doctor (PhD) at the University of the Free State is my own work and has not previously been submitted by me at another academic institution. I further more cede copyright of the thesis in favour of the University of the Free State.

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Benita Zulch (1984017218)

Abstract

Ineffective project communication may lead to project failure in respect of expected outcomes. Communication in the construction industry is important even though a qualified project team and manager plan, organise and manage a project.

The construction project manager needs communication skills to communicate effectively and manage projects successfully to expected completion.

The aim of this thesis is to propose a communication skills and leadership model for construction project management. Management of a project can apply the model. It can also be used to determine which communication skills the construction project manager should possess or should develop to communicate effectively.

The results of the research indicate that construction project managers need the basic skill of being able to communicate effectively, with decision making and problem solving as the most important communication skills.

A model is proposed to assist construction project management. This model can be developed further as an instrument to measure the maturity of a project manager or team.

Keywords: Communication, communication maturity, communication skills, communication skills and leadership model, construction project management, leadership

Opsomming

Oneffektiewe projektkommunikasie mag tot die mislukking van projekte lei, ten opsigte van die verwagte uitkomst. Kommunikasie in die konstruksie-industrie is belangrik, selfs al word projekte deur 'n gekwalifiseerde projekspan en bestuurder beplan, georganiseer en bestuur.

Die konstruksieprojekbestuurder benodig kommunikasievaardighede om effektief te kommunikeer en projekte suksesvol te bestuur tot verwagte afhandeling.

Die doel met die proefskrif is om 'n kommunikasievaardigheid en leierskap-model vir konstruksieprojekbestuur voor te stel. Die model kan deur projekbestuurders gebruik word. Dit kan ook help om te bepaal watter kommunikasievaardighede die konstruksieprojekbestuurder oor moet beskik of verder moet ontwikkel ten einde effektief te kan kommunikeer.

Die resultaat van die navorsing dui daarop dat konstruksieprojekbestuurders oor die basiese vaardigheid moet beskik om effektief te kan kommunikeer, met besluitneming en probleemoplossing as van die belangrikste kommunikasie-vaardighede.

'n Model word voorgestel om konstruksieprojekbestuur te ondersteun. Hierdie model kan verder ontwikkel word as instrument om die volwassenheid van 'n projekbestuurder of span te meet.

Sleutelwoorde: Kommunikasie, kommunikasievaardighede, kommunikasievaardigheid en leierskap-model, kommunikasievolwassenheid, konstruksieprojekbestuur, leierskap

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Part 1: Introduction to the study

Chapter 1: Research proposal

1.1 Title

The Construction Project Manager as communicator in the property development and construction industries.

1.2 Problem statement

The lack of effective communication and the application of communication skills in construction project management lead to project outcomes that do not meet project objectives.

The lack in communication skills of project managers and the negative influence of unsatisfactory communication are presumed; these form the main reasons for this study.

1.2.1 Sub-problems

Arising from the main problem the following sub-problems are identified:

- The importance of communication methods used in construction project management has not been determined properly.
- The effectiveness of communication through various methods in construction project management is perceived as being inefficient leading to disruptions in project executions.
- The incidences of communication problems during project phases lead to communication related failures.
- The leadership style of the construction project manager linked to communication may lead to some negative outcomes related to understanding, execution of work and completion of tasks.

- Determining the skills levels of construction project management in communication facilitates a better understanding of the problems related to project communication and project success.
- The application and use of communication skills by construction project managers seem to be ineffective; this may lead to project failure with regard to the desired outcomes.

1.3 Hypotheses

- The knowledge of which communication methods are important contributors to effective communication may support to project success.
- Determining the effectiveness of the applications of communication methods used in project management will enhance project outcomes.
- Determining the incidence of communication problems during project phases will enhance the possibility of corrective actions towards increased effectivity.
- The characteristics of the construction project managers contribute to communication problems or solutions.
- Determining the impact of the construction project manager's communication skills on the success of a project, related to the knowledge areas of project management, will assist in developing recommendations for improvement and a communication skills and leadership model to ensure enhancement of the project management environment.
- Developing the construction project managers' communication skills may lead to improved project outcomes.
- A communication skills and leadership model will assist effective communication enhancing project outcomes.

1.4 Objective of study

Communication in the construction industry is of such importance that even though a project is planned, organised and managed by a qualified project team and manager, failure in project communication may lead to project failure. The need to review communication in die building industry is evident, as stated by Miners (1969: 37).

Communication is important for the successful completion of a project and thus it is important to determine the skills needed to communicate effectively. Skills cannot be applied without communication, and as Heldman (2011: 33) states, “the most important skills a project manager possesses are communication skills”.

The objective of the study is to develop a communication skills model that may be applied by the project manager. It is important to also review the construction project manager’s leadership skills. Leadership, as one of the communication skills, is regarded as important during the production and management of projects.

Another objective of the research is to determine which skills the project manager should have or should develop to communicate more effectively.

1.5 Limitations

The study is limited to communication and communication skills applied by construction project managers.

1.6 Methodology

The basic method followed to acquire valid support for the hypotheses, was firstly reviewing the literature that interprets and determines the current knowledge, followed by empirical research to test theories.

A previous case study on a large construction project also contributed to the study. The case study is unique as it had been the largest project of its kind in Bloemfontein and the problems experienced correlate with the literature study. Research data was also collected by distributing and interpreting questionnaire to identified individuals. Interviews were carried out with experienced leading figures in the construction project management and property development industry.

The literature review, related to the questionnaire survey, enabled the researcher to determine the most important communication skills needed by the construction

project manager. Identifying and analysing aspects support the explanation of potential models. The communication skills of construction project managers were determined in terms of importance.

1.6.1 Literature review

The literature review attempts to analyse tendencies in communication skills theories and, more specifically, the communication skills of construction project managers.

The following sources were consulted:

- Conference records.
- Books.
- Journals.
- Dissertations and theses.

The literature review forms an integral part of the study. Previous research on communication skills of construction project managers is limited, but theories exist in other relevant sciences and professions which is relevant for this study.

1.6.2 Empirical review

The data was collected from quantity surveyors, architects, engineers, building contractors, project managers and construction project managers in South Africa. A questionnaire was circulated to a selected group of people and the response rate was 32%. Chapter 10 provides an analysis of the data analysis of the questionnaire.

The selection process was to identify a representative group of respondents with experience in the property development industry. The responses of the different professions made it possible to observe tendencies. The results from the responses on the questionnaire, as well as the interviews and the case study contributed to the research results.

1.7 Framework of study

Part 1: Introduction to the study

Chapter 1: Research proposal

Part 2: Literature review

Chapter 2: Construction project management

The definitions of construction project management and programme management are reviewed in the chapter dealing with project management in general. The life cycle and life cycle phases of construction and property development projects are also investigated in respect of communication.

Furthermore, the stakeholders, specifically the role of the project manager as a stakeholder, are reviewed in respect of the role of communication and communication skills.

Chapter 3: Construction project management knowledge areas

The aim of this chapter is to analyse and establish communication in the thirteen construction project management knowledge areas as identified by PMI (2008: 7) and the role of the construction project manager related to this.

A further aim is to determine which skills may be needed by the construction project manager as communicator to communicate effectively during the execution of a project.

Chapter 4: General communication in construction project management

The chapter on the processes of communication presents a review of the planning of project communication and communication.

Project communication levels and communication strategies to achieve the communication objectives of a project are reviewed. The process of how communication takes place in project management is analysed.

Chapter 5: Leadership in construction project management

Leadership in general and the definition thereof are reviewed. Communication is an important element in leading a project during the execution and management of projects, and in communicating with the construction project team and stakeholders, therefore the construction project manager needs leadership skills to manage a project.

This chapter provides an investigation of the components, traits and competencies of project leaders.

Chapter 6: Construction project management communication skills

This chapter offers reviews and determines the skills needed by a construction project manager in order to communicate effectively as a communicator in the property development and construction industry.

Chapter 7: Leadership styles and leadership communication

The styles of leadership needed by the construction project manager to ensure effective and successful project outcomes are reviewed.

Leadership and management, leadership and communication and leadership failures are reviewed in respect of the construction project manager as communicator.

Chapter 8: Communication skills and leadership model for construction project managers

This chapter provides the model developed that may be used by construction project managers as communicators and leaders to enhance the effectiveness of communication during the execution of projects.

Part 3: Empirical review

Chapter 9: Case study in project communication

A case study to indicate the importance of communication during the execution of a project is analysed.

The case study may also contribute to developing the communication skills and leadership model for construction project managers.

Chapter 10: Empirical data presentation, interpretation and discussion

This chapter provides an analysis of the empirical data.

Respondents' opinions are interpreted to determine which communication skills may enhance effective communication and which style of leadership may be the most appropriate to apply during construction communication.

Part 4: Conclusion

Chapter 11: Summary of the study, findings and conclusions

In this chapter the literature review and the empirical data are compared to construct deductions, leading to findings and conclusions.

Chapter 12: Proposed model for construction project management communication

The model is proposed as a possible enhancement tool for improved communication of construction project managers as well as the improvement of their general communication skills.

Part 2 contains the literature review and attempt to analyse tendencies of theories in construction project management, the construction project management knowledge areas, leadership in construction project management, communication and, more specifically, the communication skills of construction project managers. Leadership styles that construction project managers may apply to enhance communication are also reviewed.

Part 2: Literature review

Chapter 2: Construction project management

2.1 Introduction

In Chapter 2 construction project management is reviewed in order to establish the current role of communication in the management of property development projects. Project management in general is also reviewed, including construction management, programme management, and specifically project management; the life cycle and life cycle phases of construction and property development projects are also included.

Project managers and the other stakeholders are reviewed in respect of the role of communication and communication skills in the profession.

Knipe, Van der Walddt, Van Niekerk, Burger and Nell (2002: 3) state that the origin of a form of managing a project may be traced back as far as the construction of the Great Wall of China. This means that project management has existed for centuries.

The function of communication in ensuring project success is fundamental (Burke, 2010: 280).

The origin of modern project management as a discipline dates back to 1930 with the United States Air Corporation and Exxon's coordinated project engineering function (Healy, 1997: v). In the 1950s the project manager's position was seen as the single point of responsibility, with authority over a pool of resources (Burke & Barron, 2007: 24).

In the 1960s the interest in project management was reflected in the formation of Europe's International Project Management Association (IPMA) and North America's Project Management Institute (PMI) in 1969 (Knipe *et al.*, 2002: 3).

The emphasis moved from an implementation phase only to including the design and development phase during the 1970s, while project management software brought a revolution in project management with the added advantage of sharing information during the 1980s. An approach of management by projects started during the 1990s (Burke & Barron, 2007: 24) and for the first time project management gained popularity in the government sector (Knipe *et al.*, 2002: 3). Since 2000 the focus and emphasis have been more on the project environment (Burke & Barron, 2007: 24).

The definition of construction project management and the components of the definition are reviewed next.

2.2 Definition of construction project management

Communication within the project environment is seen as an important function of management processes (Hoard, 2003: online). Communication does not function in isolation but within processes; it is thus important to also review the definitions and meaning of the elements of project management processes, such as the project, programme, management, and project management, in the context of the study.

2.2.1 Definition of a project

“A project is any planned, temporary endeavour undertaken to create a unique product, service or other complete and definite outcome within a limited time scale and budget” (Steyn, 2008: 3).

Wysocki (2007: 486) defines a project as “a sequence of unique, complex and connected activities having one goal or purpose and that must be completed by a specific time, within budget and according to specification”.

The shortest and simplest definition, according to Turner (in Knipe *et al.*, 2002: 10), is that a project is “something with a specific beginning and an end”.

2.2.2 Definition of a programme

Wysocki (2007: 6) defines a programme as a collection of projects. Projects must be completed in a specific order for the programme to be considered complete, because programmes consist of multi-projects.

“The coordination of related projects, which include related activities that together achieve a beneficial change of nature for an organisation” (APM Body of Knowledge, 2006: 6). According to Knipe *et al.* (2002: 12) a programme is a group of projects managed in a coordinated way to obtain benefits not available by managing them individually.

The SACPCMP (2006: 3) defines a construction programme as the programme for the works indicating the logic sequence and duration of all activities to be completed by contractors, subcontractors, and suppliers, in appropriate detail, for the monitoring of progress of the works.

Schedules are also referred to as programmes; in other words, the critical path method (CPM) and programme evaluation and review technique (PERT) (Oosthuizen, Koster & De La Rey, 1998: 56).

Thus programmes regarding the combination of projects, programmes and differences that refer to time schedules, should be understood.

2.2.3 Definition of management

Management forms the foundation of project management (Clements & Gido, 2012: 24). It is therefore important to review management literature regarding functions and communication.

Management is defined in many ways, but for the purpose of this study and as background it is seen as the process of planning, organising, leading, coordinating, activating and controlling the resources of the organisation to achieve the stated

goals as productively as possible (Smith & Cronje, 2002: 10). According to Kroon (1990: 11) there are additional management functions such as decision making, communication, motivation, delegation, staffing and disciplining. Keuning (1998: 30) adds interpersonal effectiveness as an additional management function.

Planning entails examining and choosing between various ways of using opportunities, countering threats and achieving objectives. Decisions begin with identifying and evaluating opportunities and threats, as well as internal strengths and weaknesses (Smit & Cronje, 2002:10; Strydom, Jooste & Cant, 2002: 25-27).

Organising and coordinating involves the creation of an organisational structure best suited to implementing the decisions in order to achieve objectives. Activities are grouped rationally and individual divisions and managers are tasked with carrying it out. The levels of authority, areas of responsibility, lines of communication and methods of coordination are determined. Cooperation or coordination is achieved by integrating the people involved in the project (Smit & Cronje, 2002:10; Strydom *et al.*, 2002: 25-27).

Leading involves tasks such as staffing, communicating and motivating. Leading embraces all the decisions into practice. Control is executed by management, and its purpose is to align actual performance with plans (Strydom *et al.*, 2002: 25-27).

Activating is the process of influencing people in such a way that the personnel enthusiastically contribute towards work activities in order to achieve goals as efficiently as possible (Smit & Cronje, 2002:10).

Decision-making is the process whereby alternative solutions to a problem are purposefully considered and the best alternative is chosen after considering the consequences, and advantages and disadvantages, of each alternative (Kroon, 1990: 11-13).

Motivation comprises all attempts made by the manager to get members to the point where the team strives to do the best to achieve the goals (Kroon, 1990:11-12).

Delegation refers to the allocation of duties, authority and responsibilities to members with the purpose of easing the manager's task and enabling meaningful and more efficient work performance (Kroon, 1990: 11-13).

Staffing mainly entails the recruitment, selection, placement, induction, training, promotion, transfer, demotion, termination of service, and remuneration of members (Kroon, 1990: 11-13).

Disciplining refers to the shaping of a member's behaviour to guide activities in order to ensure achievement of the stated goals. Two types of discipline may be used, namely positive discipline such as the expression of thanks, praise or recognition, or negative discipline that is based on warning and punishment (Kroon, 1990: 11-13).

Communication involves all forms of oral, written and non-verbal communication in the transfer of a message by any means, and is concerned with the activities of the project between team members (Smit & Cronje, 2002: 9).

Interpersonal effectiveness involves persuasive power, influence, assertiveness and leadership (Keuning, 1998: 30).

According to Smit and Cronje (2002: 9) planning, organising, leading, controlling and communication as main functions link up in a specific sequence to form a process.

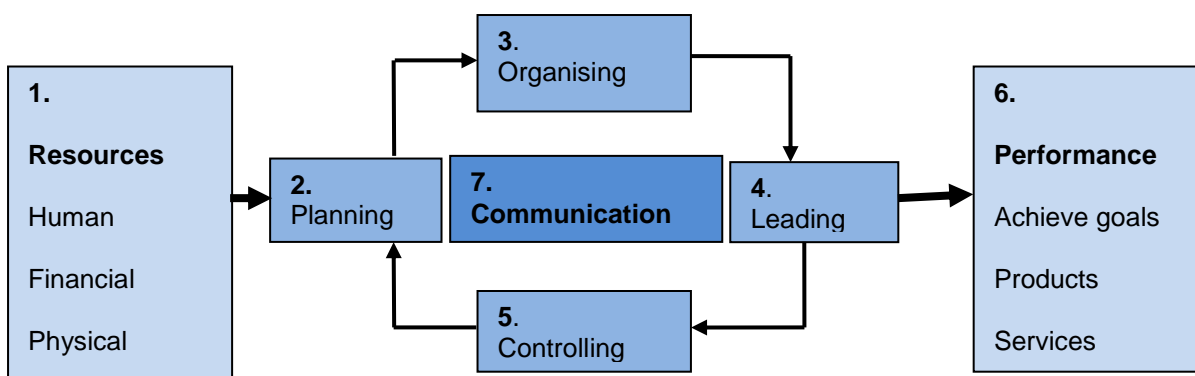


Figure 1: Four management functions constituting the management process (Adapted from Smit & Cronje, 2002: 9)

Figure 1 illustrates the process in a sequence of actions. Resources such as human, financial and physical are changed into performances such as goals by applying the management process. The management process starts with resources (1) followed by planning (2), organising (3), leading (4) and control (5). Communication (7) is shown at the centre of the sequence of actions towards performance (6).

In construction project management, communication is the function in the management process that assists planning, organising, leading and control that transforms resources into goals, products, services and therefore performance.

The functions of management do not occur in a systematic sequence. At any given time, a project manager may be engaged in several management functions, simultaneously applying resources such as finances and personnel to achieve goals and deliver products and services. The complex process of management and the flow of information between the project manager, the team members and parties involved during the project are shown in Figure 2. The bold lines indicate how, in theory, the functions of management are linked. The solid lines represent the process of management. It is important to note that communication is central to all the functions.

Communication channels are important, specifically in respect of the following channels: vertical, horizontal, across (Strydom *et al.*, 2002: 498) and lateral (Robbins, Odendaal & Roodt, 2003: 227). Charvat (2002: online) emphasises upward, downward and lateral links as the three channels that project managers need to establish once the project has started, to ensure communication between all the people involved. The channels of communication seem to be important for effective communication.

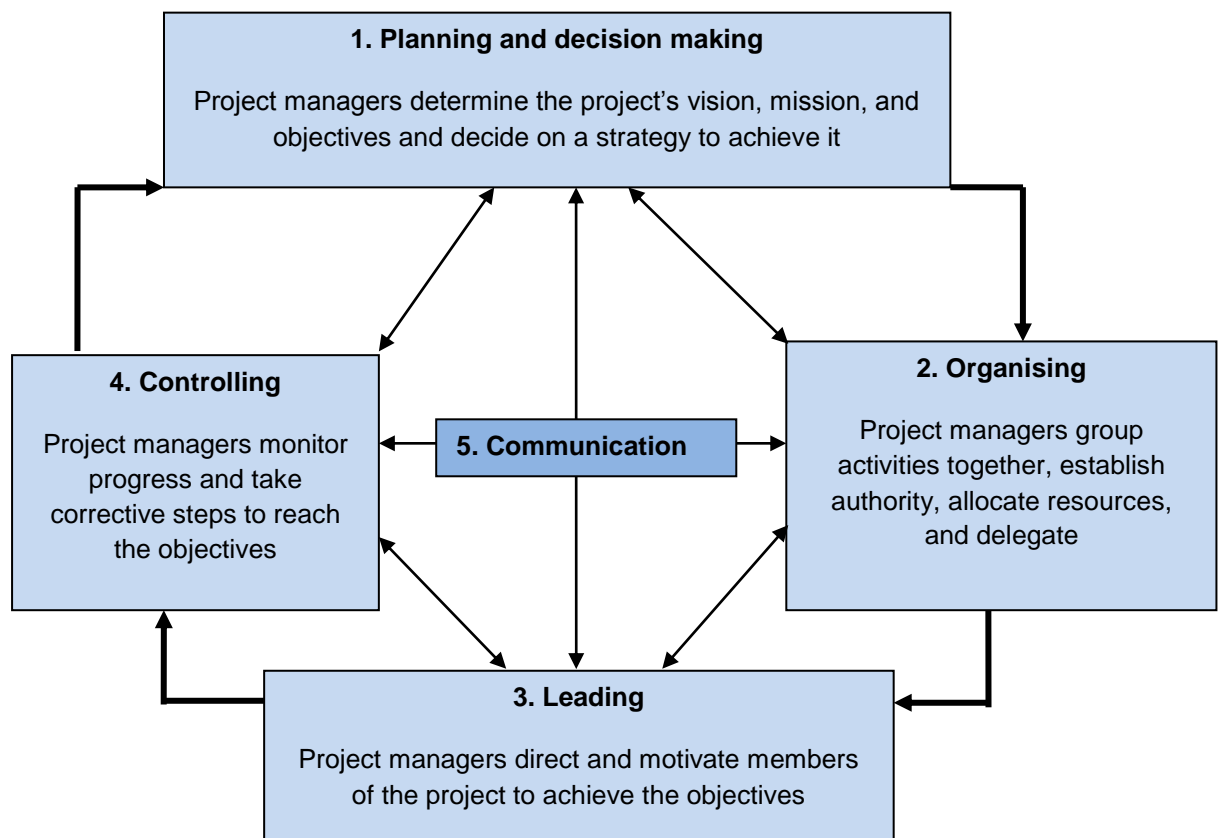


Figure 2: The management process
 (Adapted from Smit & Cronje, 2002: 10)

Figure 2 shows the important role of communication in respect of management, and illustrates that communication is inevitably also important in other management spheres such as construction project management.

Planning, organising, leading and controlling are all part of the construction project manager's functions, and communication is the important link between these functions.

James Lincoln (Thompson & Strickland, 1998: 919-920) states: "management is the coach who must be obeyed, the men, however, are the players who alone may win the game".

2.2.4 Definition of project management

The APM Body of Knowledge (2006: 2;151) defines project management as the process by which projects are defined, planned, monitored, controlled and delivered in such a manner that the agreed benefits are realised. These are similar to the main functions of management, namely planning, organising, leading and controlling.

Projects are unique, transient endeavours undertaken to achieve a desired outcome. Projects bring change and project management is recognised as the most effective way to managing such changes. Project management is the application of knowledge, skills, tools and techniques to project activities in order to meet stakeholders' needs and expectations of a project (Burke, 2003: 3). Knipe *et al.* (2002: 14) indicate that the best approach is to determine, in advance, the who, what, when, where and how of a project; this implies defining and planning.

The project management process may be subdivided into five key processes, which are linked by the results. The outcome of one process is often the input to the next process (Burke & Barron, 2007: 30).

The project management processes are the following, as proposed by Burke and Barron (2007: 30):

- Initiating process – starts the project.
- Planning process – selects and develops the best course of action.
- Execution process – integrates, instructs and coordinates people and resources.
- Controlling process – ensures the project objectives are met by monitoring and measuring progress.
- Closing process – accepts the project and ends it.

2.2.5 Definition of construction management

According to Bale (2010: 4-7) The Chartered Institute of Building (CIOB) defines construction management as:

“the management of development, conservation and improvement of the built environment; exercised at a variety of levels from the site and project, through the corporate organisations of the industry and its clients, to society as a whole; embracing the entire construction value stream from inception to recycling, and focussing upon a commitment to sustainable construction; incorporating a wide range of specialist services; guided by a system of values demonstrating responsibility to humanity and to the future of the planet; and informed supported and challenged by an independent academic discipline.”

A construction project cannot be managed without communication.

2.2.6 Definition of construction project management

The SACPCMP (2006: 3) defines construction project management as “the management of projects within the built environment from conception to completion, including management of related professional services. The Construction Project Manager is the one point of responsibility in this regard”.

2.2.7 Position of the construction project manager in construction industry in South Africa

The position of the construction project manager in the construction industry in South Africa is illustrated in figure 3.

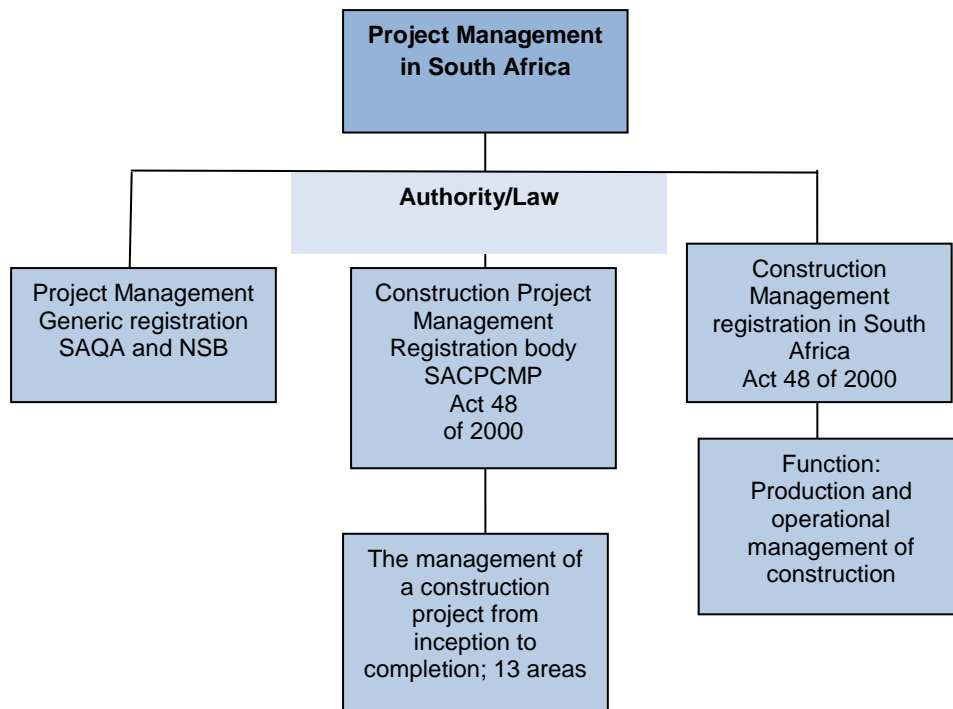


Figure 3: Construction project management in South Africa

Project management in South Africa is summarised in the figure above. Registration to function as a construction project manager is regulated by legislation. General project management is not part of the scope of this research and regulated by the South African Qualification Authority and the National Standards Body. The construction project manager manages the 13 knowledge areas (refer to Chapter 6 in this study) while the construction manager manages the production and operation of a construction project.

Project life cycle and life cycle phases are therefore reviewed.

2.3 Project life cycle and life cycle phases

Kerzner (2009: 69-71) lists the phases generally found in certain industries. In the engineering industry, the phases are start-up, definition, main phase and the termination phase. The computer programming industry uses the conceptual, planning, definition, and design and conversion phases. The Royal Institute of British Architects (RIBA) Plan Of Work organises the process of managing and

designing building projects and administering building contracts into a number of key work stages that are specifically suited for projects within the built environment (RIBA, 2007). The stages referred to are: preparation, design, pre-construction, construction and use phase. The South African Council for the Quantity Surveying Profession (SACQSP, 2010: 5) divides projects into the inception, concept and viability, design development, documentation and procurement, and the construction and close-out phases. Within industries, the phases may differ depending on the organisation. Burke and Barron, (2007: 31) state that a project's life cycle may be subdivided into four sequential phases, namely concept and initiation, design and development, construction and implementation, and commissioning and hand over.

By subdividing the project into smaller phases of work, the project manager is able to better control the scope of the project. PMBOK (2008: 16) states that the concept and initiation, design and development, construction and implementation, and commissioning and hand over phases or life cycle structure are often referred to during communication with upper management or other entities less familiar with the details of the project. It provides a frame of reference for comparing projects, even dissimilar in nature.

The first phase, namely the conceptual phase, includes the preliminary evaluation of the idea. A risk analysis and feasibility study of the effort is part of this phase (Kerzner, 2009: 69). Steyn (2008: 22) states that the need for the project is clarified during this phase. The second phase, planning, requires identifying the resources required and establishing realistic time, cost and performance, as well as preparing documentation to support the process (Clements & Gido, 2012: 9; Kerzner, 2009: 69-71). The third phase, testing, involves the testing and final standardisation, so that operation may begin to produce the project deliverables (Clements & Gido, 2012: 9; Kerzner, 2009: 69-71). Almost all documentation must be completed in this phase. The final phase is closure and includes the reallocation of resources. At this phase, evaluation of the total project takes place, which serves as input to the first phase of the next project (Kerzner, 2009: 69-71; Steyn, 2012). Steyn (2008: 23) divides the last phase into two different sub-phases: the first part is the hand over to the client and project closure, and the second part the support or maintenance of

tangible products. This is not applicable to all types of projects; it is however applicable to construction project management.

The significance of communication, communication links and communication instruments such as risk reports, feasibility proposals, cost plans and documentation are done from the conceptual phase, throughout the life cycle and phases of a project to the closure of a project (Kerzner, 2009: 68-73).

To attend to the wider project, the term product life cycle is used (Burke, 2007: 53). However, this study is limited to the phases included from inception to physical conclusion, excluding the life cycle after conclusion.

The project manager's skills and roles are reviewed next.

2.4 Project manager's skills and roles

Philip of Macedon rescued his country from collapse and when asked to name the most formidable foe, he named Demosthenes (384-322BC), an orator and communicator in the Athenian court, with a background far removed from what might have been expected of a warrior or even an inspirational leader. Demosthenes received two pieces of advice as a young man: speak with positive intent and prepare your body for effective communication (Oschadleus, 2010: online). This illustrates the need to learn to communicate and to be able to communicate.

Steyn (2008: 247) indicates that the project manager is the bonding medium holding the project together. The success or failure of a project is influenced by the project manager's appointment.

The value added to a project by the project manager is unique; no other method or process adds similar value (Stephenson, 2008: 17). Miners (1969: 41) states that many experts consider efficient communication in building to largely depend on the availability of a key coordinator, with the status, authority and ability to ensure that whatever is necessary will be done. The project manager is the single point of

responsibility for a project. A successful project manager has to perform various roles and many of these simultaneously. Mabelo (2011: 22) states that project managers who lack skills are a “common cause of project failure”. According to Hauptfleisch and Siglé (2004: 57) the project manager very specifically requires leadership skills and not only management ability.

The project manager needs to apply general management principles in the project environment (Steyn, 2008: 247; Steyn, 2012). A number of roles are identified for the project manager, such as:

- Planning activities, tasks, schedules and budgets.
- Organising, selecting and placing the project team.
- Leading the project team.
- Controlling activities and schedules.
- Ability to select and develop a team and motivation of the team.
- Communicating with the project team and all stakeholders.
- Problem solving, decision making or knowledge where to find help.
- Negotiating and persuading.
- Understanding the environment (Baguley, 2010: 97; Burke, 2003: 12; Knipe *et al.*, 2002: 208; Steyn, 2008: 221).

The project manager performs various roles, but needs skills to attend to these roles. These skills include the following:

- Communication skills that include skills to deal with regular and effective communication with the stakeholders involved in the project.
- Interpersonal skills that include oral and written communication skills, which are used to establish an interpersonal relationship with team members.
- Stress handling skills to deal with any stressful situation that might arise during the project.
- Problem solving skills to identify problems and to solve those problems in time in order not to affect the project negatively.

- Management skills to manage meetings and activities as well as unexpected events successfully and effectively, to ensure that the project is delivered on time.
- Presentation skills are required to present presentations to customers, suppliers and the team members from time to time. These presentations should be structured logically and timely.
- Leadership skills include the ability to inspire or motivate the project team as well as the ability to develop people in such a way that the goals of the project are achieved (Belzer, in Stevenson & Starkweather, 2009: 665; Du Plessis, 2009b: online; Egeland, 2010: online; Steyn, 2008: 250-251).

In this study the difference between leadership as a communication skill and communication as a leadership skill is defined as follows:

- Leadership as a communication skill: Steyn (2012: 269) refers to leadership as functions to get things done through others in other words the project team. Leadership includes delegation, coordination and communication to all levels (Van der Walt, Strydom, Marx & Jooste, 1996: 460). Leadership is furthermore seen as a process of directing the behaviours of others (Smith & Cronje, 2002: 278). Leadership is by definition therefore also a communication skill.
- Communication as a leadership skill: A leader must ensure that resources implement strategy, decisions and values, and should therefore inevitably possess strong communication skills. These skills are discussed in Chapter 6 that refers to the 18 communication skills. These skills are thus seen as integral parts of leadership skills.

Belzer, in Stevenson and Starkweather (2009: 666) adds decision making, trustworthiness and creativity and Barry (2010: online) adds team building and problem solving as skills needed by project managers in order to ensure project success.

This research focuses on the skills needed by project managers to communicate successfully. All the above-mentioned skills are important, but the project manager will not achieve anything without communication skills. The skills referred to above,

and more specifically leader communication skills, assist the project manager to perform effectively.

As stated by Clutterbuck and Hirst (2002: 353) “leaders who do not communicate well are not really leading at all, it is one thing to have the position, another to fulfil the role”.

Egeland (2010: online) and Campbell (2007: 20) confirm that communication is an important characteristic of the project manager. Verma and Wideman, in Du Plessis (2009a: 27) mention the importance of leadership to the success of projects, because leadership is essentially about inspiring people in order to achieve a desired outcome. Belzer, in Stevenson and Starkweather (2009: 667) confirms that leadership and communication are “extremely important” criteria for the successful completion of a project.

The statement by Heldman (2011: 33) “the better the project manager communicating, the smoother the project will go”, confirm the importance of communication.

The stakeholders involved in a project are important and are reviewed next.

2.5 Stakeholders of a project

Stakeholders are all those who have an interest or role in the project or are impacted by the project (APM Body of Knowledge, 2006: 20). Steyn (2008: 12) states that the project teams identify the stakeholders, determine their needs and expectations and then manage and influence those expectations to ensure a successful project. A stakeholder is any person or organisation that forms part of the project team, or has an interest in the project or that may be affected by the project (Steyn, 2008: 12; Steyn, 2012).

Stakeholders include the following: the project manager, who is the individual responsible for managing the project; the client/customer who is the individual or

organisation that will use the project product; the sponsor that is the financier such as a bank or an individual(s) who provides the financial resources for the project, and the performing organisation, which is the organisation whose employees are directly involved in “doing the work” at the project (Knipe *et al.*, 2002: 34). Steyn (2008: 13) adds the end users, senior managers to whom the project manager reports, joint-venture partners, jurisdictional bodies such as municipalities, environmentalists and the society or community, as possible stakeholders.

Although stakeholder management is currently not included in the thirteen knowledge areas of construction project management, Vale (2012: CD) strongly promotes that it should actually be included.

2.6 Conclusion

In this chapter the history of project management, as well as the definitions of project management, the life cycle and life cycle phases of a project, the stakeholders involved in a project and the benefits of project management to the management of projects were reviewed. It seemed necessary to review these aspects to ensure a better understanding of communication within project management activities.

The conclusion, that communication for project success and that the skill to communicate effectively is important from a project manager’s perspective, is reliable. The project manager, as leader, needs to communicate with the team members, motivate, persuade and encourage the team to execute the project successfully and to get it right. Selecting the correct style of leadership, and using communication, are equally important.

It is also important that project managers communicate the objectives of the project and inspire the project team so that they perform well and are motivated. Leadership is the ability to get things done through others.

In Chapter 3 the construction project management knowledge areas are reviewed.

Chapter 3: The construction project management knowledge areas

3.1 Introduction

In Chapter 3 the construction project management knowledge areas are analysed and reviewed in respect of the role of communication and communication skills.

The construction project management knowledge areas are “the sum of knowledge within the profession of project management” and provide “a generic foundation for managing projects” that is not common to all project types (PMI, 2008: 3).

PMBOK (2008: 43) divides generic project management into nine knowledge areas, namely integration management, scope management, time management, cost management, quality management, human resources management, communication management, risk management and procurement management. The Construction Management Body of Knowledge (PMI, 2008: 121-168) adds four additional areas, namely safety management, environmental management, financial management and claims management.

The nine knowledge areas of project management and the four construction project management areas are discussed in the next sections.

3.2 Knowledge areas of project management

The nine knowledge areas of project management are integration, scope, time, cost, quality, human resources, communication, risk and procurement.

3.2.1 Project integration management

Project integration management includes the processes and activities needed to identify, define, combine, unify and coordinate the various processes and the project management activities, characteristics of unification, consolidation, articulation,

integrative actions that are crucial to project completion, and successfully managing stakeholder expectations and meeting requirements (PMBOK, 2008: 71).

The processes of integration management are:

- Develop the project charter.
- Develop the project management plan.
- Direct and manage the project execution.
- Monitor and control the project work.
- Perform integrated change control.
- Close the project or phase (Burke, 2010: 53; PMBOK, 2008: 71).

All aspects of the project should be coordinated, which implies integration in terms of cost, schedule, quality and staffing. This means that no decision regarding a project may be taken in isolation without communication as support (Knipe *et al.*, 2002: 93).

According to Emmitt and Gorse (2003: 11) coordinating activities by group communication is a requirement for a successful project.

The project management process, the project management plan and the project life cycle are communicated in the project integration management area. The project management process communicates initiation, planning, execution and closing. The project management plan communicates information such as the objectives, how to achieve the objectives, the resources applied to achieve objectives and the activities to achieve the project management plan. The project life cycle communicates the feasibility, planning, execution and closing phases to stakeholders (Burke, 2010: 53).

