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SUPERVISORY MOTIVATIONAL STRATEGIES TO IMPROVE PRODUCTIVITY OF CONSTRUCTION WORKERS

BY

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DECLARATION

I, Alvin Graham Opperman, declare that the contents of this thesis represent my own unaided work, and that the content has not previously been submitted for academic examination towards any qualification. Furthermore, it represents my own opinions and not necessarily those of the Cape Peninsula University of Technology.

…….. ……

Signed Date

ABSTRACT

This research was carried out to assess the extent to which supervisory motivational strategies can transform construction workers to perform higher levels of productivity. While worker motivation has been proven to improve productivity globally, motivation was rarely implemented in South African conditions. This study gauges the construction workers' viewpoint on how supervisory motivational strategies can improve worker productivity.

A pilot study was conducted in the initial stage of the study to gain more insight into the study. A qualitative research approach was employed using a semi-structured questionnaire to interview construction workers including bricklayers, plumbers, concrete workers, electricians and earthworks workers. The interviews were done in Bellville in the Western Cape at two conveniently selected construction companies. The data was analysed using content data analysis. Most prevalent in the findings of this study is the fact that the workers agreed that a lack of supervisory motivational techniques negatively impact their productivity. This information was helpful in setting up the questionnaires for the main study.

A survey study approach was adopted in the main study. Purposive sampling was adopted to gather data from construction workers.This research was conducted within the borders of the Western Cape Province of South Africa. The findings revealed that motivational communication, rather than functional communication, would enhance worker productivity. It was found that both intrinsic and extrinsic rewards are needed to improve worker productivity. Also found was that positive reinforcement techniques, rather than punishment techniques, should be used to enhance worker productivity. However, the study revealed that there are significant differences in age and qualification of workers in positive reinforcement.

The study therefore concludes that supervisory motivational techniques are necessary to improve construction productivity on a construction site. It is recommended that supervisors use motivational communication, extrinsic rewards, intrinsic rewards and positive reinforcement to motivate their workers to achieve higher levels of productivity.

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DEDICATION

I dedicate this thesis to my mother, Susan Magdelene Opperman and my late farther, Peter Jakobus Opperman

LIST OF ABBREVIATIONS

CDP – Contractor Development Programme

CIDB – Construction Industry Development Board

CPUT – Cape Peninsula University of Technology

LRS – Labour Research Service

KEY TERMS

Communication – keeping followers informed and being available to those whom you lead (van Zyl, 2009: 181).

Extrinsic rewards – rewarding employees in monetary terms, for example promotions, fringe benefits and salaries (Nicolaou, 1987:12).

Functional communication – is directed to the task-at-hand, where the supervisor directs work but does not pause for any feedback signals from the employee (Hiam, 2003:37).

Goal – an aim or purpose towards which effort is directed (Rao, 2009:259).

Intrinsic rewards – rewarding employees in non-monetary terms, for example responsibility, challenge and meaningful work (Nicolaou, 1987:12).

Motivational communication – is any communication that has the goal of stimulating employees' engagement by asking them to get involved in whatever they are thinking about (Hiam, 2003:37).

Motivation – is a physiological and psychological drive to satisfy one's needs (Nicolaou, 1987:20).

Positive reinforcement – focuses on reinforcing the desired behaviour, such as financial gain or praise (Gonzalez, 1998:20).

Reinforce – to make stronger or more effective (Hiam, 2003:37).

Strategies – a plan of action designed to achieve a long-term or overall aim (Bussiness Dictionary: Online).

Techniques – a way of carrying out a particular task (Oxford Dictionary: Online).

Productivity – the efficiency with which things are produced in large quantities (Gellerman, 1994:12).

Punishment – focuses on undesired behaviour, for example: withholding promotions, pay increases and bonuses (Gonzalez, 1998:21).

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CHAPTER ONE
INTRODUCTION

1.1 Background to the study

Motivation is a critical strategy within an organisation as it is a structure that pursues to interest workers to seek employment at a certain organisation, to keep them coming to work, and more importantly to motivate them to perform at high levels (Gibson, Donelly & Ivancevich, 2000:191). However, in order to motivate workers to perform within acceptable levels, Uwakweh (2005:314) indicates that supervisors fulfil demanding positions in construction projects because it is expected of them to manage, plan, define work, and communicate with workers.

Mansfield and Odeh (1991:93) state that even with the onset of more refined technology, the construction industry professes to be mostly labour intensive and this advocates that appropriate emphasis should be given to such matters as communications, participation and motivation. Motivation has been described as the cognitive decision making action through which goal conducted behaviour is initiated, energised, directed and maintained (Buchanan & Huczinsky, 2000:40).

According to Ruthankoon and Ogunlana (2003:333) motivation has been a prominent research topic for more than 50 years and there has been a good deal of literature on motivation, industrial psychology, interpersonal relations at work and worker satisfaction in respect of how to inspire workers to boost achievements and productivity. However, Drucker (1999:20) states that motivation and productivity of workers should still be crucial topics for management research in future, notably for skilled workers, who are important assets to institutions. Robbins, Odendaal and Roodt (2006:143) state that the utilisation of United States' (where most motivational theories were developed) pattern motivation practices in South Africa and in Africa in general, need to be managed with care. There needs to be some in-depth research to analyse which moments of truth in each of these theories can possibly be practised adequately in the Southern African context (Robbins *et al.,* 2006:143).

There continue to be ample opportunities for future research in what aspect motivational theories can be applied to Southern African conditions (Robbins *et al.,* 2006:143).Therefore the current study will focus on the motivational strategies used by supervisors on South African construction sites to improve productivity. The strategies to be explored within this study will be communication, rewards and reinforcement. Olomolaiye and Ogunlana (1988:179) indicate that the construction environment in developing countries is different in terms of site organisation,

quality of supervision, availability of production resources, and also the socio-economic environment which produces a different worker; probably motivated by different factors.

1.1.1 Communication

Supervision satisfaction mirrors workers' feelings about their supervisor, including whether the supervisor is competent, polite, and a good communicator rather than lazy, annoying and too distant (Colquitt, Le Pine & Wesson, 2010:57). However, communication in the South African environment seems to be one way. The bulk of the communication process is controlled by the supervisors, in which they direct work and expect no feedback.

Motivational communication is any communication that has the intention of challenging workers 'engagement by asking them to get involved in whatever they are thinking about (Hiam, 2003:37). However, functional communication does not require the workers' engagement. Functional communication is directed at the task-at-hand, where the supervisor directs work but does not pause for any feedback signals from the worker. Traditionally, supervisors have practised topic-orientated communication and not focussed on the transformational power of the communication itself (Hiam, 2003:37). The message was functional, not motivational (Hiam, 2003:37).

The nature of good communication is to: speak clearly, write clearly, be aware of cultural differences, listen attentively, question precisely, answer honestly and pause for feedback signals (French, Rayner, Rees & Rumbles, 2008:514). French *et al.* (2008:522) indicate that the communication with others is intended to impact other people's understanding, behaviour or attitudes. However, miscommunication causes inaccuracies, wasted time, ineffective job performance and poor human relations (Catt & Miller, 1991:13). Van Zyl (2009:239) states that a team that exists within a collaborative, structured and communicative environment will be highly motivated.

South African construction sites per se do not have a communication system or strategy that enhances motivation. The communications used by supervisors are directed primarily at the task-at-hand (functional communication), and are coupled with foul and abusive language. In many circumstances the construction workers in return will express themselves by being less productive.

1.1.2 Rewards

Organisations commonly administer two types of rewards: extrinsic rewards such as promotions, fringe benefits and salaries; and intrinsic rewards such as responsibility, challenge and meaningful work (Nicolaou, 1987:12). However, South African rewards systems are primarily extrinsic and based on rewarding workers in monetary terms. Table 1.1 reflects the differences in approach to reward strategies by Southern African countries, as against their global peers.

Table 1.1: Global and Southern African trends in rewarding employees

Global	Southern African approach
Companies follow a highly individualised strategy towards managing compensation	A large proportion of South African companies still struggle to find the correct link between individual performance and rewards.
Companies offer a wide variety of remuneration options customised to individual needs	Most companies grapple with finding the right balance between equitable rewards that acknowledge individual performance and achievement.
Companies extensively use IT in managing and administrating performance and rewards.	A large group of companies are still following a ‘’one size fits all” approach in managing rewards.
Most companies are able to measure performance accurately and effectively link it to rewards.	In recent years, large companies have increasingly implemented flexible benefit plans.
World-class companies measure high on performance and commitment.	

Adapted from Robbins *et al.* (2006:151)

According to Nicolaou (1987:12) organisations cannot rely only on extrinsic rewards to motivate and reward their workers, as these workers tend to be less likely to seek for work that gives them little flexibility, and they are not easily motivated by work that does not utilise their skills, abilities and education. Rosenbaum (1982:25) indicates that there are five action principles designed to help supervisors become effective worker motivators, namely: a style of interacting with workers in ways that will maintain and enhance their self-esteem; active listening that shows understanding of and respect for workers; goal settings that challenge workers supportively, equipping them with defined accomplishable steps to better performance; a forum for supervisor and worker to resolve disputes; and an knowledgeable use of reinforcement techniques. One of the crucial and most fruitful strategies is empowering workers by giving the authority to judge, act, and command (Dell, 1997:27).

While South African construction companies reward their employees extrinsically in monetary terms, it has been proven that money is not always the best motivator (Robbins *et al*.,

2006:201). South African companies neglect intrinsic rewards systems, which may motivate employees to greater productivity.

1.1.3 Reinforcement

Reinforcement is the pursuit in developing or strengthening desirable behaviour by either imparting positive consequences or restricting negative consequences (Nelson & Quick, 2000:180). Reinforcement theory essentially states that workers engage in behaviours that have positive results and shun behaviours that fail to produce positive results (Schultz, Begraim, Viedge & Potgieter, 2003:62).