Integration occurs in all other areas of a project that has to be completed successfully, but it also that communication is important to make it possible that integration could actually take place.

Burke (2010: 74, 77) states that the plan that combines to form the baseline plan which is used to plan and control the project's performance regarding communication is the communication plan. The planning process communicates planning

information to the stakeholders, encouraging them to participate in the process and obliging them to sign on and pledge support.

3.2.2 Project scope management

Project scope management includes the processes required to ensure that the project includes all the work required, and only the work required to complete the project successfully (PMBOK, 2008: 103). The APM Body of Knowledge (2006: 34) defines scope management as the process by which the deliverables and the work to produce them are identified and defined.

The processes of scope management are:

- Collect requirements.
- Define scope.
- Create work breakdown structure (WBS).
- Verify scope.
- Control scope (PMBOK, 2008: 103).

Identification and definition of scope describe what the project includes and what it does not include, thus what is in and out of the scope. It is important to define what is outside the scope, thus the deliverables that the project does not provide (APM Body of Knowledge, 2006: 34).

Kerzner (2009: 426) states that the scope of a project is the work that must be completed to achieve the final project, namely the products, services, and end results. Scope management is continually applied throughout the project life cycle and it is wise to also document assumptions and conditions under which the project is undertaken (APM Body of Knowledge, 2006: 34). Steyn (2008: 62) states that a scope statement should be SMART: specific, measurable, agreed, realistic and time-bound. The agreement and acceptance of the scope by the customer must take place before too much effort is put into the scheduling and budgeting processes.

Scope is an explicit version of the client's objective. The client first exhibits a desire or need to engage in the building project. Through extensive communication the client appoints the project manager, who in turn briefs the project team using verbal and non-verbal communication. Documentation of scope is the vital result of communication undertaken by the project team. The written documentation becomes the point of reference and control mechanism of a project (Knipe *et al.*, 2002).

According to Burke (2010: 120) communication regarding scope requires a communication system which disseminates the current and up to date description of the project to all the identified stakeholders in the form of drawings and specifications, and the status of all requests. Burke (2010: 54) also refers to the project charter, as the document officially initiates the project or project's phase. According to Steyn (2012: 85) the work breakdown structure communicates the scope to all relevant stakeholders.

Construction project documents usually communicate customer elements such as the requirements by specifying the end product, the work elements that will need to be performed to accomplish the work that needs to be done, a detailed description of deliverables, the references to specifications and the work breakdown structure that communicates the major work elements (Clements & Gido, 2012: 92-95).

Communication is the instrument that the client and project manager use to coordinate issues and aspects about the project scope.

3.2.3 Project time management

Project time management includes the processes required to manage timely completion of the project (PMBOK, 2008: 129).

The processes of time management are:

- Define activities.
- Sequence activities.

- Estimate activity resources.
- Estimate activity durations.
- Develop schedule.
- Control schedule (PMBOK, 2008: 129).

Project time management includes determining the time needed to complete the project and scheduling or timing the various activities to meet that time. It is the complex coordination of a project to ensure that critical deliverables are met and project completion is reached, both in a timely manner (Knipe *et al.*, 2002: 139). Time is an important component to the success of a project, and it is important to assign time limits for the completion of tasks according to the critical path. Without a clear definition of expected time constraints, an indefinite time span will lead to failure to produce the project objectives as stated in the scope. The concept is that a unit of time is allocated a price or cost (Knipe *et al.*, 2002: 141).

Scheduling may be used to determine the overall project duration and when activities and events are planned to happen, it includes identification of activities, and the logical dependencies and estimation of activity durations, taking into account requirements and availability of resources (APM Body of Knowledge, 2006: 36). Project scheduling is necessary to determine when work must be done and to communicate the information to determine what resources should be available at a specific time. Unless scheduling is done properly, delays may be expected, but it is important to finish a project within the shortest possible completion time (Steyn, 2008: 89).

According to Burke (2010: 147) some of the communication documents regarding time that are applied, are for example the Gantt chart, the critical path method, procurement schedule, resource planning, project cash flow and earned value. The Gantt chart or bar chart is one of the most widely used planning and control documents for communicating schedule information, because it is easy to understand and assimilate and also conveys the planning and scheduling information accurately and precisely (Burke, 2010: 174). The critical path method identifies and presents the logical relationship between the construction activities

and the identified critical activities in respect of time and time duration, that determine the overall duration of a project (Burke, 2010: 156, 174).

In construction project management and the development of a project, the area of time and requirements in terms of time are dealt with in various ways. The Joint Building Contracts Committee (JBCC) communicates the obligations in terms of time through clauses 15 and 29 (JBCC PBA, 2007: 10, 19) by establishing obligations to produce programmes and schedules and extension of time claims procedures. This is also dealt with in Fédération Internationale Des Ingénieurs-Conseils (FIDIC) (1999: 26) and New Engineering Contract (NEC) (2005: 9) contract documents.

Rosenau and Githens (2005: 12) state that good project managers manage time expectations well but in balance with other performance parameters.

A construction project manager needs communication skills to communicate effectively with clients and stakeholders in the project regarding timing or schedule activities.

3.2.4 Project cost management

Project cost management includes the processes involved in estimating, budgeting and controlling costs so that the project may be completed within the approved budget (PMBOK, 2008: 129).

The processes of cost management are:

- Estimate costs.
- Determine costs.
- Control costs (PMBOK, 2008: 165).

Ferry and Brandon (in Kirkham, 2007: 7) describe the cost planning process in three phases. Phase one defines the brief and sets the budget. Phase two defines the cost planning and control of the design process, and phase three the cost control of the procurement and construction stages.

The cost estimate may be refined in line with scope, schedule/time and resources. The results of this refinement will produce an overall cost estimate and when this cost estimate has been accepted by the sponsor, this becomes the budget (APM Body of Knowledge, 2006: 40).

The cost planning process should ensure that the tender figure is as close as possible to the first estimate or in an acceptable range; ensure that funds available are allocated effectively; always involve the measurements and pricing of quantities at the process; and aim to achieve good value at the level of expectations (Kirkham, 2007: 7).

Cost control requires a record not just of costs incurred but also of cost commitments arising from current proposals for variations; other decisions by the design team and/or the client that may cause delays, variations or difficulties; and failure by the design team to meet deadlines (Kirkham, 2007: 350).

Project cost management further involves predicting the way in which money is spent on the project in order for the decision makers to decide whether to proceed or not and to allow arranging to have the cash ready at the right time (Knipe *et al.*, 2002: 257-458). It is cost and financial viability that make a project feasible and the project is not complete until the last payments have been made (Steyn, 2008: 161).

The cost area relates to the funds that should be available for successful starting, project execution and project completion. Tools such as cost estimating and cost reporting are essential to the project and the objective of cost management is to maintain financial control of the project through the life cycle. Cost information is relayed to the client as accurately and timely as possible to enable decision making about the project (Oosthuizen *et al.*, 1998: 62).

The project cash flow statement is a document that communicates the flow of money in and out of the project's account (Burke, 2010: 225). The project management plan flowchart shows the relative position of cost management with respect to the other areas (Burke, 2010: 211).

Communication instruments such as estimates, cost control (Burke, 2010: 211, 221), cost plans (Kirkham, 2007: 7) and cost reports (Bennett, 2003: 210) seem as important to enable the construction project manager in the construction industry to communicate effectively.

Berry (2012: 119) states that the estimates, cost plans, standard system document, contract agreement document, preliminaries document, payment advice, cost reports and bill of quantities are important communication instruments for a quantity surveyor to communicate effectively in the construction industry.

Cost is one of the three main factors on which the success of a project depends, time and quality being the other two. Thus cost management is one of the most important services a project manager offers a client. The construction project manager needs the knowledge and skills to compile and manage the costs of the project. The budget and cost plan must stay in place during the life cycle of the project until completion (Watson, Gibson, Hanney, Rushforth, Smith, Walsh & Workman, 2008: 13).

According to Zack (2004: CD) cost management involves those processes required to ensure that a project is delivered within the approved budget. Project cost management includes cost estimating, budgeting and cost control. All these skills fit squarely within the purview of a trained cost engineer but not necessarily in those of a theoretical project manager.

Thus, the deduction may be made that communication skills regarding cost management fit the purview of the construction project manager.

3.2.5 Project quality management

Project quality management is the discipline applied to ensure that both the outputs of the project and the processes by which the outputs are delivered meet the required needs of stakeholders, thus quality is broadly defined as fitness for purpose

or narrowly as the degree of conformance of the outputs and process (APM Body of Knowledge, 2006: 28).

The processes of quality management are:

- Plan quality.
- Perform quality assurance.
- Perform quality control (PMBOK, 2008: 189).

Project quality management includes the processes and activities of the performing organisations that determine quality policies, objectives and responsibilities so that the project will satisfy the needs for which it is undertaken. It implies a quality management system through policy and procedures with continuous process improvement activities conducted throughout as appropriate (PMBOK, 2008: 189).

Project quality management may be defined from many viewpoints; some focus on the end result and other on the customer (Knipe *et al.*, 2002: 226). According to Rosenau and Githens (2005: 12) “there are at least four ways that people judge quality, and people feel passionately that they have the ‘right’ definition of quality; satisfaction of product requirements, conformance to standards and policy, absence of product defects, and delighting the customer”.

Kerzner (2009: 875) states that organisations admit that quality may not be accurately defined, because quality is defined by the customer. Rosenau and Githens (2005: 12) suggest that it is best to define quality in terms of the customers’ needs.

The role of the project manager and engineer in terms of quality are determined by the contract. In some projects the quantity surveyor or project manager are appointed to manage quality, but Berry (2012: 205) suggests that the contract should specifically stipulate who should be appointed as the quality manager.

Quality management entails the project management processes necessary to ensure that the delivered project functions as intended and meets the needs of all project stakeholders (Zack, 2004: CD).

Steyn (2012: 217) states that quality is not only planned and built into a project but also conceptualised and contracted into the project from the earliest negotiation stages of the contract and forms the basis of the whole project.

The instruments regarding quality that are applied to communicate are quality reports to the top management of the project, and the quality policy and procedures manual that addresses the 'what' and 'how to' that are referenced in the manual (Steyn, 2012: 213, 217).

The JBCC establishes the obligations and rights of parties related to quality in clause 17 (contract instructions) and clauses 24 to 28 (practical, works final and sectional completion and latent defects liability period). These clauses direct quality procedures to ensure that the project is actually completed as per the agreement (JBCC PBA, 2007: 12, 16-18)

The construction project manager leads the project quality effort by means of communicating about quality planning, quality control, quality assurance, and quality improvement (Rosenau & Githens, 2005: 13). Cost analysis, flowcharting, calculating the cost of quality, trend analysis and value engineering are also important aspects of quality assurance in project management (Zack, 2004: CD).

3.2.6 Project human resources management

Project human resources management includes the processes that organise, manage and lead the project team. The project team entails people with assigned roles and responsibilities for completing the project (PMBOK, 2008: 215).

The processes of human resources management are:

- Develop human resources plan.
- Acquire project team.
- Develop project team.
- Manage project team (PMBOK, 2008: 215).

A project is composed of people. Acquiring these people's services, developing skills, motivating them to high levels of performance and ensuring commitment to the project are essential in order to achieve the objectives of the project (Knipe *et al.*, 2002: 178).

Burke (2010: 306) states that projects are performed by people and managed through people, thus it is essential to develop an organisational structure, which reflects positively on the demands of the project tasks, the requirements of the project team and, just as important, the needs of the individual. Human resources management consists of those project systems designed to make the best possible use of people involved in the project (Zack, 2004: CD).

The project manager should understand the challenges of the personnel's responsibilities and authority to be able to accommodate these challenges in the policies of the organisation. It includes recruitment, redeployment and reduction of both permanent and contracted personnel, rewards and incentives, disputes, discipline, personal development, training, health and safety, as well as other conditions of work (APM Body of Knowledge, 2006: 112).

Ideally a project manager would like to have the option to recruit specific people on the team; realistically few project managers have that privilege. In most projects the project teams are selected or assigned based not only on expertise and experience, but also on availability (Clements & Gido, 2012: 331).

Human resources communication instruments are identified as the resource histograms, a team charter (Burke, 2010: 203, 320), as well as a responsibility assignment matrix (organisation structure), manuals, and training materials (Clements & Gido, 2012: 389). These seem to be important for the construction project manager to communicate effectively.

The techniques and skills applied to leading and managing people significantly affect the project's performance. Good project managers make effective use of people involved with the project and treat them as important stakeholders. A possible

measure of project success is that participants feel like their involvement was a worthwhile experience (Rosenau & Githens, 2005: 13). This implies that the construction project manager has to motivate the team and lead them to execute the project successfully.

3.2.7 Project communication management

The management of project communication consists of the processes required to ensure timely and appropriate generation, collection, distribution, storage, retrieval and ultimately disposal of project information. Project managers spend the majority of their time communicating with team members and other stakeholders, either internally within or externally to the organisation (PMBOK, 2008: 243).

The process to follow in the management of communication for effective projects is:

- Identify stakeholders.
- Plan communications.
- Distribute information.
- Manage stakeholder expectations.
- Report performance (PMBOK, 2008: 243).

Communication involves giving, receiving, processing and interpreting information. Information may be conveyed verbally, non-verbally, actively, passively, formally, informally, consciously or unconsciously (APM Body of Knowledge, 2006: 102).

Effective communication is fundamental to project management. Effective communication creates a bridge between diverse stakeholders involved in a project, connecting various cultural and organisational backgrounds, different levels of expertise and various perspectives and interests in the project execution or outcome (PMBOK, 2008: 243).

It is estimated that project managers and project team members spend about 90% of their working time engaged in some form of communication, be it meetings, writing emails, reading reports, or talking to project stakeholders (Burke, 2010: 280).

Burke (2010: 286, 293-294) states that the project's communication plan, status reports, variance reports, trend reports, earned value reports, exception reports and monthly reports are documents that the project manager can apply as instruments to communicate effectively. Clements and Gido (2012: 389) add meeting agendas and meeting minutes as instruments as well.

According to Kerzner (2009: 233) effective communication ensures that people send the right information to the right persons at the right time and in a cost-effective manner. Steyn (2008: 301) states that effective communication is the key to ensure coordination and integration in projects.

Communication is important for all business activities. It makes organising possible, and organising is part of the communication process. Effective communication in and between organisations supplies a positive contribution to construction projects, that increase production and improve motivation of team members (Emmitt & Gorse, 2003: 11).

In project management different levels of experience and responsibilities are expected from people involved. A critical factor in the success of corporate projects is communication protocol that stipulates clear lines of competencies and responsibilities (Knipe *et al.*, 2002: 111).

Zack (2004: CD) states that project communications management are those processes required to collect and distribute appropriate information concerning the project to the proper recipients in a timely manner. The one area of communication management where a skilled cost engineer is likely to excel is project performance reporting.

Project communication management provides the critical linking of people, ideas and information that is necessary for success (Rosenau & Githens, 2005: 13). For projects to succeed there is a continuous need for effective communication to issue instructions, solve problems, make decisions, resolve conflicts, and keep all

stakeholders involved with the project supplied with the latest information (Burke, 2010: 280).

3.2.8 Project risk management

Project risk management includes the processes of conducting risk management, planning, identification, analysis, response planning and monitoring and control of a project. The objectives of project risk management should be to increase the probability and impact of positive events and decrease the probability and impact of negative events in the project (PMBOK, 2008: 273).

The processes of risk management are:

- Plan risk management.
- Identify risks.
- Perform qualitative risk analysis.
- Perform quantitative risk analysis.
- Plan risk responses.
- Monitor and control risks (PMBOK, 2008: 273).

The term 'risk event' refers to both opportunities and threats and both may be managed through a single risk management process. All projects are inherently risky, because it's unique, complex, constrained, based on assumptions and performed by people (APM Body of Knowledge, 2006: 26).

The ultimate goal of project risk management is to improve project performance; this means to supply the correct deliverables on time and within budget (Steyn, 2008: 333). Project risk management is proactive rather than reactive, positive rather than negative and seeks to increase the probability of project success (Kerzner, 2009: 746).

Burke (2010: 258) states that project management and project risk management both strive to achieve the project's objectives, but in different ways. Project

management strives to maximise the chances of success, while project risk management strives to minimise the chances of failure.

Risk response planning includes defensive actions such as risk avoidance, risk mitigation, risk transfer and risk acceptance (Rosenau & Githens, 2005: 13). Burke (2010: 265) states that the failure of projects in terms of risk management is because the lines of communication were unclear and documents were not revised regularly, resulting in workers using old editions.

Risk management is the process of identifying, analysing, and responding to project risk events. Terms and conditions included in the contract are of great importance to a project manager in the risk management area, as most contracts go to some length to assume, assign or transfer the risk of a variety of events that may occur during project performance (Zack, 2004: CD).

The confidence by which a bid is prepared depends on how much risk the contractor will incur in the contract agreement. Certain types of contracts provide relief for risk, others not to that extent, but the cost must therefore consider how well the contract type covers high and low risk areas (Kerzner, 2009: 839-840).

A project manager cannot be risk averse. Construction project managers must accept that risk is part of project management and have to address it head-on. Furthermore, the construction project manager should encourage open and timely discussions of the risk involved with the project team. Discussion should be about identifying risks and the potential impact, assessing the likelihood of occurrence and degree of impact of risks, risk response planning, and risk monitoring (Clement & Gido, 2012: 270).

The instruments to communicate risk elements and management of risk are the risk management plan in an agreed format, a working document, and a risk response plan which defines ways to address adverse risk and enhance opportunities before they occur (Burke, 2010: 262, 266).

Verster, Weitsz and Zimema (2011: 13) state that awareness of the risk profile of a client or employer in the construction industry, specifically related to a construction contract, is important. Understanding how people react to risk also needs consideration. The knowledge of how to react to risk and establish the procedure that may best limit the risk is fundamental to risk management.

If a construction project manager knows about the possibility of risk, it may probably be possible to manage the risk using effective communication.

3.2.9 Project procurement management

Project procurement management includes the processes necessary to purchase or acquire products, services or results needed from outside the project team (PMBOK, 2008: 313).

The processes of procurement management are:

- Plan procurement.
- Conduct procurement.
- Administer procurement.
- Close procurement (PMBOK, 2008: 313).

Procurement may be the development of the procurement strategy, preparation of contracts, selection and acquisition of suppliers and the management of the contract (APM Body of Knowledge, 2006: 74).

No one single form of contract agreement is applicable for all project companies perform work under a wide variety of contractual arrangements (Kerzner, 2009: 851).

Procurement contributes to the profitability of the organisation and the organisation needs to consider factors and strategies such as: make or buy products, use a single supplier or multiple suppliers, conditions and form of contract, types of pricing, methods of payments, quantities, customer requirements and supplier relationships (APM Body of Knowledge, 2006: 74; Kerzner, 2009: 840-841). Organisations should

calculate costs to perform a task in-house and if too costly, rather outsource the work (Steyn, 2008: 395).

According to Zack (2004: CD) procurement management entails the processes necessary to obtain goods and services from outside the organisation for execution of the project. Areas of procurement management that fall within the expertise of a skilled cost engineer include market condition analysis, make or buy analysis, alternative selections, commitment curves, work package definition, project financing, contract type selection, independent estimates, and financial modelling. Additionally, analysis of change requests, implementation of contract change control systems, performance reporting and operation of a payment management system are also skills that a qualified cost engineer should have.

Burke (2010: 186) adds procurement knowledge areas, drawings, materials, components, equipment or professional services required to perform and complete the project's scope of work. Rosenau and Githens (2005: 13) state that a good project needs to pay attention to procurement planning, solicitation planning, source selection, contract administration, and contract closeout.

Procurement management is communicated through drawings, procurement bill of materials, procurement lists, tender documents, warehouse receiving documents, inspection documents, orders, and control sheets, procurement schedules shown in a Gantt chart format, and expediting documents (Burke, 2010: 186-198) and the contract documents (Steyn, 2012: 432), standard system document and contract agreement document (Berry, 2012: 119), to ensure understanding and the common terms.

Effective communication skills are essential for obtaining good service delivery from service providers to be able to execute the project successfully.

3.3 Knowledge areas of construction project management

The additional four construction project management knowledge areas are safety, environment, finances and claims.

3.3.1 Safety management

Safety management is the process of determining and applying appropriate standards and methods to minimise the likelihood of accidents or injuries both during the project and during the operation of deliverables (APM Body of Knowledge, 2006: 30).

Safety management systems are implemented through policies, procedures and processes of safety planning, safety assurance and safety control and continuous improvement activities undertaken throughout the project (PMI, 2008: 119). Ferry and Brandon's Cost Planning of Buildings (Kirkham, 2007: 34) suggests that a Health and Safety Plan be designed during the design stage to establish the potential hazards and risks associated with the project.

The processes of safety management are:

- Safety planning.
- Perform safety assurance.
- Perform safety control (PMI, 2008: 121).

Safety management is communicated in South Africa's construction context through assessments, specifications, regulations, a safety plan or programme and policy, safety documents and reports, and safety control (Bennett, 2003; 225-227). Safety signs are included in this (Bennett, 2003: 166).

Project safety management includes all activities which determine safety policies, objectives and responsibilities so the project is planned and executed in a manner that prevents accidents which cause, or have the potential to cause, personal injury, fatalities or property damage (PMI, 2008: 119).

Safety may relate either to safety of the structure or to the safety of the operations. Clearly, where safety and cost are in conflict, safety must be paramount, therefore it is vital that safety issues are identified at an early stage if estimates are to be relied on. However, safety is not discretionary so there are no real choices to be made as regards the levels of safety, only the means of ensuring it (Kirkham, 2007: 374).

As in the case of quality management, it is good practice to have an overall company safety programme and policy, as well as a site safety programme for each project. The construction project manager must be a leader in terms of safety (Bennett, 2003: 226, 227).

Safety management involves the processes required to ensure that the project is executed safely, with no accidents, injuries, or property damages. Depending upon the nature of the project, safety may be a highly complex area of project management. The skills required by a qualified cost engineer for managing projects are budgeting, analysis of decreased insurance costs, and improving productivity (Zack, 2004: CD).

Active communication may be implemented to provide clarification to all stakeholders regarding the project safety objectives and the implications of execution. Stakeholders include statutory authorities from local, regional and federal government. Special attention must be dedicated to the community's needs and expectations, especially regarding safety, which may have an impact on the project (PMI, 2008: 119).

Thus safety issues are communicated by means of assessment that is communicated verbally; specifications that are communicated in writing; a safety plan communicated in writing; safety documentations that are communicated in writing; and safety control that is communicated by leadership. The construction project manager should have communication skills to manage safety on projects by applying different combinations of skills, such as verbal, written and leadership skills.

3.3.2 Environmental management

Environmental management is the process of determining and applying appropriate standards and methods to minimise the likelihood of environmental impact both during the project and during the operation of deliverables (APM Body of Knowledge, 2006: 30). It includes the activities to minimise the impact on the surrounding environment and natural resources and to operate within the limits stated in legal permits (PMI, 2008: 139). Projects operate in a continual state of change and may affect the operation of the project team (Kerzner, 2009: 211).

The processes of environmental management are the following:

- Environmental planning.
- Perform environmental assurance.
- Perform environmental control (PMI, 2008: 142).

Kirkham (2007: 314) states that construction is putting a serious dent in the world's natural building materials, and this is something the industry needs to work on to sustain the environment. The government is pressing for this through taxation changes and guides to sustainability.

Environmental legislation is subject specific, such as noise, dust, protection of flora and fauna and waste and sustainability, and must be proactively incorporated within project planning to comply with these regulations (APM Body of Knowledge, 2006: 30).

The project environment directly influences the project and how it should be managed. The construction projects are not carried out in a vacuum and are influenced by a wide range of stakeholders and issues that have an impact on, or are impacted by the project (Burke, 2010: 33). If there are any limitations it should appear in, or be communicated by, the contract documents (Bennett, 2003: 231).

Zack (2004: CD) states that environmental management includes those processes necessary to ensure that the project is executed in such a way as to not violate

various government permits, regulations and conditions. Again, depending on the nature and location of the project, this can be a very technically complex part of project management. The three areas of environmental management that a skilled cost engineer can easily assist in are budgeting, alternative selection and risk analysis.

Walker (2007: 73) states that the construction project manager should not be concerned only with the internal regulation of the system, as the system has to respond to changes in its environment. The project manager must be able to detect and analyse changes, and actions should be orientated to an understanding of the external influences acting upon the project organisation. These external influences that the project manager has to analyse and communicate to the client are political, meaning the influence of government policy; legal, meaning legislation may affect the client's activities by acting directly on the process of construction or influencing the incentive to build; institutional, meaning influences of professional institutions upon the activity of members through rules of conduct, education and conditions of engagement; cultural and sociological, meaning acceptability of specific activities by the general public, particularly as reflected by the local community; technological, meaning influences of technology on processes through the development of new materials, techniques, ideas and through experience of others with materials, techniques and ideas; and economical and competitive, that are forces, including the level of general economic activity and the demands this places upon organisations.

Active communication must be maintained with all stakeholders to provide clarification of the project's environmental objectives and the environmental implications of its execution, and special attention must be paid to the community's environmental needs, expectations and concerns, which may have a great impact on the project (PMI, 2008: 139).

The management of environmental issues are communicated and regulated by the contract documentation, environmental safety regulations, material specifications and product identification, and the planning and design of the works regarding

aspects such as land forms, drainage, vegetation and wildlife (Bennett, 2003: 228-231).

The construction project manager needs communication skills to be able to effectively communicate with the client about environmental issues that may influence the construction project either positively or negatively.

3.3.3 Financial management

Financial management includes the processes to acquire and manage the financial resources for the project. Compared to cost management, financial management is more concerned with revenue sources and monitoring net cash flows for the construction project than with managing daily costs (PMI, 2008: 159).

The processes of financial management are:

- Financial planning.
- Perform financial control.
- Financial administration and records (PMI, 2008: 160).

According to Zack (2004: CD) financial management of a project involves the processes to manage the project's financial resources and centres primarily on project revenue and cash flow. Financial management is one of the core competencies of a qualified cost engineer. Areas that a cost engineer has some degree of expertise in include estimating project cost and duration, assessing risk, implementing a financial plan, establishing cost and revenue baseline, analysing the cost of changes, performing a cash flow analysis, preparing financial reports, and analysing potential corrective action plans. A skilled cost engineer is much more likely to implement these processes successfully than someone who is a theoretical project manager.

Financial management primary does not entail costs of the project for labour and materials, but financing the cost of construction of the project itself (PMI, 2008: 159).

Financial management includes financial accounting, together with a number of special project management tools, such as work breakdown structures and critical path methods to integrate the project accounts with other project parameters to produce cash flow statements and the earned value forecasts. Financial management includes records (communication) of all financial transactions, payments in and payments out, together with a list of debtors and creditors (Burke, 2010: 222, 223).

Bennett (2003: 255) states that financial management includes the communication of documents such as requests for payments, cost and budget tracking reports, variation requests, variation proposals and variations.

Active communication must be implemented to plan for all the financial requirements that are identified and provided for the project. Bonds are reduced when necessary and the call for funds from project partners when needed (PMI, 2008: 160,164).

The construction project manager needs communication skills to communicate financial management information effectively to the client and the team.

3.3.4 Claims management

Contested changes and potential constructive changes are those changes where the buyer and seller may not reach an agreement on compensation for the change or may not agree that a change has occurred. These changes are called claims. Claims are documented, processed, monitored and managed throughout the contract life cycle, usually in accordance with the terms of the contract (PMBOK, 2008: 339).

The contract document ought to provide guidance to the contractor wishing to file a claim and procedure (Bennett, 2003: 261). This implies that the contract is the communication instrument dealing with claims. Claims are dealt with in terms of many clauses, in other words clause 32: adjustments to contract sums, clause 29: extension of time clause and clause 40: disputes (JBCC PBA, 2007: 23, 19, 30).

The processes of claims management are the following:

- Claims identification.
- Claims quantification.
- Claims prevention.
- Claims resolution (PMI, 2008: 168).

Claims management describes the processes required to prevent construction claims to mitigate the effects of those that do occur and to handle claims quickly and effectively. Although agreed-upon changes to the contract documents occur frequently, disputes among the stakeholders involved in a project are almost as common (PMI, 2008: 167).

Clear processes and guidance should be described in the contract to manage claims (Bennett, 2003: 261; APM Body of Knowledge, 2006: 77).

Zack (2004: CD) states that project claim management involves the processes needed to avoid or prevent claims from arising in the first instance or to properly analyse and resolve claims if they do arise. Particular areas where a cost engineer can contribute to claim management include claims for extra work, claims for additional time, impact of changes and delays, estimates of claims damages, schedule analysis, and analysis of both direct and indirect costs.

Bennett (2003: 261) states that the conditions resulting in claims include late payments, changes in the work, constructive changes, changed conditions, delay or interference by the owner, acceleration by the owner resulting in loss of productivity, errors in design, suspension of the work, variations in bid-item quantities, failure to agree on variations pricing and rejection of requested substitutions.

The construction project manager needs communication skills to communicate effectively about all possible claims that may arise during the execution of a project. Communication may be either with the client or with the team members.

There are endless opportunities for claims to take place, however the distinction between a claim and a change is the element of disagreement between parties. If an agreement is reached, the claim disappears and becomes a change. If not, the claim may escalate into negotiation, mediation, arbitration or litigation (PMI, 2008: 167).

In the South African project management context various contract types determine the procedures to follow. The JBCC (JBCC PBA, 2007: 30, 31) procedures aim at communication, conciliation, adjudication, meditation and arbitration; this process must be dealt with through active communication to prevent claims turning into disputes.

3.4 Conclusion

In this chapter the knowledge areas of project management according to the Project Management Body of Knowledge and the knowledge areas of construction project management were reviewed to determine the form of communication necessary for each area.

The documents and instruments that are necessary for each area determine which skills may be needed by the construction project manager as communicator in the property development and construction industry in order to communicate effectively.

In Chapter 4 an overview of general communication as foundation of construction project management is presented.

Chapter 4: General communication in construction project management

4.1 Introduction

Chapter 4 gives an overview of communication activities during the process of managing projects. Communication, starting with the communication processes, moving to planning project communication and the communication plan are reviewed.

The project communication plan consists of the organisational structure (Van Staden, Marx & Erasmus-Kritzinger, 2002: 17), the communication plan (Burke, 2003: 274), the line of communication (Smit & Cronje, 2002: 372) and the project documents (Morris, 2008: 208-209) used in managing projects.

Project communication levels that review the internal and external communication of projects and communication strategies that explain the tools necessary to achieve the communication objectives of the project are also reviewed. It is necessary to understand communication and how it is used in project management. According to Miners (1969: 37) communication and the need to research communication in the building industry are evident from an early stage.

4.2 Definition of communication

The alphabet was developed by the Phoenicians in 3500 BC (About.com, 2012: online). The term communication originates from the Latin word *communicare*, which means 'to make common', and when communicating a common understanding is created (Clearly, 2008: xii). Barrett (2006a: 3) defines communication as: "the transmission of meaning from one person to another or many people, whether verbally or non-verbally".

Fielding (2005: 3) defines communication as follows: "Communication is defined as a transaction. People work together to create meaning by exchanging symbols. People have to ensure they share the same meaning when they use words."

Trenholm and Jensen (in Emmitt & Gorse, 2007: 14) define communication as:

“The transfer of meaning; a response of an organism to a stimulus; the process through which people make sense of things and share this with others; the transmission of information, ideas and emotions; an act initiated by individuals in which he or she seeks to discriminate and organise cues to orientate themselves in the environment; and a mechanism to influence the environment.”

4.3 Communication processes

Communication is the process of acquiring all relevant information, interpreting this information and effectively disseminating the information to persons who might need it. Communication is of vital importance to everyone involved in and influenced by projects (Emmitt, 2010: 27). Bowen and Edward (1996: 395) define information as “data which have been processed and presented in a format which gives them meaning”.

Communication is so important to project success that it has been referred to as the lifeblood of a project by more than one practitioner (Awati, 2010: online). Project team members need to collaborate, share, collate and integrate information and knowledge to realise project objectives. Therefore, it is necessary to understand the process of communication. At its most basic level, communication consists of three components: a transmitter/sender, a transmission channel/medium and a receiver. A fourth component, the medium of communication is the code in which a message is transmitted (Robbins *et al.*, 2003: 224; Steyn, 2008: 303).

The communicated message flows from the sender, encodes the message through the transmission channel/medium by a verbal or non-verbal method, to the receiver that decodes the message. To ensure effective communication, all components must function to prevent misunderstanding (Van der Walt *et al.*, 1996: 318). During the process noise and barriers make it difficult to send and/or receive the message, as illustrated in Figure 4.

Figure 4 illustrates how noise and barriers influence message decoding from the sender and the response by the receiver.

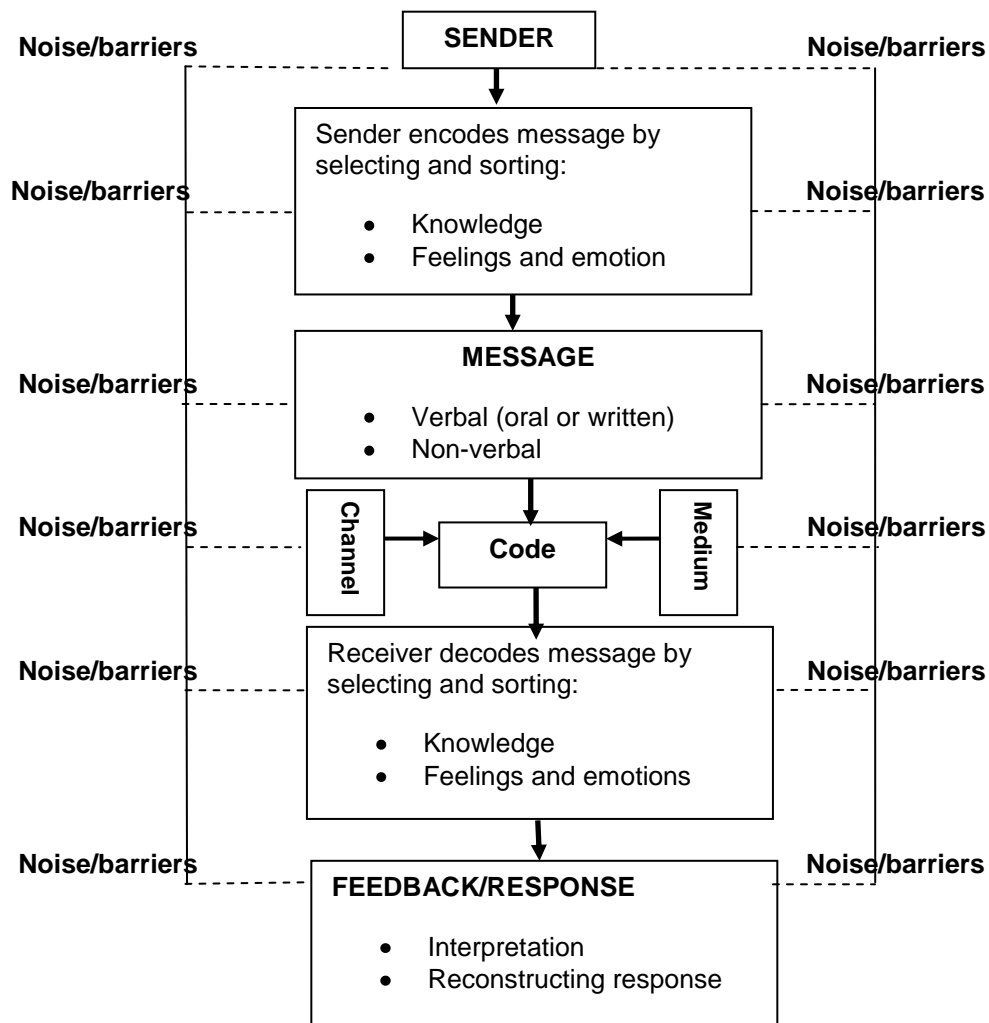


Figure 4: Communication process
(Van Staden *et al.*, 2002: 13)

Figure 4 indicates how communication takes place originating from one person, the sender with the knowledge or information, to another, the receiver, with all the possible barriers and noise that may interrupt the message that is sent via a channel or medium to the receiver.

The sender is the starting point of the communication cycle and has a purpose to communicate. The reason for communication in project management may be a request for information, sending information, asking questions, giving an instruction,

building teams or networking (Burke, 2007: 200). The success of communication mainly depends on the sender's ability to speak, write, reason and listen competently (Van Staden *et al.*, 2002: 13). Encoding is the process of converting feelings, ideas and thoughts into words, numbers or phrases to express oneself and if not careful, it may sound like a foreign language (Burke, 2007: 200). A message is the information conveyed during the process of communication (Van Staden *et al.*, 2002: 14). A medium is the channel that conveys the message, such as formal or informal lines of communication (see section 4.5.4) (Burke, 2007: 200) and feedback is sent from the receiver to the sender (Van Staden *et al.*, 2002: 14). The selected medium will influence the impact of the message. The receiver is the person who received the message, and the ability to receive depends on skills such as hearing and listening, selective listening, eyesight and reading, visual activity, tactile sensitivity and perception. Decoding is the process of converting the message into a readable format by selecting and sorting the information (Burke, 2007: 201). Feedback, referred to as reaction or response, is the receiver's response to the sender's message (Van Staden *et al.*, 2002: 14). Barriers and noise are anything that interferes with the communication process (Gillard & Johansen, 2004: 28).

Barriers in the communication process may be divided into the following groups:

- Physical barrier – telephone interruptions, lack of privacy in an office.
- Physiological barriers – poor health, physical disability and discomfort.
- Psychological barriers – anger, depression, fear, nervousness, boredom and distrust.
- Perceptual barriers – social background, education and training, intelligence, occupation, interests, personalities such as extrovert or introvert, personal values, ethics, reputation/history and knowledge base (Burke, 2007:201-202; Van Staden *et al.*, 2002: 30-34; Boyd & Chinyio, 2006: 66). Emmitt and Gorse (2003: 40) add experience, competence and skills.
- Social and physical environmental influences – relationships.
- Organisational pressure – work pressure (Emmitt & Gorse, 2003: 40).
- Semantic barriers – meaning of words used are misunderstood or different meanings are attached to a specific word or expression, such as slang, jargon and an accent (Tubbs & Moss, 2008: 16; Van Staden *et al.*, 2002: 35-36).

- Environmental barriers that affect both the sender and receiver include leadership style, personality, physical appearance, timing and decision making (Gillard & Johansen, 2004: 28).

Talukhaba, Mutunga and Miruka (2011: 128) agree on the fundamental role of feedback in communication. Where feedback is absent, delayed or not soon forthcoming, interventions are required to enhance communication. In their implementation, communicators need to constantly monitor and review the success of their communication processes and systems with a view to making a basis upon which assessments can be made (Talukhaba *et al.*, 2011: 128).

The receiver of the message should therefore confirm the understanding of the message, because without understanding, communication cannot be effective. This is also applicable to construction projects. During the process of communication, noise and barriers affect and influence the effectiveness of communication between the project manager and other people who are part of the project.

Ineffective communication can therefore also lead to misunderstanding in respect of construction projects. Inadequately defined tasks and critical processes, uncertainty regarding responsibilities, scope or objectives of construction projects may cause construction projects to fail.

The uniqueness of a person influences communication. A person also communicates through appearance, attitude, behaviour and personality (Sieff, 1990: 38-39). A project manager does not communicate with language only, but also with character, which includes appearance, attitude, behaviour, personality, integrity and knowledge (Berry, Verster & Zulch, 2010: 4-5).

Managing a project requires constant selling and reselling of ideas, explaining the scope and methodologies of the project to diverse groups of people (the public, management, functional departments and other stakeholders), threatening or bargaining with service providers and suppliers, or negotiating to settle disputes or

interpersonal conflict between project team members or other stakeholders (Steyn, 2008: 303-304).

Planning project communication is reviewed next.

4.4 Planning project communication

Properties such as uniqueness, uncertainty, risk, budgets, deadlines and strict time schedules make the management of projects complex and exciting, but stressful. Considering that a variety of stakeholders, each with similar or different requirements for the project, participate in the process, it is clear that an effective communication management plan must be established and followed throughout the life cycle of the project. To understand the requirements of a project communication plan, two needs should be known: the need to understand what the project would require from its communication system and the need to know what communication methods and communication styles might be used to effectively address these requirements (Steyn, 2008: 304-305).

Communication styles are categorised as dominant, influential, steady and compliant. The characteristics of the styles are as follows:

- people with a dominant style like challenges and want to control, take risks and make quick decisions;
- the influential style is identified as interactive, persuasive and accommodates the team, and is outgoing and social;
- a steady style includes security and steadiness; and
- the complaint style refers to accuracy and cautiousness (Hayashi, 2011: 38-43).

Project manager preferences may thus include any of the communication styles, which should be recognised in respect of management and communication outcomes.

Greenleaf (Spears, 1995: 172) states that the ways to promote communication are to ensure that reports reach members in time; to make use of planned times when members gather and speak; and to ensure that communication records are available for team members.

Poor communication during projects affects the schedule, the cost, the safety of workers and the project quality (Maslej, 2006: online). Improved communication by the project manager may lead to less failure, innovation and technical solutions, positively influencing the quality and leading to better decision making (Hoezen, 2006: online).

To be able to complete construction projects the conclusion may be that each of the parties involved should have a thorough understanding of what is required. Information becomes essential to each of the parties involved in project management and such information results from effective communication.

Communication planning as element in contributing to effective communication is reviewed in the next section.

4.5 Communication planning

According to Morris (2008: 208) part of the communication plan is a description of types of communication documents as well as the purpose and the frequency of these communication documents.

The project manager and project office are at the heart of the project's information and control system. It is the project manager's responsibility to develop not only the project's organisational structure (see section 4.5.1), but to develop the project's communication plan (see section 4.5.2) and lines of communication (see section 4.5.4) (Burke, 2007: 203). A formal communication plan should be compiled to identify how stakeholder opinions and actions will be managed (Engelbrecht, 2010: 28).

4.5.1 Project organisational structure

Organisations are structured in such a way as to achieve the goals and objectives. There are two basic structures. Firstly, the bureaucratic structure that is arranged in a pyramidal hierarchy, with authority increasing from one level to the other, as one moves up in the organisation. This pyramid gives employees an indication of what to do, their responsibilities, level of authority and how many subordinates report to whom. The authority lies in the position rather than in the people who occupy it. Secondly, the matrix structure that breaks the unity of command where every employee has one person to report to. This structure allows flexibility and involvement, which leads to greater motivation and teamwork (Van Staden *et al.*, 2002: 17).

The bureaucratic structure may be the best solution in some situations of communicating a problem, while in other situations the matrix structure is needed. This implies that the most effective organisational structure for a construction project manager is to apply a structure that would respond to the situation at hand.

Formal authority is automatically conferred on project managers when appointed to a project (Burke, 2010: 313) and implies the contractual authority given by the employer. The organisational structures and the lines of communication (4.5.4) are important for the effective flow of information.

4.5.2 Project communication plan

The communication plan should outline the following:

- Who (lines of communication – sender and receiver – responsibility and authority).
- What (scope of communication and format).
- How (email, document, telephone, meeting, presentation).
- When (schedule).
- Feedback (confirms message received and understood – document control).

- Filing (retrieval, storing, disaster recovery) (Burke, 2003: 274; Gnadt, 2010: online).

It is advisable that a communication plan is agreed upon in advance in order to provide a clear direction to all parties involved, particularly for complex projects (CIOB, 2010: 55).

The development of a communication plan should focus on facilitating the process of keeping the key stakeholders informed of the project's progress and to promote the project by making it visible at all times (Burke, 2010: 286, 287).

4.5.3 Types of communication documents

There are several types of communication documents. The communication plan should include a detailed description of the document, the purpose and the frequency of communication (Morris, 2008: 208).

The contract documentation in construction also prescribes communication links and obligations of parties and agents thus ensuring effective communication (JBCC PBA, 2007: 5).

According to Morris (2008: 208-209) the following documents are some of the project documents. Not all are planned to be used for the duration of a project, but may be of value to know and be used if necessary.

- Status updates reports include emails to stakeholders, sponsors and the project team, or weekly reports to report on the progress. Status reports are formal documents.
- Agendas of meetings are emailed to the project team two days prior to the meeting to prepare team members for participation during the meeting. Meeting notes are available to absent team members and the project team, who have not attended the meetings as needed.

- The project plan forms part of the status report. It should be communicated weekly to show the time frames and tasks to the project team, as well as the to do list for each resource.
- The budget gives information on the financial status of the project to the project sponsors weekly and/or monthly (Morris, 2008: 208-209).

The type of communication document determines the communication skill needed by the construction project manager, in order to use the documents effectively to manage a project successfully.

4.5.4 Lines of communication

At the start of a project, it is important to determine the lines of communication and the methods of managing information (Fisk & Reynolds, 2010: 36). Smit and Cronje (2002: 372) propose two primary lines of communication, namely formal communication and informal communication.

According to Smit and Cronje (2002: 372) and Tubbs and Moss (2008: 477-490) formal communication flows in four directions. Downward communication starts at the top and flows down through the project levels to workers. The major purpose of downward communication is to provide information on goals, strategies and policies to subordinates. Downward communication is likely to be filtered, modified, or halted at each level as managers decide what should be passed down to employees (Campbell, 2011: 287; Fielding, 2005: 48-51; Smit & Cronje, 2002: 371-372).

When employees send a message to superiors, upward communication takes place. The main function of upward communication is to supply information to the upper levels about what is happening at the lower levels (Campbell, 2011: 287; Fielding, 2005: 48-51; Smit & Cronje, 2002: 371-372).

Horizontal/lateral communication takes place between people on the same level of the hierarchy and is designed to ensure or improve coordination of the work effort. It is formal communication, but does not follow the chain of command. Effective

horizontal communication should prevent tunnel vision in the organisation (Campbell, 2011: 287; Fielding, 2005: 48-51; Smit & Cronje, 2002: 371-372).

Diagonal communication takes place between people at different levels of the hierarchy and is usually designed to provide information, coordination or assistance to either or both parties (Campbell, 2011: 287; Fielding, 2005: 48-51; Smit & Cronje, 2002: 371-372).

Gronstedt (2000: 17) adds external communication as a formal communication direction. It takes place between the project team and people who are not part of the project. It is the responsibility of the project manager to empower and support the project team.

Figure 5 shows the lines of communication in a project. Information flows from the project manager through the hierarchy of the project team to, for example, the foreman.

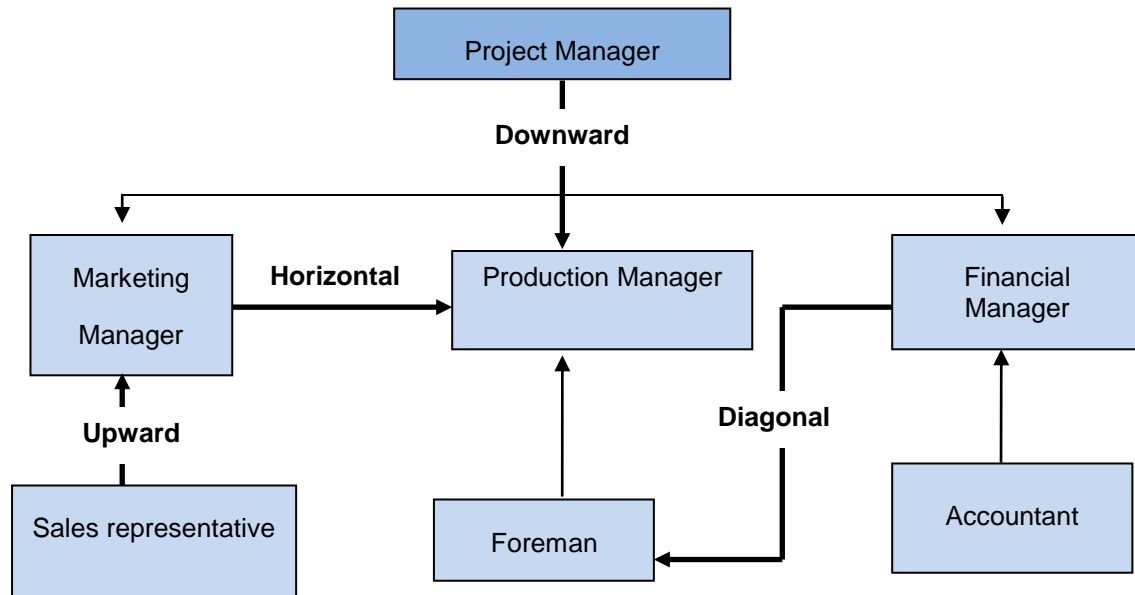


Figure 5: Communication flows
(Adapted from Smit & Cronje, 2002: 372)

Figure 5 illustrates the flow of communication that takes place within construction project management depicting who talks to whom during the execution of the project.

Downward communication flows from the project manager to the team involved in the project. Upward communication, for example, happens when the sales representative reports to the marketing manager. Horizontal communication involves interaction between people on the same level, for example the marketing manager and the financial manager communicate with each other and diagonal communication takes place between people on different levels such as interaction between the financial manager and the foreman of the project. The four directions of the flow of communication are shown in Figure 5.

The position in the hierarchy of project management is important, because the position determines the skills needed to communicate effectively. The construction project manager needs to know how to communicate effectively with each team member at a specific level, therefore also needs different communication skills to communicate effectively.

In respect of construction communication lines the contract documents, as formal agreements, also prescribe the links, authority, obligations and rights of the parties and their representatives (Berry, 2012: 112).

William (2010: 59) states that the best way to avoid disputes during and after a construction project is to provide open lines of communication between project stakeholders in order to solve problems and disputes quickly before they lead to costly arbitrations or litigation.

The flow of communication between different people on a project indicates the skills needed to communicate effectively. Lines of communication in the project should be short and well established.

Informal communication uses the channels such as the grapevine, rumours (Tubbs & Moss, 2008: 493), informal social groupings and phatic communication (Van Staden *et al.*, 2002: 23-24).

The grapevine constitutes informal and unofficial communication in which information is based on facts or rumours (Fielding, 2005: 52; Van Staden *et al.*, 2002: 23). It may begin with anyone in the organisation and may flow in any direction. The grapevine's prime function is to disseminate information to employees (both managerial and non-managerial) that is relevant to the needs. Rumours and the grapevine are not the same. Rumours are information without a factual base (Smit & Cronje, 2002: 373).

Informal social groupings refer to groups formed among fellow workers during work time or after hours to discuss staff issues (Van Staden *et al.*, 2002: 23). The deduction may be made that it may be a good idea for the construction project manager to form part of these groupings, in order to know what is said on the ground and to get in touch with people's feelings and needs.

Phatic communication involves the use of words to convey feeling rather than meaning. Words are used as a formula for opening a conversation and to establish good interpersonal or social relationships. A conversation serves to maintain good interpersonal relationships and rapport. Phatic communication contributes towards a culture of openness and cooperation between team members and the manager (Van Staden *et al.*, 2002: 24).

Informal communication takes place without influence from the project manager, but influences the project manager's effectiveness.

The lines of communication, formal and informal, are also evidence of how communication takes place in the construction project industry. The construction project manager, as the communicator in the property development and construction industry, needs communication skills to communicate effectively.

A review of project communication levels is presented next.

4.6 Project communication levels

Le Roux, De Beer, Ferreira, Hübner, Jacobs, Kritzinger, Labuschagne, Stapelberg and Venter (1999: 286-287) and Dow and Taylor (2008: 44-47) suggest that construction project management communication takes place on two levels, namely internal and external communication levels.

4.6.1 Internal communication

According to Le Roux *et al.* (1999: 286-287) and Dow and Taylor (2008: 44-47) different methods of internal communication exist:

- Oral communication takes place in the form of meetings, discussion groups, talks, interviews, announcements and conversations, both face to face and over the telephone.
- Written communication takes place by means of letters, emails, circulars, memoranda and minutes of meetings.
- Non-verbal communication may convey powerful messages in the business world by means of gestures, appearance or attitudes.
- Electronic communication makes it possible to send messages all over the world at a very high speed. Messages may be sent and received using computer terminals, electronic mail (email) and fax facilities.
- Visual communication takes place by means of presentations, DVDs and videos.

4.6.2 External communication

According to Le Roux *et al.* (1999: 287) every member of an organisation is involved in communicating with customers, shareholders, the media and members of the public on a daily basis. The external communication of each of these members of the organisation conveys a particular image of the organisation to the outside world (Le Roux *et al.*, 1999: 286-287).

Communication does not function in isolation but within a process. It is thus important to review internal and external communication levels between members of an organisation in order to achieve a mutual goal or goals. Le Roux *et al.* (1999: 286) suggest that project communication takes place on two levels, namely internally and externally, as illustrated in Figure 6. Peltoniemi and Jokinen (2006: CD) refer to project communication as intra-project communication and extra-project communication.

Internal or intra-project communication takes place between parties involved in the project, such as the client, contractor and team members while external communication takes place between parties that are not directly involved in the project, for example the community.

Figure 6 shows the flow of project communication that takes place on two levels, internally and externally.

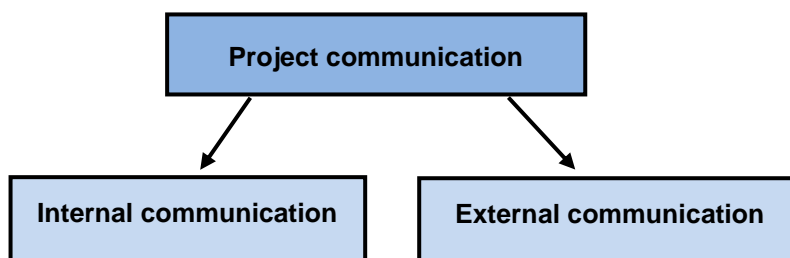


Figure 6: Project communication
(Adapted from Le Roux *et al.*, 1999: 286)

Figure 6 illustrates that, to achieve project goals, it is necessary to communicate or interact at various levels during the project. This is known as internal communication. Members have to communicate with individuals or groups who are not members of the organisation or project. This is referred to as external communication. The construction project manager needs skills to communicate effectively with both the internal and external parties involved in the project.

Communication strategies, as enhancement of effective communication, are reviewed next.

4.7 Communication strategies

Two communication strategies are the push and pull communication strategies, suggested by Du Plessis, Jooste and Strydom (2001: 341).

The push communication strategy is pursued when a project is pushed through the channels in a sequential fashion (Du Plessis *et al.*, 2001: 341). It is typically used under the following circumstances: where an offering is complex; the project is at an early stage in its life cycle; the project is viewed as risky; and where an organisation has limited funds.

The pull communication strategy focuses the promotional effort on end-consumers/clients to create initial interest among potential customers/clients, who in turn demand the project (Du Plessis *et al.*, 2001: 341).

The push strategy is typically used when there is a favourable primary demand for the project. The project may be significantly different from competitors. It is also used where there are strong, emotional motives involved such as concerns about safety, health and beauty (Du Plessis *et al.*, 2001: 341; Nielsen, 2010: online).

Projects that are complex and that have multiple stakeholders will have communication strategies that take the client, design team, delivery team and the internal and external stakeholders into consideration (CIOB, 2010: 195).

It is important for the construction project manager to have the correct communication skills to address pull and push communication strategies.

4.8 Conclusion

The communication process reviews the process of information flow from the sender to the receiver, including how barriers may prevent effective communication. It is important to plan communication, because barriers and noise may influence the effectiveness of the communication. Planning communication should include knowing the project structure, what a communication plan entails, the flow of communication in different directions, and internal and external project communication. Project management has its unique type of documents used during the execution of a project. Strategic planning of communication is essential for the successful completion of the project and it therefore is important to determine the communication skills needed by a project manager as leader, to communicate effectively.

Leadership in construction project management is considered an element of project success, and communication by leaders an important part of effective leadership. This is reviewed in Chapter 5.

Chapter 5: Leadership in construction project management

5.1 Introduction

Leadership theories developed over time. Historically, leadership theory developed during the 1930s-1940s, by focusing on leaders' personal traits, such as physical appearance and personalities. The behavioural school of studies, which focused on leadership tasks, developed in the 1940s. The assumption was that leadership may be learned and was not a trait people were born with. The 1960s gave rise to the contingency school, which was concerned with the appropriateness of different leadership styles in different leadership situations by matching the personal characteristics of a leader to the leadership situation. The visionary and charismatic school originated in the 1980s and focused on organisational change, through the development of vision, charisma, respect and trust. The emotional intelligence school emerged before 2000 (Müller & Turner, 2010: 438).

This chapter reviews leadership in general, defines leadership and investigates the components, traits and competencies of project leaders. Communication, as part of leadership, is essential in executing and managing projects, as well as for communication between the construction project team and stakeholders. The construction project manager therefore needs leadership skills to manage a project effectively.

Definitions of leadership are discussed in the following section.

5.2 Definition of leadership

Maxwell (2005: 127) defines leadership as the ability that determines a person's level of effectiveness. Clements and Gido (2012: 304) and Steyn (2012: 269) state that leadership is getting things done through others; the project manager achieves results through the project team.

Leadership includes delegation of authority to subordinates, coordinating tasks and activities, communication on all levels of the enterprise, and establishing a corporate culture that is conducive to the attainment of the overall objectives of the project (Van der Walt *et al.*, 1996: 490).

Leadership is the process of directing the behaviour of others towards the accomplishment of the organisation's goals. It involves taking the lead to bridge the gap between formulating plans and reaching goals; translating plans into reality (Smit & Cronje, 2002: 278).

Technologically, projects are on the threshold of a new world. Rapid developments in technology will affect every aspect of existence in future. Because of rapid changes in the environment, the need for leadership in every field is growing daily (Le Roux *et al.*, 1999: 127).

Project team members need leaders that can be trusted to lead the project towards the accomplishment of the goals of the project (Walker, 2007: 214). Effective leadership may improve an organisation's economic, social and environmental performance, develop trust with stakeholders and ultimately enhance reputations (Neef, in Suresh, Roden, Al-Khafaji & Renukappa, 2009: 280).

Leading is a function in the management process and as stated by Walker (2007: 214) the leader and manager may not be separated.

Leadership is necessary during the management of a construction project and the construction project manager, as communicator, may discharge this function.

Project leadership thus involves inspiring people assigned to the project to work as a team, to implement the plan, and accomplish the project objectives successfully.

The components of leadership are reviewed in the next section.

5.3 Components of leadership

“Good communication skills enable, foster and create the understanding and trust necessary to encourage others to follow a leader, without communication, a manager accomplishes little, without effective communication, a manager is not an effective leader” (Barrett, 2006a: 3).

The components of leadership that need to be reviewed to gain an understanding of the influence of an effective leader as a communicator on a construction project are authority, power, influence, delegation, responsibility and accountability.

Authority is intrinsic in achieving objectives through organisation (Walker, 2007: 192). Authority is the right of a project leader to give orders and to demand action from subordinates (Smit & Cronje, 2002: 279), thus as Walker (2007: 192) states, it is seen as “essential in order to get things done”.

Power, however, refers to the ability of a leader to influence the behaviour of others without necessarily using this authority (Smit & Cronje, 2002: 279) Weber’s 1947 translation of power is “the ability of a person to carry out his own will despite resistance” (Walker, 2007: 195). Authority and power play a large part in the leader’s effectiveness (Walker, 2007: 214). According to Steyn (2012: 287) both power and authority play a significant role in project management.

Influence is the ability to apply authority and power in such a way that followers and the project team take action. Military leaders influence soldiers in such a way that the soldiers kill people, and they must be prepared to sacrifice their own lives. Followers are often influenced to make personal sacrifices for the sake of the organisation. The task of a leader might also involve passing authority on to a subordinate or team member to do something on the project manager’s behalf. This is known as delegation and entails subdividing a task and passing a smaller part of it on to a subordinate or team member together with the necessary authority to execute it (Smit & Cronje, 2002: 280).

Team members will embrace the responsibility of planning their work, deciding how to accomplish their tasks, controlling the progress of their work, and solving problems that may impede progress. Team members will accept accountability for performing their work scope within budget and on schedule (Clements & Gido, 2012: 304).

Some important types of power are identified, such as positional power that stems from the project manager's position and role, and personal power that stems from the project manager's own conduct (Steyn, 2012: 287), personality and ability (Burke & Barron, 2007: 269).

Positional powers include legitimate, financial, coercive and penalty power. A legitimate power implies that a project manager, as the leader of the team, is officially empowered to issue orders (Bhamjee, 2005: 28; Steyn, 2012: 287). Budget authority entails financial power over departments and people who carry out the project work. This authority may not be automatically assigned to the project manager, but if assigned it may be important to communication (Kerzner, 2009: 206-207). Coercive power is power derived from the project manager's ability to punish or take something away from team members. This power uses fear and threats to influence team members' behaviour. It includes the power to reward, threaten demote, withhold overtime, limit salary increases and transfer people (Steyn, 2012: 287). With penalty power, the project team perceives the project manager as having the ability to penalise (Bhamjee, 2005: 28). With reward power, project managers gain power to influence by providing rewards intrinsic to the project itself, such as assigning responsibility (Bhamjee, 2005: 28; Steyn, 2012: 287).

Personal power might be charisma, persuasion, rapport, expertise, communication, negotiation, symbioticism, leadership and referent power. With charismatic power, a project manager gains power through a vibrant personality and exciting behaviour. Charismatic project managers have an infectious sense of humour, empathy to the team members' needs, are enthusiastic about the work and display self-confidence that they can perform (Burke & Barron, 2007: 275). With persuasion power, the project manager uses reasoned arguments, evidence and logic to influence team

members' decisions (Kerzner, 2009: 206-207). With the application of rapport power charismatic project managers are masters at networking to find a cross-section of useful contacts, are masters at "knocking up" a conversation, and also quick to crack a joke and find common ground to put others at ease (Burke & Barron, 2007: 276). Expert power is the ability to influence others because of specialised knowledge, skills or abilities. Project managers with expert power influence others because they have specialised knowledge, skills or abilities (Bhamjee, 2005: 28; Steyn, 2012: 287).

Project managers who control the lines of communication have communication power. Communication power includes:

- Report power – taking minutes at meetings.
- Appearance power – the way the project manager dresses and looks.
- Speech power – the way the project manager speaks and uses project management vocabulary.
- Body language – non-verbal communication that includes movements, eye contact and facial expressions.
- Presentation power – the power to handle public speaking.
- Networking power – the project manager's ability to connect with a network of useful contacts and make alliances with important people.
- Mentoring power – the power to mentor members, particularly a senior project manager (Burke & Barron, 2007: 278).
- Negotiation power is the power the project manager may use to influence people to give a better deal than would be obtained without negotiation (Burke & Barron, 2007: 279).

Symbiotic power involves the project manager developing a symbiotic relationship with the resource providers who need the project's business and the project in turn needs the supplier's products (Burke & Barron, 2007: 280). With leadership power the project manager may richly deserve trust and respect from the project team, which is the ultimate requirement for achieving leadership power (Burke & Barron, 2007: 280). Referent power is the ability to gain support because the team members feel attracted to the project manager. This power is the basis for charisma (Steyn,

2012: 287; Bhamjee, 2005: 28). Lui *et al.*, in Walker (2007: 214) state that expert and referent power are more significant in leading construction project organisations.

Authority alone is not enough. A project manager should be the kind of person whom the project team would respect and want to follow. Appropriate use of power, especially personal power, makes the project manager a leader, a person others willingly wish to follow. Project managers should choose their appropriate power base according to the situation, their own maturity level and the maturity level of other project personnel. Successful project managers should develop their emotional intelligence and their power base through inspirational leadership rather than through status and rank. Effective communication, persuasion and positive reinforcement will favourably influence project managers to meet project objectives successfully. Effective execution of power is as important as the choice of the form of power (Steyn, 2012: 288).

It is evident that the construction project manager also needs both authority and power to communicate effectively with the team members and stakeholders. Further, depending on the situation, it seems to be established that the project manager should use different combinations of positional and personal power, although the combination may differ from time to time depending on the situation; this will enable the project manager to communicate effectively as the leader and communicator. The power applied by a construction project manager during the managing of a project also depends on the leadership style followed by the person.

Lavender (1996: 159) and Barrett (2006a: 7) refer to charisma as the personality of an individual and a leader who has the ability to persuade members and move the team. According to Tuomo (2006:19), charismatic leaders are regarded as effective and influential. They have personal power, which is not a typical characteristic of an ordinary leader. Tuomo further states that studies have shown that there is indeed a positive relationship between charismatic/transformational leadership and the performance of an organisation.

The traditional leader derives authority from factors such as birth or custom and practice. Ownership and control is passed on within a family, but is unlikely to be sustainable. Appointed leaders exercise legal authority, which derives from the position held, and refers to the made rather than the born leader (Lavender, 1996: 159).

Skipper and Bell (2006a) add the following five leadership components: to lead by example; maintain the focus; challenge the process; enable others to act and encourage the heart of others.

Written and oral communication, group dynamics and motivation, ethics, running a meeting, career planning, time management, and accountability are some of the competencies that a construction manager should possess (Riley, Horman & Messner, 2008: 146). Baguley (2010: 97) mentions that a project manager should possess skills to lead the team, communicate with everyone, motivate the team and effectively negotiate the conflict that arises.

Leading a team, motivation, negotiation, meetings, planning and challenging all involve communication. The importance of communication by the project leader and therefore the project manager and others in similar positions of authority is firmly established.

The skills or competency of leadership that a construction project manager should possess to communicate effectively seem to be authority, power, positional and personal influence, delegation, responsibility, accountability, lead by example, maintain focus, challenge, enable others to act, encourage, running a meeting, time management, communication, motivation, and negotiation to act as a project leader.

In the next section, the personal traits of project leaders are reviewed.

5.4 Traits of project leaders

Some people possess an inbred air of superiority, which gives that person the power to influence. This trait identifies this person as a leader. To support this theory a number of studies have been done showing results that describe leadership qualities and traits. The theory describes some useful indicators of leadership characteristics and styles; these may help to quantify and clarify what project leadership actually is or should be (Burke & Barron, 2007: 224).

According to research (Emmitt, 2010: 102; Lavender, 1996: 160) leadership traits that are regularly identified among leaders are intelligence, initiative, self-assurance, energy and resourcefulness. Kerzner (2009: 150) adds project management experience, flexibility and change orientation, charisma, persuasiveness, discipline and innovative thinking as traits that a construction project leader needs to communicate effectively during the execution of a project.

According to Sweeney (2010a: online) active listening, relationships based on trust and respect, clear priorities, collaboration and a vision are skills that make a difference to communication. Sweeney (2011b: online) adds feedback and recognition to the list of top communication skills. Sweeney found that the fundamental ones such as trust and respect would always lead to great results.

Sources seem to suggest that teams may not perform properly unless the team trusts the project manager and the team feels trusted. Trust may encourage people to propose ideas, suggest ways to enhance work, speak of concerns, or give advice. If the environment lacks a culture of trust, team members will think before giving recommendations and before embarking on new initiatives, fearing that the team may be blamed or punished if things go wrong (Walker, 2007: 140).

Some personal traits may lead to the natural development of construction project managers into leaders (Gharehbaghi & McManus, 2003: 57). To be a leader, a construction project manager has to know him/herself, seek self-improvement,

understand the project team, and use effective communication skills. Thus, personal traits may contribute to effective communication during projects.

It is evident that if a manager possesses personal traits such as respect and trust, communication will be more effective. These traits may contribute positively during negotiations. For the purpose of the study, it is important to realise that the absence of important personal traits may influence the effectiveness of communication within a project.

Competencies of a project leader are deemed as important for the study and are reviewed next.

5.5 Competencies of a project leader

Deacon (1997: 3) suggests that competencies are a product of knowledge and experience.

A good leader leads by example and by providing a role model for team members to follow. A good leader is someone people will follow willingly because the team perceives that the leader will provide them the means to achieve their own individual desires, needs and expectations as well as the project's objectives (Burke & Barron, 2007: 277).

A project manager cannot function or execute a project without people, thus a project manager has to manage the team, stakeholders, finance and the schedule. To manage a team the construction project manager should have good people management skills (Turk, 2007: 23). "Good communications skill is a critical competency for good people management" (Turk, 2007: 24).

Turk (2007: 24-25) further suggests that project managers need the following competencies: patience, wisdom, humour, flexibility, creativity and expertise. Optimism, initiative, achievement, adaptability, transparency and emotional self-

control are competencies that a project leader needs to set an example for the project team (Barrett, 2006a: 179).

Florida (2007: 30-38) identifies the creative class to be able to lead people in occupations requiring social skills and emotional intelligence, and the ability to create new ideas, technologies, models and values.

Verster and Zulch (2010: CD) suggest that education, training and research are strong determinants for developing creativity within the construction industry. Creativity is an attribute that will enhance the effectiveness of management.

The competencies that develop a project manager into a project leader are the management style, long term goals, expanding the knowledge base, encouraging interactive communication, action orientation and openness, mentorship, adaptation to change, an eye for opportunity, a positive attitude and the ability to measure performances (Sommer, 2010: online).

Project leaders may stimulate cross-communication by asking relevant questions, encouraging participation, summoning conversation, relieving tension, and by promoting progress of the flow of communication (Makay & Fetzer, 1984: 150-155).

Toor and Ofori (2008: 621) state that it is important to create a positive culture to develop future leaders with positive values and high levels of moral and ethical behaviour. Research done by Development Dimensions International (DDI) on Leadership Forecast indicates that from 1999 to 2003 the four most important leadership competencies remained the same. They are adaptability, building a successful team, decision making and communication (Bernthal & Wellins, 2005|2006: 8).

As leader of the project team, the construction project manager must have good leadership qualities, in other words should be assertive, persuasive and have the ability to motivate team members. The project manager should be a skilled negotiator to ensure that the best resources are assigned to the project. A project

manager must possess the necessary common sense needed to anticipate and manage risks in a prudent fashion. All the above equip the project manager to become a consistently good decision maker (Deacon, 1997: 3).

5.6 Conclusion

The successful execution of a construction project depends heavily on the construction project manager's abilities as communicator to lead the team and manage a construction project successfully.

During the execution of a project, the construction project manager applies some powers. Depending on the situation, different combinations of positional and personal powers may influence the effectiveness of a construction project manager. The effectiveness of the construction project manager's communication also depends on a combination of powers linked to the choice of leadership style.

The role of leadership in construction project management is to maintain and promote the project vision, reinforce positive relationships, build an environment that supports effective teamwork, raise morale, and empower and inspire the individual as reviewed.

If project leaders are unsuccessful in leading the team to complete the project successfully, there should be reasons or issues that caused leaders to fail. These reasons might probably be ineffective communication between members of the team and/or the construction project manager's incompetence to communicate effectively.

The construction project manager, who has developed into a project leader by developing competencies, will communicate more effectively and lead the team to completing projects successfully.

The skills that the construction project manager needs in order to communicate effectively are reviewed next.

Chapter 6: Construction project management communication skills

6.1 Introduction

The survival of any organised human activity depends largely on man's ability to communicate with others. Indeed, it is impossible to conceive of an organisation in which individuals operate in isolation without the benefit of communication (Feldberg, in Talukhaba *et al.*, 2011: 129). It is important to determine the skills needed to communicate effectively for the benefit of the project.

Skills may be defined as the ability to translate knowledge into an action that results in the desired performance (Burke & Barron, 2007: 25). PMBOK (in Burke & Barron, 2007: 346) defines communication skills as "ensuring the right person gets the right information at the right time". Skills may be referred to as an ability to translate knowledge into action (Odusami, 2002: 61).

Skills may be divided into three sets, namely cognitive; technical and communication skills. Cognitive skills relate to the knowledge base of the profession. Technical skills are the specialised practical and manipulative techniques essential to the profession (Hargie, 2007: 2) and especially in the planning and implementation stages of a project (Odusami, 2002: 62). Communication or social skills entail individuals having the ability to interact effectively with clients and other professionals (Hargie, 2007: 2). The project manager needs to establish cooperative relationships with the project team members, ensure a good climate for communication, identify participants for the project to ensure commitment and adopt an appropriate leadership style (Goodwin, in Odusami, 2002: 62). Dick (1997: online) adds two additional skills, namely interpersonal skills and emotional skills. Emotional skills are the ability to make the right decisions under difficult circumstances, to take responsibility and to have courage. Interpersonal skills are having the self-confidence to communicate. Without emotional skills, the interpersonal skills may not be used effectively, and without the interpersonal skills, the technical skills may be wasted. Katz (in Odusami, 2002: 61) suggests that all project managers require the same competence in each skill. Covey (2008: online) describes communication as an

important skill in life and Heldman (2011: 33) states that, “the most important skills a project manager possesses are communication skills”. These statements confirm that communication skills are important.

Communication skills are important for the construction project manager to communicate effectively and are reviewed next.

6.2 Communication skills

Hargie (2007: 108) and Stacks and Salwen (2009: 336) argue that communication skills are meaningful if the context of behaviour is taken into account. Rensburg (in Erasmus-Kritzinger, Swart & Mona, 2000: 140) and Tubbs and Moss (2008: 119) state that it is necessary to be trained in and to learn as much as possible about multicultural communication skills before teams are brought together.

Sloboda (in Hargie, 2007: 27) describes the five central elements of communication skills as FRASK: fluent, rapid, automatic, simultaneous and knowledgeable. Fluency is a form of displaying a feature of the skill smoothly or almost effortlessly, to do things as a group or to act together at the same time. Rapidity is a feature of all skilled action, where a skilled person sums up a situation and responds swiftly. Automaticity refers to the fact that skilled actions are performed without thinking, like smiling and greeting. Simultaneity is skilled activities that are executed conjointly and that has been termed as multi-task performance. Knowledge is not only having the knowledge, but also actually applying it at the appropriate moment (Hargie, 2007: 27-28).

At various stages of a construction project people will have to explain, ask questions and discuss issues and ideas with each other. According to Laufer, Shapira and Telem (2008: 81) construction project managers are engaged in oral communication for about 76% of the time. Emmitt and Gorse (2003: 123) also state oral communication as the main method of communication, and that it is good practice to record oral communication (Emmitt & Gorse, 2003: 123).