Positive reinforcement concentrates on reinforcing the desired behaviour (Gonzalez, 1998:20). This is a pleasant or desirable stimulus such as financial gain, praise, more attention, a visual sign of approval or expressions of affection (Betts, 2000:163).

Punishment concentrates on undesired behaviour, for example: withholding promotions, pay increases, and bonuses (Gonzalez, 1998:21). The outcome of using punishment as reinforcement technique is generally decreased productivity, anger, apathy and sometimes, aggressive behaviour (Betts, 2000:165).

In the South African context, construction site supervisors predominantly make use of punishment as a reinforcement technique. However Gonzalez (1998:20) states that punishment, unlike positive reinforcement, focuses on eliminating the desired behaviour, but is not much use in teaching the worker the correct or desired behaviour.

1.2 Problem statement

Supervisory motivational strategies have proved to improve worker productivity globally; however, the South African construction industry has not fully investigated how supervisory strategies such as communication, rewards and reinforcement can affect productivity of construction workers involved in various trades.

1.2.1 Sub-problems

S.P 1

It is not evident whether the communication techniques used by supervisors has an impact on productivity in accordance with the demographics of workers.

S.P 2

It is not evident whether the rewards systems used on site have an impact on productivity in accordance with the demographics of workers.

S.P 3

It is not evident whether the reinforcement techniques used on site have an impact on productivity in accordance with the demographics of workers.

1.3 Hypotheses

$H_0$1. There is no significant difference in the perception of construction workers in relation to communication techniques used by supervisors in affecting their productivity based on demographics.

$H_1$1. There is a significant difference in the perception of construction workers in relation to communication techniques used by supervisors in affecting their productivity based on demographics.

$H_0$2. There is no significant difference in the perception of construction workers in relation to rewards systems affecting their productivity based on demographics.

$H_1$2. There is a significant difference in the perception of construction workers in relation to rewards systems affecting their productivity based on demographics.

$H_0$3 There is no significant difference in the perception of construction workers in relation to reinforcement techniques affecting their productivity based on demographics.

$H_1$3 There is a significant difference in the perception of construction workers in relation to reinforcement techniques affecting their productivity based on demographics.

1.4 Aim

The aim of the research is to assess the extent to which supervisory motivation strategies can improve worker productivity on site.

1.5 Objectives

1. To identify whether there is any significant difference in the perception of construction workers in relation to communication techniques used by supervisors in affecting their productivity based on demographics.

2. To identify whether there is any significant difference in the perception of construction workers in relation to rewards systems affecting their productivity based on demographics.

3. To identify whether there is any significant difference in the perception of construction workers in relation to reinforcement techniques affecting their productivity based on demographics.

1.6 Conceptual framework

A theoretical framework positions your research in the discipline or subjects which you are working, and also provides an orientation to your study. (Henning, van Rensburg and Smit, 2010:141). Henning *et al.* (2010:141) define a conceptual framework as shown in figure 1.1, as covering the main features of the research design and their presumed relationship, and says that it forces you to be explicit about what you think you are doing.

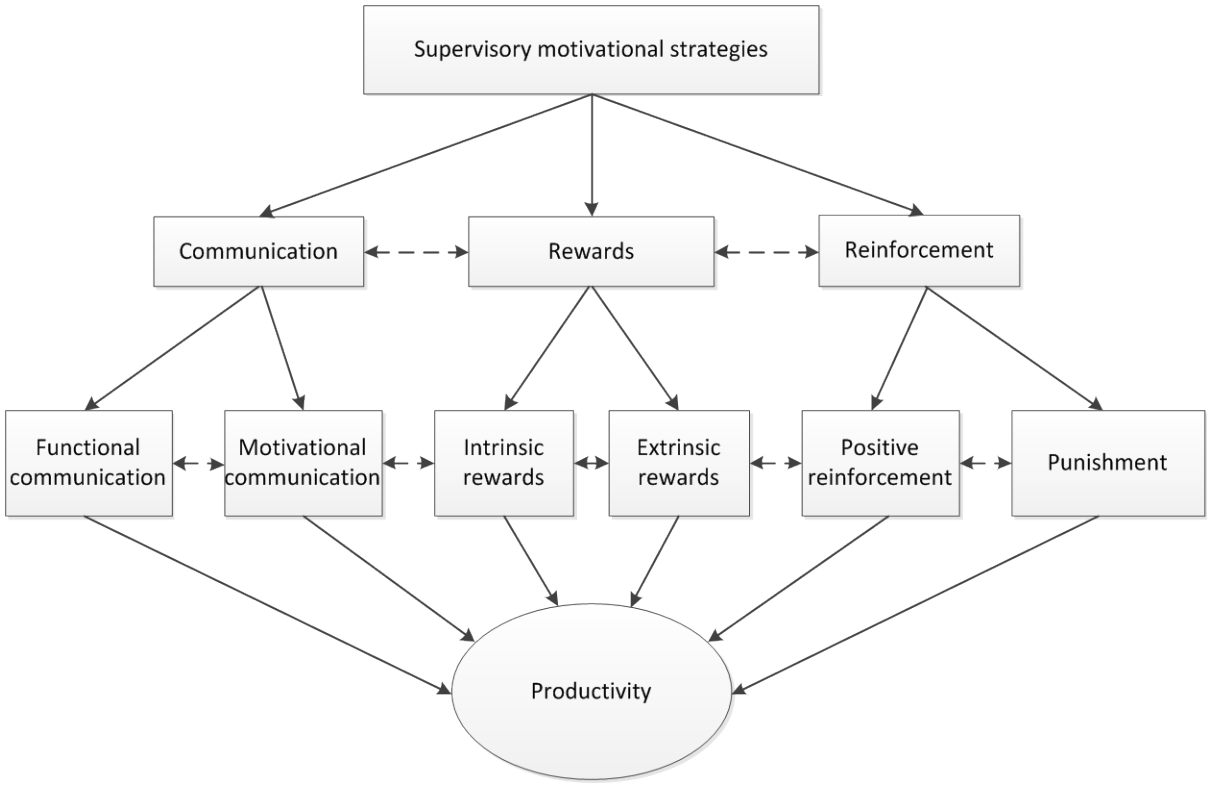

Figure 1.1 Conceptual framework

1.7 Significance

This research has significance for contractors, supervisors and workers. The benefits for contractors are that an increase in motivated workers will result in an increase in productivity. Productivity will inevitably bring higher financial returns to the company. The research also spells significance for supervisors as they will empower themselves with techniques that will boost the productivity of their workers. This will enhance the supervisor's chances of promotion or financial rewards within the organisation. The significance of the research for the worker is that a motivated worker is a highly productive one. Therefore, a productive worker is more likely to be promoted within in an organisation, or more likely to gain financial reward.

1.8 Research design

Figure 1 shows a schematic representation of the research design of this research study:

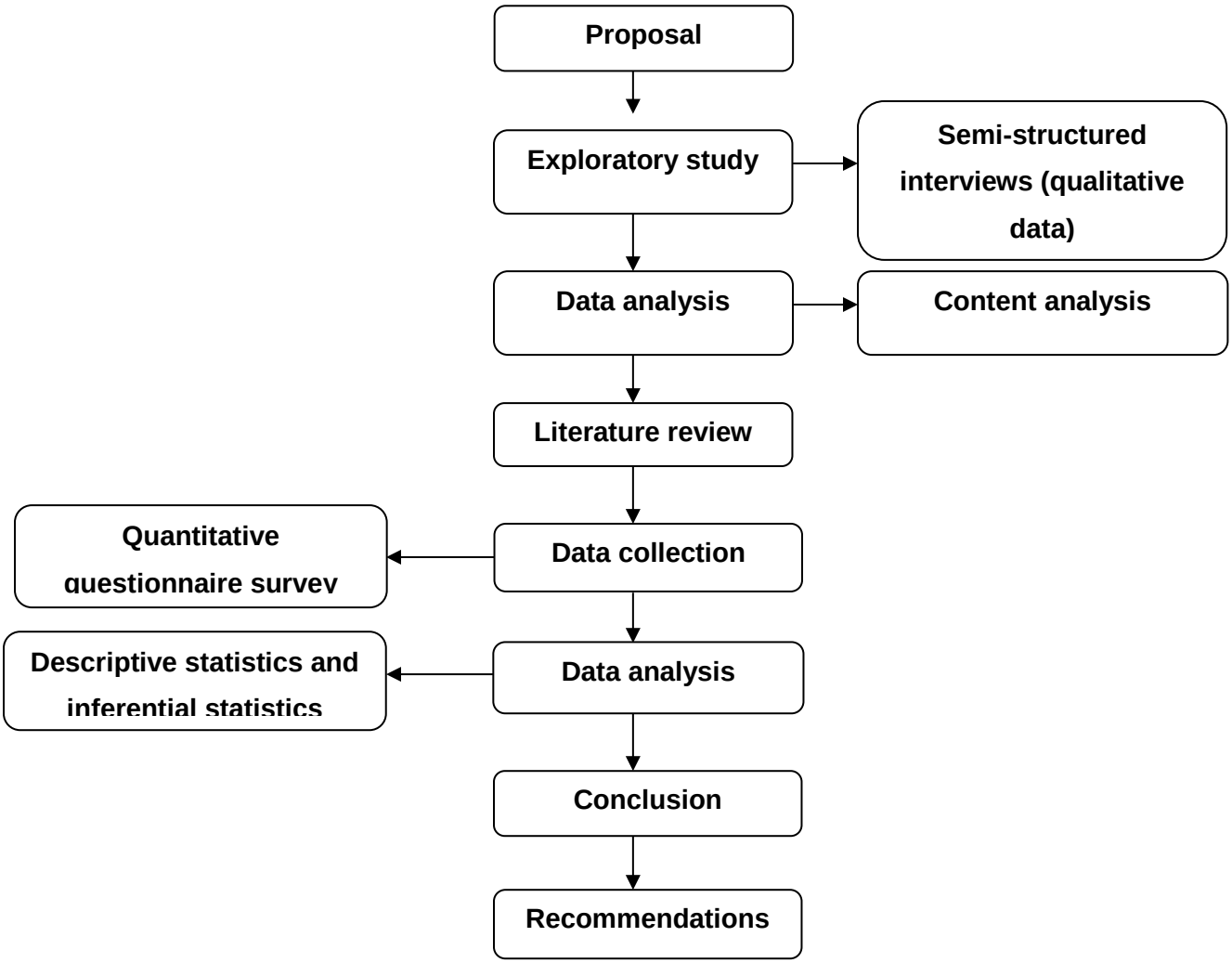

Figure 1.2 Research design

A research proposal was produced to formulate the direction of the study. An exploratory study was conducted to determine the extent to which supervisory motivational strategies can improve the productivity of construction workers. A qualitative approach was used to gather data from construction workers. Semi-structured interviews were conducted and the data was analyzed using content data analysis. A literature review was conducted to investigate motivational techniques such as communication, rewards and reinforcement. The exploratory study, together with the literature review, helped in formulating the questionnaires for the main study. Thus the main study used a quantitative approach. Data from the main study was analyzed using descriptive and inferential statistics. Conclusions were drawn from the results of the exploratory study, literature review and descriptive survey. Lastly, recommendations were formulated from the findings of the study.