The most common communication channel is speaking; it is immediate, spontaneous direct and used in a wide range of situations. However, verbal communication is most often misunderstood (Elder, 1994: 10).

The majority of communication during a construction project may be spent on speaking and listening, and less time on reading and writing. Communication actions such as speaking, listening, reading and writing need expertise to be used successfully.

The skills used to communicate that are considered in this study are questioning, reinforcement, reflecting, explaining, self-disclosure, humour and laughter, negotiation, presentations, writing, public and mass communication, meeting, conflict management, decision making and problem solving, team development and team building, motivation, listening, persuasion and the skill to trust.

6.2.1 Questioning as skill

Fritzley and Lee (in Hargie, 2007: 121) describe questioning as a “major form of speech act in interpersonal communication”, while Stenstroem (in Hargie, 2007: 121) reflect that “it is difficult to imagine a conversation without questions and responses”.

Communication is most effective when asking questions during a conversation. The reason for asking questions in project management is to allow time for interaction with the audience (Clements & Gido, 2012: 384).

Elder (1994: 124) states that questions are asked for two reasons; firstly, for obtaining accurate and honest information and secondly to create an environment where the people are happy to talk openly and freely. It is important to ask open-ended questions, which may avoid yes or no answers, and to avoid leading and compromising questions where the team answers what the project manager expects.

The construction project manager has to ask open-ended questions, to allow the responder to explain. The construction project manager should avoid asking leading

questions that put words in the responder's mouth. Questions should be clear and unambiguous, so that the receiver understands what has been asked (Elder, 1994: 124; Hargie, 2007: 127). It is important that clear questions are asked, thus the project manager must prepare the question in advance and determine if it is clear (Elder, 1994: 289). Preparation in respect of asking the question is important, because as Ellis and Fisher (in Emmitt & Gorse, 2007: 78) emphasise, "most people are not very good in asking questions".

It may be important to ask open-ended questions that avoid a yes or no answer, to avoid leading and compromising questions, placing the team in a position to answer what the project manager expects (Hargie, 2007: 127).

The construction project manager has to encourage questioning, because it could happen that professionals or team members avoid asking questions to defend a position, inexperienced team members may not have the courage to ask help from higher position team members, and higher status team members may be less inclined to seek assistance (Emmitt & Gorse, 2007: 78).

It is the responsibility of the construction project manager to encourage the highly experienced professionals or team members to assist less experienced team members with questions and aspects of importance of the project, to enhance effective communication.

The project manager needs to think and plan the questions to be asked, so that it is correctly phrased, in the correct order and in such language that the construction project team understands it easily and can respond to it.

6.2.2 Reinforcement

Reinforcement involves a stimulus which, when linked to a response, will most likely lead to that response being repeated. Verbal and non-verbal communication take place using adept facial expressions and other gestures to provide or react to information from somebody else (Hargie, 2007: 150,152).

In many languages, terminology is used that indicates assumptions of praise and encouragement; repetition leads to some positive effects and behaviours. These words and terms are used to gain desired effects. Equally, there is a broad range of negative comments, some used as severe criticism contingent on behaviour and meant to punish, while others cause negative behaviour (Hargie, 2007: 154).

Positive reinforcement involves letting members know that they do well and that their inputs are appreciated; this will encourage those members who feel unsure (Pace, Peterson & Burnett, 1979: 156).

Understanding the message and meaning is indicated when a team member repeats the task or instruction explained by the construction project manager, which in turn implies effective communication.

It may be that the construction project manager has to take note of team members or a specific person in the team, who are in conversation. The facial expressions and gestures of the team member may indicate understanding or misunderstanding. This positive or negative reinforcement will indicate to the project manager if the communication was effective.

Project managers, who develop reinforcement communication skills, may improve effective communication.

6.2.3 Reflecting as skill

Reflecting as a skill is closely associated with listening (Hargie, 2007: 165: Pace *et al.*, 1979: 157), responding to others in such a way as to convey interest, understanding and engagement in the conversation. Feeling reflection focuses on the feelings, for example anger, and may be dealt with when the team clearly expresses feelings to the project manager (Pace *et al.*, 1979: 168).

Reflecting as an interactive response (Hargie, 2007: 165) may be a repetition of words or content reflection (Pace *et al.*, 1979: 167) of a worker who repeats every

word of the project manager's information and by reflecting the worker suggests understanding.

The difference between reinforcement and reflecting is that in reinforcement, the team member repeats an understanding of the message, and in reflecting, the whole message is repeated as it was said.

Team members have to listen carefully to be able to repeat the message and to indicate to the construction project manager an understanding of what was discussed by nodding their head, which implies that the communication was effective.

6.2.4 Explaining

Explaining means to simplify and contribute to an understanding of the nature of explaining (Hargie, 2007: 196).

Elder (1994) states that questions are asked for two reasons. Firstly, for obtaining accurate and honest information, and secondly, to create an environment where the people are happy to talk openly and freely, and where the project team may provide explanations to the project manager regarding the questions asked by the project manager.

Explaining and questioning are linked. In construction project management the project manager has to communicate information that is clear and comprehensible to the project team members, in order for the team to understand the project goals and allow them to ask questions.

During construction project management it may be necessary to ask open-ended questions, (see section 6.2.1), that prevent yes or no answers, leading and compromising questions, and the possibility that the team answers what the project manager expects. It is important to ask clear questions, which the project team can answer with an explanation.

6.2.5 Self-disclosure

“Self-disclosure, the process whereby people verbally reveal themselves to others, constitutes an integral part of all relationships” (Hargie, 2007: 229). Self-disclosure serves an important function in relationship development. People reveal information such as names and skills that help people get to know each other. Self-disclosure provides information that helps to reduce uncertainty about the other person’s attitudes, values, personality and skills and enables the work relationship to develop (Hargie, 2007: 230).

The Johari window (Figure 7), developed by Joseph Luft and Harrington Ingram, illustrates self-disclosure during conversation (Makay & Fetzer, 1984: 124-125). Different levels of communication and the understanding of how people present themselves in relationships are evident in the description of the psychic awareness as described by the Johari window, illustrated in Figure 6 (Boyd & Chinyio, 2006: 65; Sully & Dallas, 2005: 12).

Figure 7 illustrates the following: public/free area, indicated as I, is the part of a person which is acknowledged and which others may see. The hidden area/private self, indicated as III, is the part a person acknowledges privately but do not disclose to others. The unknown area, indicated as IV, is the unconscious self and is unknown to you and others, and the blind area, indicated as II, are those aspects of people’s selves that are denied and people do not feel guilty or anxious about, but that other people may see.

Known to Others	I Free Area/Public Known to self Known to others	II Blind Area Blind to self Seen by others
	III Hidden Area/Private Known to self Hidden from others	IV Unknown Area Unknown to self Unknown to others
Not known to Others		

Figure 7: Johari window

(Crafford & Smallwood, 2007: 35; Makay & Fetzer, 1984: 125)

The application of the model during a conversation situation is that the project manager and team members' self-disclosure should reflect some changes as the conversation progresses. In fact, it might look something like Figure 8 where the team member and project manager 'open up' to each other during the conversation.

At the beginning of conversation, before any self-disclosure can take place, the situation is as illustrated in A in Figure 8. With the start/opening of a conversation as per Figure 8, the hidden area (3) and unknown area (4) are bigger and the free area (1) and blind area (2) are small. At the end of the conversation between the project manager and team member, the hidden area (7) and unknown area (8), are smaller and the free area (5) and blind area (6) are bigger.

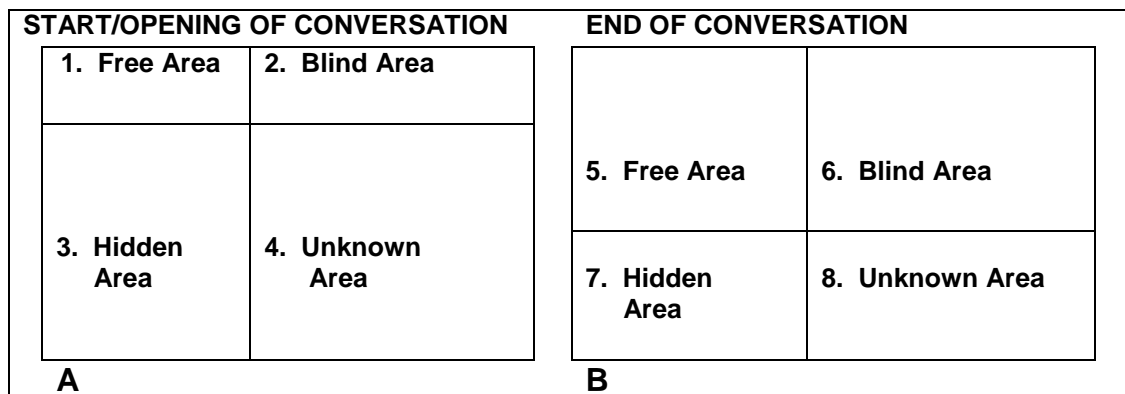


Figure 8: Conversation development
 (Makay & Fetzer, 1984: 125; Sully & Dallas, 2005: 13)

Figure 8 illustrates the positive effect of self-disclosure conversation during communication.

During the conversation, the persons reveal some information, which creates knowledge of each other. Persons disclose information during conversations, which develops into a willingness to communicate. As the conversation develops and people reveal more, they become more open for communication; the result is self-disclosure.

The construction project manager and team members reveal information during conversations that disclose themselves to each other. Self-disclosure can be applied

by the construction project manager, as communicator, to the advantage of effective communication during execution of construction projects.

Self-disclosure leads to team members getting to know and understand the construction project manager and vice versa, resulting in communication that is more effective.

Thus, both parties have made progressive efforts at self-disclosure. It is through the expansion of free and blind areas that the purpose of the conversation may be accomplished. If the conversation is carefully structured around the purpose, the areas known to others will expand as each step of the conversation is completed.

There is an element of risk in self-disclosure and there should be mutual trust to minimise fears (Makay & Fetzer, 1984: 125). (Trust is reviewed in section 6.2.18)

The deduction may be made that a construction project manager who applies self-disclosure as a communication skill may know team members, as the blind area becomes the known area, and communication may be more effective.

6.2.6 Humour and laughter

Decoding humour means understanding the meaning of a joke. Encoding humour is understanding how and when to use humour to convey a message. To consider humour and laughter as social skills is to be concerned with the encoding characteristics, the reason why project managers invite humour in the construction project management industry (Hargie, 2007: 294).

Martin (in Hargie, 2007: 293) states that humour is a complex phenomenon involving cognitive, emotional, physiological and social aspects. Fourie (1988: 77) states that a method for the correct use of humour is to establish a humorous mood. Hinde (1972: 211) states that smiling and laughter are patterns that differ in degree, smiling less intense and laughing more intense, but which are of the same emotion.

Humour and laughter may be used to communicate the meaning of a message, as well as the opposite meaning. Humour is playful and may be simultaneously interpreted in several different ways, according to the reaction of the audience and the impression the speaker wishes to create. By using humour, a choice can be made whether to claim or disclaim responsibility for the message or action. Laughter itself may be used as social, ignorant, emotional mask, apologetic, anxiety, mocking, sinister, sarcastic, acerbic and joyous or excitement laughter (Hargie, 2007: 299-310). Rees and Porter (1996: 229) warn that the use of humour and laughter means different things to different people. This should be taken into consideration during communication.

Humour and laughter are important factors that give team members a sense of belonging and acceptance, and foster caring and mutual support (Yalom, Bloch & Crouch in Hargie, 2007: 303).

With the use of humour and laughter information may be given, without giving it directly to the team, like telling jokes about time that is running out, to indicate to the team that time is a problem in the project.

Humour and laughter may be used to discover the attitudes, motives and values of the team members, without asking directly. Humour and laughter may be used to find out how the team members are responding to the manager, which might give an indication of the project manager's popularity or the lack thereof.

6.2.7 Negotiation

Negotiation is a search for agreement, seeking acceptance, consensus and alignment of views. Negotiation in a project may take place on an informal basis throughout the project life cycle or on a formal basis such as during procurement and between signatories to a contract (APM Body of Knowledge, 2006: 110).

Negotiation involves conferring with others to come to terms with stakeholders or reach an agreement. In construction, negotiation occurs around many issues.

Modifications to the contract and negotiating the proposal costs are examples of negotiation (PMI, 2008: 11). The fundamental element of negotiation is to create an environment in which those who are in conflict may work together towards a resolution (Elder, 1994: 106). Wysocki (2007: 117) argues that negotiation is the process of resolving conflict in requirements and reaching agreement with the stakeholders. It is a persuasive process and is an important skill needed to manage projects successfully (Steyn, 2008: 266). The standard negotiable issues are for instance contracts, rates and deadlines (Morris, 2008: 232). Redmond and Gorse (in Emmitt & Gorse, 2007: 73) identify persuasion techniques that may be used during negotiation, which may give a positive result.

Negotiation is a process of bargaining aimed at reaching an agreement with project stakeholders to obtain specific resources, subcontractor prices, vendor delivery schedules, generating information and accomplishing tasks (Clements & Gido, 2012: 312).

Negotiation as a skill may come into play at various stages of the communication process during the construction project, and may be useful in making numerous agreements with parties.

Two methods of negotiation can be identified, namely soft or hard. Soft negotiations are friendly and make concessions readily to avoid conflict and the risk of spoiling future relationships. Hard negotiators take strong positions and try to win, even at the cost of relationships (Steyn, 2008: 266).

The following are negotiation strategies that may, according to Burke and Barron (2007: 301-102), be used to enhance the process of communication. If the project manager adopts a win-lose strategy it means the project manager is trying to win a negotiation against an opponent who loses; a winner takes it all strategy. It is a competitive bargaining approach where each party tries to capitalise on the other party's weaknesses. A win-win strategy entails a collaborative approach where each party, the project manager and the other party, are trying to achieve the best deal for both parties; a mutually agreeable solution. Information is openly shared between

parties and in order to improve understanding, honesty, and trust, it is important to make it possible to solve the differences. This enhances the development of a long-term work relationship. A lose-lose strategy occurs when the one party loses, making sure that the other party loses as well. It is a spiteful strategy, making unnecessary enemies and may be to the disadvantage of future negotiations.

If negotiation is not working and no agreement can be reached, stop talking and take a break, or use a neutral third party to solve the problem (Morris, 2008: 233). Steyn (2008: 226) suggests separating the people from the problem and focussing on the action.

The win-lose and win-win strategies may be the best strategies to use in the negotiation process. In the negotiation process, there are a few tactics to help the project manager to negotiate effectively, such as not offering too much at first, giving room to build in the negotiation process.

The negotiation process may consist of stages, such as the pre-negotiation planning, the actual negotiation and the post-negotiation analysis. The process is as important as the outcome. Project managers should be sensitive to human feelings and to the importance of maintaining good working relationships. Successful negotiations are based on basic principles that involve focusing on real issues, problems and common interests rather than on people, generating options that advance shared interests and then negotiating based on objective criteria (Steyn, 2008: 266).

If the differences with the other party cannot be resolved by negotiation, there are a number of dispute resolution processes to consider, such as arbitration, mediation and conciliation (Burke & Barron, 2007: 305).

The strategy that is applied as a tactic, may give the project manager an advantage during the negotiation with the parties involved, if the correct process is used.

The sequence of events for negotiation is to start with setting the correct climate and willingness to participate by the parties involved, analysing the images and collecting

the information, then defining the problem and sharing the information with the parties involved. This is followed by setting appropriate priorities, organising the group and start to solve the problem by obtaining involvement, developing action plans by getting commitments, implementing the work by taking action and finally, doing follow-ups to obtain feedback on the implementation of the action plan (Kerzner, 2009: 303-304).

Burke and Barron (2007: 301, 103) state that, to be a successful project manager, negotiation techniques must be developed and used to achieve the best deals with functional managers, clients and suppliers. As the project coordinator gains respect from the functional managers, the project coordinator can start to negotiate project staffing, schedules and changes of plans with the functional departments.

To enhance communication, negotiation skills might be required from the construction project manager, to be aware of the logical steps and sequence of events that should be taken into consideration during the negotiation process.

It is important that the construction project manager communicates successfully and apply negotiation by using the most effective strategy thereby, according to the process and as communicator, solve problems and negotiate to the advantage of the project and the stakeholders.

6.2.8 Presentation

Project team members are often requested to deliver presentations to the project stakeholders. Presentations are often used in conjunction with reports such as handouts, briefing documents, or follow-up detailed reports that the audience may consider at leisure to clear up uncertainty that may exist after the presentation. Presentations may be delivered to the client to explain the project, to senior management to report progress, or to the board of directors to justify cost or time problems (Steyn, 2008: 321).

A powerful presentation with visual aids may create a powerful impact and give the perception of someone who knows the information presented (Burke & Barron, 2007: 279). English, Fielding, Howard and Van der Merwe (2010: 245) state that the project manager who wishes to be a credible and trustworthy speaker must have knowledge of the subject.

The following methods may be helpful to the project manager in preparing presentations:

- Keep it brief and to the point.
- Find out who will be there.
- Look at the team members and not on the floor or table while speaking.
- During the preparation think of possible questions and prepare for them.
- If slides, models or photographs are used, use it professionally and make sure that the team members see these slides properly (Ellis, 1999: 90-91; Ellis, 2009: 119).
- Clements and Gido (2012: 382) suggest that the project manager practices the presentation.

These techniques will help the project manager to prevent unnecessary criticism during the presentation. According to Pace and Faules (in Steyn, 2008: 322) a presenter may be judged by the audience on five key characteristics. Firstly, being confident and in control of the situation. Secondly, the project manager should have or communicate a sense of urgency about the ideas being presented. Thirdly having and communicating a full understanding of what is being said. Fourthly, communicate with a keen sense of directness, and with interaction from the team. Lastly, the project manager talks by using appropriate vocal and physical animation to emphasise important points and to avoid monotony.

The above-mentioned techniques may help the construction project manager to deliver a professional presentation.

It is important that the project manager is physically and emotionally prepared, speaks audibly and clearly and uses the correct posture and body movements during the presentation (Van Staden *et al.*, 2002: 171-172).

The construction project manager needs the skill of presentation to communicate and to provide information to team members and stakeholders, during the whole life span of the project. To deliver a presentation the project manager, as communicator, has to prepare, practice and make sure the presentation is credible and trustworthy.

6.2.9 Skill of writing

As part of daily projects, it is necessary to record matters in writing. Written reports, letters, instructions and minutes of meetings are essential for the smooth running of projects and may be used as evidence in the event of a dispute (Emmitt & Gorse, 2003: 124).

Compared with oral communication written communication should be more concise, discreet, and accurate and free of ambiguity. Care and dedication are required in the composition to ensure that the message contained in the text is what is intended (Emmitt & Gorse, 2003: 124).

Ellis (1999: 64; Ellis, 2009: 158) states that the project manager has to keep in mind who the readers are and try to put himself in that person's situation, because what may be clear and obvious to the project manager may not be clear to the readers. The right word for the context – because one word has different meanings in different contexts (Van Staden *et al.*, 2002: 135) – is important and influences the effectiveness of communication.

A study by Bowen, Cattell, Michell and Kabayadondo (2006: 26) found that non-appearance of written communication influences the understanding of information.

The principles that are effective to apply in the writing process consist of the following: The first principle is to prepare why and what must be written. The second principle is planning, which starts with an outline or a mind-map of the information and thinking before starting to write (English *et al.*, 2010: 55). Thirdly, draft the document by putting the thoughts into words and organising the information. Fourthly, revise by reading the draft from the reader's point of view, and asking if the report will be effective, understandable, deciding whether organising the words differently would make it more effective and/or whether the message needs more explanation. Lastly, edit what has been written to make sure that the report is phrased in an effective way and that the grammar, punctuation and spelling are correct (Clearly, 2008: 139-141; English *et al.*, 2010: 55).

Elder (1994: 46, 332) suggests that when the project manager writes a report it may be helpful to say the information out loud and then write it. Grant and Borchers (2008: 87) suggest keeping it simple and using normal everyday language to state the information in a logical sequence. Short and simple sentences are unambiguous and clearer than winding sentences.

Kirkham (2007: 59) advocates that formal documents should be constituted as agreements between the client and the professional team, stipulating the scope of the project.

Berry (2012: 99) states that the minutes of site meetings are important written communication media in the construction industry that provide important support regarding decisions at meetings. Burke and Barron (2007: 343) add memos, emails, faxes, letters, drawings, specifications and reports as written communication mediums in the construction industry.

It is important to follow construction project management documents and roles of design drawings, specifications, bills of quantities, standard preambles, and preliminaries. These documents establish firm communication links and principles among the parties and stakeholders (Berry, 2012: 119).

The standard system of measuring builders' work establishes standards and principles of common understanding in the industry (ASAQS, 1999: preface).

Written communication may be a more reliable and accurate form of communication, and may be accessed repeatedly. It may therefore be important that the construction project manager, as communicator of the construction project, develops and improves the skill of writing. The construction project manager writes different types of reports, notes, agendas, logs, plans, lists and budgets, and therefore the skill of writing may be an important communication skill that the project manager should have.

6.2.10 Public and mass communication

Public communication takes place when the project manager addresses a large known audience. Lectures, speeches and presentations are all forms of public communication. In public communication, project managers often assume that the project manager has to send messages and what happens with the message is not important; however, feedback from the audience must be part of the communication process (Emmitt & Gorse, 2003: 48). It may be that the message is designed to attract the attention of the largest audience only (Emmitt & Gorse, 2007: 16).

Mass communication occurs when the project manager sends information to a large, anonymous audience. Information is usually distributed through specialised communication media, such as the Internet, television, radio, magazines, journals and newspapers, and feedback is indirect. Thus, mass communication is one-way communication (Emmitt, 2010: 33; Fielding, 2005: 437) and as stated by Stacks and Salwen (2009: 62) a single source to a large heterogeneous audience, the public, with a lack of feedback from the receivers. The challenge with mass communication is that the manager has to consider how many individuals may respond to the message and the suitable medium through which the message is conveyed (Elder, 1994: 162-163).

A manager must be sensible and take the following aspects into consideration when speaking in public (Elder, 1994: 308):

- The manager has to understand the audience. This may help to make it possible to get the message across and to try to ensure that barriers are kept to a minimum.
- The manager has to understand the circumstances around the message – aspects like the location that may affect the message.
- The manager has to understand the size of the audience and the venue.
- The manager has to keep the subject in mind when getting the information together and brainstorming.
- Write out the speech.
- Read it over and over.
- Practice in advance (Elder, 1994: 308).

Although a construction project manager is not often required to speak in public, in terms of his/her basic functions, it sometimes happens that the construction project manager has to address a large audience or group of workers on site or the work force in general, for example to communicate changes to health and safety legislation (Emmitt, 2010: 33).

The project manager has to prepare well for public speaking and use the correct words in order to be effective and to prevent misunderstanding. To be a good public speaker might be to the advantage of the project manager as this skill might help to send out the message to the public as planned.

The construction project manager may not use public and mass communication as often during each project, but the skill may come in handy if it should be necessary to communicate with the public.

6.2.11 Meetings

A definition of a meeting is that it involves a group of people spreading information, reaching decisions or resolving a particular problem through discussion (Clearly, 2008: 379).

Drucker (in Emmitt & Gorse, 2003: 147) states that meetings are held because people who have different jobs have to cooperate to accomplish tasks. An individual's knowledge and experience are often insufficient, thus the knowledge and experience of several individuals brought together at the meeting provide a convenient forum in which to exchange ideas and agree on a plan of action.

Project meetings are the construction project manager's principle forum to manage the project and communicate with the team members and stakeholders, thus project meetings are an important part of project communication (Burke & Barron, 2007: 349; Miners, 1969: 37). Where there are problems with the progress of a job, site meetings are called (Ellis, 1999: 80). Some project managers prefer formal structured meetings, while others prefer informal ad-hoc meetings. To make the most of a project meeting it should have a purpose and structure, but at the start of a project it is important that the project manager sets up a schedule of meetings between the client, team members, sub-contractors, suppliers and other stakeholders (Burke & Barron, 2007: 349).

Meetings may be classified according to the specific purpose (Campbell, 2009: 52) and the frequency of occurrence (Kerzner, 2009: 238). Daily meetings are held when people work together on a project with a common objective, and reach decisions informally by general agreement. Weekly or monthly meetings are held when members work on different, but parallel projects. Irregular, occasional, or special project meetings are composed of people whose normal work does not bring members into contact with each other. The early work of Higgin and Jessop (in Gorse and Emmitt, 2003: 234) recognises that site meetings play an important part in the development and maintenance of relationships that ultimately influence and control a project.

The success of project meetings depends on the skill of the construction project manager to handle the following aspects successfully:

- Start on time and end the meeting on time (Kerzner, 2009: 242).
- Advance preparation and structure of the meeting (Burke, 2007: 214).
- The objectives are met (Clearly, 2008: 379-380) and the scope is defined (Steyn, 2008: 327).
- A previous agenda should be circulated to participants that allow preparation (Steyn, 2008: 327).
- Open discussions are created (Clearly, 2008: 379-380).
- Control is maintained (Clearly, 2008: 379-380).
- Team members keep to the point (Clearly, 2008: 379-380) and with time limits (Steyn, 2008: 327).
- Decisions are clearly and unambiguously stated.
- Time is monitored and controlled.
- Results have been obtained, because team members experience a sense of satisfaction with what has been accomplished (Clearly, 2008: 379-380).
- Silence does not always mean agreement (Kerzner, 2009: 242).
- Good minute-taking (Steyn, 2008: 327).

There are a number of reasons for holding construction project meetings according to Burke and Barron (2007: 349) and Burke (2007: 213). The reasons are to share information and exchange data; solving problems, brainstorming, generating ideas, options and alternatives; decision making, selecting a course of action, gaining support and alternatives; planning and execution, to determine the what, who, when, how, where and why; progress, evaluation, monitoring, measuring, reviewing and forecasting; and control. Emmitt and Gorse (2003: 147) add further reasons, namely to ensure the managers stay in control of the tasks; appraise staff, assessing management ability and how well people participate in meetings; and bond, the human's need to communicate and bond that creates a sense of belonging.

The above may be possible reasons for meetings and that the construction project manager has to have the skill to deal with meetings and to communicate effectively

with the team members and stakeholders of a project. Whatever the reason for a meeting, the project manager needs to plan properly and handle the meeting according to the mentioned aspects. It may assist the project manager, as the communicator, in handling meetings successfully.

Minutes of a meeting are a permanent certified record of what was said and agreed upon by the team members. Minutes should be taken and produced as soon as possible after the meeting and communicated to the key people as per the communication plan and control documents (Burke & Barron, 2007: 349).

When acting as chairperson the construction project manager has responsibilities that include preparation, briefing the participants, running the meeting and implementing the decisions after the meeting (Grant & Borchers, 2008: 69). A chairperson has to avoid competing with others; encourage contribution; control aggressive and defensive behaviour; sum up clearly; state the agreement or decisions reached; and ensure meetings have the right sort of atmosphere. A chairperson sets an appropriate pace for the meeting and allows individuals the opportunity to contribute to, but not dominate, discussions (Emmitt & Gorse, 2003: 155).

In order to ensure meetings running smoothly, the project manager has to unite the group and make sure team members at the meeting are on the same side and aggression kept under control. The project manager also has to prevent team members digressing and ensure that the team members move together in a positive direction.

It is the responsibility of the construction project manager to manage meetings successfully, as meetings are costly in terms of time and loss of productivity. The project manager needs the skills of communication and leadership to conduct meetings successfully and effectively. The skill of communication and specifically of handling meetings may be determined by the project manager's choice of leadership style.

6.2.12 Conflict management

The APM Body of Knowledge (2006: 108) defines conflict management as the process of identifying and addressing differences that, if unmanaged, would affect project objectives. Effective conflict management prevents differences becoming destructive elements in a project.

Conflict is often the result of uncertainty or miscommunication, including detail information in the communication with team members; misunderstanding (Morris, 2008: 216); or interpersonal issues, interests, values, organisational cultures, technical opinions, politics and finances (APM Body of Knowledge, 2006: 108). The way team members respond to conflict reflects people's upbringing and values, cultural beliefs and individual personality differences. Thus the construction project manager always has to try to shift the conflict from a personal level to an issue level (Grant & Borchers, 2008: 64-65).

The construction project manager can prevent conflict by looking for signs such as team members' lack of self-confidence, uncertainty about a task, team members knowing what each one's function is, having a prejudicial attitude towards team members, taking care where healthy competition is becoming competitive and if team members are motivated by personal agendas to the expense of the project (Morris, 2008: 216).

Situations change and evolve over the period of a project and it is impossible to predict eventualities; it is therefore inevitable that conflict will occur. Conflict may be natural, functional and constructive, or dysfunctional and destructive (Emmitt & Gorse, 2007: 79).

According to Burgoon *et al.* (in Emmitt & Gorse, 2003: 168) the different types of conflict are:

- Real conflict – Conflict resulting from goals or behaviours being incompatible.
- Artificial conflict – Parties believe that goals are incompatible; both are able to fulfil needs without the other compromising the position.

- Induced conflict – A group or an individual may create conflict for a specific purpose.
- Violent and non-violent conflict – Non-violent conflict uses rhetoric while violent conflict makes use of force.
- Direct or face-to-face and mediated conflict – When conflict emerges in direct or face-to-face settings, it is a result of differences of opinion between parties directly engaged in the discussion. Usually, it is only after a period of discussion that a third party, the mediator, is invited to help team members resolve the dispute.

It is important that the construction project manager defines the type of conflict, to know how to approach and deal with the conflict, to the best success of the project. Depending on the conflict situation, the project manager might adapt one of the following three conflict resolution styles:

- Avoidant – the project manager does anything to avoid a direct confrontation.
- Combative – the project manager avoids confrontation at all cost.
- Collaborative – a win-win approach and seek a common ground as the basis for moving ahead to a solution to solve the conflict (Wysocki, 2007: 269).

Conflict has advantages and disadvantages for the project. Loosemore *et al.* (in Emmitt & Gorse, 2007: 81) present a strong view on the importance of conflict within the construction industry and that conflict should be actively encouraged. Conflict improves the quality of decisions and stimulates creativity and innovations (Grant & Borchers, 2008: 63).

Conflict that is managed brings concerns into the open, raises otherwise suppressed viewpoints and may clear up misunderstandings and uncertainty (APM Body of Knowledge, 2006: 108; Clearly, 2008: 46). Ellis and Fisher (in Emmitt & Gorse, 2007: 81) argue that conflict increases understanding of issues and opinions, and contributes to greater cohesiveness and motivation. Ellis (1999: 56; 2009: 68) further states that conflict is easier to deal with when it is in the open, rather than buried. This correlates with studies by Elder (1994: 90-91) stating that constructive or

positive conflict are efficient, and creates openness, growth, a sense of achievement and a sense of common purpose.

Conflict may be destructive or negative and unresolved conflict may become expensive, increasing uncertainty and damaging morale (APM Body of Knowledge, 2006: 108). Negative conflict decreases team-group cohesion, weakens relationships, creates ill feelings and destruction in the group (Emmitt & Gorse, 2007: 81), wastes energy, leads to team members closing off from other team members, and prevents effective communication (Clearly, 2008: 45-46).

Thus, the construction project manager can use the advantages of conflict during construction to the benefit of the project's success, but must be careful that the negative aspects of conflict do not influence the project and be the reason for not completing the project in time and on budget.

There are a number of reasons for conflict. However, when the construction project manager uses communication skills, negotiation may have a positive effect on the project. The greater the diversity of disciplinary expertise among the participants of a project team, the greater the potential for conflict to develop among team members. The lower the project manager's degree of authority, reward and punishment power over team members, the greater the potential for conflict to develop. The less the specific objectives of a project regarding cost, schedule and performance, are not understood by the project team, the more likely is it that conflict will develop (Kerzner, 2009: 299).

According to Morris (2008: 217), the project manager has to know the team member's personalities. Tigers hold a degree of power over other team members, while prima donnas have inflated egos and a misguided sense of self-importance. Passive aggressive persons operate quietly, yet manipulate messages through comments or well-placed guilt. People pleasers will do whatever is necessary for praise and an ego-boost. The legitimate team member works hard and interacts socially or not. The way in which the construction project manager accommodates

the personalities of team members may influence the effectiveness of communication.

Effective project managers realise that conflict is inevitable, but that procedures may help resolve conflict whatever the reason. Once conflict occurs, the project manager has to study the reason for the conflict and collect the available information to develop an approach and create the appropriate atmosphere for negotiation to solve the conflict (Kerzner, 2009: 303).

The conflict management methods or options that the construction project manager can apply during communication and specifically with negotiations, include confronting, compromising, accommodating (APM Body of Knowledge, 2006: 108; Clearly, 2008: 46-47), forcing, withdrawing (APM Body of Knowledge, 2006: 108), avoiding, collaborating (Clearly, 2008: 46-47; Ellis, 1999: 58-60; Ellis, 2009: 68-69), compromising, bottom line (Ellis, 1999: 58-60; Ellis, 2009: 69), shift perspectives, conflict transformation (Morris, 2008: 220-221), integrating, obliging and dominating (Emmitt & Gorse, 2003: 169-170).

Any method or combination of methods may be applied to solve the conflict, but that the collaborating method (Clearly, 2008: 46-47) may be the best option in managing conflict because it asks both parties to work together towards a common goal, in other words, the goal to achieve the objectives of the project.

Conflict arises in a competitive situation and environment, such as construction projects. With more people in the team there may be more ideas and opinions, which means there may probably be more disagreements and differences of opinion (Burke & Barron, 2007: 141). As team members form part of the decision-making process, agreements will be difficult to achieve and therefore conflict may arise. The construction project manager is the person responsible for the project and has the task to deal with conflict when it arises.

The project manager needs skills to manage conflict effectively before it becomes catastrophic; therefore, negotiation may be the skill to apply in the communication

process to resolve and prevent conflict. Potential conflict is a given during the management of a project. The project manager has to approach conflict in such a manner that the negative reasons change into positive outcomes by applying the correct method for the right circumstances.

6.2.13 Decision making and problem solving

Decision making is a process to gain collective support and team commitment for a solution. Decision making differs from problem solving. Problem solving is a process of analysing a problem and identifying a number of possible solutions (Burke & Barron, 2007: 71; Shockley-Zalabak, 1991: 303). Loosemore (in Emmitt & Gorse, 2003: 56) identifies two factors associated with problem solving, namely problems involving a redistribution of resources and problems that require change.

Decision making is complicated and the time allowed for decision making is a determining element. A decision based on incomplete knowledge or personal instinct is risky and may be inaccurate (Emmitt & Gorse, 2003: 67). There are three basic types of decision making:

- Directive – the person with authority makes the decision, which means the project manager makes the decisions for all team members.
- Participative – every member of the team contributes to the decision-making process.
- Consultative – the combination of the above two, which means the project manager, makes the decision after consulting members of the team (Wysocki, 2007: 265).

Riley *et al.* (2008: 146) state that ethical and normative (Emmitt, 2010: 84) aspects may play a role during decision making and influence the outcome.

The consultative method may provide the best results for decision making by the construction project manager, because it enhances effective communication by the team and project manager as both parties participate in the conversation.

Factors that may influence the communication process when making sensible decisions are:

- Logic, reasoning and intellect. Logical and creative thinking processes are used in decisions to solve problems.
- Emotions. Emotions are part of any human nature and may influence decision making; making a decision when angry is not well considered.
- Personality. Some people are born with a gut feeling for the right decision at the right time (insight and intuition). Perfectionism may be a barrier when a quick decision has to be made.
- Frame of reference. Refers to background, education, experience and culture, which may influence decision making. Decision makers need expertise, skills and knowledge to make sensible decisions (Erasmus-Kritzinger *et al.*, 2000: 356-357).

These factors may influence the way the project manager makes decisions, for instance if the project manager is angry with a team member, a decision taken would probably not be well thought through.

During the execution of a project, there are situations where decisions have to be made. Communication and the availability of accurate information are central to the decision-making process. The emphasis is on using knowledge and information to generate creative ideas from which decisions may be made (Emmitt & Gorse, 2003: 21). Communication is essential for the success of a project and that effective decision making may determine the quality of the final project.

The project's success may be determined by the ability of the construction project manager and project team to make effective decisions. In practice the whole team is not directly involved in the project, only the key decision makers (Pryke & Smyth, 2006: 7). It is therefore essential that the project manager and the project team decide how decisions will be made (Burke & Barron, 2007: 72).

According to Kerzner (2009: 265) and Burke and Barron (2007: 73-74) different styles of making decisions exists, such as autocratic or directive, where the project

manager essentially make decisions, and democratic or participative, where the project manager seeks input from the project team members before making a decision.

Barrett (2006a: 35) divides the autocratic and democratic styles into five decision styles:

- Charismatic – the talkative style bases decisions on information not emotion.
- Thinkers – this style is typically intelligent, logical and tend to be risk averse and needs time to come to a conclusion.
- Sceptics – this style is demanding, suspicious, need to trust to believe ideas and does not like being challenged.
- Followers – this style is cautious, responsible, risk averse and makes decisions based on track records.
- Controllers – this style is logical, unemotional, sensible, detail-orientated, analytical and focuses on facts and analytics of an argument.