1.9 Limitations

This research was conducted within the borders of the Western Cape Province of South Africa. The study was conducted on construction sites of which the construction companies are registered with the Construction Industry Development Board (CIDB). Therefore, the research was conducted on a limited number of construction sites.

1.10 Assumptions

It is assumed that the proposed participant companies in the study will co-operate and allow access to their sites. It is also assumed that the selected construction participants will respond honestly and accurately.

1.11 Ethical statement

The research will not harm participants – physically, emotionally or financially. The research was executed under the full consent of the participants. The privacy of the participants was respected and not invaded. The participants were guaranteed full anonymity in participating in the research. Research data will also be confidential and kept away from public consumption.

1.12 Chapter outline

1.12.1 Chapter one – Introduction: This chapter introduces the background to the problem statement of the research study of supervisory motivational strategies to improve the productivity of construction workers. The hypotheses and objectives of the study are stated. Research design is presented, which displays how the hypotheses are to be tested. Furthermore, the significance of the study of motivational strategies within the construction

industry in South Africa is discussed. Moreover, the assumptions, limitations, ethical statement and chapter outline were also addressed.

1.12.2 Chapter two – Literature review: This chapter critically reviews the use of supervisory motivational techniques and how these techniques contribute to the productivity of construction workers. The techniques to be reviewed within this chapter are communication techniques, reward techniques and reinforcement techniques. This chapter also reviews how the demographics of construction workers may be influenced by motivational techniques.

1.12.3 Chapter three – Methodology: Research design and methodology is discussed in more details. The methods of data collection and analysis used are outlined. A Qualitative research approach was adopted for the exploratory study and a Quantitative approach for the main study. The following are also discussed: research strategy, sampling technique, sample size and methods of data collection. Furthermore, data analysis methods, reliability and validity are also discussed.

1.12.4 Chapter four – Analysis of exploratory study: The chapter covers the research participation, demographics of respondents, findings and discussions, conclusion and further research. The chapter discusses the use of supervisory motivational techniques on two construction sites and the effect it has on the productivity of the construction workers. The supervisory motivational techniques discussed were communication techniques, reward techniques and reinforcement techniques.

1.12.5 Chapter five – Data presentation, analysis and discussion: The chapter presents the following sections: piloting the questionnaire; research participant; and profile of respondents. Furthermore, motivational techniques covered include: motivational communication; functional communication; extrinsic rewards; intrinsic rewards; positive reinforcement; and punishment. Sections also included are: the reliability testing of scale questions; the testing of hypotheses; the discussion of findings; and chapter summary

1.12.6 Chapter six – Conclusion and recommendation: The chapter concludes the study highlighting the limitations and recommending further study areas to be investigated as well as providing the summary contribution to the body of knowledge. The study identifies supervisory motivational techniques that may contribute to the productivity of construction workers. The study also investigates whether the various motivational techniques used on site are influenced by the demographics of the construction worker.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This literature review concentrates on supervisory motivational strategies and the impact it has on the productivity of construction workers. The literature review encompasses the global construction industry, South African construction industry, on-site supervision, construction workers, productivity and supervisory motivational strategies – which will include communication, rewards and reinforcement.

2.2 Global construction industry

Oglesby, Parker and Howell (1989:1) state that the construction industry constructs for business, industry, governmental agencies and individuals. The construction industry is all about buildings, plants, roads, housing, structures to source water and dispose of wastes and many other facilities that are compulsory to keep our modern civilisation possible (Oglesby *et al.*, 1989:1). However, the construction sector makes important contributions to the socio-economic expansion process in developing countries by contributing meaningfully to their gross domestic product (Uwakweh, 2005:315).

Alfeld (1988:1) states that there is no other business on this planet that guarantees for performance enhancement as does construction. Hundreds of billions, even trillions, of dollars are spent each year for construction (Alfeld, 1988:1). Still no other industry in the world has so regularly refused discarding conventional management methods for performance-based management systems as has the construction industry (Alfeld, 1988:1).

The construction industry has a very important role in all developed and developing countries. In Europe, the construction industry is the major industry on the continent and employs more than 7% of European workers (Proverbs, Holt & Olomolaye, 1999:198). In the US, the construction sector contributes 14% to the gross national product and some 8% of total employment (Thibolt 2002:567). Similarly, the construction industry in South Africa has a share of 5.8% of the gross domestic product and employs about 7% of the South African workforce (Statistics South Africa, 2012:7).

Fluctuations in the construction worker productivity can generally have repercussions on national economy and productivity, considering the sector also reinforces production quantity of its reliant sub-sectors that are more than 200 (Kazaz, Manisali, & Ulubeyli, 2008:96). However,

construction workers notably in economically developing nations are not seen as a crucial input, despite the fact that project labour generates the greater percentage of project costs (Proverbs *et al.*, 1999:198). Therefore motivating the workers is a priority because the essence of human achievement at the workplace relies predominately upon motivation (Kazaz, 2008:96).

2.2.1 Worker motivational programmes

Germany, France, Holland and the Scandinavian countries have decisively established the principle of industrial democracy in Europe, and other nations including, Japan and Israel, have usually practised some form of motivational programmes for decades. Recently worker motivational programmes that stress participation have become the norm. The pressure is on supervisors to give up their autocratic decision-making style in favour of a more participative, supportive, and coaching-like style (Robbins *et al*., 2006:154).

Whether worker motivation refers to quality circles in Japan, work councils in Germany or Tanzania, or workplace forums in South Africa, there are common threads that make for success. An organisational culture that endorses cooperation, commitment to organisational goals and rewards for all workers and management arising from such participation – is an essential basis for success (Robbins *et al*., 2006:154).

2.2.2 Linking rewards to performance

By linking rewards to performance, workers are encouraged to make additional efforts to be more productive. Incentives strengthen and encourage workers to channel personal goals for the best interest of the organisation. Individuals should identify a strong relationship, between their performance and the rewards they receive if motivation is to be maximised. If rewards are totally distributed on non-performance aspects, such as seniority or job title, then workers are likely to reduce their effort (Robbins *et al.*, 2006:154).

2.2.3 Reinforcing behaviour

In today's highly competitive global economy, most organisations are under severe cost pressures. That makes recognition programmes predominantly attractive. In contrast to most other motivators, recognising a worker's superior performance often costs little or no money. Consistent with reinforcement theory, rewarding behaviour with recognition instantaneously following that behaviour is likely to encourage its repetition. However, few organisations in South Africa have structured programmes or interventions to reinforce their workforce's behaviour (Robbins *et al.*, 2006:154).

2.3 South African Construction industry

The construction industry in Sub-Saharan Africa has different aspects to other parts of the world. To name a few, building construction puts a high demand on workers as it is largely in situ; the workers are exposed to bad weather conditions; motivation structures are poor and the working conditions are hazardous (Alinaitwe *et al*., 2007:169). Hence motivating the workers is important to attain labour productivity and achieving the country's development goals.

The construction sector in South Africa has a share of more than 5% of the gross domestic product and has sustained a stable growth pattern for the last 20 years (Statistics South Africa, 2012:7). In economically developing nations building construction grosses about 70% of the construction expenditure (World Bank, 1984:42). The bulk of construction operating on construction sites as civil engineering works is to a large extent mechanised (Alinaitwe *et al.*, 2007:169).

However in 2004 it took the lowest paid worker within the construction sector 167 years to earn the average annual income of a CEO (LRS: online). At 2013 levels this has increased to 287 years, an increase of 71% when we compare the wage gap of 2004 to that of 2013 (LRS: online) There is thus a trend in the widening of incomes and increasing inequality within the construction sector. This trend in the wage share within the construction sector, coupled with low levels of real wage increases – with profitability far outstripping wages – and the huge increases in the wage gap, all contributed to overall inequality in South Africa (LRS: online).

The general trend also has been for construction companies to downsize their workforces to fewer core site employees. Subcontracting arrangements became increasingly popular with up to 70% of building and 30% of civil engineering projects subcontracted out (LRS: online). The majority of employers in the industry also rely on sourcing skilled people. The estimated composition of an onsite construction workforce is normally 50% unskilled, 26% semi-skilled, 19% skilled and 5% supervisory. This trend indicates that there is no real interest in the skilling of the vast majority of unskilled and semi-skilled workers, who make up 76% of the general construction production process (LRS: online). Table 2.1 shows the different trends in management being used globally as compared with their Southern African counterparts

Table 2.1: Global and Southern African trends in management

Global	Southern-African
U.S. management literature and research dominates the organisational discipline internationally.	South Africa entered the international business arena only recently.
This trend is supported by the idealisation of the U.S. lifestyle by the U.S television and film industry.	A large proportion of South Africa's economically active population has low literacy and is considered economically illiterate.
The trend is further reinforced by the global operations of U.S. companies dominating world trade.	Unique demands are imposed on local business leadership to compete internationally.
Consequently, most developing countries, including South Africa, are strongly influenced by U.S. or Western management philosophies.).	No unique South African management philosophy, accepted by all cultures, has emerged yet.
Companies base their management practices and approaches on sound theoretical principles.	South African management approaches are based mainly on U.S. and Western literature.

Adapted from Robbins *et al.* (2006:4)

2.4 On-site supervision

Supervisors take up crucial positions in construction projects,because they are the channel through which management and the workforce do communicate (Uwakweh, 2005:314). Thus, supervisors are regarded as able to understand human behaviour and administer management principles (Catt & Miller, 1991:13).

According to Dubrin (2005:37), supervisors plan, establish and regulate the project. The supervisor also assigns and utilises resources within the construction company in the quest of the targets set by the owners. However, supervisors get tasks completed through other people where a supervisor's elementary responsibility would be to initiate decisions, designate resources, and more importantly direct the tasks of workers to reach company targets (Robbins *et al.*, 2006:84).

2.4.1 Defining construction supervisors

Construction supervisors' work varies in distinction to general contractors to individual supervisors in control of distinct work crews (Betts, 2000:11). A standard construction supervisor's work includes concrete, carpentry and bricklaying construction, and is tasked with ensuring that all construction work is to specification and that the workers are productive and motivated within their tasks. Electrical, plumbing and many other construction trades regularly profit from the insight and guidance provided by experienced workers holding construction supervisor jobs. These various construction trades have supervisors who report to the general

contractor to ensure that the work is kept on schedule, on budget and up to specified standards (Betts, 2000:11).

The construction of buildings or other structures are normally completed in stages, with numerous smaller contractors each finishing a section of the process. Each of these smaller contractors characteristically specialize in one or more areas, so people holding the roles for numerous construction supervisor works are usually found managing a single construction work section on a construction site. The idea of operating with numerous construction supervisors is to provide a near-at-hand level of supervision over the different trades of the construction process (Betts, 2000:12). Often, construction supervisor work will be held by the most senior worker of a work crew. Similarly, the construction supervisor's work can be held by persons who own the contracting company.

Thus supervisors, at the same time as being liable to make independent decisions, can also hire, transfer, suspend, promote, lay off, recall, discharge, assign, reward or discipline workers (Robbins & Decenza, 2001:7). Therefore supervisors play an important role in motivating workers to perform at higher levels.

2.4.2 Levels of supervision

Construction supervision can be categorised in different approaches according to aspects like salary, number of workers supervised, titles or degree of authority and responsibility (Betts, 2000:14). The following are examples of grouping supervisors into levels on a construction site: leading hands or charge hands, junior foremen or assistant foremen, foreman and general foremen or senior foreman (Betts, 2000:14).

- **Leading hands or charge hands** are construction workers who are assigned added responsibilities for supervising a crew of workers, consisting of six to twelve workers. This level of supervision is important by reason of the fact that the leader represents the fundamental link between workers and management.
- **Junior foremen or assistant foremen** comprise of all supervisors who are accountable for sections, consisting of about six crews. They seldom do any physical work, instead their authority and accountability is usually limited to the assigning and co-ordinating of duties.

- **Foremen** supervise a department, consisting of about six sections. Overall responsibility for the foreman comprises preparation and monitoring of the work. This is the level generally preferred with regard to what is meant by supervision.
- **General foremen** comprises of all senior supervisors. General foremen have considerable authority and responsibility in order to manage efficiently the six to eight departments which usually make up the works.

In most cases a supervisor will fit into one of these levels. Usually, all four levels are seen in the medium and large size companies whereas in the smaller companies only the second and last would be apparent.

Although there do exist various levels of supervision, it has to be stressed that the aim of the study is the impact which the various motivational techniques used by these supervisors have on the productivity of their workers. So it is important to note that workers have different expectations and goals that they are wanting to satisfy through their work. Therefore numerous types of rewards are needed to motivate workers with such varied expectations (Robbins & De Cenzo, 2001:42).

2.4.3 Construction workers

Dell (1997:23) states that it is a common occurrence that workers in the construction industry have long been considered to be expenses, while stock, work in-progress, materials and structures are regarded on the balance sheets as assets. However, these days the adept employers are now becoming aware of the fact that construction workers are the assets. Additional concerns are now contemplated as being less essential to the success of the company (Dell, 1997:23).

Colquit, *et al.* (2006:58) state that contented construction workers are probably more likely to sense an obligation to persist with their company and will have a compulsion to payback the company for whatever it is that makes them so content within their job – whether it be an interesting job, good pay or effective supervision. Table 2.2 adequately points out that South African workers' needs are seldom met when compared with the needs of workers in other countries.

Table 2.2 Global and Southern African trends in worker needs

Global	Southern African
Companies know what their employees' salient expectations are.	Most companies work on a broad estimate of what their employees expectations are.
Companies periodically assess their employees' expectations.	Few companies periodically assess their employees' expectations and levels of need satisfaction.
Companies follow a "different strokes for different folks" approach to worker motivation.	Most companies follow a "one size fits all" approach.
Worker motivation is approached from an integrated perspective (integrating different theoretical perspectives and approaches).	Some companies still think there is a "single best" motivational theory or approach
Companies base their management practices and approaches on sound theoretical principles.	Most companies' motivation practices lack a sound integrative theoretical approach.

Adapted from Robbins *et al*. (2006:131)

Doloi (2007:30) states that in order to better the construction workers' productivity, worker motivational concerns must be determined and investigated. Knowledge of these concerns and the measures befitting them, aids the construction industry in being able to create an efficient motivational environment to improve worker performance and job satisfaction, and to attain high construction productivity (Doloi, 2007:30).

2.4.4 Motivating construction workers

It is generally recognised that construction workers can be motivated. Numerous techniques such as goal setting and incentives/rewards schemes have been presented to motivate the construction workforce when managed effectively (Cox, Issa & Frey, 2006:152). Incentives, if used properly, can be influential tools for motivating workers. Incentives have been observed to differ from a modest pat on the back to lunches, clothing (shirts, caps, jackets), and cash bonuses. Effective incentive packages must be constructed on challenging, clear yet achievable, goals in order to increase productivity (Cox *et al.*, 2006:152).

A definition of motivation is the set procedures that define the choices people make about their behaviours. According to McClelland (1961:48) individuals tend to develop certain motivational drives based on the cultural environment in which they live, and these drives affect the way people view their work. McClelland proposes that affiliation, achievement, competence and power are four categories of motivational drives that are found in individuals who are self-motivated and this may be the case for many construction workers. Lack of motivation in return affects productivity negatively (Cox *et al.*, 2006:152).

2.4.5 Construction worker performance and motivation

Numerous factors influence construction site productivity. One manner that construction management influences productivity is by defining how easily the work will flow and how much work can be accomplished (Cox *et al*., 2006:152).

Another more important way that construction management influences productivity is by how it influences workers' attitudes, which is a key component in worker motivation; and the key to increased construction productivity is a working understanding of how construction workers are motivated. More importantly, Cox *et al*. (2006:152) state that there is proof supporting the existence of a linkage between a worker's motivational level and his individual performance. Finding and understanding just how construction workers are motivated is one focus of this study.

2.4.6 Levels of construction workers

Construction workers are mainly defined into three groups, namely: labourer, semi-skilled worker and skilled worker. These groups are stated by (Betts, 2000:117) as follows;

- **Labourer/unskilled worker** – a labourer is a worker who possesses no special training and whose work involves the performance of the simple duties which require the exercise of little or no independent judgement or previous experience, although familiarity with the occupational environment is necessary.
- **Semi–skilled worker** – a semi-skilled worker is a worker who has sufficient knowledge of the particular trade to do respective work with the help of simple tools and machines.
- **Skilled worker** – a skilled worker is one who is capable of working independently and efficiently and turning out accurate work. He must be capable of reading and working on simple drawing circuits and processes.

These various groups of workers will have different needs. Therefore what acts as reinforcement for one may not work for another. However a supervisor should use his knowledge of individual differences to individualise the rewards over which he or she has control. Some of the more obvious rewards that supervisors allocate include pay, job assignments, work hours and the opportunity to participate in goal setting and decision making (Robbins & De Cenzo, 2001:42).

One of the toughest motivational challenges facing many supervisors today is how to achieve high performance levels among minimum-wage workers. Although money is important as a motivator, it's not the only reward that people seek and that supervisors can use. In motivating

minimum-wage workers, supervisors should look at other types of rewards that help motivate workers. Many supervisors also recognise the power of praise. However when praise is given the supervisor should make sure that it is sincere and done for the right reasons. Otherwise, the workersmay see such actions as manipulative (Robbins & De Cenza, 2001:225).

2.4.7 Diversity of the workforce

Today's construction supervisors have challenges in motivating their workers that their equals of twenty or thirty years ago did not have. This contains motivating a diverse workforce, remunerating for performance and motivating minimum-wage workers (Robbins & De Cenzo, 2001:42).

The effects of workforce diversity for supervisors are extensive. Workers don't part ways with their cultural beliefs and lifestyle preferences when they come to work. Therefore, supervisors must re-create organisations to house these diverse lifestyles, personal needs and work styles. They must be flexible enough in their approach to task giving to be accommodating to all workers, especially those who are unlike them in terms of what is wanted and needed from work (Robbins & De Cenzo, 2001:42).

Consequently, reward programs may need to be restructured and personalised to echo the individual's expectations. Career-planning programs may need to be reviewed to accommodate workers who are less eager to physically relocate for broadened work experience or promotions. All workers need training, so they can learn to understand and appreciate people who are different from themselves. Also, supervisors need to reconsider their motivation techniques to respond to a broadening range of worker needs. These diversities include matters such as age, education, gender, nationality and race (Robbins & De Cenzo, 2001:42).