The project manager has to consider a decision-making style to ensure that the appropriate persuasive communication approach is applied, and also has to apply different styles according to the circumstances when seeking a decision from the team.

Emmitt and Gorse (2003: 22) state that a democratic or participative decision by the project team and the construction project manager are on the tactical and operational level and may influence the quality of the final product and affect completion time and cost in a positive way. Consensus does not mean a unanimously agreed upon solution, it means that team members agree to take a decision but do not necessarily agree with the decision (Grant & Borchers, 2008: 67).

Goleman (in Kellerman, 2012: 32) states: “research proved the superiority of group decision making over that of even the brightest individuals in the group”; in fact, Goleman said: “rather than leaders being aristocrats, they should now be democrats, true collaborators who work as team members righter than top-down leaders”.

According to Emmitt and Gorse (2003: 22) and Kellerman (2012: 32) a democratic or participative decision-making style may enhance communication and assist the construction project manager as communicator.

PMBOK (2008: 420) suggests that a project manager uses a decision-making process in making decisions. The process is as follows:

- Start with identifying the problem (Erasmus-Kritzinger *et al.*, 2000: 359; PMBOK, 2008: 420).
- Then formulate the problem in writing, logically and clearly, to indicate the exact cause and scope of the problem (Erasmus-Kritzinger *et al.*, 2000: 360).
- Collect the ideas for action and develop an alternative solution, rate pros and cons, and select the best possible solution (Erasmus-Kritzinger *et al.*, 2000: 360; PMBOK, 2008: 420).
- The solution action planning involves key participants to gain acceptance and commitment (PMBOK, 2008: 420) by evaluation planning, alternative solutions (Erasmus-Kritzinger *et al.*, 2000: 360; PMBOK, 2008: 420), deciding on the best solution and placing the possible choices in order of the likelihood of solving the problem (Erasmus-Kritzinger *et al.*, 2000: 361).
- This is followed by implementation of the solution (Erasmus-Kritzinger *et al.*, 2000: 361) and evaluation of the implemented decision by how well the problem was solved or project goals were achieved (Erasmus-Kritzinger *et al.*, 2000: 362; PMBOK, 2008: 420).

When faced with a problem, the process may help to make the best suitable decision during communication, by identifying and defining the problem.

During the process of decision making the project manager may use methods to reach a group decision (PMBOK, 2008: 108; Shockley-Zalabak, 1991: 309). These methods are:

- The unanimity or consensus method – every member agrees on a single course of action.
- Majority implies support from more than 50% of the members of the group.

- Plurality means the largest block in a group decides, even if a majority is not achieved.
- Dictatorship – an individual makes the decision for the group.

Applying these methods during the process of decision making assists the construction project manager to come to a thoroughly considered decision.

It is important that the construction project manager, as communicator, has a process and method of decision making in place to assist with the execution of the project to prove to the stakeholders that the best option/result was chosen.

PMBOK (2008: 241) states that in the process of decision making it is the responsibility of the construction project manager to stimulate team creativity and thinking, develop team member qualities and manage the opportunities and risks of the project to the best advantages to achieve success. Elder (1994: 68) suggests that if a manager creates an environment of trust (see section 6.2.18) and support where members can talk and contribute without any fear of rejection, they become part of decision making.

Despite applying guidelines and methods, and following the correct processes, potential mistakes may compromise the decision's outcome. Project managers have to concentrate on pitfalls or mistakes, such as when goals and expectations are not sufficiently clear and specific, or too many alternatives exist that lead to confusion (Burke & Barron, 2007: 78).

Research done by Gorse and Emmitt (2007: 1209) states decision making as an essential component of a project manager's set of skills. Patel (2010: online) states that a project manager "has to exercise independent decision making and not be biased toward the employer".

The most suitable method for decision making, with consideration of the influences and possible mistakes or pitfalls, is a democratic or participative decision-making style and in some situations a combination of decision-making styles. The project

manager has to ensure that he/she possess the knowledge and skills to deal with communication in the decision-making process, to ensure trust and loyalty between team members and the project manager. The project manager guides the project team during communication to make it possible for the group to make a well-informed decision.

6.2.14 Team development and team building

Teams are defined as “groups of people with complementary skills who are committed to a common purpose and hold themselves mutually accountable for its achievement” (Foley & Macmillan, 2005: 21). Ideally, teams develop a distinct identity and work together in a co-ordinated and mutually supportive way to fulfil goals or purposes (Constructing Excellence, in Pryke & Smyth, 2006: 165).

Team development is defined as “both enhancing the ability of stakeholders to contribute as individuals as well as enhancing the ability of the team to function as a team” (PMBOK, in Burke, 2007: 233). As a group of individuals work together on a project the group begins to develop as a work group and ultimately becomes a team, which means that members define individual roles and contributions to the activities of the group in a way that best utilises the members’ skills, knowledge and abilities (Dainty, Moore & Murray, 2006: 97). As Verster (2006: CD) stated: “people are the most important resource and thus the most important aspect and source of success”.

As the team develops it gathers a shared experience, language, culture and performance, as well as a supportive and collaborative team environment (APM Body of Knowledge, 2006: 104). The team resolves problems together and achieves project targets in terms of time and cost. The team will inevitably become more confident working together and will learn to trust each other; this will compensate for weaknesses and exploit strengths (Dainty *et al.*, 2006: 97). Achieving targets depends on variables such as the team’s energy, attitude and motivation (Miller, 2011: 103).

The Tuckman model of 1965 shows four stages of group development (Burke & Barron, 2007: 194; Dainty *et al.*, 2006: 97). Steyn (2012: 276) adds a fifth stage:

- Forming – members get to know each other and try to gain acceptance into the group.
- Storming – individuals begin to gain confidence within the group, begin to feel more secure and state opinions and perspectives more assertively.
- Norming – the team begins to develop a sense of how to fit in and what the individual roles and responsibilities may be.
- Performing – the team is committed and eager to achieve project objectives; performance is high and a high level of trust amongst group members.
- Adjourning – the team ties up loose ends and starts commissioning the project objective and handing it over to the project customer.

Forming a team creates a mixture of enthusiasm coupled with uncertainty related to the project and the other team members. As these forces come together, the group of people needs direction and leadership; the construction project manager's role is to assist the team to develop and grow into a performing unit.

Thus, a group of people passes through many stages of development before they function as an effective team. The project manager needs to determine when action needs to be taken to promote transition through the stages, if the team does not develop naturally into a team. Communication may be influenced negatively.

It is the responsibility of the project manager to give the team direction and guidance (Burke & Barron, 2007: 198) and effective communication is critical for teamwork (Reed & Knight, 2010: 423). A study by Bowen *et al.* (2006: 35-36) emphasises that a perceived solution is to encourage team members to socialise informally, prior to the commencement of a project, to learn about each other and to make it possible for the team to achieve unity.

As the team develops successfully and members begin to work together, members will be more comfortable with the role they play and their positions in the team and thus may manage individual involvement and contributions effectively. It is the

responsibility of the project manager to select the team members and communicate with the team in such a way that it is possible for the team to transform from a group of individuals into a team.

The project manager needs to show respect for the team and the team for the project manager (Morris, 2008: 86). This mutual respect is earned only if communication with the team members is effective. Respect is also earned if the project manager listens (see section 6.2.16) properly to team members and does not embarrass team members, treats members as equals and leads the team by example.

Team members have to accept that a mistake by one member may influence other members (Campbell, 2009: 52). The result of developing a group of individuals into team is that the members have the courage to give their opinions, which contribute to consultative decision making.

The characteristics of an effective team are: a clear understanding of the project objectives and definition; roles and responsibilities; result orientated; a high degree of cooperation and collaboration exists; support and trust (Kerzner, 2009: 216); shared responsibilities and enthusiasm and motivation (Steyn, 2008: 253).

Wysocki (2007: 252-253) states that effective teams have the ability to use technology while Kerzner's (2009: 216) view is that effective team members are committed, have a high morale and are flexible to adapt to situations.

According to Pryke and Smyth (2006: 166) effective teams give attention to team building and exchange information within the team. Elder (1994: 157) adds that teams deal openly with conflict and Kerzner (2009: 216) adds that communication must be effective.

According to Grant and Borchers (2008: 96) teams that share the workload are effective and managers can use effective teams to the advantage of the project.

Teams are not always effective and barriers exist, such as goals that are unclear, an ineffective management structure, poor communication, poor leadership and a lack of commitment (Steyn, 2008: 253; Steyn, 2012: 272). Foley and Macmillan (2005: 21) state that if the team does not have skills, motivation, knowledge and expertise, with acceptable personalities, the team may be ineffective. Elder (1994: 145) purports that suspicion and jealousy between members and meetings that are counter-productive, contribute to team ineffectiveness. Kerzner (2009: 216) adds that confusion, conflict, fear, sabotage, disinterest and foot dragging lead to low performance and ineffective teams.

Burke and Barron (2007: 350) state that communication is probably the factor that establishes cohesion amongst team members, because good communication is the thread binding the team members together to create a cohesive bond. It is through communication that each team member gets to know the other team members and vice versa. Communication is an effective component enabling the project team to function (Burke & Barron, 2007: 350) and prevents rework and changes (Emmitt & Gorse, 2007: 251).

The project manager has the responsibility and duty to support the team and lead team members to become effective, and to achieve the goals and objectives of the project. The project manager may guide and lead the team through effective communication to be successful. To achieve this, the project manager needs communication skills to develop the team from a group of individuals into a team.

Teams may probably make more effective decisions than an individual member would be able to make with the same information, because the team has a larger range of skills and experiences.

6.2.15 Motivation

Motivation may be defined as “providing the right conditions for people to work effectively” (Rees & Porter, 1996: 123). Baguley (2010: 106) states that motivation is what gives behaviour direction and purpose.

Motivation is an inner force that causes people to do something. Motivation is also seen as the result of unsatisfied needs, which creates tension, and the person then strives to satisfy needs and to decrease tension (Le Roux, Venter, Janse van Vuuren, Kritzinger, Ferreira, De Beer, Hübner, Jacobs & Labuschagne, 1995: 134). What motivates one person may not necessarily motivate another, and what motivates a person in one set of circumstances may not motivate a person in another set of circumstances. It is the project manager's task to influence the situation in such a way as to encourage the team members to inspire and motivate themselves to achieve the project's goals (Burke & Barron, 2007: 283).

The most known theories of motivation are: Maslow's hierarchy of needs, Herzberg's motivation and hygiene theory and McClelland's motivational needs theory. Maslow's hierarchy of needs is perhaps the best-known motivational theory (1954). Individual needs are arranged in a hierarchy; the lower-level needs must be satisfied before people concern themselves with higher-level needs (Burke & Barron, 2007: 284; Fielding, 2005: 39).

Herzberg's motivation and hygiene theory, (1966) complements that of Maslow by grouping factors that cause dissatisfaction and satisfaction. Motivators are those situation factors that have a positive impact on team members, while hygiene factors are those things that, by their absence, have a negative impact on performance, but do not necessarily motivate the members if present (Wysocki, 2007: 244). For example, when the toilets need to be repaired, team members complain and performance decrease, but when the toilets are repaired the performance of team members do not necessarily increase.

McClelland's motivational theory suggests that there are three types of motivational needs that are necessary for motivation to take place: achievement, authority and power and affiliation (Burke & Barron, 2007: 290; Fielding, 2005: 39).

Motivation theories emphasise the need for managers and team members to work together to understand each other's motivations (Fielding, 2005: 42). The deduction may be made that successful motivation of project team members and other

stakeholders of the project will lead to improved productivity, better quality, higher morale, and meeting project goals and objectives.

A lack of motivation often leads to conflict, (see section 6.2.12) strikes, lower productivity, stress and the failure of the project (Steyn, 2008: 259; Steyn, 2012: 278). Verster (2004: CD) states that project managers have to take into consideration that different teams are motivated by different incentives. It may be expressed in musical terms. Some teams may be motivated by strong organisational structures, as in the case with classical music, while other teams tend to be stimulated by a structure comparable with improvisational jazz. If the construction project manager praises team members' actions, the project manager encourages the right behaviour and a basic desire to do the right thing and receive praise will develop (Wyatt, 2010: 35), which is motivational to the team.

Burke and Barron (2007: 291) suggest the following rules to motivate project managers: setting intermediate goals and work to achieve these goals; finish what is started; socialise with people of similar interest; mutual support motivate; learn how to learn; harmonise natural talent with interest that motivates; increase knowledge of subjects that inspire; and take risks. Pells (2010: online) adds recognition for good work. Steyn (2008: 260) states that motivation may be accomplished with goals that are specific, measurable, attainable, and rewarding; have a timetable; and have team members' acceptance and commitment.

The project manager should be a role model, show enthusiasm and commitment as well as creating an environment that is meaningful. When team members feel a sense of belonging and appreciation for efforts (Steyn, 2008: 260) it may enhance communication. Pells (2010: online) adds that a project manager who supports the team to progress, may multiply success. Motivation is not a product of emotion, but a product of sound planning and management (Verster, 2004: CD).

The project manager should try to recognise individual differences and match jobs assigned to people according to the person's skills and interests, and link reward to performance. They should not ignore remuneration. Finding ways to recognise and

reward achievement while discouraging undesirable actions, may transform projects from average to high performance projects. The application of motivation by the project manager will enhance success (Hoard, 2003: online).

Motivation of members improves communication, which has a positive effect on a project.

The project manager has the responsibility to create a culture of motivation using direct communication links with team members and to ensure a safe working environment, basic personal comforts, the provision of training and achievement recognition (Warren, 1989: 99). Besides money, some other aspects that motivate team members and lead to more effective communication are if the project manager acknowledges contributions and shows appreciation (Morris, 2008: 244). As stated by Rees and Porter (1996: 123), what most team members want is to “have a comfortable amount of challenges, a good project manager, good pay and security”.

Motivation is seen as internal to people and may be the result of a style of thinking that is supportive of goals (Burke & Barron, 2007: 283).

Motivation is a skill a project manager can apply to ensure that the project team achieves the project’s goals, in time and according to the budget. Motivating the team may encourage them to achieve further success; these successes will multiply with effective communication.

6.2.16 Listening

The art of listening is an important communication skill for the construction project manager and may be crucial for successful and effective project management (Van Staden *et al.*, 2002: 42). The ability to perceive and process information presented orally, was traditionally viewed as listening which is a communication skill (Hargie, 2007: 267). Unfortunately, many people merely hear instructions. Hargie (2007: 272) states that people with a “willingness” to listen, listen better than other people. Scott (1986: 47) states that willingness is “the art of concentration”.

Hearing and listening are not the same; hearing is the act of perceiving sound and listening is a selective activity which involves the reception and the interpretation of information (Clark, 2008: online).

Dick (1997: 8-9) states that the reason why people do not listen, may be because there are more components involved in listening than in speaking. Listening does not take place if the LACE principle is not applied. The LACE principle includes:

- Listen – to give undivided attention and try to understand.
- Acknowledge – to let the sender of the message, the project manager, know what is understood, to imply the message.
- Check – the sender, the project manager, makes sure that the receiver, the team member, understands.
- Enquire – ask questions to explain information.

Kliem (2008: 65) emphasises the same elements as in LACE, but calls it hear, clarity, interpret and respond.

It is seen as important that the project manager structures the conversation in such a way that members do not only hear, but listen and acknowledge what is said by asking questions about the conversation.

It is important for team members not to fall into the trap of thinking only about what to say instead of listening properly. “When the other person is talking, listen to what he says and do not think about what you will say in reply, but really concentrate on the ideas being put forward” (Sillars, 1988: 88).

Listening may be divided into two categories: passive listening and active listening. Passive listening is almost the same as hearing, but a little more, because the team member hears a sound but has no motivation to listen carefully. Active listening involves listening with a purpose. It may be to gain information, understanding, solve problems, show support or share interest. Van Staden *et al.* (2002: 43) add categories of active listening, namely attentive listening, critical listening and appreciative listening. Attentive listening occurs when the listener tries to listen for

the main purpose or goal as soon as possible, to identify the central idea of the message. Critical listening involves critically analysing and evaluating the message throughout the conversation, and trying to establish the intention and the tone of the message. It means not only listening to the facts, but also to the variation in the tone of voice and non-verbal signs. Appreciative listening entails listening first and then reacting. It is thus the key to effective and successful listening.

Clements and Gido (2012: 373) state that the heart of communication is not words, but understanding; not only to be understood, but also to understand. The person speaking often assumes that the listeners understand what was said. Listening comprises half of making communication effective. Active listening increases understanding and reduces conflict.

The construction project manager may apply mostly appreciative active listening, while in some circumstances critical active listening may be helpful to determine the intention and tone of the message, especially in decision making and motivation.

Learning to listen may take effort and planning. The improvement of listening as a skill is an ongoing process. The three Rs constitute a formula to improve the listening skill.

- Ready – the listener has to get the environment, emotions, feelings, ears, eyes and brain ready for listening. Focus attention on the speaker.
- Reach out to the speaker – a physical and emotional action, providing non-verbal encouragement to the speaker to continue. Verbal silence gives the speaker the opportunity and time to present the information.
- Reflect/feedback – this stage begins after a few moments of communication interactions have transpired. The manager as a skilful listener has to know when to start the feedback (Makay & Fetzer, 1984: 27-30).

Although there are formulas to improve listening, there are still barriers to effective listening.

The following listening barriers are identified:

- Mental barriers or closed-mindedness entails the tendency to avoid subjects that are sensed as difficult, and require mental effort.
- Lack of concentration; the energy to focus is too much effort, as a result of for instance tiredness.
- Mental debating e.g. when team members with different opinions are in a discussion and one of them do not listen, because of a difference in opinion.
- Daydreaming means letting the brain take total control of the listening process excluding the eyes and ears.
- Emotional barriers are usually reflected in the listener's face, gestures, body posture or sitting position. These barriers include anxiety, stress, anger and fatigue.
- Environmental barriers or distraction includes faked attention syndrome where the listener fakes attention.
- Physical distraction includes movements of a person passing a doorway.
- Physical discomfort is experienced when sitting in an uncomfortable chair during a meeting.
- Defensiveness is apparent when a listener sits in a defensive posture and sends the non-verbal message of feeling the need to be defensive about the information being communicated.
- Balance of power struggle happens when two people are in communication and a subtle power struggle between speaker and listener occurs (Makay & Fetzer, 1984: 18-24; Clements & Gido, 2012: 373).
- Clements and Gido (2012: 373) add pretending to listen, impatience and jumping to conclusions as barriers to effective listening.

The construction project manager therefore has to formulate the message, and arrange the time and place, so that listening barriers are kept to the minimum and the receiver is able to provide feedback regarding the information received.

It is important that the construction project manager, as the communicator in the property development and construction industry, effectively eliminates listening

barriers when recognised during the conversation with team members and even stakeholders, in order to improve communication.

Daniel Goleman, in Kellerman (2012: 32) states that great leaders are great listeners, “they create the sense that they truly want to hear employees’ thoughts and concerns”. Thus the construction project manager, as a true leader, has to listen and give the project team members the chance to express the team’s feelings and viewpoints.

Sweeney (2011a: online; 2011b: online) states that the skill of active/appreciative listening is an important skill. Thus, active/appreciative listening is the ability to listen and understand the words and the meaning behind the words, not interrupting or letting the mind wander, asking questions to ensure understanding and observing signals, such as reinforcement. These are all part of the listening process. A project manager therefore needs the skill of active/appreciative listening.

6.2.17 Persuasion

Persuasion may be traced back to the Middle Ages. Consider Martin Luther pinning challenging statements to a church door (Jurin, Danter & Roush, 2000: 6). Persuasion is the art of guiding, encouraging, convincing and directing team members towards a form of preferred behaviour, attitude or belief (Emmitt & Gorse, 2003: 50).

Pace *et al.* (1979: 29) state that persuasion is to get other people to adopt a point of view about something or to take some type of action. The power of persuasion is an important part of the project manager’s leadership style to obtain cooperation between project team members (Burke & Barron, 2007: 275). (Leadership styles are reviewed in Chapter 6.)

Hargie, in Emmitt and Gorse (2003: 50) and Stacks and Salwen (2009: 246) identify a number of methods of persuasion. These are:

- Fear and threats – when an individual is scared of another, he/she is likely to conform to instructions and threats as a way of dealing with fear. Unsuccessful construction project managers may tend to use threats as a way of trying to control and influence.
- Aversive stimulation – subjects are exposed to unpleasant experiences, such as nagging. Consistency is the art of doing what is said. The consistency principle is powerful; when the project manager is seen to act on what is said, the team members tend to believe that the project manager is trustworthy, which means that they believe the promised actions will be undertaken.
- Commitment and ownership – team members are encouraged to take ownership in the decision-making processes. When team members are more involved in decision making the team feels committed to the agreed upon decision. Team members' arguments may be approved giving the team a sense of ownership and confidence in the decision-making process.
- Morals – team members may be encouraged to comply with a request if the team is made to feel guilty. Team members may be reminded of a duty and a professional responsibility, it may be suggested that others may view the team's actions positively or negatively or the suggestion of what the right sort of action is, what a knowledgeable, caring, professional person would do. The use of the moral argument may be a powerful tool.

These methods of persuasion may be used but there are a few conditions to be met before the persuasion process may be regarded as being effective (Van Staden *et al.*, 2002: 84-89). It starts with carefully planning the message, collecting information on the topic, determining who would receive the message from the persuader, and finally persuasion may take place. The positive self-image of the persuader influences credibility during interpersonal communication. Persuasion is successful when the persuader comes across as being credible, an expert and dynamic. Mutual trust (see section 6.2.18) between parties involved means that the team trusts that the construction project manager is experienced and knowledgeable. Courtesy and tact refer to socially acceptable behaviour. During the persuasive conversation, the persuader acts courteously towards the receiver, without being insulting, vulgar or offensive. If not, it may lead to misunderstandings.

According to Makay and Fetzer (1984: 98) managers have to know the right way of using their voice, body and appearance, in order to increase the chances of successfully conveying a message. Project managers may communicate with persuasion when they apply the aspects suggested by Makay and Fetzer.

The deduction may be made that a construction project manager who has planned his message, is committed, has a positive self-image, can be trusted, acts with tact and is an appreciative active listener, is a persuasive communicator and project leader.

Godefroy and Robert (in Emmitt & Gorse, 2007: 72) state that persuasion and conflict are linked, claiming that people with a highly persuasive ability may use the skill to handle conflict constructively and hence promote openness and constructive debate.

Construction project managers, who apply communication persuasion to guide, encourage, convince and direct team members towards a form of preferred behaviour, attitude or belief in the management of a project, is able to complete a project successfully.

6.2.18 Trust

Pryke and Smyth (2006: 99) define trust as “a disposition and attitude, giving rise to a belief, concerning the willingness to be vulnerable in relation to another party or circumstance”. Trust involves a willingness to be vulnerable and trust implies an expectation of mainly a positive outcome.

Anantatmula (2008: 41) states that “trust and communication are essential to nurture human relationships” and “openness” is important in establishing trust.

The primary obstacle to trust may be vulnerability. This arises from fear that others may not act in the best interest of other people (Emmitt, 2010: 31; Pryke & Smyth,

2006: 101). Thus, the construction project manager may not trust the team, as a result of fear that the team may not give the necessary attention to the project.

A project manager may not evoke trust, but may act in ways that help trust to develop (Kohn, 2008: 9). Open and supportive communication will build trust and facilitate interaction between the project team members and the construction project manager (Emmitt, 2010: 31; Emmitt & Gorse, 2007: 8). Emmitt (2010: 114) further states that communication across established boundaries is difficult and may be improved by making use of trust and the right attitude.

Lyons and Metha (in Pryke & Smyth, 2006: 102-104) identify two stages of trust and state that the character of trust changes as trust develops: self-interest trust is a willingness to trust with no evidence of trust and a small risk and reward. Socially orientated trust is generated through a social network, coming through relationships, reputation and advocacy. It is sustained through experience and leads to a willingness to “go the extra mile” for the trustworthy party.

A construction project manager may effectively make use of socially orientated trust. If the project manager develops trust in the project team and the team develops hope and faith in the project manager it may lead to confidence in the project manager over time, because trust was proven.

Trust provides the benefit of collaboration, motivation to share knowledge and strengthen and improve relationships between project team members, which in turn entail a variety of benefits for the project as a whole (Maurer, 2010: 629-630). Support and trust may be effective when the team members behave in the same way. The danger signs that indicate that no trust exists are when the expectations of the team differ, backgrounds of the team members differ, a lack of respect for other team members, competition about authority between team members and team members with an arrogant or superior attitude (Elder, 1994: 68).

Establishing clear lines of communication (see section 4.5.4) and good working relationships are prerequisites for managing groups, the ultimate objective of which

is to establish a situation of mutual trust and understanding (Smith, Merna & Jobling, 2006: 13).

Open communication may be improved if the project manager and the team are sensitive to each other and build a relationship of trust.

Trust may be summarised with a statement by Sunter (1997: 99) “trust is central to civilization and progress”. If the project teams trust the construction project manager and vice versa, better project performance and effective communication may be positive products.

6.3 Conclusion

“Communication holds a central position within organisations” (Talukhaba *et al.*, 2011: 129).

Successful construction project managers control the balance by using signs such as reinforcement to indicate the end of the conversation or the desire to say something more. Listening encourages team members to communicate with the project manager, which means the project manager shows an interest in the facts or the information given. Reinforcement, listening and reflecting are closely associated skills. These skills convey interest in the communication and create the impression of understanding and participating in the conversation. Persuasion is the skill that the project manager may use to guide, encourage and direct the team when used together with the skill of leadership, but the team will not react positively if trust does not exist between them and the project manager.

Communication skills include skills such as questioning, reinforcement, reflecting, explaining, self-disclosure, humour and laughter, negotiation, presentation, writing, public and mass communication, meeting, conflict management, decision making and problem solving, team development and team building, motivation, listening, persuasion and trust. The ability to prepare questions in such a way that positive answers are received might help the project manager to execute a project

successfully. Reinforcement and reflecting skills, together with the skill of explaining in which the project manager explains information to the team and the team repeats the information, is an indication that the information is understood.

The skill of self-disclosure helps the project manager and the team members to get to know each other by revealing personal information by both parties. The skill to use humour and laughter during conversations between the project manager and the team may contribute to relieving some tension and lifting spirits during negotiations. To avoid conflict and to achieve successful completion of the project a project manager might use the skill of negotiation to persuade team members and stakeholders. Negotiation, decision-making and problem solving skills are interrelated because the project manager needs these skills during the execution of a project to make a decision to solve problems through negotiation. During conflict, the project manager needs the skill to identify the type of conflict and approach to resolve the conflict to the best for the project's success. Writing, presentation, as well as public and mass communication skills are interlinked. The project manager needs the skill of writing to prepare presentations and compile speeches for audiences in public and mass communication.

Meetings are the principle forum to manage a project and the project manager needs the skill of handling a meeting. Team development and team building are the responsibility of the project manager and the success of creating a team from individuals depends on effective communication, leadership and motivation from the project manager.

These skills will make it possible for the project manager to cope with and execute the project successfully.

The construction project manager and team members have to practice and train to master these communication skills by investing in education and training programmes for team members, regardless of that person's position within the project. It means investing in people who are capable of facilitating communication

in a project context; people who have the skill to bring and keep the team together during the course of the project.

It is important that a project manager follows a leadership style and uses communication that leads the team successfully.

Chapter 7: Leadership styles and leadership communication

7.1 Introduction

Studies on leadership styles show that the personality of a leader, the maturity of followers and the needs of the environment determine the leadership style to follow. An effective leader will be able to adapt a style or combination of styles of leadership to suit the circumstances. Any one of the styles might be effective in the right situation. The chosen style of communication will differ from leader to leader and from project to project, but communication with people remains an intrinsic part of leadership.

Leadership can be defined as a style of behaviour designed to integrate both the organisational requirements and personal interests in the pursuit of some objectives. Managers have a leadership responsibility. Project managers are often selected or not selected because of their leadership styles (Kerzner, 2001: 260).

Miller (2011: 78, 80-83), Clearly (2008: 38-40), Kerzner (2009: 224), Elder (1994: 155), Barrett (2006a: 204-205), and Müller and Turner (2010: 438), show that leadership styles can be classified in six broad categories. These styles are directive, pacesetting, participative, visionary, coaching and affiliative. Clearly (2008: 38-40), Kerzner (2009: 224) and Elder (1994: 155) add a further two styles, namely bureaucratic and laissez faire. The authoritarian/directive/commanding style is characterised by dominance and total control by the leader. This style of leadership would not be effective in motivating employees. The pacesetting style is characterised by meeting challenges and goals. The democratic/participative style is characterised by participation of the team in decision making and such a leader would probably hold frequent meetings, but would also survey employees and establish methods to obtain employee input. Employee input and survey results will assist the leader in knowing and understanding the environment better. The transformational/visionary style inspires the team with a shared vision of the future. This style of leaders would probably be very visible in the organisation, speaking frequently in public, hold frequent meetings and sending out statements that

motivate and provide guidance to all the employees and by doing so improve communication effectively. The coaching style emphasises a strong, mentoring culture and probably places importance on training and development sessions and on management's responsibility to develop others, thus enhancing employees' effectiveness through skills and knowledge. The affiliative style creates harmony by connecting team members, both one-on-one and in small groups. Clearly (2008: 38-40), Kerzner (2009: 224) and Elder (1994: 155) added two additional styles. The bureaucratic style that is characterised by strictly following the rule book without taking team members into account when making decisions and the laissez faire style that is followed by leaders showing no direction, resulting in a team that develops and progresses on its own.

The characteristics of these styles determine how a project leader deals with team members and influence the effectiveness of communication with the team.

Construction project managers should adopt a leadership style or combination of styles. Brits (in *Separating the good from the great*, 2009: online) confirms this by stating that a combination of leadership styles are required to accommodate the complex environment that projects are operating in. A leader might vary the leadership style depending on circumstances. Yang, Wu, Wang and Chin (2010: 209) suggest that leaders vary the leadership style when the situation turns, using a different leadership style at different phases of the project life cycle.

To select the most effective leadership style for various situations requires the ability to assess situations correctly and applying appropriate styles for effective communication.

7.2 Leadership styles

The following leadership styles are selected as generally known styles of leadership in the business management arena (Kroon, 1990: 357-367; Smit & Cronje, 2002: 286-294). The study does not discuss leadership styles as such, but leadership styles influence the effectiveness of communication and therefore a review of

leadership styles is important. The styles reviewed are: Contingency or situational leadership style, Sloan leadership style, Path goal leadership style, Fiedler's leadership style, McGregor's theory X and theory Y style, The life cycle leadership style, Behavioural leadership style and Action centred leadership style.

The following leadership styles may be applied individually, selectively or in combination, depending on different situations.

7.2.1 Contingency or situational leadership style

No single trait or leadership style is equally effective for all situations. The style that is used depends on the leader's ability to sum up a situation and then adapt a style according to the situation. Managers should concentrate on establishing interaction between the situation, the needs of employees and themselves that is more effective (Smit & Cronje, 2002: 289).

Fisher (2009: 357) states that the first step in situational leadership includes understanding the level of the worker's maturity. Maturity can be defined as "the worker's willingness and ability to assume responsibility for the task at hand". The employee's maturity level is assessed and the manager then chooses the best managerial style for the situation. The four styles include telling, selling, participating and delegating. The most mature workers (high on willingness and ability) are best managed by a delegating style while the least mature (low on willingness and ability) are best managed by a telling style. Selling and participating styles are best for those workers with average maturity.

The contingency or situational leadership style is concerned with the appropriateness of different leadership styles in different leadership situations by matching the personal characteristics of a leader to the leadership situation (Müller & Turner, 2010: 438). The project manager has to assess the situation to know which leadership style is the most suitable for a situation, the employees and his personal characteristics to enhance effective communication.

7.2.2 Sloan or visionary leadership style

The Sloan or visionary style depends on four distinctive and mutually reinforcing leadership processes. Firstly, visioning, which means creating a vision of the future and defining the project mission; secondly, inventing, which is the process of creating the means to deliver the vision by organisational design; thirdly, relating, which is the process of mobilising the resources required to achieve the vision through processes of collaboration, teamwork and trust; and fourthly, sense making, which is the process of riding the project life cycle, understanding risk and uncertainty, management by walking around, reflective practice and learn through trial and error (Winch, 2010: 452-453).

The four processes are visionary orientated: The first process creates the vision, the second process creates the means to deliver the vision, the third mobilises the resource to achieve the vision and the fourth style deals with the implementation of the vision.

The visionary style was developed with a focus on organisational change and represents the distinction between transformational and transactional leadership styles (Müller & Turner, 2010: 438). The transactional leadership style emphasises contingent rewards and focuses on the contractual agreement between the leader and team, and expects performance in return for certain rewards. The transformational style emphasises developing a vision, charisma and creates pride, respect, and trust. Transformational leaders provide inspiration, motivation and challenge team members with new ideas and approaches (Yang *et al.*, 2010: 209).

The visionary leadership style is vision orientated and to be effective in respect of the management of a project, the project manager should be an analytical thinker as well as being achievement orientated (Müller & Turner, 2010: 438).

With the Sloan or visionary leadership style, the leader uses the vision to give the life and work of the organisation a sense of meaning and purpose, but maintains the

focus on the vision. This leader enlists others by involving them, listening to them and clearly communicating with them (Skipper & Bell, 2006a: 77).

7.2.3 Path goal leadership style

The essence of this theory developed by Robert House is that it is the leader's duty to assist the members in attaining goals and to provide the necessary direction and support to ensure that the team's goals are compatible with the goals of the organisation. The term path goal is derived from the belief that effective leaders clarify the path to help the members to achieve goals. The role of the manager is to make the journey along the path easier by reducing obstacles and pitfalls, such as outdated policies and procedures (Smit & Cronje, 2002: 291).

A leader that uses the path goal leadership style clears obstacles from the path and creates opportunities for subordinates so that they can be rewarded (Kroon, 1990: 363).

This leader feels there is no substitute for preparation and practice, is able to demonstrate how to perform a task, tends to give directions based on what he/she says and acts directly to get results under pressure (Gharehbaghi & McManus, 2003: 57).

The path goal leadership style provides direction to team members through support. To be able to direct a team the project manager should know the direction to achieve the vision. Clarify the path for team members to achieve goals through training and develop the team by assisting them to communicate effectively during the execution of the project. This is the responsibility of the project manager and therefore the project manager needs communication skills to guide and lead team members on the road to success.

7.2.4 Fiedler's leadership style

Fiedler (1967: 261) presents a theory of leadership effectiveness that takes account of the leader's personality as well as the situational factors in the leadership situation.

According to Smit and Cronje (2002: 290) Fiedler's theory of leadership is based on the assumption that for lack of a single best style, successful leadership depends on the cohesion between the leader, the members and the situation, in other words a leader's effectiveness is determined by how well his/her style fits the situation.

The project manager's effectiveness is determined by how well the style fits the situation and the degree to which the project manager is liked and trusted by the team and the degree to which the team's work is defined. In an ideal situation the project leader is popular and trusted by team members, clearly showing that work is defined and communication is effective. Conversely, if the project leader was popular but the teams work in an unstructured way or the opposite, communication is not effective (Walker, 2007: 216).

Fiedler's theory correlates with the situational style, which applies a style by matching the style and the situation, changing the situation so that it is compatible with the style (Smit & Cronje, 2002: 290).

Liu, Fellows and Fang (2003: 821) state that Fiedler encapsulates the ideas in that the leader's ability to act depends on the group task situation and on the extent to which the leader's personality and behaviour fits the group. The critical dimensions are position power, task structure and leader-follower relations.

The project manager has to assess the situation to know which leadership style is suitable for the situation, the team and his personal characteristics.

7.2.5 McGregor's theory X and theory Y style

McGregor proposed two fundamental approaches to manage people, theory X and theory Y.

Theory X assumes that the average person will do all to avoid work and responsibility, and therefore must be directed and forced to work. The theory assumes that the team members are unambitious and require work security, team members prefer to be directed and actively avoid responsibility, team members have little ambition, team members dislike work and will avoid work if allowed, and team members must be coerced, controlled, directed and threatened to get work done (Burke & Barron, 2007: 239; Rosenau & Githens, 2005: 220). Liu *et al.* (2003: 821) state theory X as employee-centred or people-orientated.

Theory Y assumes that team members enjoy work and will take responsibility for applying and directing the aims of the project. This does not require external control but is achieved through participation, collaboration and rewarding achievements. The theory assumes that team members will naturally expend physical and mental effort at the project, are capable of exercising self-direction and self-control to meet objectives that they are committed to, their commitment directly relates to the rewards, and they will actively seek responsibility and will want to use creativity, imagination and ingenuity. Team members may manage and work independently. Observations by McGregor suggests that the essential task of the project manager is to create opportunities, release human potential, remove obstacles, encourage growth and provide guidance. This involves managing by objectives (Burke & Barron, 2007: 239; Rosenau & Githens, 2005: 220). Liu *et al.* (2003: 821) state theory Y as production-orientated.