2.4.7.1 Age groups within the construction industry

It is important to recognise that youth unemployment remains a feature of the South African labour market not usually found elsewhere. Those in the 15 to 34 years age group make up an enormous majority of the unemployed (Ntuli & Allopi, 2014:572). The probability of being unemployed are three times greater for this age group. Furthermore, most unemployed youths are African, with over 3 million in the 15 to 34 years age group compared to 411,000 for White, Indian and Coloured youth (Ntuli & Allopi, 2014:572). However in the process of industrialisation and urbanisation, construction work provides a traditional point of entry into the labour market for youth workers. Construction is often the only significant alternative to farm labour for those who do not have any particular skill or experience (Ntuli & Allopi, 2014:572).

In Table 2.3,Codrington and Grant-Marshall (2011:3) divide the generations as follows:

Table 2.3 Current ages of different generations

Generation	Year of birth	Current age in 2016
GI (Hero)	Born 1900s to 1920s	Above 96
Silent	Born 1920s to 1940s	76 to 95
Baby Boomer	Born 1940s to 1960s	56 to 75
Generation X	Born 1960s to 1980s	36 to 55
Generation Y	Born 1980s to 2000s	16 to 35
iFacebook Generation	Born 2000s to 2020	Less than 16

Adapted from Codrington and Grant-Marshal (2011:3)

According to Codrington and Grant-Marshall (2011:201), for the GI (Hero) and Silent Generation, the job is the reward. The Baby Boomers view retirement planning and help with financial planning as their more pertinent rewards, whilst the X and Y Generation view discounts at retail stores, free meals and free time as more important rewards. iFacebook Generation wants to lead a balanced life and therefore will need more flexible working hours.

Blending the different age groups within the construction environment will require supervisors to be effective. This means that supervisors will need to be trained to effectively deal with each group and to respect the diversity of views, needs and motivational challenges that each group offers (Robbins & De Cenzo, 2001:42).

2.4.7.2 Education levels of construction workers

The construction industry has the capability to absorb the omitted workers from other industries (De Souza, 2000:50). It offers work for those with little schooling or skill, several of them from the poorer segments of society. In developing countries also, the construction industry offers much wanted employment prospects for those in the community with limited academic qualifications. It employs an unbalanced number of the least educated, offers jobs to the long-term unemployed and those out of the labour force, as well as prospects for second jobs (Dougherty, 1996:105).

According to Codrington and Grant-Marshall (2011:140), workers with no or little schooling are merely satisfied because they do have a job. However workers with some secondary form of schooling are more likely to look for meaning and impact in their work. On the other hand workers with a tertiary qualification are eager to progress in their careers and less willing to wait three to five years for a promotion.

2.4.7.3 Gender in construction

The construction industry is dominated by men (Statistics South Africa, 2009). As of September 2009, women comprised 43.87% of the working population in South Africa. Also currently only about 13% of workers in the construction industry are women (Statistics South Africa, 2009). Presently, the female workforce in South Africa is concentrated in the services industry at 31.20%. However, segments such as construction, utilities, mining and transportation have low proportions of female work force (Statistics South Africa, 2011:12).. Out of a total female working population, which is beyond nine million, only 1.87% is in construction (Statistics South Africa, 2011:12).

Most of the theoretical work on motivation in texts pretends to be gender neutral. In practice, this means that most theories of motivation are implicitly male. A meagre superficial examination of the works of Maslow, Herzberg, Vroom and Yetton, Mcelland or Adeferer, reveals the degree to which this is the case. In other words, most theorists of motivation assume that the theoretical positions they describe apply similarly to men and to women. In other words men, women are subsumed with male categories of reasoning (Wilson, 2001:87).

To make the most of motivation in today's varied construction workforce, supervisors need to think in terms of flexibility. Studies tell us that men place significantly more prominence on having independence in their jobs than do women. In contrast, the chance to learn, suitable work hours and decent interpersonal relations are more significant to women than to men (Harpaz, 1990:75). Supervisors need to identify that what motivates a single mother with two dependent children who is working full-time to support her family may be very different from the needs of a young, single , part-time worker (Robbins & De Cenza, 2001:284).

2.4.7.4 Cultures in construction workers

Motivating a varied workforce also means that supervisors must be flexible by being conscious of cultural differences. Most of the theories of motivation were mainly developed by United States psychologists and were confirmed by studying American workers. Therefore, these theories need to be adapted for different cultures (Robbins & De Cenza, 2001:225). For example, the self-interest concept is consistent with capitalism and the exceptionally high value placed on individualism in countries such as the United States (Robbins & De Cenza, 2001:225).

In a study of generally black South African workers in 1999, Terence Jackson (1999:12) asked the workers to rank those features that are important in their total life. The following ranking was given, in order of importance.

- giving plenty of time to family;
- making work central;
- being actively involved in the community;
- pursuing religion; and
- pursuing leisure activities

This shows not only an alienation from the workplace, but the position of community and family life within a worker's psyche. Jackson's (1999:12) study also encompassed an organisational climate survey of 200 employees in three South African organisations. The results of this survey specified that there were normally high levels of satisfaction with working conditions, satisfaction of job and job security, but lesser levels of satisfaction with appraisal systems, recognition of worker worth, union-management relations, and the degree to which workers felt involved in matters that affected them.

Therefore when a South African organisation seeks to motivate its workers it should appreciate the importance that its workers may assign to community and family relationships. In Africa, management systems are culturally subjective through a mix of post-colonial, Western and African inputs. Supervisors in South African organisations need to recognise and appreciate diversity amongst their workforces so that appropriate motivational techniques can be applied.

2.4.7.5 Subcontractors in the construction industry

The construction industry displays complications and characteristics which, taken individually, are mutual with some other industries but which, in combination, create unique circumstances calling for a unique management method. For motivation to be fruitful and effective in construction, it is essential to have an understanding of the construction industry. These unique characteristics of the construction industry are also, what make motivation of subcontractors more challenging (Mansfield & Odeh, 1991:50). The issue that makes the workforce or labour within the construction industry, vary from other industries, is the fact that dissimilar to an assembly line or manufacturing industry, whose workers persist with their jobs for comparatively longer periods of time, the construction industry is always dynamic. The cause for this is that the lengths of most projects are between one to three years and the work force changes considerably during the project. This facet of short-term work, along with construction contracts,

and availability of workers and management, are the key facts to be addressed in order to help reflect the psychological dimension of the nature of the industry, and its likely effect on motivation and productivity (Mansfield & Odeh, 1991:50).

Short term employment is an important factor in the construction industry, due to the high turnover of construction workers on their various contracts; none of the workers are around long enough to start any long term motivational systems (Mansfield & Odeh, 1991:50). The very nature of construction projects is that they are short term, even the larger construction projects that can carry on for a couple of years, will not have contractors on for the entire time. This means that, unlike regular organisations, workers are not allowed adequate time to integrate with their organisation in order to cultivate a good understanding of the job. As a result, the prospect of common belonging amongst the organisation and the workers tends to suffer as well as the productivity of the workforce (Mansfield & Odeh, 1991:50)

Therefore, many construction companies have preserved aspects of their organisations' fundamental competencies within the greater construction industry (Tserng & Pao, 2001:165). However the remaining non-fundamental or comparatively non profitable constructing works were all allocated as far as conceivable to subcontracting in order to take advantage of resources already offered on the market (Tserng & Pao, 2001:165). These larger construction companies make use of subcontracting so that they can cut costs, maintain competitive advantages and seek for the most befitting profit base (Tserng & Pao, 2001:165).

In concluding, Nicolaou (1987:12) states that diversity in the construction industry over the previous twenty years has seen an intense upsurge in the number of women and minority group workers. Therefore, the growing entry of minority groups and women has added to organisational workforce diversity through new cultures, backgrounds, and value systems (Gibson *et al*., 2000:204).

This movement requires more individualised methods to motivation because people differ significantly in the rewards they value (Kreitner & Kinicki, 2007:243). This makes the job of creating a motivating work setting more challenging because it is no longer probable to strategise one right motivation scheme for all workers (Nicoloau, 1987:13).

2.5 Productivity

Productivity may be defined as the measurement of the quantity of input necessary to accomplish a given quantity of output. It is the elementary measurement of the efficient use of

resources and processes (Greer & Plunkett, 2007:29). Therefore productivity can be calculated by the quantity of construction produced by the investment against the hours of human labour (Greer & Plunkett, 2007:29).

The quality of management obviously is a key determinant of the productivity of an organisation's workforce and of the organisation in a whole. Accordingly, good management provides a competitive advantage when it enables the organisation to obtain greater productivity from its workforce.

2.5.1 Construction productivity

There are ten factors which affect construction productivity: quality; amount and balance of labour force; motivation of labour force; continuity of work; complexity of work; degree of mechanisation required; method of construction; quality of finished work; type of contract; quality and number of managers; and weather (Zakeri, Olomolaiye, Holt & Harris, 1997:161).

Zakeri *et al*. (1997:161) state that construction productivity is determined by many aspects other than labour including: material; equipment; tools; construction method; and management skills. However, these resources are inactive, and without use if not converted into productive tools by the human component and the quality of human performance that hinge mainly upon motivation (Zakari *et al.*, 1997:161).

2.5.2 The benefits of productivity

Rojas (2008:1) states that higher productivity levels permit contractors to concurrently increase profitability, pay higher wages to workers and increase competiveness while finishing activities sooner. Higher productivity levels generally turn into greater profitability (Rojas, 2008:2). A sustainable progress in labour productivity is also related to economic growth, as it causes noninflationary upsurges in salaries and wages (Rojas, 2008:2).

2.5.3 The supervisor's role in productivity

Supervisor competence and worker concerns are the two sections with a high possibility for influencing productivity and performance (Rojas & Aramvareelkul, 2003:80). Warren (1998:3) states that for many years, behavioural specialists have been stating that in an industrial climate, elevated levels of motivation cause elevated levels of productivity; that productivity is reliant on motivation. In addition, that elevated levels of productivity cause elevated motivation, that motivation is in return reliant on productivity (Warren, 1998:3).

Schemerhorn (1986:285) states that a task orientated supervisor only emphasizes behaviours that: assign task responsibilities, plan and define work to be done, set clear work standards, urge task completion and monitor results. However, a supervisor high in concern for workers highlights behaviours that bear: warmth and social empathy with workers and a high regard for the feelings of workers, awareness of worker needs and bilateral trust (Schemerhorn, 1986:285).

Henderson (1982:143) not only listed motivators and de-motivators of the construction industry but also laid out a detailed plan for applying motivational techniques to workers in the construction industry. According to this study, the majority of motivational programmes can be grouped under five categories: communicating, goal-setting, rewards, positive reinforcement and facilitation (Cox *et al.*, 2006:152).

Supervisors relay the importance of productivity to workers through words and actions (Catt & Miller, 1991:7). Catt and Miller (1991:7) advocate the following:

- examine communication procedures because ineffective communication creates confusion and wastes time;
- recognise employee contributions and reward outstanding performance; and
- examine performance and applying rectifying techniques to gain desired results.

Therefore, this study will concentrate on the following motivational techniques: communication, rewards and reinforcement.

2.6 Communication as a motivational strategy

Luthans (1995:418) states that everybody in present society easily uses the term communication, including members of the overall public, organisational behaviour academics and management practitioners. Most definitions of communication used in organisational behaviour literature stress the usage of symbols to transfer the meaning of information (Luthans, 1995:419). A latest analysis stresses that communication is the understanding, not of the visible, but of the invisible and hidden (Luthans, 1995:419).

2.6.1 Functions of communication

Communication serves four major functions (Figure 2.1) within a group or organisation: control, motivation, emotional expression and information (Scott & Mltroitchell, 1976:105).

2.6.1.1 Controlling and coordinating group activities

Communication acts to control member behaviour in several ways. Organisations have authority hierarchies and formal guidelines that workers are required to follow (Robbins *et al,* 2006:223).

2.6.1.2 Motivating organisational behaviour through communication

Communication promotes motivation by describing to workers what is to be done, how well they are doing, and what can be done to increase performance if its below average (Truter, 1998:168). The development of specific goals, feedback on progress towards the goals, and reinforcement of desired behaviour, all stimulate motivation and necessitate communication (Truter, 1998:168).

2.6.1.3 Expressing feeling

For many workers, their work group is a primary source for social interaction. The communication that takes place within the group is an important mechanism by which groups need to make members show their frustrations and feelings of satisfaction. Motivational communication, therefore, provides a release for the emotional expression of feelings and for achievement of social needs (Truter, 1998:168).

2.6.1.4 Providing Knowledge

The last function that communication accomplishes relates to its role in facilitating decision making. It provides the information that individuals and groups need to make decisions by conveying the data to recognise and assess other choices (Truter, 1998:168).

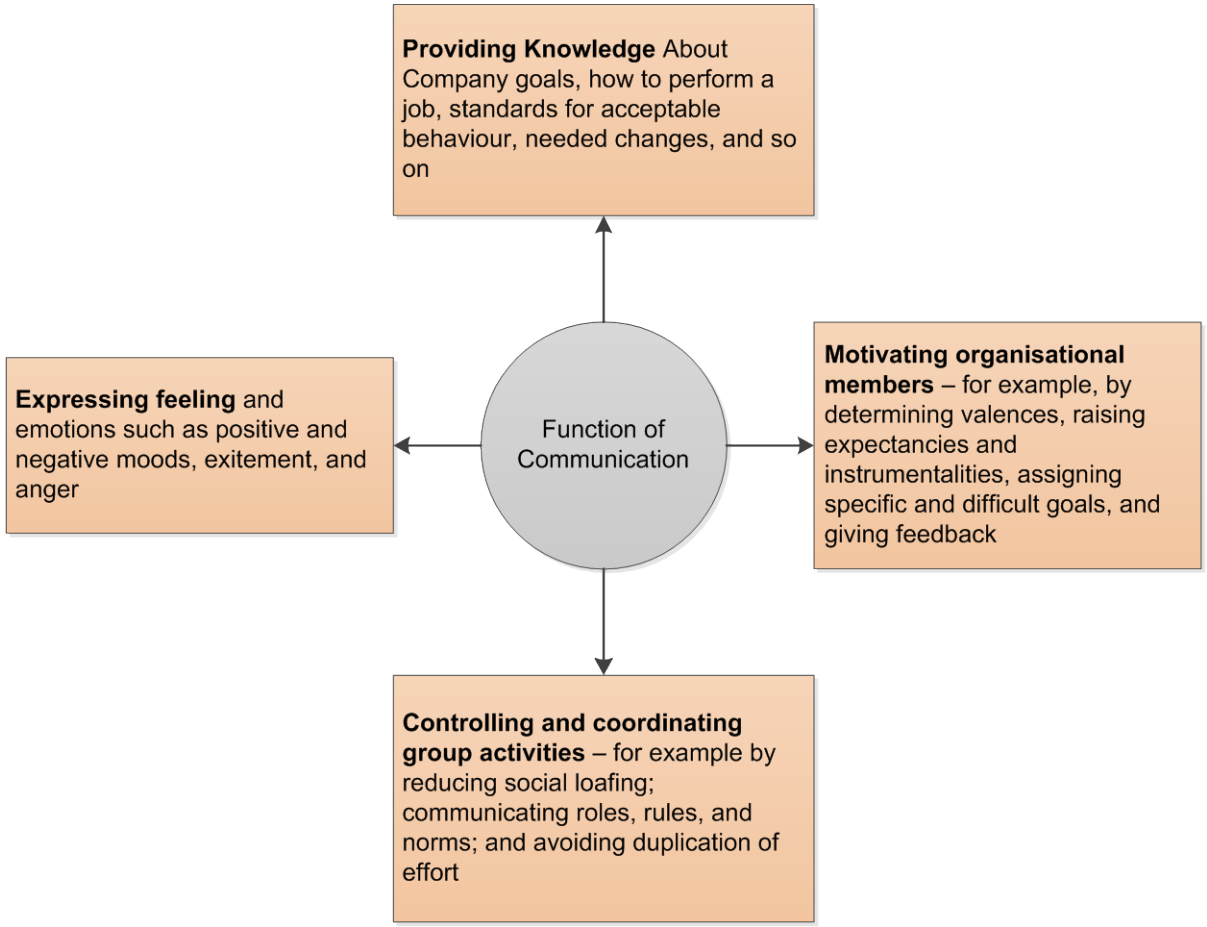

Figure 2.1 Functions of communications

Adapted from George and Jones (2008:463)

2.6.2 Importance of communication

Construction worker productivity is generally affected by the capability of construction supervisors to plan, schedule and direct the work (Olson, 1982:121). Construction workers contributions and their understanding of the factors that affect their daily productivity have not often been required by supervisors or researchers either because it takes time away from construction workers' tasks that are to be done, or because it is considered a violation of the supervisor's right to manage the work (Oglesby *et al.*, 1989:112).

Oglesby *et al.* (1989:113) further explain that it is crucial to know what construction workers need and what impinges on their behaviour in order to achieve productivity improvement. Also, construction workers are without doubt in the perfect position to understand where and in what manner construction sites' productivity is lost or could be achieved (Borcherding, 1976:443). It is crucial to acquire input from construction workers and supervisors to better techniques and

advocate two-way communication between construction workers and supervisors (Borcherding, 1976:443).

An absence of resources not only limits construction workers from executing their tasks efficiently, but additionally has an adverse influence on their motivation. However, knowledge of the aspects influencing construction worker productivity from the workers angle will facilitate construction site supervisors not only to accommodate construction workers in regard to support, but also to improve their motivation (Dai, Goodman and Maloney, 2007:1140).

Catt and Miller (1991:13) state that for a supervisor, communication abilities are an essential aspect of every action taken. Good supervisors identify that workers are people who have wants and desires, and being a good communicator will empower the supervisor to lead, direct, motivate and understand others (Catt & Miller, 1991:13).

2.6.3 Construction supervisor communication methods

Successful supervisors build fail-safe communication systems Betts (2000:50). Rather than relying on just one system to obtain and send information, they develop a number of alternative systems. According to Betts (2000:50), there are three main communication systems: the chain of command system, direct contact, and group meetings.

2.6.3.1 The chain of command system

As expected, supervisors use the chain of command system with which we are all familiar. They communicate with group leaders under their direction who in turn send the information on to their subordinates. But supervisors do not limit themselves to this system; they also develop and use other systems (Betts, 2000:50).

2.6.3.2 Direct contact system

Effective supervisors also communicate directly with workers. They walk the job very frequently and feel free to contact and talk directly with any individual on the job. They can thus obtain evaluations and information from every single person on the project. Supervisors can also provide direct information to workers on actions taken to correct problems (Betts, 2000:50).

2.6.3.3 Group meetings

A successful supervisor relies on meetings with the various workers. These meetings provide a means of contacting members of a group at one time to obtain joint feedback, do planning, and obtain suggestions. Some of these meetings are regularly scheduled, while others may be called for special purposes (Betts, 2000:50).

One type of meeting which successful supervisors use as part of their site communication system is the toolbox meeting. Supervisors make sure that what is discussed at these meetings is directed toward the work the crews are doing.

2.6.4 Outlining the Communication process

2.6.4.1 Message

Before communication can occur, as showed in figure 2.2, a view, expressed as a message to be forwarded, is needed (Robbins *et al.,* 2006:224). The message is what is communicated by the sender (Scemerhorn *et al.*, 2008:516). It may come in the form of words, ideas, facts, opinions etc. (Rao, 2009:360).

2.6.4.2 Sender

The message is initiated by the sender. The sender is anyone who wishes (i) to convey an idea or concept to others, (ii) to seek information or (iii) to express a thought or emotion (Rao, 2009:360).