Liu *et al.* (2003: 820) state that McGregor's theories reflect progression towards commonality of the dimensional perspective on leadership, with the need to achieve balance for success. The job of the manager is to focus more on communicating requirements and removing barriers so that the individual can do a good job (Rosenau & Githens, 2005: 220).

Clements and Gido (2012: 307) state that most people working on projects seek affiliation and socialisation and do not want to work in isolation. The project team needs to socialise before they can function effectively as a high performing team.

Kroon (1990: 357) states that it was found that most managers function somewhere between the two extremes; only a small percentage follows a strict autocratic (theory X) or extremely democratic (theory Y) or participative management approach. This type of leadership leads to higher group performance.

7.2.6 Life cycle leadership style

The life cycle theory of leadership was developed by Hersey and Blanchard (1972: 174).

The life cycle theory of leadership is a contingency approach. According to this theory, effective leadership demands a dynamic, flexible leadership style that may adapt to changing circumstances. Hersey and Blanchard believe that leadership must adapt to the 'maturity' of employees. Maturity does not mean emotional stability or age; it refers to work maturity, that is, a desire to achieve, a willingness to accept responsibility, as well as working knowledge and working experience (Smit & Cronje, 2002: 291).

Mature, responsible workers need loosely controlled and flexible organisations with general supervision to utilise their full potential. Immature, untrained workers need a structured organisation with more individual attention and personal interaction with supervision to develop their talents (Hersey & Blanchard, 1972: 147)

Hersey and Blanchard believe that the relationship between leaders and the employees moves through four life cycles. These life cycles are as follows:

Cycle one, directing or telling, is the period when the employee first enters the project. During this period, a high task-orientated and low relationship orientated approach is desirable. The employee receives instructions about tasks to become

familiar with the rules and procedures of the project. A project manager who does not give direction (directive) will cause disruption in this cycle. A participative leadership style (a style in which employees are involved in decision making) will not have the right effect, because the newcomer's co-workers do not yet regard the new worker as a colleague. In this cycle, high emphasis is placed on task orientation and low emphasis is placed on the relationship between the project manager and the employee (Burke & Barron, 2007: 242; Le Roux *et al.*, 1999: 130-131; Smit & Cronje, 2002: 290-291).

In the second cycle, selling or coaching, the employee begins to master the work. However, task-orientated leadership is still important because the employee is not ready to accept full responsibility yet. During this cycle, the project manager starts to have greater confidence in the employee and gives more support. The project manager begins to adopt an employee-orientated (people-orientated) approach. The emphasis is now on the task as well as on the relationship between the employee and project manager (Burke & Barron, 2007: 242; Le Roux *et al.*, 1999: 130-131; Smit & Cronje, 2002: 290-291). This cycle is concerned with developing team member talents (Walker, 2007: 218).

In cycle three, supporting, the employee begins to seek greater responsibility. It is no longer necessary for the project manager to be task-orientated. However, the project manager still has to support and accommodate the employee in pursuit of more responsibility. Emphasis is placed on the relationship between leader and employee, but is less task-orientated (Burke & Barron, 2007: 242; Le Roux *et al.*, 1999: 130-131; Smit & Cronje, 2002: 290-291). Kerzner (2001: 263) states that employees are knowledgeable enough about the job and self-motivated to the extent that they are willing to assume more responsibility for the task.

In the fourth cycle, delegating, the employee has more self-confidence and is more familiar with the work situation. The employee becomes more independent, gains experience and begins to take the lead more often. The employee is now self-reliant and no longer requires the project manager to be task-oriented. As a result, there is little emphasis on the relationship between the employee and the project manager

and low emphasis on task-orientated management as the employee matures. To be successful, leaders should therefore be able to analyse a situation, determine what level of training and support is required, and adapt a style, as the employees develop. The employee will develop as the development of qualities such as self-discipline; integrity and decision making are established (Burke & Barron, 2007: 242; Le Roux *et al.*, 1999: 130-131; Smit & Cronje, 2002: 290-291).

The life cycle approach to leadership is extremely important to project managers, because it implies that effective leadership must be dynamic and flexible rather than static and rigid. Effective leaders are neither pure task nor relationship behaviourists, but maintain a balance between them. However, in times of crises, a leader may be required to demonstrate a pure behavioural style or a pure task orientated style (Kerzner, 2001: 263).

The life cycle leadership style is based on dynamic and flexible leadership. Regular evaluation of the ability and experience of subordinates is necessary to decide which leadership style must be applied. If the style is appropriate, it will not only motivate, but lead to further maturity. As subordinates become more mature, the degree of direct control and supervision should decrease (Kroon, 1990: 366).

Effective leaders are neither pure task nor relationship behaviourists, but aim to achieve a balance between the task and relationship.

7.2.7 Behavioural leadership style

This style distinguishes between two basic styles of leadership, namely a task-orientated style and a people-orientated or relationship style. Achievement, motivation, willingness and ability to take responsibility, education and experience determine the mixture of the two elements (Walker, 2007: 216).

The description of the two components of this style of leadership is as follows: Firstly, task orientated leadership or transactional leadership mainly emphasises the execution of tasks with a view to achieving the enterprise's objectives, based on a

feeling of fear for the project manager (Keuning, 1998: 436). Giritli, Oraz and Yilmaz (2010: CD) divide the task orientation group into directors, risk takers, fearless and result orientated people, and thinkers who are idea orientated and prefer analysis over emotion.

Secondly, relationship orientated or people orientated leadership, charismatic, or transformational leadership, emphasises the relationship with sub-ordinates. A participative way of management creates a team spirit, as well as mutual trust and respect (Keuning, 1998: 436; Le Roux *et al.*, 1999: 127). Giritli *et al.* (2010: CD) state that relationship orientated leaders are characterised by socialisers, outgoing, optimistic people, afraid of conflict, and like to be the centre of things, are team players, prefer stability, and no risks.

Bales' (in Emmitt & Gorse, 2007: 57) studies of people or project managers, leaders of groups, and team members, found that differences exist between task and relationship leaders, based on talk time and content to members. Nauman, Khan and Ehsan (2010: 641) state that the most effective leaders are engaged in both task and relationship (people) behaviour. Relationship leadership presupposes communication.

Kroon (1990: 358) states that leaders who are very concerned about their employees have a low staff turnover and high job satisfaction. High task orientation leads to unhappy workers, absenteeism and a low level of job satisfaction. A combination of high task orientation and high employee orientation is the ideal. The success of this leadership style does not depend so much on the style, but rather on the situation in which it is used.

The implication of the behavioural leadership style is that in a communication situation, for example where task issues are discussed, relationships must receive ample attention to bring the discussion to a successful conclusion.

7.2.8 Action centred leadership style

John Adair (Burke & Barron, 2007: 240-241) developed a different leadership style that focuses on leadership action. This style suggests that the project leader should focus on three responsibilities, namely task, team and individual, acting on the demands of each.

A project leader must attend to the task, team and individual responsibilities but should focus on each one at different times in order to deal with specific needs. The model of Adair emphasises the behavioural leadership style, but focuses only on the people-orientated approach that gives attention to relationships that are important for creating trust, respect and team spirit (Burke & Barron, 2007: 240-241).

In task orientation, most frequently the purpose of a group or team is to complete some work, so the leader needs to maintain focus on the achievement of objectives. The responsibility of the leadership is to ensure that the aims and vision of the team are achieved. Team orientation requires the leader to ensure that the team's collective needs are identified and group cohesion is maintained. The responsibility of the project manager is to assist the formation of the team through encouraging and maintaining shared values. Individual orientation requires the leader to recognise that each member of the group or team will have individual personal needs and the leader needs to support individuals to maintain their personal effectiveness and contribution to team success. The project leader's responsibilities are to understand each team member's personality, skills, strengths, goals and fears. Adair's view of leadership implies that motivation is not generated internally within an individual. External factors, including an effective leadership style, may spark motivation in team members (Burke & Barron, 2007: 240-241).

Kroon (1990: 366-367) states that this approach sees management as flexible, adaptable and able to choose a leadership style according to the time and place. How a manager will assume the leadership role will be influenced by his background, experience, knowledge and values. Characteristics of subordinates and their needs should be considered. A manager can allow greater participation and freedom if

subordinates can work more independently, identify with group objectives, solve problems independently and accept responsibility. If not, the manager will follow a stricter method until subordinates have gained more self-confidence and are geared to be active. Kroon further states that the manager will review the situation in which decisions are made, instructions are issued and assignments done.

It is important that the project manager, through communication, enhance the balance between the needs of the project tasks, the needs of the project team and the needs of the individual.

7.2.9 Conclusion

The styles reviewed have the same objectives, namely to assist the leader of a group to complete a project successfully. Fiedler's style agrees with the situational style; both styles rely on the ability of the project manager, as the communicator and leader of the team, to sum up the situation and adopt a style according to the situation. The situational style and the action centred style also agrees, as both rely on the ability of the project manager to sum up a situation, but the action centred style takes it one step further by establishing more effective interaction between the team, task and employees (individuals). Communication in the action centred style is more of a challenge, because more components are involved during communication.

The visionary leadership style is vision orientated and a project manager that is an analytical thinker and achievement orientated can drive the project to successful completion, using the skill of communication. The project manager has to clarify the path to achieve goals with the path goal style. A project manager that has a vision is more effective in clarifying the path for team members, by communicating the vision to the team.

The behaviour, life cycle and theory X and Y styles concentrate on the balance between people and task orientation. Communication is a challenge in balancing task and people to complete a project successfully.

Toor and Ofori (2008: 620) are of the opinion that project managers are not perceived as leaders, but as managers. Their daily work involves management of activities and achievement of the short-term goals of the project such as conforming to budget, schedule and quality. They focus on the end goals and not the means to achieve the results. This makes managers more production orientated than relationship orientated.

Toor and Ofori (2008: 628) state that there is mounting pressure on project managers to do more with fewer people and less resources in a fast changing construction industry. Under such circumstances, the people side of project management, or leadership, is paramount to the successful delivery of results.

Toor and Ofori's statement implies that project managers manage the team instead of leading the team and project managers can change the situation with effective communication.

Project managers with a tendency towards resolving problems quickly were dominant in time-constrained discussions and those project managers tended to adopt a more autocratic style of leadership, giving directions to team members (Emmitt & Gorse, 2007: 71). The construction industry is partly a people orientated business; people are hired for their skills, fired for a lack of skills and promoted for management skills (Skipper & Bell, 2006a: 75).

The performance of a project, small or large, is directly related to the quality of its leadership, like sharing the vision, enthusiasm, empathy, ability to delegate, problem solving and operating coolly under pressure (Barry, 2010: online). Skipper and Bell (2006b: 68) confirm that a need for improved leadership in the construction industry is gaining recognition as an important issue and has attracted attention.

Leadership is important and the style or combination of styles applied to situations might influence the effectiveness of communication, therefore the construction project manager should take leadership style into consideration during communication.

Good managers are not necessarily good leaders, but to improve performance it is desirable that managers should be good leaders. This is why companies invest in developing employees to be good managers and good leaders through training programmes.

7.3 Leadership management

Leadership is different from management. Management is reviewed in Chapter 2. It entails two distinct and complementary sets of management activities. Ashworth and Hogg (2007: 382) state that whenever a group of people work together as a team, the situation demands that one of the members becomes the leader. A person may be a manager, a leader, both or neither.

As Smit and Cronje (2002: 283) state, “successful organisations therefore seek good managers with the leadership potential to develop into leader-managers”. Managers focus on non-behavioural aspects of management, such as the systematic selection of goals, the development of strategies to achieve goals, the design of the organisation, and the control of the activities required to attain the goals. By contrast, leaders focus on the behavioural aspects of the organisation in a certain direction. Organisations need both management and leadership in order to be effective.

For success in an increasingly complex project management environment, it is perhaps necessary for construction project management to be both.

According to Bennis (in Grant & Borchers, 2008: 58) the problem with projects, especially projects that fail, is that the project tends to be “over managed and under led”.

Management is based on control and compliance, systems and structures, while leadership is about vision, empowerment and understanding people. This responsibility of combining the various human resources and obtaining the best from the team is the construction project manager’s task. He should seek to complement

the attributes of the various members of the team and keep conflict to a minimum (Ashworth & Hogg, 2007: 382). “Managers do things right, while leaders do the right thing” (Bennis, in Grand & Borchers, 2008: 59). Caldwell (2008: online) states that leaders are born, project managers are made.

Management is about coping with the complexity of practices and procedures to make projects successful and managers concentrate on the administration of the work to be done. Leadership, on the other hand, is about setting direction for the project and coping with changes. This means leaders work actively and are idea-generating (Keuning, 1998: 30). Gharehbaghi and McManus (2003: 57) indicate that good leadership is the result of the effective use and implementation of the basic management functions, such as planning, control, evaluating and communication skills.

Sommer (2010: 3) sees a leader as a person that can be made, by developing competencies such as change in management style, development of a vision, interactive communication, trust, openness and action. Managers are chosen for their judgement and they will have to decide when to deviate from the rules. Good judgement is, therefore, another skill a leader has to possess (Turk, 2007: 24).

A project manager needs a portfolio of communication, managerial and technical skills. Project management skills, communication skills and project leadership skills go hand in hand, like links in a chain. Project management skills and communication skills may not function without project leadership skills and vice versa. The project manager needs these skills, because as the project grows in size and complexity, the volume of information grows exponentially. This is when the project needs a fully integrated communication plan and control system to monitor the project's performance, otherwise the project will become chaotic with too many people not knowing what to do (Burke & Barron, 2007: 36, 262). Odusami, Iyagba and Omirin, (2003: 526) state that a project leader can improve his natural leadership style by undergoing leadership training. Johnson (2008: 24) states that the Master Builders Association (MBA) is committed to ensuring a high standard of skills development and sustainable training.

Kellerman (2012: 179) states that leadership is learning how to lead and that the industry provides four fundamental answers. Firstly, leaders should develop certain skills, such as communication skills, negotiation skills, and decision-making skills. Secondly, leaders should acquire awareness, in particular self-awareness. Thirdly, leaders should have experience in mobilising and managing, and finally, leaders should learn the difference between right and wrong.

Research done by Yong and Duff (1990), Edum-Fotwe and McCaffer (2000) and Egbu (1999), in Ashworth and Hogg (2007: 395) shows that leadership was rated the most important skill and communication skills the second most important, in respect of construction and development projects.

The project leader should devote considerable time to communicate with individual team members about their needs and concerns. In addition, the leader should provide timely sessions to encourage communication among the individual team contributors. Tools for enhancing communications are status meetings, reviews schedules, reporting system collocation. Similarly, the project leader should establish regular and thorough communications with the client and senior management. Emphasis is placed on written and oral communication with key issues and agreements in writing (Kerzner, 2001: 255).

7.4 Leadership communication

Axelrod (in Barrett, 2006a: 2) states that effective leadership is still largely a matter of communication.

Reluctant communicators are unlikely to hold influential positions or be perceived by the team members as project leaders. Relationships should exist between project leadership with a high level of verbal participation (Emmitt & Gorse, 2007: 56). Campbell (2011: 287) states that “good communication and strong leadership go hand in hand”. Project managers succeed by producing projects on time and within budget as well as effectively managing the interaction and communication between

people and organisations. Barrett (2006b: online) states that project leaders “command others’ attention”.

Ineffective communication stems from arrogance, disorganisation, stubbornness, negativism and distrust (Pacelli, 2010: online). Bernthal and Wellins (2005|2006: 9) add poor people and interpersonal skills as reasons why leaders fail.

To manage a project effectively three types of communication occur: vertical communication, the up and down flow of communication based on hierarchical relationships; horizontal communication, based on communication with peers; and diagonal communication, the upward relationships with managers and diagonal communication with contractors and/or suppliers or team members of other departments (Campbell, 2011: 287).

Influential team members often realise that people making the most noise have little relevance and efforts should be made to encourage the reluctant communicators to participate (Gorse & Whitehead, in Emmitt & Gorse, 2007: 57). Those project leaders with considerable communication skills and influence emerge as the dominant communicators, thus the attributes of dominant communicators may be closely associated with those of leaders (Emmitt & Gorse, 2007: 57).

Leaders lead through effective communication. Good communication skills enable, foster and create the understanding and trust necessary to encourage others to follow a leader. Without effective communication, a manager accomplishes little. Without effective communication, a manager is not an effective leader. In fact, being able to communicate effectively is what allows a manager to move to a leadership position (Barrett, 2006b: online).

An early Harvard Business School study on what it takes to achieve success and be promoted in an organisation says that the individual who gets ahead in business is the person who is able to communicate, to make sound decisions, and to get things done with and through people (Bowman, Jones, Peterson, Gronouski & Mahoney, in

Barrett, 2006b: online). As stated by Kouzes and Posner in Kellerman (2012: 32) leadership “is not a solo act, it’s a team effort”.

Communication therefore is a strong force that influences project success. The project leader needs to develop a leadership style that fosters effective and efficient communication with stakeholders.

7.5 Conclusion

Leadership as a communication skill is essential for the management of projects and communication with the construction project team and stakeholders. Therefore, the construction project manager needs communication skills and a leadership style to lead a team in order to manage a project.

The leadership and communication ability of a project manager seem to be important for building relationships with team members. Without leading the team, the team will have no direction and will not achieve the goals and objectives set out for the project. The moment team members are encouraged to trust the project manager as a leader and believe in what the project manager does and says, communication channels are opened and the communication contributes to achieving the project’s goals and objectives. The project manager who follows a leadership style like the life cycle, situational, or Fiedler style, and has communication skills, such as reinforcement, listening, reflecting, persuading; trusting, questioning, explaining, self-disclosure, humour and laughter, negotiation, presenting, writing, public and mass communication, meetings, conflict, decision making and problem solving, team development, team building, and motivation, may be more effective, than a project manager without this combination of skills.

Leadership is important and the style or combination of styles applied to each situation may influence the effectiveness of communication. It is clear that the construction project manager should consider leadership styles that apply the distinction between task orientation and people orientation.

In Chapter 8, a model for communication skills and leadership styles that may be applied by construction project managers to communicate effectively is reviewed.

Chapter 8: Communication skills and leadership model for construction project managers

8.1 Introduction

The main objective in this chapter is to determine the elements and the importance of a communication skills and leadership model, based on the literature study, that construction project managers as communicators and leaders may apply to enhance the effectiveness of communication.

A literature review identified some models for communication, communication leadership and leadership, but closer investigation showed that a specific model for construction project managers' communication skills and leadership may not exist. The literature search was done on EBSCOHost, and specifically on databases such as Africa-Wide Information, Business Source Complete, CAB Abstracts, Communication and Mass Media Complete, EconLit with Full Text, ERIC, GreenFILE, Humanities International Complete, MasterFILE Premier, PsycARTICLES, PsycINFO, and SocINDEX with Full Text. A model for construction project management may fill a void for a communication skills and leadership model.

The elements that may contribute to such a model are project management, communication skills and leadership.

8.2 Project management

The single most significant factor affecting the success of a project is the leadership ability of the project manager. If it is true that everything rises and falls on leadership, it stands to reason that leadership ability is the foundational skill that must be attained for a project manager to be effective. But there are other basic management skills besides leadership that make up the initial prerequisites of the project management skills set (Hoard, 2003: online).

According to Hoard (2003: online) project management skills can also be categorised as a hierarchy analogous to Maslow's hierarchy. The project management hierarchy of skills is illustrated in Figure 9. The skills are shown as a pyramid, and the idea that lower skills must be satisfied before higher level skills can be addressed is included in the model.

The model consists of four levels from the bottom to the top. The first level constitutes leadership, the second level management, the third level shows the thirteen areas of the body of knowledge for construction project management and the top level shows project management maturity as result.

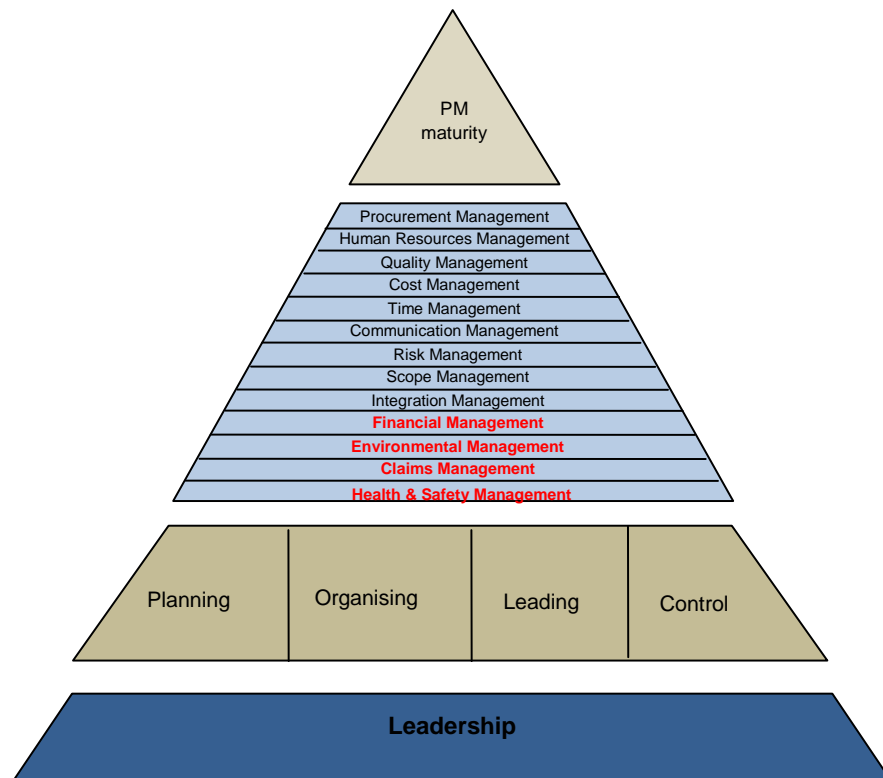


Figure 9: Project management hierarchy of skills
(Adapted from Hoard, 2003: online)

The bottom four knowledge areas, in red, are added to show the construction project management specific areas.

According to Hoard (2003: online) the meaning of the levels of the project management hierarchy of skills are as follows:

- The bottom level constitutes leadership. The suggestion is that leadership is the bedrock upon which all else must be built. Without a solid foundation of leadership skills, attempts to develop other management skills will be less than effective.
- Once the leadership level has been satisfied the basic management skills can be addressed. Included at this level are the skills of teamwork, communication, motivation and negotiation. These skills represent the essential skills necessary to work with people in an organisational context.
- Only after the skills of the basic management level have been achieved can the next level, project management skills, be developed. This level is represented by thirteen areas, the familiar nine knowledge areas of PMBOK in black and the four knowledge areas of construction project management, PMI, in red (Chapter 3). At this level the project manager masters the practice of the project management and construction project management discipline.
- It is only after a firm foundation of skills has been established that the ultimate goal of project management maturity can be effectively achieved.

Various authors have criticised the model of Hoard (Choo, Harris, Clarke, Steeger, McIver & Schroeder, 2003: online). The critique is that project leadership is placed at the upper end of the hierarchy and not at the bottom. They believe that a project manager first has to be a “great manager”, before a project manager becomes a “great leader”. Putting leadership before management is putting the cart before the horse. Leadership is not the starting point, but the end of the professional journey and should probably be the last step.

Figure 10 illustrates the change of the level of leadership from the bottom to the top level. The figure consists of three levels: the bottom level shows the management functions, the second level indicates the project management skills level and the top level is shown as the leadership level.

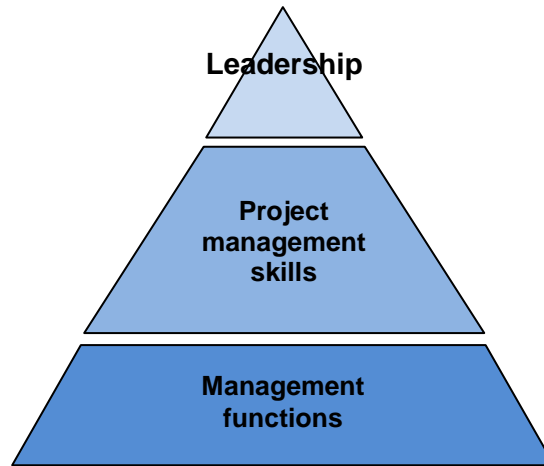


Figure 10: Project management skills
(Adapted from Hoard, 2003: online)

Leadership in Figure 10 is shown at the top of the hierarchy, starting from the fundamentals of management, project management and then leadership. Thus a project manager first becomes a manager dealing with all the interrelated activities, then a project manager and ultimately a leader.

Figure 10 illustrates that leadership is not the starting point but the end of the professional journey (Choo *et al.*, 2003: online).

Further critique on the model of Hoard, shown in Figure 9, is that the thirteen areas are stacked, which might indicate a hierarchal dependency for each level upwards. However, some of the thirteen areas may indeed be stacked or have dependencies while others may not be dependent on the other areas (Choo *et al.*, 2003: online). The solution for this critique (Choo *et al.*, 2003: online), namely that the thirteen areas should not be stacked, is illustrated in Figure 12.

According to Lewis (in Knipe *et al.*, 2002: 18), the following critical elements are necessary to manage a project: time, cost, scope and quality. During the phases of a project the elements scope, cost and time are the cornerstones of a project. Kotzé, Berry and Verster (2008: CD) proposes that projects are run through effective communication. Communication is the primary tool project managers use to

influence professionals involved and to persuade them to do their best in order to ensure successful project completion; thus not only are cost, scope, time and quality cornerstones, but communication should be added. Figure 11 illustrates the new cornerstones model.

Figure 11 illustrates a proposed model for a project's cornerstones including communication as cornerstone function. The blue area represents the core elements as identified by Knipe *et al.* (2002: 18) and the white area represents communication.

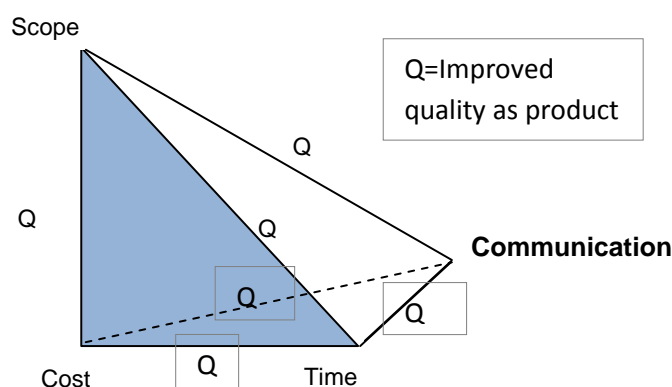


Figure 11: New cornerstones model
(Adapted from Kotzé *et al.*, 2008: CD)

Figure 11 illustrates that time, cost, quality and scope are presented as a triangle, in blue, where a change in one parameter could have an impact on the others. Cost, scope and time are the interrelated areas and change in one area affects the other two areas. Quality is the product of the interrelationship between scope, cost and time. Communication is the function that integrates cost, scope and time management to achieve a quality product. The figure further illustrates that communication is the area that integrates a project, and not solely integration, as illustrated in the literature. Integration cannot be a trade-off between the areas without communication as support. Integration as an area cannot function without communication; thus communication is seen as a more effective element that brings the areas together.

It is proposed, based on the fact that communication brings the areas together, that communication can be regarded as having a cornerstone function.

The areas of project management, according to Burke (2010: 49), is the body of knowledge, which can be subdivided into core elements that determine the deliverable objectives of the project, namely scope, time, cost, and quality. The other knowledge areas provide the means of achieving the deliverable objectives, namely human resources, risk, procurement, integration and communication. The Construction Management Body of Knowledge (PMI, 2008: 121-168) identifies four additional areas as part of achieving the objectives, namely occupational health and safety management, environmental management, financial management and claims management.

Figure 12 illustrates a combination of suggestions by Burke (2010: 49) and Kotzé *et al.* (2008: CD) of the areas reviewed as well as an alternative to the critique on the model of Hoard, illustrated in Figure 9.

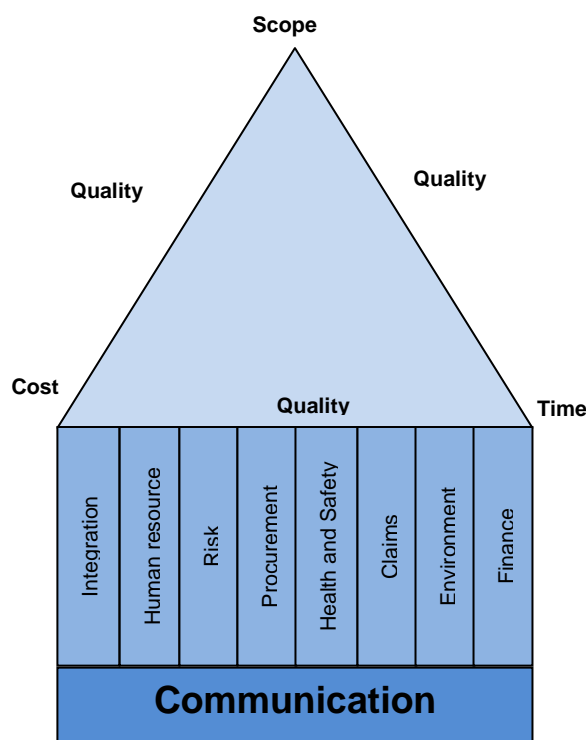


Figure 12: Thirteen areas of project management

The suggestions from Burke (2010: 49) and Kotzé *et al.* (2008: CD) (Figure 11) are that time, cost, scope and quality are the cornerstones of project management while communication fulfils the foundation function. The means to achieve the trade off are by applying the construction project management areas, namely human resources, risk, procurement, integration, claims, finance, health and safety and environment. The cornerstones, cornerstone function, and means as pillars or supports are proposed as a solution to the critique on the model of Hoard. The thirteen areas are not stacked, and do not indicate any hierarchical dependency; instead the pillars support the cornerstones and cornerstone function in achieving the objectives.

8.3 Communication skills and leadership

According to Barrett (2006b: online) leadership communication consists of layers, expanding skills from core strategy development and effective writing and speaking to using these skills in more complex organisational situations. As a project develops, the project manager will need to improve the core communication skills to become more effective in communication.

Barrett (2006b: online) emphasises that as a manager progresses to higher levels in the organisation, the more complex communication demands become. Further, that the framework is not meant to suggest a hierarchy, which is why it is depicted as a spiral.

Barrett (2006b: online) explains leadership communication as follows (Figure 13):

- Core communication. All effective communication depends on the core skill at the centre of the spiral. These are the more individual skills. Leaders in any organisation must master the skills at the core.
- Managerial communication. Managerial communication capabilities build on the core abilities. It is the capabilities more directly involved in managing others. It is the skills needed to interact with individuals and to manage groups.
- Corporate communication. Corporate communication involves expansion from the managerial skills to those abilities needed to lead an organisation and

address a broader community. Communication becomes even more complex when managers move into a position where they need to think about the best way to communicate to all internal and external stakeholders.

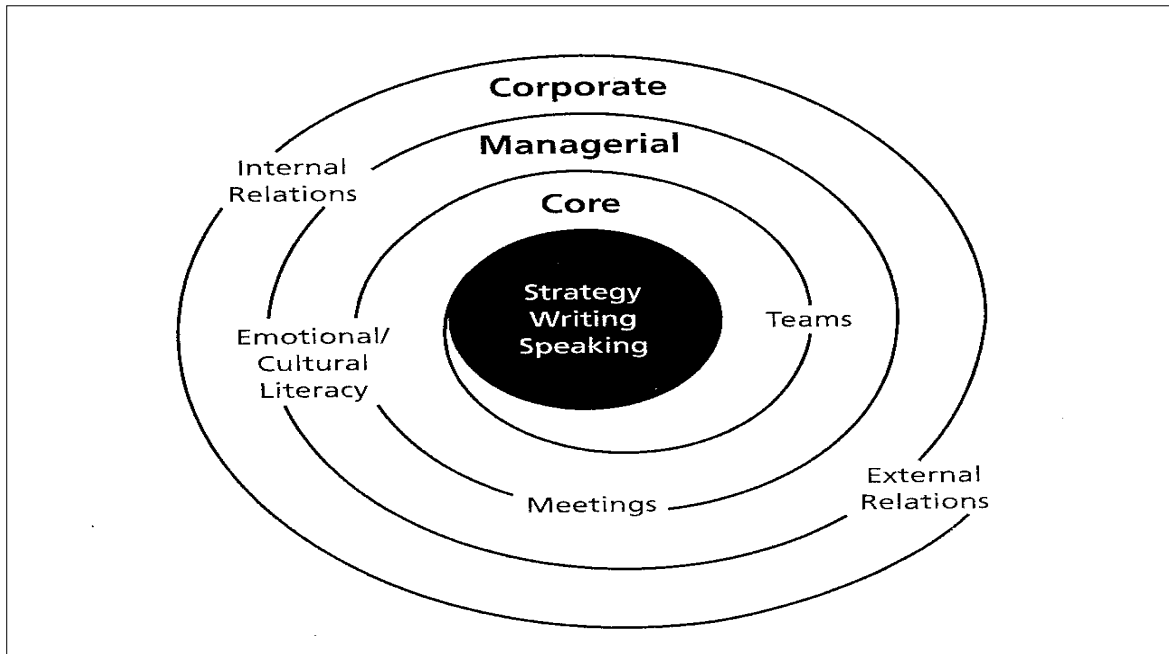


Figure 13: Leadership communication framework
(Barrett, 2006a: 5)

The core skills that project managers need in order to be able to communicate effectively might be for example the skills of writing and speaking. Managers need to be able to structure and write effective and complex correspondence and documents, from emails and memos to proposals and reports. Managers need to be able to write and speak in using a level of language expected of leaders. They need to be able to create and deliver oral presentations. These are the core skills needed in communication.

Managerial communication skills that project managers need to be able to communicate effectively, might be for example listening. To listen is an essential skill in any situation, but is applicable within the managerial ring because managing others effectively requires attention to hearing what others are saying. The

managerial ring might also include leading meetings as well as team development and team building.

The corporate communication skills that project managers need to be able to communicate effectively might be for example to be a leader. Effective communication depends on a style of leading the team and the external stakeholders. Leaders will find that, as they move into higher levels of an organisation, they become the project's face to the public.

The empirical results (Chapter 10) are analysed to determine the placements of each communication skill reviewed in Chapter 6.

A leader might vary the leadership style when the situation warrants it, but the ability to select the most effective style for different situations requires emotional intelligence to be able to assess the situation correctly and assume the style appropriate for the context and audience (Barrett, 2006a: 205). Walker (2007: 221) also emphasises that a leader should change the leadership style according to the situation.

Steyn (2012: 264) states that the type of leadership style changes during the life cycle, due to the specific challenges of each stage of the life cycle. During the life cycle of a project, it is necessary to lead people to keep them focused on the project goals; to ensure that communication is sound; and that an environment is created where people are motivated and enthusiastic about delivering results within time.

An effective project leader acts as an entrepreneur during the initiation and preparation phase and as a communicator and team builder during the design phase. During the preparation phase good communication, motivation and high levels of trust are very important. The project manager is the performer during the pre-construction and construction phases and the administrator during the closure or use phases (Steyn, 2012: 286-287). This is equally true for construction project management.

Figure 14 illustrates project life cycles and leadership styles that may be applied by a project manager. The project life cycle may be subdivided into five sequential phases: preparation, design, pre-construction, construction and use to achieve better control over the scope of the project. The archway starts at the preparation phase and is on the highest point at the end of the pre-construction and beginning of construction phases. It turns to its lowest point at the use phase. The leadership style starts with a task orientated approach at the preparation phase, where the team needs more support and guidance from the leader, and moves through the phases to the use phase using a people orientated approach, where the team needs less support and functions on their own.

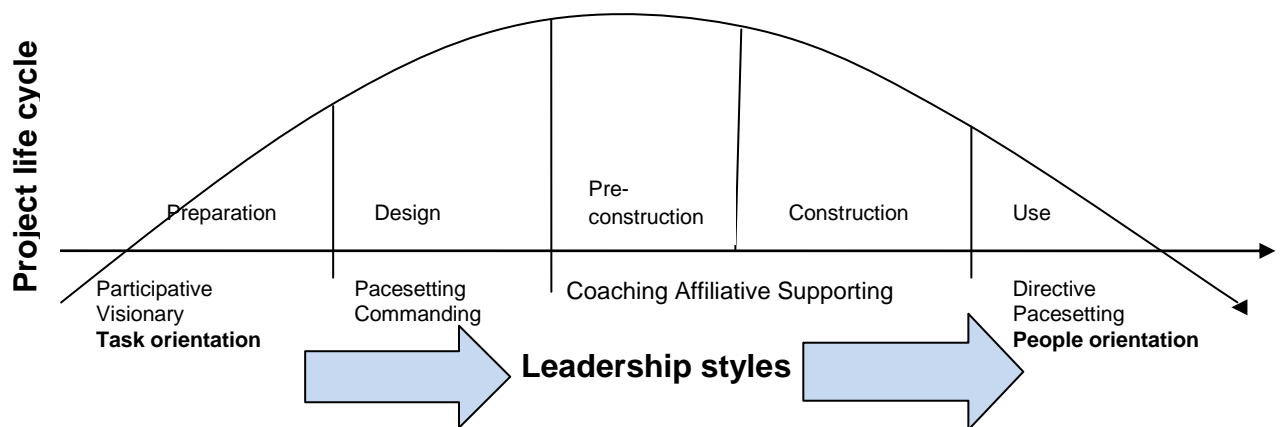


Figure 14: Project life cycle leadership style
(Adapted from Steyn, 2012: 262)

During the preparation phase a participative style is important, to ensure that the team members work together. The project manager needs to have a visionary style that motivates people towards a shared goal. Direction is also needed by holding frequent meetings and presenting statements that motivates and provides guidance. This is typical of the Path Goal style. The preparation phase is task orientated, because team members are not yet totally informed of what is expected from them.