2.6.4.3 Receiver

The message is received by the receiver (Robbins *et al.,* 2006:224). The receiver is the person who is supposed to receive the message. He may be a reader, a listener or an observer (Rao, 2009:360).

2.6.4.4 Decoding

The message is deciphered (converted to symbolic form). Decoding is the process by which the receiver translates the message into the terms that are meaningful to him. The chances of successful decoding are greatly enhanced if the receiver knows the language and terminology used in the message (Rao, 2009:360).

2.6.4.5 Channel

The message is sent through a channel, which is the communication carrier. It may be face-to-face talk, telephone, a formal report, computer, radio etc. (Rao, 2009:360). The receiver then converts (decodes) the messages initiated by the sender (Pettinger, 2006:124). The result is transference of meaning from one person to another (Giacobbe-Miller, Miller & Victorov, 1988:138)

2.6.4.6 Noise

Noise is any interference with a message that hampers the sharing of meaning between the sender and the receiver. Thus, negative attitudes, misperception, a loud radio, a person's

accent, illegible print or pictures, jargon, poor eyesight – all qualify as noise. Understanding tends to diminish as noise increases. Noise can be minimised by foreseeing and neutralising sources of interference (Rao, 2009:360).

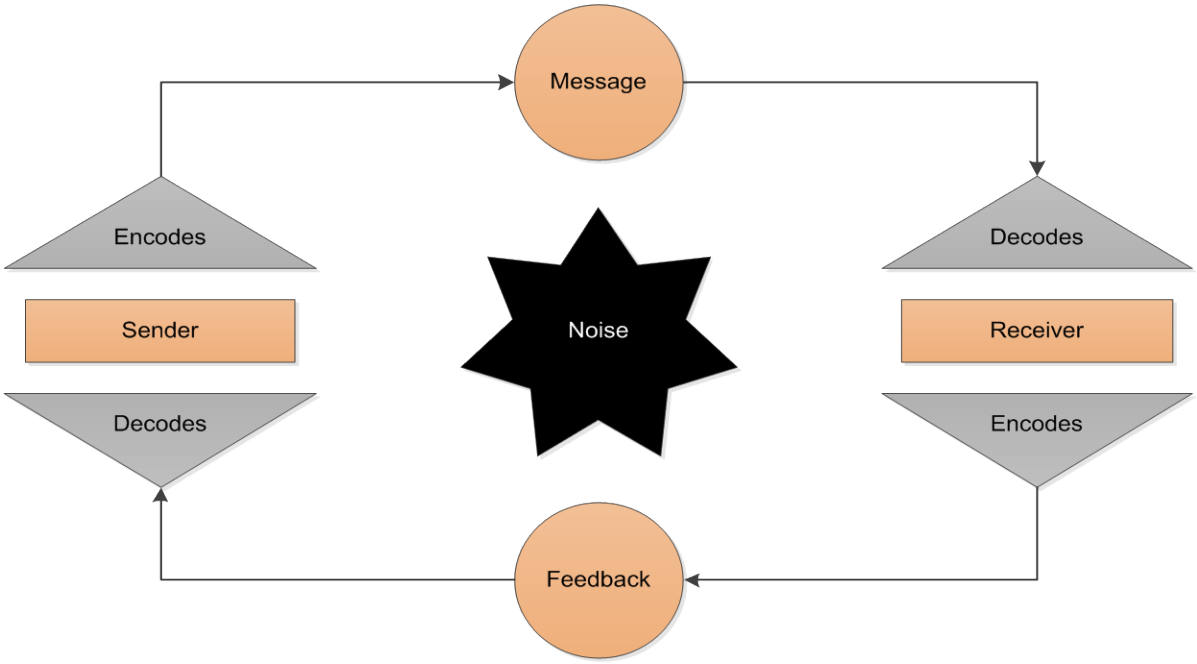

Figure 2.2 The communication process
Adapted from Certo (2008:257)

Communication cultivates motivation by defining to employees what needs to be done, how sound their performance is, and what can be done to better their performance if it's below standard (Robbins *et al.,* 2006:11). The forming of distinct goals, feedback on improvement towards the goals, and reinforcement of desired behaviour – all encourage motivation and require communication (Pettinger, 2006:124).

2.6.5 Feedback

Feedback is at the heart of the communication process, if communication is deemed to be motivational. Feedback is a response by the receiver to the sender's message. Feedback takes place when the receiver responds to the sender's communication with a return message. It helps the sender to determine whether the receiver correctly interpreted the message (Rao, 2009:360). Therefore, feedback can help supervisors to motivate workers effectively. So when a supervisor sends a message, he or she usually expects a certain kind of reply. By gauging the

words, facial expressions and behaviour of the workers who received the message, the supervisor can conclude whether they understood it (Certo, 2008:2578).

When feedback shows that a message was not received wholly and properly, the supervisor can try adjusting it so that it is better reformed to the receiver. The supervisor may have to remove sources of noise, for example, by talking in a place with fewer interruptions or selecting clearer words (Hofstede, 1980:56). A supervisor can also use feedback when he or she is getting a message. In particular, when a supervisor is unclear about the importance of a message, he or she can ask the sender to simplify it. Asking questions is commonly a smarter method than guessing (Certo, 2008:258).

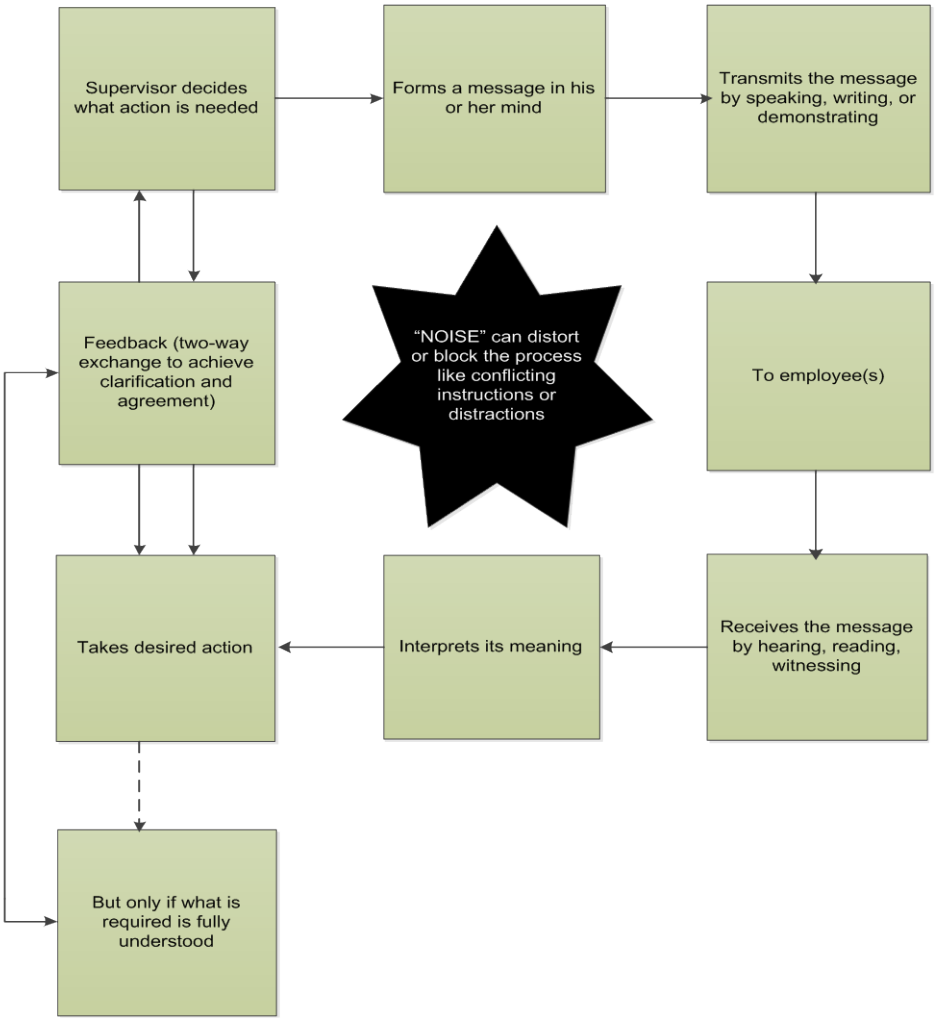

Figure 2.3 The motivated communication process
Adapted from Bittel and Newstrom (1990:291)

2.6.6 Hearing versus listening

For motivational communication to be effective, the sender (supervisor) of the message must make certain that the receiver (worker) does receive the message. Notice in Figure 2.3 that the receiver must decode the message, meaning that the receiver in addition to the sender has a dynamic part to play in communication. If the receiver is not playing that role, communication is not happening (Werner 2007:156). In numerous cases, this means the receiver of a message is obligated to listen to it rather than just hear it. Hearing means the brain is registering sounds. Listening means paying attention to what is being said and trying to comprehend the entire message. This is the meaning of decoding a message (Werner, 2007:156). Thus, as the model of the communication process shows, when we want communication to work, we need to make certain that people are decoding messages as well as sending them. Because communication is a crucial part of a supervisor's job, a supervisor must practise good listening skills as well as good writing and speaking skills (Werner, 2007:156).

Also, quiet employees may have outstanding ideas but require encouragement to share them. Supervisors should not only look for ideas in meetings but also inspire one-on-one conversations to give quieter workers an opportunity to propose ideas (Luthans, 1995: 241).

2.6.7 Communicating across cultures

Supervisors today, more frequently than in the past, come across workers from cultures other than their own. Preparation for cultural dissimilarities can help supervisors communicate clearly with their workers. When equipped, supervisors can familiarise themselves with elementary strategies for cross-cultural communication (Stanley, 2006:4).Restricted knowledge of English does not mean a person is slow to learn, hard of hearing, or even unresponsive in learning English. A supervisor should complement his words with illustrations, gestures and facial expressions (Stanley, 2006:4).