The design phase is characterised by the Path Goal, Situational and Fiedler's style. This phase needs high quality results from motivated and competent team members

to be able to achieve goals. The Path Goal and Visionary styles give clear directions that seem to be appropriate, especially in a crisis or to kick-start a turnaround.

The pre-construction and construction phases are characterised by the Situational, Fiedler's, Behaviour and Action Centred styles. Typical to this phase is the necessity to create harmony by connecting people to enable them to achieve the goals of the project. Training and development to help team members to improve performance; motivating team members, probably by arranging frequent interactions; and meetings to encourage team members are typical of this phase.

The use or closure phase is characterised by the Theory X and Y, Behaviour and Life Cycle styles. The project needs to be controlled, to be finalised. Results are needed to be able to hand the project over to the client. This phase is more people orientated, because team members know what their duties entail and what is expected from them. They thus need less support from the leader and function independently.

The empirical results are analysed in Chapter 10 to determine the styles that can be used mostly as reviewed in Chapter 7.

8.4 Conclusion

In this chapter the proposed communication skills and leadership model for construction project managers to communicate effectively is reviewed.

The thirteen project management and construction project management knowledge areas are divided into core elements which determine the deliverable objectives of the project, namely cost, time, scope, and quality as the result of the interaction of time, scope and cost. The other knowledge areas provide the means to achieve the deliverable objectives, namely human resources, risk, procurement, integration, occupational health and safety management, environment management, financial management, claims management and communication as the foundation for success in terms of the project's outcome.

Communication skills may be divided into core, managerial and corporate communication skills. Core communication skills that project managers need to be able to communicate effectively are the structuring and writing of complex correspondence and documents, from emails and memos to proposals and reports. Project managers need to be able to write and speak in the language expected of leaders. Managerial communication skills that project managers need to be able to communicate effectively are skills of listening and not only hearing, team development and team building, and leading meetings. The corporate communication skill that project managers need to be able to communicate effectively is a leadership style.

The project manager has to develop a style or combination of styles according to the situation, to communicate and lead the team effectively as the project moves through the phases from the preparation to the use phase.

Leadership is integrated in the professional activities, in other words in management, project management and the mature project leader.

The application of the proposed model is reviewed in part 4, alongside the empirical results in part 3 that determine the specific functioning of the model.

Part 3: Empirical review

Chapter 9: Study of a case study in project communication

9.1 Introduction

The first aim of Chapter 9 is to show the importance of communication during project development by reviewing a case study. Secondly, to learn how and what the case study contributes to the development of a communication skills and leadership model for construction project management.

9.2 Introduction to the case study

The original case study was based on a project done by Verster Berry Partnership between 2005 – 2008 and research done by Verster, Berry and Van Zyl (2008: CD) at the Department of Quantity Surveying and Construction Management for a paper entitled “Lessons learned in avoiding differences and disputes: A quantity surveying perspective based on a case study in project communication”. The original case study is unique as it is the largest project of its kind in Bloemfontein and the problems experienced with the project were therefore unique. In relation to communication the project showed disruptions and possible solutions to communication break downs.

Interviews with some of the main functionaries were conducted during 2012 to determine the problems in respect of communication disruptions shown in the original case study.

Studies regarding communication problems experienced by clients and contractors in the construction industry are uncommon. There was a need to research effective project communication, particularly in respect of communication for and between clients and contractors, as the study may provide a valuable contribution to communication in the property construction industry (Verster *et al.*, 2008: CD).

The case study identified problems related to project communication, which may cause differences and disputes in respect of large construction projects in the property development industry. The focus is on experiences gained during the development of a large shopping mall of about 180 000 m² in Bloemfontein, South Africa. Various communication instruments such as cost plans, payment advices, cost reports, final accounts, and contract terms were analysed and critically reviewed to establish the effectiveness of, and problems related to, each in terms of communication.

Results identified the following as factors that influenced effective communication between clients and contractors: time management; information management; cost management; email management and empowerment of agents. The case study further identified the following as elements of a good communication strategy: communication frameworks and a forum; value of communication instruments, a pre-established budget strategy; claims adjudication and certification without delay. Structured communication management and continuing interaction are basic elements used to avoid disruptions and disputes.

The case study concentrated less on verbal communication and more on the written communication instruments, nevertheless verbal communication disruptions were caused by ineffective written communication instruments and procedures. Communication principles and effective communication instruments were largely weakly applied by the parties involved, which led to a breakdown in natural flowing communication; this could have resulted in improved solutions to serious problems. During the project development phase the autocratic style of the project manager influenced the effectiveness of communication and the team members did not naturally participate in the communication process. This caused more serious management problems.

The original case study showed that communication and the skill to communicate effectively are important. Secondly, that the project manager's style may directly influence the success of a construction project.

9.3 Research of the case study

The aim of the case study is to provide evidence of the importance of communication during the execution of projects and the importance of communication skills of project managers.

The original contract concluded between the main contractor, an international company, and a client who operates throughout South Africa, was on provisional bills of quantities of which about 50% of the costs were for building and structural work and 50% for specialist installations, included in the contract sum as provisional sums. A project manager was appointed after the production process commenced and communication systems were largely changed by the project manager. Many sub- and direct contracts were concluded by specialists. The complexity of many contracts and changes in communication systems added to the difficulties.

The 10 quantity surveyors who were involved in the project in various capacities were interviewed by Verster *et al.* (2008: CD), and responded to a specific questionnaire. These aspects were: communication instruments (13 questions), the effectiveness of these instruments (8 questions), communication and claims (11 questions), and possible future solutions to improve communication and avoid claims (8 questions).

The responses to the questions identified by Verster *et al.* (2008: CD) showed the most serious problems and suggested solutions. The suggestions by the respondents assisted in proposing possible implementations of future solutions towards more effective communication procedures, processes, instruments and links.

Table 1 shows the results of the respondent's opinions in respect of the identified communication instruments used in this case study. Column 2 shows the written instruments, Column 2 the average results of the respondents' opinion and Column 3 the related percentages in decreasing order.

Table 1: Results in respect of identified instruments used in project

Opinions on communication instruments used	Average result	%	Ranking
Cost reports	4.1	82	1
Package bills of quantities	3.2	64	2
The original Bills of Quantities (Provisional bills)	2.9	58	3
Minutes of meetings	2.7	54	4
Email communication by agents	2.7	54	4
Specialists cost / budget reports (example: Electrical engineer)	2.7	54	4
Drawings and details	2.6	52	5
Email communications by project manager	2.6	52	5
Design and specifications	2.5	50	6
Site/contract instruments	2.4	48	7
Claims communication (by M & R and SIP)	2.4	48	7
Packages (identification of work packages by project manager)	2.1	42	8
Employer's instructions	1.6	34	9

(Adapted from Verster *et al.*, 2008: CD) (Ratings: 1= low, 3= intermediate, 5 = high)

The 10 respondents' opinions (100% response) on the communication instruments used on the project were also tested and resulted in an average opinion of 2.6 (52%) (scale of 1 = poor and 5 = excellent) in respect of all communication instruments used. However, the original provisional bills of quantities were allocated 2.9 (58%) average and the cost reports 4.1 (82%) in respect of effectiveness.

Table 2 shows the results in respect of general communication elements. It is clear that, apart from instruments and communication processes, general communication elements were seen as below average expectations of quality procedures. Column 1 shows the statements in respect of communication, Column 2 the average results of the respondents' opinion and Column 3 the related percentages in decreasing order.

Table 2: Results in respect of general communication elements

Statements in respect of communication	Average result	%	Ranking
Email communication was effective	2.7	54	1
The professional team had an effective relationship	2.4	48	2
Drawing distribution was managed well and on time	2.3	46	3
Project manager's project communication was effective and well managed	2.2	44	4
Budget was clear and met the owner's strategy	2.2	44	4
Professional agents were empowered to do their work well	2.0	40	5
Time and programming was managed well	1.7	34	6
Owner / professional team relationship contributed to efficient management	1.6	32	7

(Adapted from Verster *et al.*, 2008: CD) (Ratings: 1= low, 3= intermediate, 5 = high)

The respondents were clear on opinions related to the effectiveness or quality of general communication in respect of the specific project (Tables 1 and 2). The communication elements that were seen as least effective and most problematic were time management and project management communication (1.7) (34%). Owner/professional team relationship contributed to efficient management (1.6) (32%). Professional agents empowered to do their work well (2.0) (40%).

The following important elements of communication were investigated in respect of the respondents' opinions thereof. These are shown in Table 3. Column 1 shows the important elements of communication investigated and respondents' opinion thereon, Column 2 the average results of the respondents' opinion and Column 3 the related percentages in decreasing order.

Table 3: Important elements of communication investigated and respondent's opinions thereon

Other communication problem contributors	Average result	%	Ranking
Claims for valuation of payment certificates were clear and on time	3.0	60	1
Project managers were available	2.6	52	2
A good communication atmosphere was introduced via e-mail	2.4	48	3
Scope management to budget was to standard	2.3	46	4
The fact that the architects, structural engineer and project managers were from other cities was not problematic	2.3	46	4

(Adapted from Verster *et al.*, 2008: CD) (Ratings: 1= low, 3= intermediate, 5 = high)

Problems that were clearly identified in the case study, according to Verster *et al.* (2008: CD), and the elements that stand out in respect of communication disruptions were:

- Site and contract instructions.
- Employer's instructions.
- Identification of work packages by project managers.
- Design and specifications.
- Drawings and details.
- Drawing distribution.
- Professional teams' relationships.
- Project managers' project communication.

- Owner/professional team relationships.
- Time and programme management.
- The budget.
- Professional agents' empowerment.
- Communication atmosphere at meeting.
- The fact that the project manager, architect and structural engineer were not local professionals.

The result for email communication used for this project received a negative response (54% effectiveness). The experience here was that some emails were loaded with emotions. This may be due to the fact that email responses are immediate or early, while the email that a person is responding to is emotionally instilled.

9.4 Interviews of the case study

Interviews with three of the main functionaries were held during 2012 to procure their opinions regarding the problems in respect of communication disruptions conducted in the original case study. Questions regarding elements, instruments and statements relevant to communication were asked.

The profile of the functionaries is presented in Table 4. Column one shows the functionaries who participated, two the position of the participants and three their years of experience.

Table 4: Profile of functionaries interviewed

Participant	Position	Years' experience
A	Stage 5 architect	25
B	Quantity surveyor	12
C	Quantity surveyor	25+

The profiles of the functionaries indicate that they are leaders in the industry with experience and therefore their opinions can be seen as representative and reliable for this study.

During the interviews the following issues were discussed regarding the communication instruments used. The communication instruments that performed weak in contributing to enhance effective communication were site instructions (48%), employer's instructions (34%), identification of work packages (42%) and claims communication (48%).

The functionaries responded to the questions asked in respect of the above problems as follows: the functionaries' opinions on weak site instructions (48%), were that too many people were involved during the project who were supposed to have authority to issue instructions; this led to communication disturbances.

The interviewers' responses on weak employer's instruction (34%) were that the channels as determined by the contract were not used; this influenced communication negatively. The employer's decisions were not made well in advance and that influenced issuing instructions negatively.

Identification of work packages by the project manager (42%) was not pro-actively done and well communicated; and instructions changed often and were not well communicated. Both of these influenced the budget negatively.

During the interviews the following were discussed regarding statements in respect of communication. Communication elements and instruments that performed weak in contributing towards enhancing effective communication were distribution of drawings that was not managed well and on time (46%), the professional team that had an ineffective relationship (48%), the project manager's communication was not effective and well managed (44%), the teams' relationships did not contribute to efficient management (32%), time and programming was not managed well (34%), the budget was not clear and did not meet the owner's strategy (44%) and professional agents were not empowered to do their work well (40%).

The interviewers all agreed that the communication structure and management of drawings were not in place and effectively dealt with.

The relationship between the professional team members was not effective in the beginning, but towards the end of the project the relationship improved. Reasons for this ineffective relationship were the decentralisation of the team and because communication links and channels were not implemented and maintained well.

The project manager's project communication was not effective and well managed specifically with the consultants and contractor. The project manager's communication was negative; this seemed to improve towards the end of the project.

The relationship between the owner and the professional team did not contribute to efficient management. The professional team's authority and relationships were not spelled out clearly and maintained well.

Time and programming were not managed well. Both the changes from the owner and the slow start by the contractor, led to claims in respect of time and programming; these were not communicated well.

The budget was not clear and did not meet the owner's strategy. The budget and budget constraints were not communicated well to functionaries involved. Pro-active communication in respect of the budget was weak.

Professional agents were not empowered to do their work well. The agents were not empowered to do their work in respect of the contract. For example, no over-all budget information was available; this caused uncertain communication.

During the interviews the elements of communication was discussed. The elements that also caused communication problems were a negative communication atmosphere and scope management to budget.

The functionaries' opinions on a negative communication atmosphere were that the decentralisation of the professional team led to negative emails; the communication style of the project manager was also not effective.

9.5 Solutions to effective communication from the case study

After the reasonably negative experiences regarding communication in respect of the case study, the interviewers' opinions were clear as far as solutions to the communication problems were concerned.

Solutions presented by the respondents are:

- Timeous payment of claims, valuation and certification hold a key to improve communication.
- Continuous pro-active structured interactions.
- Use the established communication instruments.
- Use the approved project communication framework to communicate to agents.
- Select a project team known to each other and clearly communicate the scope of the project.
- Select local professionals to be the team members, professionals from other areas contribute to ineffective communication (on site presence).
- The scope and budget should be clearly communicated to team members.

9.6 Summary from the case study

According to Verster *et al.* (2008: CD) the case study showed that strong communication networking and links will contribute to successful communication. The lessons learned from the case study were that a communication framework and communication instruments must be used effectively and pro-actively, while structured interactions contribute to effective communication. The lessons learned from the functionaries are that the members of a team are important for effective communication to take place. Further, team members must be informed about the scope and budget to communicate effectively.

The solutions suggested may enhance effective communication and lead to a better understanding between parties involved in a project.

A pro-active communication strategy should form part of a project management approach. Even though the project was managed by a large, well-known firm of project managers, the communication situation did not enhance success, due to the many determinants of failures discussed.

As stated by Verster *et al.* (2008: CD) the project was eventually delivered, not on time, not within budget and not to the desired quality, but in the end, the project work reasonably well as an investment. However, it could have been better.

9.7 Recommendations from the case study

It is recommended that, prior to the start of the project development phase, communication strategies, project communication levels' communication processes' and planning of communication must be designed by involving all stakeholders. The procedure and plan should include the following:

- The project organisational structure.
- The project communication plan and framework sharing all the important links.
- Types of communication documents and instruments.
- Lines of communication and the manner in which parties respond to communication methods and instruments.

9.8 Conclusion from the case study

The communication failures shown by the case study are evidence that communication is important for the successful execution and completion of a project. Interviews identified the main problems in respect of communication distortions.

Team relationships did not contribute to efficiency and a communication atmosphere at meetings. The fact that professionals were not empowered indicates that leadership is an essential skill for the construction project manager. Further, it is not possible for the construction project manager to execute a project without the necessary skills to communicate at meetings, to develop and build a team, write, motivate, question, reinforce, reflect, explain, self-disclose, humour and laugh,

negotiate, present, public and mass communication, manage conflict, make decisions and solve problems, listen, persuade and trust.

The case study shows evidence that a project manager needs communication skills to successfully complete a construction project. The communication skills needed by a construction project manager are reviewed in Chapter 6 and the communication skills and leadership model for construction project managers is reviewed in Chapter 8.

The presentation, interpretation and discussion of findings are reviewed in Chapter 10.

Chapter 10: Empirical data presentation, interpretation and discussion

10.1 Introduction

In Chapter 10 the empirical data is considered. Findings from the empirical data are used to develop the Communication Skills and Leadership Model for Construction Project Management.

10.2 Purpose

The purpose of the chapter is to analyse the opinions of respondents regarding the communication skills of construction project managers and to evaluate the opinion of respondents on the effectiveness of core communication skills for construction project management. The opinions of respondents are also evaluated in context of the proposed communication skills and leadership styles model.

10.3 Empirical review

The empirical data represents findings from a pilot survey, questionnaire and interviews.

10.3.1 Pilot survey

After the literature review, a pilot survey was conducted. The sample questionnaire was distributed to ten qualified building professionals to ensure that the research instrument was interpretable and readable, and to discover if any difficulties could arise in the administration process. Comments were received and minor changes were made to the original instrument.

Responses from the pilot study are included in the statistical data.

10.3.2 Interview survey

Interviews were conducted with professionals in the construction and property development industry to gain insight from their knowledge and experience. Nine professionals were interviewed. Table 5 shows the profile of the professionals interviewed. Column 1 shows the participants' position, Column 2 their qualification and Column 3 their years' experience in the industry.

Table 5: Profile of interviewees

Participants position	Qualification	Years experience
Academic and practitioner	PhD	20-25
Construction manager and practitioner	PhD	25+
Project manager of a property developer	Masters degree	6-10
Property developer, project manager, quantity surveyor	Honours degree	16-20
Area property investment manager	First degree	6-10
Property investment manager	Masters degree	0-5
Quantity Surveyor	Honours degree	25+
Construction manager	Honours degree	25+
Construction project manager	Honours degree	16-20

The profile of **interviewees** indicates that they are in positions with authority. Of the interviewees, 44% have honours level qualifications. Regarding experience, 44% of the interviewees have experience of more than 20 years, while 55% of the interviewees occupy positions in project and construction project management. The interviewees are qualified and experienced in the field and their opinions can therefore be seen as representative and reliable for this study.

Responses from interviewees are included in the statistical data.

10.3.3 Questionnaire survey

An electronic questionnaire survey was conducted via email in 2012. The questionnaire was sent to a selected group of quantity surveyors, building contractors, engineers, architects and project managers. During the International Cost Engineering Council (ICEC) Conference held in Durban from 25 - 27 June 2012 an opportunity was used to interview five people with international experience in

construction project management and to distribute questionnaires. They represent 7% of the responses received.

The received questionnaires were entered into the SPSS program to develop data. The next steps were the cleaning of data and analysis of data to transform it into statistics.

Table 6 shows the response rates. Column 1 shows the response group, Column 2 the number of questionnaires sent, Column 3 the number of questionnaires received, and Column 4 the response in percentages.

Table 6: Response rate on questionnaires

Response groups	Sent	Receive	Response (%)
Pilot study	10	10	100
Architects	61	9	15
Building contractors	25	6	24
Engineers	61	11	18
Project managers	63	36	57
Quantity surveyors	82	25	31
Total	302	97	32

The number of questionnaires sent out was 302. The sample size is determined according to the formula of Stoker (1981: 13). The total response rate was 32% and for the purpose of this study regarded as representative of the population.

It is significant in respect of the reliability of the response rate that 72% of the responses received were from project managers. However, the responses from the project managers did not distort the response data.

All the respondents who received a questionnaire via email were phoned after two weeks to inform them of the importance of their reply for the study.

10.4 Empirical data

The questionnaire consisted of six sections with fifteen questions. Section A dealt with questions in terms of the profile of respondents. Section B dealt with questions

regarding communication in general. Section C solicited respondents' opinions on project managers' communication skills in general, while Section D requested respondents' opinions on the importance of communication skills. Section E dealt with the four most important communication skills.

The empirical data is presented in two parts. Firstly, the profile of respondents, Section A and secondly, project communication, Sections B to D.

10.4.1 Profile of respondents

Section A consisted of questions regarding the profile, qualifications, professional registration and years of experience.

The aim of Section A was to determine the profile of the **respondents** to the questionnaire and their qualifications and experiences. Experience and qualification provide an indication of knowledge of construction project management communication.

Table 7 shows the profession and years of experience in the professions. Column 1 shows the profession of respondents, Column 2 the number of respondents in that profession, Column 3 the percentage of respondents in that profession, Column 4 the years of experience in that profession, Column 5 the number of respondents in that profession, and Column 6 the percentage of respondents in that profession. Nobody marked the 'not respond to the question'.

Table 7: Profile of respondents

Profession of respondents	Number	Percentage (%)	Years experience in a profession	Number	Percentage (%)
Quantity surveying	25	25.8	0-5	14	14.4
Engineering	11	11.4	6-10	15	15.5
Architecture	10	10.3	11-15	17	17.5
Construction management	4	4.1	16-20	10	10.3
Construction project management	10	10.3	21-25	12	12.4
Project management	17	17.5	25+	26	26.8
Other	20	20.6	None	3	3.1
Total	97	100	Total	97	100

In total, 31.9% of the respondents are professionals in the construction, project and construction project management industries, and 70% of the professionals have more than 10 years' experience in their professions.

Respondents (13.5%) indicated that they are registered with The South African Council for Project and Construction Management Professionals (SACPCMP) – 62.9% of the respondents are registered with the professional bodies of their professions, while 73% of the respondent have degree qualifications.

Almost a third, namely 26.8% of the respondents has 25 years professional experience and 17.5% have 15 years professional experience. There is a reasonable proportional distribution in the number of years' experience of respondents; 29.9% of the respondents has five years of experience in the property development industry.

Judging from the profile of respondents it is clear that the opinions on construction project communication are sound.

10.4.2 Project communication

Section B consists of questions regarding project management communication in general. The opinion of respondents was collected using a Likert scale of 1 to 5, where 1 is not important, 2 fairly important, 3 important, 4 very important and 5 extremely important. 'None' represents the 'not respond to the question'.

The purpose of the first question in Section B was to determine which communication method is regarded as the most important and is used most often in the construction industry. All the methods are used during the execution of a project, but some of the methods dominate as method of communication.

The importance of communication methods used is shown in Table 8. Column 1 lists the importance of the various communication methods while Columns 2 to 7 depict the responses in percentages ('none' is the 'not respond to the question', 1 is not

important and 5 extremely important). Column 8 presents the average of the respondents' answers to the question on the importance of communication methods according to the Likert scale and Column 9 the ranking in decreasing order. The 'none' responses were not taken into account in calculating the average.

Table 8: Importance of communication methods used

Importance of communication method	Response (%)						Average	Ranking
	None	1 Not important 5 Extremely important						
		1	2	3	4	5		
Written communication	2.1	0	0	11.3	21.7	64.9	4.5	1
Electronic communication	3.1	0	0	11.3	36.1	49.5	4.3	2
Oral communication	3.1	1.0	4.1	15.5	26.8	49.5	4.1	3
Visual communication	4.1	5.2	17.5	30.9	26.8	15.5	3.2	4
Nonverbal communication	4.1	18.6	19.6	28.9	20.6	8.2	2.7	5

The communication method with the highest ranking is written communication. Electronic communications is ranked second, oral communication third, visual communication fourth and nonverbal communication least important.

Written (64.9%), oral (49.5%) and electronic (49.5%) communication methods are all *extremely important* methods to use during the execution of a project. Nonverbal (28.9%) and visual (30.9%) communication is regarded as *important* to be used as methods of communication.

Written communication is the most important method of communication in construction project management but oral and electronic communications are also important. Examples of written communication are contracts and reports, in other words more formal communication methods, while electronic communication is the method used by functionaries to explain and discuss issues of importance, which is less formal.

The project manager will use written, electronic and oral communication during the execution of a project and therefore needs the skills to communicate with project teams, stakeholders and functionaries using these methods.

The construction project manager cannot execute a project without using one or some of the communication methods and needs skills to apply these methods effectively.

The purpose of the second question of Section B was to determine the level of effectiveness of the communication method used in the construction industry. The methods are all used during the execution of a project, but some of the methods are more effective when used during the execution of a project.

Written and electronic methods of communication have the advantage that a message can be read and corrected before finalised, but oral and nonverbal communication do not have the advantage of being able to correct the message. A project manager therefore needs skills to communicate effectively in conveying a message nonverbally and orally, because there is only one chance and no possibility of correcting the message.

Table 9 shows the effectiveness of communication methods. Column 1 shows the effectiveness of the various communication methods; Columns 2 to 7 the response in percentages ('none' is the 'not respond to the question', 1 is not important and 5 extremely important). Column 8 presents the average of the respondents' answers to the question on effectiveness of communication methods according to the Likert scale and Column 9 the ranking in decreasing order. The 'none' responses were not taken into account in calculating the average.

Table 9: Effectiveness of communication methods

Effectiveness of communication method	Response (%)						Average	Ranking
	None	1 Not important 5 Extremely important						
		1	2	3	4	5		
Electronic communication	3.1	1.1	1.0	11.3	33.0	50.5	4.2	1
Written communication	6.2	1.1	0	14.4	37.1	41.2	4.0	2
Oral communication	6.2	0	5.2	30.9	41.2	16.5	3.5	3
Visual communication	8.3	9.3	18.6	24.7	24.7	14.4	2.9	4
Nonverbal communication	8.2	16.5	21.6	37.2	13.4	3.1	2.4	5

Electronic communication is ranked the highest as effective communication method. The communication method ranked second is written communication with oral

communication ranked third. Visual communication is ranked fourth and nonverbal communication is ranked fifth as effective communication method.

Electronic (50.5%) and written (41.2%) communication methods are ranked as *extremely important* methods to use effectively during the execution of a project according to the **respondents**. Oral communication (41.2%) was ranked *very important* to use effectively as communication method. According to the respondents, visual communication (24.7%) was ranked *important to very important* but not to the same extent as electronic, written and oral communication. The effective use of nonverbal (37.2%) communication is ranked only as *important*.

Electronic and written communications are the most effective communication methods to use. The two methods both implicate a written format, because a fax and email, although sent electronically, is written. The deduction can thus be made that written communication is the most effective communication method the project manager can use during the execution of a project and that oral communication is the second most effective communication method to use.

Written and oral communications are the most effective methods for a project manager to use during the execution of a project.

The purpose of the third question of Section B was to determine during which phase of project management communication problems occur as well as the level of problem occurrence in terms of communication.

The communication method and frequency of communication may differ in each phase of the project. If project managers know in which project phase(s) communication problems mostly occur, they will know how to deal with it. Project managers can ensure that they have the communication skills to be able to deal with communication problems.

Table 10 shows the project phase in which communication problems occurred. Column 1 shows the project phases in which problems occur. Columns 2 to 7 depict

the responses in percentages ('none' is the 'not respond to the question', 1 is not important and 5 extremely important). Column 8 presents the average of the respondents' answers to the question on project phases in which problems occur according to the Likert scale and Column 9 the ranking in decreasing order. The 'none' responses were not taken into account in calculating the average.

Table 10: Problem occurrence

Project phases in which problems occur	Response (%)						Average	Ranking
	None	1 Never 5 Very often						
		1	2	3	4	5		
Construction	4.1	1.1	8.2	37.1	30.9	18.6	3.5	1
Design	4.1	2.1	21.6	30.9	28.9	12.4	3.2	2
Preparation	4.1	2.1	19.6	37.1	24.7	12.4	3.1	3
Pre-construction	3.1	1.1	18.6	44.3	24.7	8.2	3.1	3
Use	8.2	5.3	24.7	34.0	17.5	10.3	2.8	4

The construction phase is ranked the highest as project phase in which problems occur regarding communication during the execution of a project. Design is ranked as second highest, while both the preparation and pre-construction project phases are ranked third as phases in which problems occur in terms of communication during the execution of a project and fourth is the use phase.

At all project phases the occurrence of problems in terms of communication, is *often* to *very often*. Pre-construction (44.3%) is the phase where problems regarding communication occur *most often*. Construction (37.1%) and preparation (37.1%) phases are both ranked second. Communication problems occur *less often* in the design and use phases.

The **interviewees'** responses confirmed that construction is ranked first as the project phase in which problems occur, followed by the pre-construction phase.

The high level of communication problems during the construction phase of a project is not strange, because this phase takes the longest to complete in a project. During the construction phase more team members are also involved than in the other phases.

According to an interviewee the problems of the previous phases are experienced for the first time during the construction phase and therefore more communication problems occur during construction, than only construction communication problems.

The design phase is typically the phase where the scope of the project is determined and the possibility of communication problems is regarded as *often*. All the unclear issues of the design phase will have an influence on the pre-construction and construction phases.

The project manager therefore needs communication skills to be able to deal with communication problems during the execution of the project and more specifically the design and construction phases of the project. During the construction phase, the project manager communicates with all functionaries, stakeholders and the client. An interviewee commented that a project manager who leads the team effectively at the beginning of the project might have less communication problems during the construction phase.

The purpose of the fourth question of Section B was to determine the characteristics that are important to be a successful construction project manager. Further, to determine which characteristics are important for a project manager to communicate effectively with team members.

The characteristics of a person may contribute to managing a project more successfully and these characteristics are indicative of the style of leadership. It is important to determine the leadership style of a project manager, because it influences the successful execution of the project, the cooperation between the team members and the cooperation between the team and the project manager.

Table 11 shows the important characteristics and leadership style needed by a project manager to communicate effectively. Column 1 shows the characteristics of a construction project manager. Columns 2 to 7 present the responses in percentages ('none' is the 'not respond to the question', 1 is not important and 5 extremely important while Column 8 depicts the average of the respondents'

answers to the question regarding the characteristics of construction project manager according to the Likert scale and Column 9 the ranking in decreasing order. The 'none' responses were not taken into account in calculating the average.

Table 11: Characteristics of a construction project manager

Characteristics of construction project manager	Response (%)						Average	Ranking
	None	1 Not important 5 Extremely important						
		1	2	3	4	5		
Developing trust, collaboration and teamwork	3.0	0	1.0	5.2	28.9	61.9	4.4	1
Allowing the team members to take responsibility for their work	2.1	0	1.0	9.2	42.3	45.4	4.3	2
Sharing the vision of the project with the project team	5.2	0	2.0	8.2	28.9	55.7	4.2	3
Task orientation	3.1	1.0	1.0	15.5	40.2	39.2	4.1	4
People orientation	3.1	0	2.1	14.4	43.3	37.1	4.1	4
Information disclosure to team members for decision making purposes	3.1	2.0	3.1	18.6	43.3	29.9	3.9	5
Allowing the team to take part in the decision making process	3.0	0	3.1	16.5	48.5	28.9	3.9	5
Setting challenges and goals for team members	4.2	0	4.1	9.3	54.6	27.8	3.9	5
Support for team members training and development	4.1	1.0	5.2	19.6	45.4	24.7	3.8	6
Realising individual needs of team members	3.1	0	3.1	27.8	48.5	17.5	3.7	7
Trusting the team to take a decision themselves	3.1	1.0	4.1	32.0	41.2	18.6	3.6	8
Following the rule book	6.2	1.0	13.4	33.0	33.0	13.4	3.3	9

The characteristic that a construction project manager should possess to ensure successful communication ranked the highest by the respondents is developing trust, collaboration and teamwork. The characteristic ranked second is allowing the team members to take responsibility for their work, third is sharing the vision of the project with the project team, fourth task orientation and fifth people orientation.

All the characteristics are *important to extremely important* for a construction project manager to possess to ensure successful communication during the execution of a project.

The characteristics the **respondents** rated as *extremely important* for a construction project manager to possess to ensure successful communication, are to develop trust, collaboration and teamwork (61.9%), sharing the vision of the project with the project team (55.7%) and to allow the team members to take responsibility for their work (45.5%).

The characteristics that the **respondents** rated as *very important* for a project manager to possess are to set challenges and goals for team members (54.6%), to realise individual needs of team members (48.5%), to allow the team to participate in the decision-making process (48.5%), information disclosure to team members for decision-making purposes (43.3%) and people orientation (43.3%). Following the rulebook (33.0%) is the only characteristic that is rated as an *important* characteristic by the respondents for the construction project manager to possess.

The *extremely important* characteristics that a construction project manager should possess to ensure successful communication, according to the **interviewees** are firstly to develop trust, collaboration and teamwork, and secondly, sharing the vision of the project with the project team. Thirdly, the interviewees stated that people and task orientation are *very important*. To develop trust, collaboration and teamwork correlates with the results of the respondents.

Thus, the project manager that is trusted by the team and gets the team to work together will communicate successfully. Project team members need to collaborate, share, collate and integrate information and knowledge to realise project objectives. A project manager does not communicate with language only, but also with character, which includes attitude, behaviour and personality.

Allowing team members to take responsibility for their work and sharing the vision with team members will enhance the formal flow of information in all directions, namely upward, downward, horizontal, diagonal and lateral, resulting in successful feedback.

Thus, project managers who allow the team to take responsibility for their work will attain more from team members and communication will be more effective. The results from the **interviewees** and **respondents** indicated a people-orientated approach towards the management of a project.

The Fiedler leadership style states that team members trust leaders and clearly shows that work that is defined and communicated is effective. In the Sloan or visionary leadership style, leaders use the vision to give the life and work of the organisation a sense of meaning and purpose, but maintain the focus on the vision. This leader enlists others by involving them, listening to them and clearly communicating with them. Theory Y of McGregor's Theory X and Theory Y style assumes that team members enjoy their work and will take responsibility for applying and directing the aims of the project. This does not require external control but is achieved through participation, collaboration and reward for achievements. For workers to take responsibility for their work leads to maturity. The Situational leadership style includes understanding the level of the worker's maturity. Maturity means the worker is willing and has the ability to assume responsibility for a task. The employee's maturity level is assessed and the manager then chooses the best managerial style for the situation.

The styles that a project manager with characteristics such as allowing team members to take responsibility for their work; developing trust, collaboration and teamwork; and sharing the vision will apply during the execution of a project are the Behavioural, Fiedler, McGregor's Theory X and Theory Y, Sloan or Visionary and Situational leadership styles.

This implies that a project manager has to sum up the situation to adapt a style according to the situation, which implies the Situational leadership style. The Situational leadership style is the best style a project manager may apply during the execution of a project because it adapts a style according to the situation, which allows team members to take responsibility for their work, and allowing them to participate in the decision-making process. This implies that the project manager trusts the team.

These characteristics of a construction project manager are the characteristics that will enhance effective communication and form the basis of a leadership style.

10.4.3 Project managers' communication skills

Section C consisted of a question regarding project managers' communication skills. The opinion of **respondents** was collected on a Likert scale of 1 to 5, where 1 is not important, 2 fairly important, 3 important, 4 very important and 5 extremely important. 'None' indicated the 'not respond to the question'.

The purpose of the question in Section C was to determine the impact of the construction project managers' communication skills on the success of the project management areas. The second purpose was to determine if communication might be a cornerstone area of project management, with the other cornerstone areas as derived from previous research and the rest of the areas, and the means of achieving the trade off, as pillars or support. The third purpose was to determine if communication, in conjunction with integration, might be seen as the area that combines and coordinates the various processes and project management activities.

Leadership is not an area of project management, but it is important to determine to what extend is it important for a construction project manager to be a leader in a project.

Table 12 shows the impact of the construction project managers' communication skills on the success of the project management areas. Column 1 shows the project management areas. Columns 2 to 7 presents the responses in percentages ('none' is the 'not respond to the question', 1 is not important and 5 extremely important). Column 8 presents the average of the responses on the project management areas according to the Likert scale and Column 9 the ranking in decreasing order. The 'none' responses were not taken into account in calculating the average.

Table 12: Project management areas

Project management areas	Response (%)						Average	Ranking
	None	1 Not important 5 Extremely important						
		1	2	3	4	5		
Leadership	1.0	0	2.1	10.3	26.8	59.8	4.4	1
Project time management	2.1	0	2.1	11.3	26.8	57.7	4.3	2
Project quality management	3.1	0	1.0	14.4	26.8	54.6	4.3	2
Project cost management	1.0	0	1.0	14.4	29.9	53.6	4.3	2
Project communication management	2.1	0	1.0	9.3	35.1	52.6	4.3	2
Project risk management	2.1	1.0	1.0	14.4	36.1	45.4	4.2	3
Project scope management	3.1	0	1.0	13.4	39.2	43.3	4.2	3
Financial management	2.1	1.0	1.0	21.6	28.9	45.4	4.1	4
Project integration management	4.1	0	2.1	15.5	40.2	38.1	4.0	5
Claims management	1.0	0	6.2	20.6	35.1	37.1	4.0	5
Occupational health and safety management	1.0	1.0	5.2	23.7	35.1	34.0	3.9	6
Project procurement management	4.1	0	7.2	19.6	38.1	30.9	3.8	7
Environment management	3.1	2.1	9.3	29.9	33.0	22.7	3.6	8
Project human resource management	3.1	2.1	4.1	14.4	43.3	33.3	3.3	9

Respondents ranked the impact of the construction project managers' communication skills on the success of the project management the highest for leadership. The impact of the construction project managers' communication skills on the success of the areas time, quality, cost and communication management is ranked second. Scope and risk management are ranked third, fourth is financial management, fifth is integration and claims management, sixth is occupational health and safety management, seventh procurement management, eighth is environmental management and human resources is ranked ninth, with regard to the impact of the construction project managers' communication skills on the success of the project management areas.

The potential impact of the project managers' communication skills is regarded *extremely* and *very important* to the successful managements of the project management areas. The impact of project managers' communication skills on the success of the project management areas is *extremely important* for leadership (59.8%), time (57.7%), quality (54.6%), cost (53.6%), communication (52.6%), risk (45.45), financial (45.4%), scope (43.3%) and claims management (37.1%). The impact of project managers' communication skills on the success of the project

management areas human resources (43.3%), integration (40.2%), procurement (38.1%), occupational health and safety (35.1%) and environmental management (33.0%) are *very important*.

The results of the **interviewees** regarding the impact of the construction project managers' communication skills on the success of the project management areas ranked leadership, time, integration, financial, cost, quality and scope as *extremely important* and communication, procurement and claims management as *very important*.

According to the **respondents** and the **interviewees**, the potential impact of the construction project managers' communications skills are the highest for leadership, time, cost and quality management. The construction project manager has to communicate effectively regarding cost, time and quality as three of the four cornerstone factors on which the success of a project depends, followed by scope. Time influences cost, and cost is communicated to the client, functionaries and stakeholders to execute the project within the approved budget and in time, according to the request of the client – the scope. The project manager needs to be a leader to communicate effectively with all parties. The successful execution of a construction project depends heavily on the construction project manager's abilities as communicator to lead the team and manage a construction project successfully.

The project managers' communication skills have an impact on the cornerstone areas of project management. Communication is needed to effectively communicate the interrelated areas of cost, scope and time, and quality, which is the result of the interrelationship between scope, cost and time. Communication is the function that integrates cost, scope and time to achieve a quality product and may be seen as having a cornerstone function.

10.4.4 Importance of communication skills

The importance of communication skills was addressed in Sections D and E.

Section D consisted of a question regarding the communication skills a project manager should possess to enhance and ensure project success. The opinion of respondents was collected on a Likert scale of 1 to 5, where 1 is not important, 2 fairly important, 3 important, 4 very important and 5 extremely important. 'None' indicated 'not respond to the question'.

In Section E, the respondents were asked to name the four most important communication skills listed in Section D.

The purpose of the question in Section D was to rate the communication skills a project manager should possess or use to enhance and ensure project success. The second purpose was to determine if leadership is important for a project manager to communicate effectively in order to enhance project success. The third purpose was to determine the extremely important or core communication skills a project manager needs to communicate effectively.

The purpose of Section E was to test if respondents' opinions of Sections D and E correlated.

Table 13 shows the importance of the communication skills a project manager should possess or use to enhance and ensure project success. Column 1 shows the communication skills a construction project manager should possess or use. Columns 2 to 7 present the responses in percentages ('none' is the 'not respond to the question', 1 is not important and 5 extremely important. Column 8 depicts the average of the respondents on the communication skills that a construction project manager should possess or use shown according to the Likert scale and Column 9 the ranking in decreasing order. The 'none' responses were not taken into account in calculating the average.

Table 13: Communication skills

Communication skills a construction project manager should possess	Response (%)						Average	Ranking
	None	1 Not important 5 Extremely important						
		1	2	3	4	5		
Leadership skills	3.1	0	1.0	6.2	20.6	69.1	4.5	1
Decision making and problem solving	3.1	0	1.1	7.2	20.6	68.0	4.5	2
Listening	3.1	0	0	15.4	33.0	48.5	4.2	3
Motivation	4.1	0	1.0	7.2	42.3	45.4	4.2	3
Conflict management	4.1	0	3.1	15.5	33.0	44.3	4.1	4
Meetings	4.1	0	0	15.5	41.2	39.2	4.1	4
Team development and team building	3.1	0	4.1	9.3	45.4	38.1	4.1	4
Writing	3.1	0	1.0	14.4	46.4	35.1	4.1	4
Negotiation	3.1	0	4.1	16.5	36.1	40.2	4.0	5
Explaining	4.1	1.1	4.1	8.2	42.3	40.2	4.0	5
Trusting	5.2	0	2.0	19.6	41.2	32.0	3.9	6
Presentation	4.1	0	3.2	23.7	38.1	30.9	3.8	6
Persuasion	4.1	0	2.1	26.8	38.1	28.9	3.8	6
Reinforcement	5.2	1.0	5.2	18.5	42.3	27.8	3.8	6
Public and mass communication	4.1	4.1	7.2	37.2	29.9	17.5	3.4	7
Questioning	19.6	0	3.1	13.4	43.3	20.6	3.2	8
Humour and laughter	4.1	5.2	13.4	32.0	37.1	8.2	3.2	8
Reflecting	7.2	9.3	7.2	33.0	33.0	10.3	3.1	9
Self-disclosure	4.1	19.6	28.9	21.6	20.6	5.2	2.5	10

The skill of leadership is ranked first as an *extremely important* communication skill a construction project manager should possess to enhance and ensure communication. Decision-making and problem-solving skills are ranked second; listening and motivation third; team development and team building, writing, conflict and meetings are ranked fourth; negotiation and explaining are ranked fifth; trusting, presentations, persuasion and reinforcement are ranked sixth; public communication is ranked seventh; humour and laughter and questioning are ranked eighth; reflecting is ranked ninth; and self-disclosure is ranked tenth according to the **respondents**. All these skills are rated as *extremely important* or *very important*, except public communication and reflecting that are ranked *important* and self-disclosure, which is ranked *fairly important*.

Leadership (69.1%) is *extremely important* for a project manager to communicate effectively. The *extremely important* communication skills that a project manager should possess and apply are decision making and problem solving (68.0%), listening (48.5%), motivation (45.4%), conflict management (44.3%) and negotiation

(40.2%). The *very important* communication skills that a project manager should possess and use are writing (46.4%), team development and team building (45.4%), questioning (43.3%), explaining (42.3%), reinforcement (42.3%), trusting (42.1%), meetings (41.2%), presentations (38.1%), persuasion (38.1%) and humour and laughter (37.1%). The *important* communication skills a project manager should possess are reflecting (33.0%) and public and mass communication (37.1%). Self-disclosure is *fairly important* to possess as communication skill for a project manager.

Although the respondents ranked leadership the highest it is not a communication skill; project managers need to be leaders, to be able to communicate effectively.

The **interviewees'** results correspond with the **respondents'** results, namely that decision making, problem solving and listening are *extremely important* as communication skills for a project manager to possess to ensure and enhance project success. The interviewees also rated trusting and meetings as *extremely important* communication skills that a project manager should possess to communicate effectively.

The communication skills that are rated the highest are decision making and problem solving, listening, motivation, meetings, writing, team development and team building, and conflict management. These communication skills can be seen as the core communication skills that a project manager needs to communicate effectively. Leadership is rated the highest, which indicates that a project manager, as the leader of a project, needs the skills of decision making and problem solving, listening, motivation, meetings, writing, team development and team building, and conflict management to communicate effectively with all stakeholders of the project.

Decision making and problem solving are core communication skills that a construction project manager needs during communication to make a well informed decision that will be to the advantage of the team and the project. It is only possible with the support and commitment from the team to reach a considered group decision to solve problems.

Listening and not only hearing is a core communication skill. Actively listening to team members and other stakeholders will increase understanding, reduce conflict, improve negotiation and lead to effective decision making and problem solving.

Motivation means that a construction project manager influences a situation in such a way that it encourages and inspires the team members to achieve the project's goals and objectives. Thus, it is the responsibility of the project manager to motivate the team by applying a communication skill such as motivation.

Meetings is the method of management and communication with team members used by a project manager to inform the team, solve problems, make decisions and deal with various activities regarding a project. Thus, for the project manager to be able to communicate and manage the project and team members, communication skills such as the skill to attend to meetings are needed.

Writing is important as a core skill to enhance communication, because it is necessary to record matters in writing. Written communication as core skill is thus reliable and accurate, and can be accessed repeatedly.

It is the responsibility of the project manager to support the team and lead team members to be effective, and to achieve the goals and objectives of the project. The project manager can achieve the goals and objectives of the project by developing and building the team through effective communication.

Effective project managers realise that conflict is inevitable, but it is the responsibility of the project manager to deal with it to the advantage of the project. If conflict is dealt with effectively, it improves the quality of the decisions. To be able to deal with conflict the project manager needs communication skills such as conflict management.

Leaders lead through effective communication skills such as decision making and problem solving, listening, motivation, meetings, writing, team development and

team building, and conflict management. With these communication skills, the project manager will advance to a position as project leader.

The responses of respondents in Sections E correspond with responses in Section D, stating decision making and problem solving as the most important communication skill, with leadership second, listening third and writing fourth.

10.5 Conclusion

Developing a communication skills and leadership model for construction project managers is proposed to enhance effective communication during the execution of a project.

The communication skills that the industry regards as important are decision making and problem solving, listening, motivation, meetings, writing, team development and team building, and conflict management skills. The communication methods that are the most important to use during the execution of a project are written, oral and electronic communication, of which written and oral communication are regarded as the most effective communication methods.

Most communication problems occur during the pre-construction phase of a project and require a project manager with specific characteristics to deal effectively with those problems. The characteristics that a project manager needs to deal with problems and to communicate effectively are to allow team members to take responsibility for their work and to develop trust, collaboration and teamwork. The characteristics of a project manager indicate the style applied during the execution of a project and the situational style is the most effective, with a team orientated approach and taking the situation into consideration.

In Part 4 the summary of the study, findings and conclusions, as well as the proposed model and recommendations for further research are presented.

Part 4: Conclusion

Chapter 11: Summary of study, findings and conclusions

11.1 Introduction

The study consists of four parts. Part 1 presents the introduction to the study and consists of Chapter 1, the research proposal. Part 2 contains the literature review and consists of Chapters 2 to 8, the theoretical substructure and results. Part 3 presents the empirical review and consists of Chapter 9, the evaluation of a case study and Chapter 10 that presents the empirical data, interpretation and discussion. Part 4 depicts the conclusion and consists of Chapter 11, the summary of the study, findings and conclusions as well as Chapter 12, the final conclusion and proposed Model for Construction Project Managers' Communication Skills and Leadership.

11.2 Summary of study

The main problem of the study is defined as follows:

The lack of effective communication and the application of communication skills in construction project management lead to project outcomes that do not meet project objectives. The lack in communication skills of project managers and the negative influence of unsatisfactory communication are presumed; this forms the main reasons for this study.

In Chapter 2 the origin of project management, as well as the definition of project management, the life cycle and life cycle phases of a project, the stakeholders involved in projects and the benefits of project management to managing projects are reviewed. These reviews are necessary to ensure a better understanding of communication within project management activities.

In Chapter 3 the knowledge areas of project management according to the Project Management Body of Knowledge and the knowledge areas of construction project management are reviewed to determine the form of communication necessary for each area. Documents and instruments necessary for each area determine which skills the project manager needs as communicator to communicate effectively during the execution of a project.

In Chapter 4 general communication, such as the directions in which information flows, and the barriers that prevent effective communication are reviewed. To be able to communicate effectively, the project manager needs to plan communication, and know the project structure and communication plan to be able to manage a project successfully. To be able to deal with these general communication elements the construction project manager needs communication skills.

In Chapter 5 leadership in construction project management is reviewed. Literature indicates that construction projects depend on the abilities of a project manager as communicator, to lead a team and manage a project successfully.

In Chapter 6 the literature indicates that if the skills reviewed in the study are applied properly by the construction project manager the success of the project outcomes will improve.

Chapter 7 states that leadership communication and styles seem to be essential for a project manager to manage a project successfully. The style or combination of styles applied to each situation influences the effectiveness of communication and a construction project manager has to determine which style to apply in each situation.

In Chapter 8 elements of a proposed model is reviewed. The 13 areas of construction project management are cornerstones, time, cost, scope and quality, with means to achieve the trade-off, human resources, risk, procurement, integration, claims, finance, health and safety, environment, and communication as foundation functions. Communication skills are divided into core and important communication skills. Leadership integrates these activities.

In Chapter 9 a case study in project communication is reviewed and recommendations are made in terms of the lessons learnt to enhance effective communication.

Chapter 10 presents the empirical findings to determine the core communication skills in order to contribute to the proposed model for construction project managers' communication skills and leadership styles.

11.3 Findings

11.3.1 First hypothesis

The first hypothesis of the study is defined as follows:

The knowledge of which communication methods are important contributors to effective communication may support to project success.

This hypothesis was proven. The literature review showed that effective communication may contribute to project success, while the case study indicated that the ineffective use of communication methods leads to frustration, which inevitably leads to a less successful outcome. The knowledge of the most important communication methods are therefore a contributor to project success.

Written communication is ranked as the most important communication method to use during the execution of a project. Written communication is concise, discreet, accurate and free of ambiguity and contributes to enhancing communication during the management of a project. Electronic communication is ranked as the second important method of communication to use during project management. Electronic communication involves sending messages at a high speed to all stakeholders involved in the project.

Oral communication is ranked as third important communication method and involves both face-to-face and telephonic communication.

Written and electronic communication are both in the same format, thus oral and all written forms of communication are the most important methods to be used by the construction project manager as the communicator during the execution of a project. Written communication enhances the effectiveness of communication, as it is proof of what was done during the management of a project.

11.3.2 Second hypothesis

The second hypothesis of the study is defined as follows:

Determining the effectiveness of the applications of communication methods used in project management will enhance project outcomes.

This hypothesis was proven correct. The case study proved that email and electronic communication enhance project outcomes. Electronic communication is ranked as the most effective communication method. Ranked secondly, is written and thirdly, oral communication as effective methods of communication used in project management.

The case study confirms the importance of effective electronic communication and if electronic communication is neglected it leads to distortions in effective communication between the project manager, stakeholders and functionaries. Electronic communication is a fast method of communication and effective application will enhance communication during the management of a project and assure project success.

To be effective, written communication is important, as it is the record for future reference and accessible repeatedly. Because of the accessibility of written

communication, it is an effective method of communication between the project manager and the stakeholders to enhance project communication.

11.3.3 Third hypothesis

The third hypothesis of the study is defined as follows:

Determining the incidence of communication problems during project phases will enhance the possibility of corrective actions towards increased effectivity.

This hypothesis was proven. The literature and empirical data confirmed that, should communication problems be identified during the construction phase, corrective actions can be taken towards increased effectivity. The occurrence of communication problems during project phases is ranked the highest during the construction phase. By identifying the phases during which communication problems occur, the project manager can apply the most effective communication methods to prevent distortions and problems.

The communication methods effective in enhancing communication are electronic and written communication. The application of the methods of communication by the project manager can prevent the occurrence of communication problems during the execution of a project and specifically during the construction phase.

The case study proves a project manager should be careful when using electronic communication, but if the construction project manager is careful and plan the message, communication problems can be prevented.

11.3.4 Fourth hypothesis

The fourth hypothesis of the study is defined as follows:

The characteristics of the construction project managers contribute to communication problems or solutions.

This hypothesis was proven correct. The literature review showed that collaboration, teamwork and trust, and the positive characteristics of the construction project manager such as trust and sharing the vision, contribute to project success and solutions to problems; the case study also indicated that continuous pro-active interactions enhanced effective communication. The characteristics that are important to enhance effective communication are to develop trust, collaboration and teamwork, allow team members to take responsibility for their work, and sharing the vision of the project with the project team.

The construction project manager who has the characteristics to develop trust, collaboration and teamwork, allow team members to take responsibility for their work and share the project vision with the team will be an effective communicator. These characteristics, if part of a construction project managers' personality, form the style or way of how the project manager leads the team, thus the leadership style.

These characteristics focus on the team, thus is it people orientated. The Behavioural, Fiedler, McGregor's theory X and theory Y, Sloan or Visionary and Situational leadership styles fit in with these characteristics, and focus on the team and the situation.

The project manager has to sum up the situation and then adapt a style according to the situation – the Situational leadership style. The Situational leadership style is the best style for a project manager to apply during the execution of a project, because it adapts a style according to the situation. This accommodates a team that take responsibility for their work, collaborate and work as a team, because they are

informed of the vision of the project; this implies that the project manager trusts team members.

11.3.5 Fifth hypothesis

The fifth hypothesis of the study is defined as follows:

Determining the impact of the construction project manager's communication skills on the success of a project, related to the knowledge areas of project management, will assist in developing recommendations for improvement and a communication skills and leadership model to ensure enhancement of the project management environment.

This hypothesis was proven correct. The proposed model is an outcome of research results indicating that the determination of the impact of communication skills related to the knowledge areas will lead to identifying communication breakdowns, thus enabling corrective procedures. The impact of the construction project managers' communication skills on the success of a project is the highest in the project management areas time, quality, cost and communication management. Leadership is important to communicate effectively with all parties involved during the management of a project.

Communication regarding cost is important and the skills to communicate about aspects of cost influence the success of a project. If communication about time is not effective, it will influence the project, as well as cost management. The communication about quality management is important; if not effective, it will influence the project as well as cost and time management.

Thus effective project communication by a project manager, as the leader of the project, will influence all other areas positively and will contribute to the effective management of the whole project. Communication is the foundation of the cornerstones of the project management areas cost, scope, time and quality as well

as for the means to achieve the trade-off of the project management areas human resources, risk, procurement, integration, claims, finance, health and safety, and environmental management.

11.3.6 Sixth hypothesis

The sixth hypothesis of the study is defined as follows:

Developing the construction project managers' communication skills may lead to improved project outcomes.

This hypothesis was proven correct. The literature study showed that decision making, problem solving, listening, motivation, conflict management, meetings, and team development and team building skills will contribute to successful project outcomes. The case study also showed that where communication skills were not up to standard, the project was influenced negatively. This therefore indicated that the development of construction project management communication skills will contribute to the improvement of project outcomes.

The communication skills that are the most important for a project manager to have to communicate effectively, is decision making and problem solving, listening, motivation, conflict management, meetings and team development and team building. Leadership is ranked the highest, and although not a skill, a project manager needs to be a leader to be able to lead the team and communicate effectively with the team, to complete a project successfully.

The skills needed by a project manager such as decision making and problem solving, listening, motivation, meetings, conflict management and team development and team building are core skills that will help the project manager to be able to communicate effectively. The application of these communication skills in the execution of projects will make it possible for a project manager to move into a project leader position and enhance the project outcome.

11.3.7 Seventh hypothesis

The seventh hypothesis of the study is defined as follows:

A communication skills and leadership model will assist effective communication enhancing project outcomes.

This hypothesis was proven correct. The study showed that communication is the foundation for the success of a project. The case study showed that communication is important for the successful execution and completion of a project. The proposed communication skills and leadership model will assist effective communication and project success because it shows the most important elements of effective project communication and will enable construction project managers to identified development areas.

Evidence from the study suggests clearly that communication is core to construction project success. Improving communication in construction project management, communication skills, and using communication methods rely heavily on a systems approach.

A communication skills and leadership model for construction project managers to assist in enhancing construction project management communication is suggested.

11.4 Conclusion

The application of communication skills by construction project managers will enhance communication and the effective execution of projects.

The communication skills that enhance effective communication during the execution of a project are decision making and problem solving, listening, motivation, meetings, conflict management, team development and team building.

The project manager with characteristics that allow team members to take responsibility for their work, develop trust, collaboration and teamwork, and that shares the vision of the project with the team, will lead the project team effectively as project leader and enhance communication in the project.

The project leader who applies the core communication skills during communication will communicate effectively in a construction project. By applying communication as the foundation function during the management of a project to deliver a quality product on time and in budget with the support of the deliverable areas of human resources, risk, procurement, integration, claims, finance, health and safety, and environmental management, the project manager will enhance project outcomes.

A model to assist in enhancing communication in construction project management is suggested.

Chapter 12 presents the final conclusions and the application of the model.

Chapter 12: Proposed model for construction project management communication

12.1 Introduction

In Chapter 12 a model for the development of construction project management communication skills is proposed that may contribute to make communication in property development and the construction industry more effective.

Ways to further develop and enhance communication and communication skills in the construction industry are also recommended.

12.2 Communication skills and leadership model

With the literature and empirical reviews as foundation, a model is proposed that is viewed as an integrated system with communication as fundamental core, since the study had demonstrated that communication skills support sound management and strong leadership.

The proposed Communication Skills and Leadership Model for Construction Project Management is illustrated in Figure 15. The model is seen as an expanding circle with communication centre to leadership, like a pebble dropped in water. Communication influences all activities related to management and leadership. The effectiveness of communication is again influenced by the level of core communication skills, indicated in Figure 15 from A to F, from decision making and problem solving to conflict management, as well as the important communication skills indicated in Figure 15 from 1 to 6, from negotiation and trust to self-disclosure. The model consists of communication as the foundation with four circles around this core. The first circle constitutes the core communication skills, the second circle the important communication skills, the third circle management and the fourth circle leadership.

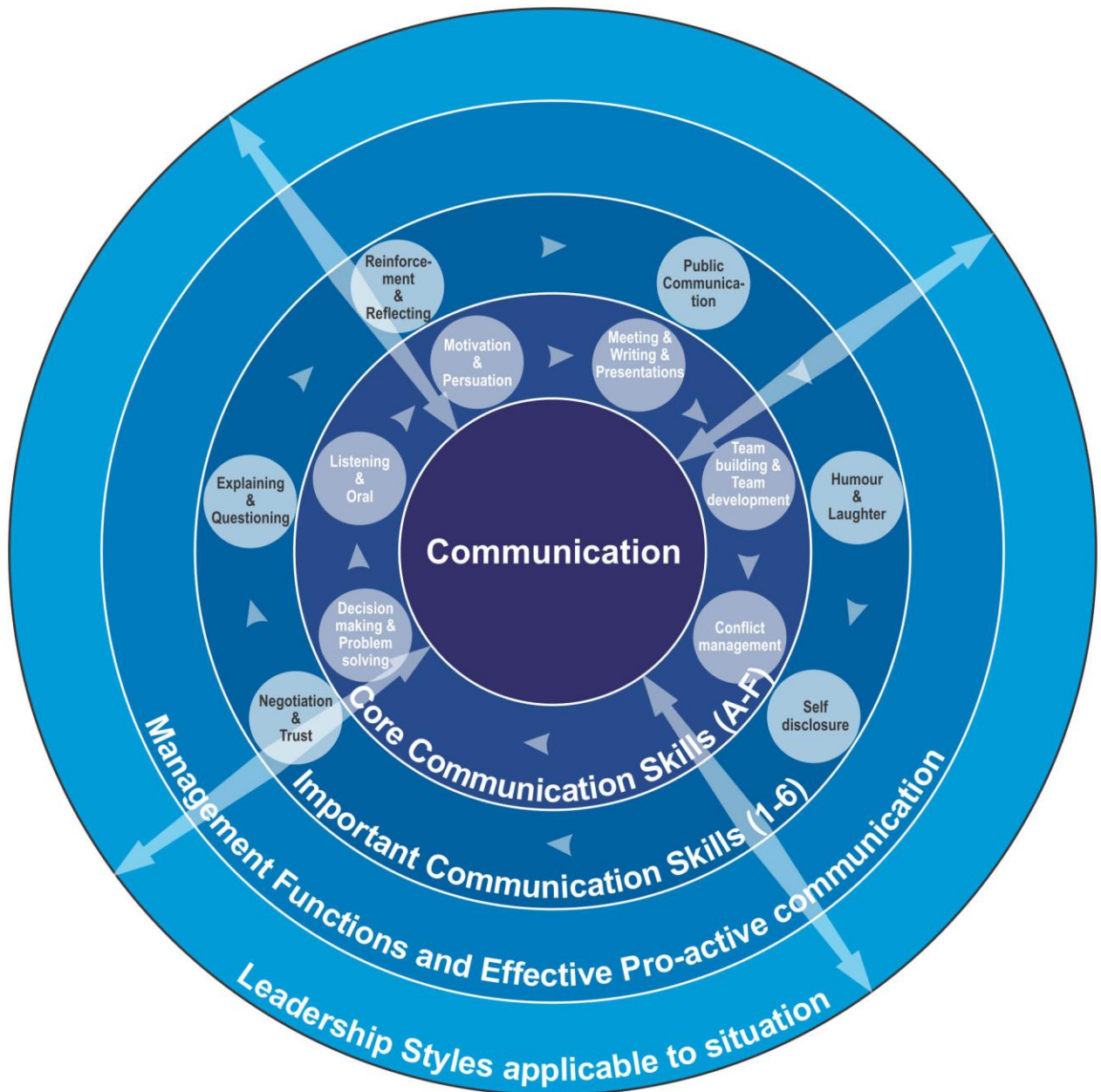


Figure 15: Communication skills and leadership model for construction project management

Communication is seen as the foundation and starting point of activities in the construction project management industry. This core supports the following circles, core communication skills, important communication skills, management functions and effective pro-active communication and leadership styles to be applied, in other words the situation based on sound communication.

The first circle, A to F, following the communication foundation, is shown as a circle and in a sequence supported by this study, but in combinations; this is sensible since some of the managerial skills are sequential and are closely linked. The core communication skills strengthen and enhance communication and will assist the construction project manager to communicate more effectively. The sequence starts with A, decision making and problem solving as the most important core communication skill set. A construction project manager needs to make sound decisions and solve problems as well as communicating them well to enhance communication interaction and understanding of management and leadership requirements to the advantage of the project.

Decision making and problem solving is followed by the combination of listening and oral communication (B). The construction project manager cannot execute a project successfully without the skill of oral communication in the form of discussions, orders, briefings and instructions. Effective listening forms part of oral communication and involves not only listening to what is being said, but to have discussions and conversations to reach results.

Third in the sequence is C, motivation and persuasion; the project manager has to motivate team members through communication, and persuade them to achieve the objectives of the project. The project team needs guidance, encouragement, convincing and direction to perform well.

The above is followed by meetings, writing and presentations (D). Meetings are used to inform, reach decisions and discuss aspects concerning the project and are the project manager's principle forum to manage the project and communicate with the team members and stakeholders. The decisions at meetings are recorded in writing. Written reports, letters, instructions, minutes, specifications, bills of quantities, preambles, preliminaries, certificates and electronic communication all are essential for the smooth running of projects and are used as evidence in the event of disputes and conflict. Presentations are also used in conjunction with reports that are mostly in writing. Written communication serves as evidence for reference purposes during the project.

Fifth in the sequence of the first circle is E, the core communication skill of team building and team development. This skill focuses on developing people as individuals or as groups, as well as the project team, and aims to achieve project goals and objectives.

The sixth and last skill in the sequence is F, management of conflict. During the management of a project, the construction project manager often needs to address differences and disputes that may affect the project's objectives and success. Effective application of communication skills may resolve conflict and may lead to an improved project environment.

The second circle, 1 to 6, shows the important communication skills in sequence and, as with A to F, is supported by the study. This set of skills supports and strengthens the core communication skills. Firstly, negotiation as important communication skill ensures that agreements are reached with stakeholders, to the advantage of the project. Trust between parties during a negotiation process is important to ensure continuous activity and performance.

Next in the sequence of the second circle of important communication skills are explaining and questioning. The project manager cannot execute a project without explaining the expectations to the project team members and allowing them to question decisions and explanations; this will support harmony and the team's understanding of the project objectives.

Allowing team members to repeat the information explained to them indicates understanding and reflects comprehension of the conversation. Thus, repeating the information that was presented is the third important communication skill in the sequence.

Fourth in the sequence is the skill of public communication. A project manager sometimes needs to provide information to the stakeholders and public regarding the project. This is to ensure support for and understanding of the project.

Humour and laughter follow public communication. The construction project manager can use humour and laughter effectively to defuse a difficult situation and to create an atmosphere where people are at ease to have open discussions about problems, solutions and project issues.

Sixth in the sequence of the second circle of important communication skills is self-disclosure; revealing personal information assists in people knowing each other and enables them to work together effectively.

The third circle represents management. Effective management is based on the management functions of planning, organising, leading, coordinating, activating, controlling, communication, motivation, delegation, staffing, disciplining and decision making. The core and important skills A to F and 1 to 6 reinforce management's structural application as an important skill. Management directs and structures activities through functions while leadership, the last circle, binds project execution, operations and production together by means of communication as fundamental activity.

The circle leadership is very important to the construction project manager who needs the skills of corporate and general communication to communicate effectively as a leader. Leadership strengthens and integrates communication of construction project management in terms of effectiveness, comprehensibility, team building and execution. The public sees the project leader as the face of the project.

It is proposed that if all areas of communication, from the six core communication skills to the six important communication skills, and effective management and quality leadership are in position to ensure the effective flow of communication, the result will be a project that meets requirements. Communication thus flows from the foundation communication using all communication skills to support leadership, management and project execution. The research shows that communication is fundamental to the development of leadership ability and effective management to produce successful projects.

12.3 Recommendations for future research

The following relevant questions emerged during this study and it is proposed as areas of future study:

- Can the model be used as the foundation of the measurement of project management communication development and effectiveness? An instrument can be developed to measure the level of an individual's or group's core and important communication skills to improve their management and leadership capability.
- Can an instrument be developed to measure the maturity of the core and important communication skills of construction project managers? This will show areas of improvement related to management and leadership.
- Can the maturity level of an individual or group related to the core and important communication skills be an important yardstick or instrument to develop and improve management and leadership? This can also be used as an instrument to compare a group with other role players in the construction industry nationally, once national maturity levels are established.
- Following a national measurement of maturity levels of the construction project manager's core and important communication skills, will an international project to compare levels of maturity in respect of communication locally with levels globally be beneficial to project management development?

12.4 Conclusion

The communication skills and leadership model is proposed to assist construction project managers in developing their communication abilities, and through improved communication, improve their management and leadership abilities ensuring the successful execution of projects.

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Appendix A: Questionnaire

SURVEY ON PROJECT MANAGEMENT COMMUNICATION SKILLS

Dear Respondent

As a professional, your assistance with this research project would be highly appreciated. The aim of this questionnaire is to obtain opinions on communication skills of construction project managers in the construction and property development industries. The research is conducted as part of a PhD study.

The results of the study may benefit the construction project management profession through the development of a communication model for project managers in the construction industry. Your participation through completion of the questionnaire will be highly appreciated and will contribute to the success of the research project.

The information you supply will be regarded as highly confidential and will only be used for purposes of this study.

Thank you for your time in reading and completing the questionnaire within 2 weeks. Completed questionnaires should please be faxed to 051 401 3324 or e-mailed to zulchbg@ufs.ac.za.

THESIS QUESTIONNAIRE SURVEY

Please use X to mark the box that indicates your opinion regarding the level or answer most applicable to your environment.

SECTION A

Profile of the respondent

A1. Please indicate your gender:

Male	
Female	

A2. Country where you currently practice?

A3. Country of citizenship?

A4. Are you registered with The South African Council for Project and Construction Management Professionals (SACPCMP)?

Yes	
No	

A5. Are you a member, in your country, of a project management, construction management or other related professional body?

Yes	
No	
Name of professional body	

A6. Please indicate your highest educational qualification?

Secondary school certificate	
Tertiary institution diploma	
Tertiary institution first degree	
Tertiary institution honours degree	
Tertiary institution masters degree	
Tertiary institution more than one degree	
PhD	
Other (specify)	

A7. Which category best describes your profession or position in your firm?

Quantity surveyor	
Engineer	
Architect	
Construction manager	
Construction project manager	
Project manager	
Other? Name	

A8. If you are a project manager or construction project manager how many years experience do you have in the property development industry?

0 – 5	
6 – 10	
11 – 15	
16 – 20	
21 – 25	
25 <	

A9. Your experience in years in the profession or position shown in A7?

0 – 5	
6 – 10	
11 – 15	
16 – 20	
21 – 25	
25 <	

WHEN ANSWERING THIS QUESTIONNAIRE

Please indicate your opinion related to the level of importance in respect of the listed statements, circling the appropriate number in each row. Please answer all questions. The scale is as follows:

- 1 Not important
- 2 Fairly important
- 3 Important
- 4 Very important
- 5 Extremely important

SECTION B

Section B requires respondents' opinions on project management communication in general.

B1. To increase project success, how important is the use of the following communication methods for a construction project manager to be effective in a task?

Oral communication	1	2	3	4	5
Written communication	1	2	3	4	5
Nonverbal communication (gestures, appearance or attitudes)	1	2	3	4	5
Electronic communication (e-mail and fax)	1	2	3	4	5
Visual communication (presentations, DVD and video)	1	2	3	4	5

B2. Rate the current level of effectiveness, relative to the following communication methods, within your company

Oral communication	1	2	3	4	5
Written communication	1	2	3	4	5
Nonverbal communication (gestures, appearance or attitudes)	1	2	3	4	5
Electronic communication (e-mail and fax)	1	2	3	4	5
Visual communication (presentations, DVD and video)	1	2	3	4	5

B3. Mark on a scale from 1 to 5 where 1 is never and 5 very often, the level of problem occurrence in terms of communication in relation to the following project management phases?

Preparation	1	2	3	4	5
Design	1	2	3	4	5
Pre-construction	1	2	3	4	5
Construction	1	2	3	4	5
Use	1	2	3	4	5

B4. How important are the following characteristics that a construction project manager should possess to ensure successful communication?

Task orientation	1	2	3	4	5
Following the rule book	1	2	3	4	5
Allowing the team to take part in the decision making process	1	2	3	4	5
Sharing the vision of the project with the project team	1	2	3	4	5
People orientation	1	2	3	4	5
Support for team members training and development	1	2	3	4	5
Information disclosure to team members for decision making purposes	1	2	3	4	5
Setting challenges and goals for team members	1	2	3	4	5
Developing trust, collaboration and teamwork	1	2	3	4	5
Trusting the team to take a decision themselves	1	2	3	4	5
Allowing the team members to take responsibility for their work	1	2	3	4	5
Realising individual needs of team members	1	2	3	4	5

SECTION C

Section C is about respondents' opinions on project managers' communication skills in general.

C1. Rate the potential impact of the construction project managers' communication skills, in general, on the success of the following project management areas?

Project integration management	1	2	3	4	5
Project scope management	1	2	3	4	5
Project time management	1	2	3	4	5
Project cost management	1	2	3	4	5
Project quality management	1	2	3	4	5
Project human resource management	1	2	3	4	5
Project communication management	1	2	3	4	5
Project risk management	1	2	3	4	5
Project procurement management	1	2	3	4	5
Occupational health and safety management	1	2	3	4	5
Environment management	1	2	3	4	5
Financial management	1	2	3	4	5
Claims management	1	2	3	4	5
Leadership	1	2	3	4	5

SECTION D

Section D is about respondents' opinions on the importance of communication skills

D1. Rate the importance of the following communication skills a project manager should use/possess to enhance and ensure project success?

Questioning	1	2	3	4	5
Reinforcement (repeat understanding of verbal and nonverbal communication)	1	2	3	4	5
Reflecting (repeat verbal and nonverbal communication without understanding)	1	2	3	4	5
Explaining	1	2	3	4	5
Self-disclosure (revealing personal information)	1	2	3	4	5
Humour and laughter	1	2	3	4	5
Negotiation	1	2	3	4	5
Presentation	1	2	3	4	5
Writing	1	2	3	4	5
Public and mass communication	1	2	3	4	5
Meetings	1	2	3	4	5
Conflict management	1	2	3	4	5
Decision making and problem solving	1	2	3	4	5
Team development and team building	1	2	3	4	5
Motivation	1	2	3	4	5
Listening	1	2	3	4	5
Persuasion	1	2	3	4	5
Trusting	1	2	3	4	5
Leadership skills	1	2	3	4	5

SECTION E

Name, in order of preference, the 4 most important communication skills listed in D1 that should be used by a project manager?

1. _____
2. _____
3. _____
4. _____

SECTION F

General comment(s), if any, regarding the above study

F1. Your comment here:

THANK YOU FOR YOUR PARTICIPATION.



Appendix B: Interview with functionaries

INTERVIEWS: CASE STUDY ON COMMUNICATION

Dear Functionary

In respect of communication during the development of the project (case study) various problems were identified. A questionnaire regarding communication showed some negative results. Please discuss and give your views why you think respondents saw some elements of communication during the project development as weak.

The following elements, instruments and statements are relevant:

OPINIONS ON COMMUNICATION INSTRUMENTS USE AS:

1. Site instructions (48%)
2. Employer's instructions (34%)
3. Identification of work packages by project manager (42%)
4. Claims communication (48%)

STATEMENTS IN RESPECT OF COMMUNICATION:

1. Drawing distribution was not managed well and on time (46%)

2. The professional team had an ineffective relationship (48%)

3. Project manager's project communication was not effective and well managed (44%)

4. Owner/professional team relationship did not contributed to efficient management (32%)

5. Time and programming was not managed well (34%)

6. Budget was not clear and met the owner's strategy (44%)

7. Professional agents were not empowered to do their work well (40%)

ELEMENTS

1. A negative communication atmosphere was introduced via e-mail
2. Scope management to budget was not to standard

Thank you for your time in reading and completing the questionnaire.
Your participation is appreciated.

Benita Zulch