A supervisor should pursue feedback by asking the hearer what he or she has heard, but should not ask, 'Do you understand?" Many workers are too embarrassed to reply that they do not understand the message. Instead, they might continue to be silent or attempt to change the subject. In general, yes-or-no questions motivate too little feedback (Certo, 2008:258).The supervisor should make sure of what the worker is saying. He or she should ask for further explanation, if needed. The supervisor should help the speaker to relax, and ask him or her to speak more slowly. If the supervisor has difficulty in understanding, a word pronounced by a non-native speaker of English, the supervisor should ask the person to spell it out or

demonstrate what he or she means. Supervisors are required to learn about the communication methods used by people from dissimilar cultures, and try to match them when suitable (Luthans, 1995: 241). Immigrants from some countries may have experiences that cause them to doubt people in authority, so they will be unlikely to speak up about problems at work. Of course, these are only general patterns; an experienced supervisor will evade jumping to conclusions about an individual's character on the basis of cultural preferences. A supervisor can also indicate respect for the workers and their culture by educating him/herself in some statements of praise in the worker's native language (Luthans, 1995: 241).

2.6.8. Goal-setting theory

According to Locke and Latham (2002:706) goals have a pervasive influence on worker behaviour and performance in organisations and management practice. Managers widely accept goal-setting theory as a means to improve and sustain performance (Dubrin, 2012:101).

A goal is a detailed target that an individual is trying to attain, it is what a person is trying to accomplish. Having a goal can be very motivating. Goals motivate because people compare their current performance with the performance required to achieve a particular goal (Erez and Arad, 1986:591). If they believe that it is possible for them to achieve the goal, they will feel dissatisfied if they are not achieving the higher level of performance and will work hard to attain it. If they succeed and achieve their goal, they will feel a sense of achievement and self-esteem. It was originally believed that goals should be set for workers but today it is widely recognised that it is best for the supervisor and worker to work together to set the workers goal for a specific period of time (Erez and Arad,1986:591).

The following suggestions should help in ensuring that the goal setting process results in worker motivation to achieve the goal (Locke & Latham, 2002:712).

- Goals should be acceptable to the worker for whom the goal is set so that they will be more committed to achieving the goal; this is called goal commitment. It is important that the worker accepts the goal as a personal goal.
- Goals should be challenging. Easy goals do not motivate because no sense of achievement will result from achieving the goal, and impossibly difficult goals will not inspire much effort because such effort will be regarded as a waste of effort. The worker must feel that he or she is able to attain the goal otherwise, it will not motivate.
- Goals should be clearly understandable. Goals will not motivate workers if they do not understand the goal and what it is that they are meant to achieve.

- Goals should be specific and easily quantified. Workers need goals to be specific so that they will know when they have achieved them.
- Feedback on goal achievement is important. Workers should be informed about how well they are doing, how close they are to achieving their goal and when they have achieved it.

Table 2.3 clearly indicates the difference, in terms of feedback, when the worker is motivated through the motivational communication process or the goal setting theory process.

Table 2.3: Comparison between communication feedback and goal setting feedback

Feedback – (Communication process)	**Feedback – (Goal-setting theory)**
• part of the process of communication	• related only to goals
• is ongoing	• time based
• mostly verbal	• verbal, non-verbal, charts, programmes etc.
• is to convey understanding or gauge perception	• is to report on progress
• **direction** – from worker to supervisor	• **direction** – from supervisor to worker

Adapted from (Locke & Latham, 2002:712)

2.7 Rewards as a motivational strategy

Incentives spread far outside money into the array of non-monetary benefits. Fringe benefits would not exist if money were all that is significant to workers. The reality of the business world is that money, fringe benefits, culture and leadership all make a motivational change because workers relate to them (Cox *et al.*, 2006:152). For most workers a fringe benefit and a good old-fashioned pat on the back can take the place of a few more Rand, which helps explain why effective organisations offer worker benefits as well as encouragement. Different incentives matter in different ways and in different amounts to different workers. It is management's job to identify and clearly comprehend what matters to their workers and what motivates them; after which to integrate that information into an incentives program that is effective and equally beneficial (Cox *et al.*, 2006:152).

Therefore in order to keep construction workers motivated their expectations must be addressed as project goals are reached. Satisfying workers expectations can be viewed as distributing rewards when certain objectives are achieved. Employees have expectations that they want met

and employers have goals that they want reached, and they can work together as a team to satisfy the wants of both the employees and their employers. Workers who are motivated to help reach the goal of the employer and do so should be recognised with a reward. When considering what type of rewards to use there are two types to be aware of, intrinsic and extrinsic rewards (Cox *et al.*, 2006:152).

2.7.1 Intrinsic Rewards

There are primarily two types of rewards. These are extrinsic and intrinsic rewards. Intrinsic rewards are positively valued labour outcomes that the individual obtains directly as a result of job performance; they do not entail the contribution of another individual or source (Pettinger, 2006:201). A sense of accomplishment after completing a particularly interesting task is an illustration of an intrinsic reward (Roa, 2009:157).

Therefore, intrinsic motivation is that behaviour which an individual engages in because of the enjoyable experiences related with the behaviour itself. Workers who are intrinsically motivated feel satisfaction in executing their work. This satisfaction may originate from any of several factors, including relishing the actual work done, the sensation of achievement, meeting the challenges, etc. (Mosley *et al.*, 2008:185). Supervising intrinsic work rewards offers the added challenge of planning a task so that workers can, in effect, reward themselves for a task well done (Pettinger, 2006:201).

2.7.2 Extrinsic rewards

By comparison, extrinsic motivation is implemented not for its own sake, but rather for the consequences associated with it. The consequences can comprise of such factors as the pay, the job security, the benefits, or working conditions (Mosley*et al.*, 2008:186).

Supervisors can also offer a selection of extrinsic rewards, such as honest praise for a task well done, or figurative symbols of achievement such as ‘worker of the month’ rewards. Such rewards are typically low cost to the company (Schemerhorn *et al.*, 2005:177).

2.7.2.1 Salary as an extrinsic reward

Salary is a particularly complicated extrinsic reward. It can help companies entice and hold on to vastly skilled workers, and it can satisfy and motivate these workers to work hard to attain high performance. However, if there is unhappiness with the salary, this can also lead to strikes, grievances, absenteeism, turnover, and sometimes even poor physical and mental health (Schemerhorn *et al.*, 2005:178).

The main types of pay schemes for manual employees are day work, piecework and bonus schemes (Betts, 1998:167).

2.7.2.1 Day work

Day work is a plain, simply understood arrangement where the worker is remunerated a regular rate or even hourly or daily rate (Betts, 2000:167). This scheme is also termed 'time work' and is appropriate where regularity of work is not likely and quality is key (Phillips & Gully, 2012:135). The method is also used when it is not considered cost-effective to introduce an incentive scheme or when productivity is not governed by the worker. Sturdy management is needed to make up for the absence of rewards (Betts, 2000:167).

2.7.2.2 Piecework

Where workers need rewarding for excellent ability, conventional piecework is appropriate. A fixed sum is paid for every piece of work produced of agreed quality, payment being proportional to output (Betts, 2000:168). This amount is derived from timing the piece of work at a sensible speed of operation and linking it to the salary rate, which is over and above the salary rate payment, to give the worker the chance to receive a bonus (Phillips & Gully, 2012:135). Close examination for quality is important, but close supervision is not as essential as the arrangement consists of providing a strong reward (Betts, 2000:167).

2.7.2.3 Bonus schemes

Bonus arrangements contain either a group of workers working as a crew that is remunerated, a bonus on crew output, or numerous methods of allocating an amount of company earnings to all workers through turnover sharing (Betts, 2000:168).

2.7.3 Expectancy theory

Currently, one of the most widely accepted explanations for using rewards to motivate workers is Victor Vroom's expectancy theory (Vroom, 1964:140). Although it has its critics (Reinharth & Wahba, 1975:502), most of the research evidence is supportive of the theory (Van Eerde & Thierry, 1996:575).

Expectancy theory argues that the strength of a tendency to act in a certain way depends on the strength of an expectation that the act will be followed by a given outcome and on the attractiveness of that outcome to the individual. In more practical terms, expectancy theory claims that people scrutinise three relationships: effort-performance, performance-rewards and rewards-personal-goals (Robbins & De Cenza, 2001:215). Their level of exertion hinges on the

strengths of their expectations that these associations can be attained. According to expectancy theory, a worker will be motivated to apply a great level of exertion when he or she trusts that effort will lead to a decent performance appraisal; that a respectable appraisal will lead to company rewards such as promotion, a salary increase or a bonus; and that the rewards will please the worker's own aims (Luthans, 1995:201).

Expectancy theory has delivered an influential description of worker motivation (Robbins & De Cenza, 2001:215). It assists to explain why a portion of workers aren't motivated in their trades and basically do what is required to complete the task (Nelson & Quick, 2000:232).This can be made clearer if we look at the theory's three relationships in a little more detail.

There has also been a great deal of research on expectancy theory and good review articles are available (Salancik & Pfeiffer, 1978:224). Although the theory has received substantial support, the terminology used by psychologists is often difficult to understand and apply. Rather than suggesting that the underlying theory is inadequate, researchers indicate that problems of method and measurement may cause their inability to generate more confirming data. Thus while awaiting the results of more sophisticated research, experts seem to agree that expectancy theory is a useful insight into work motivation (Salancik & Pfeiffer, 1978:224).

One of the more popular modifications of Vroom's original version of the theory distinguishes between extrinsic and intrinsic rewards as two separate types of possible work outcomes (Mitchell, 1982:81). Extrinsic rewards are positively valued work outcomes that the individual receives from some other person in the work setting. An example is pay. Workers typically do not pay themselves directly; some representative of the organisation administers the reward. In contrast, intrinsic rewards are positively valued work outcomes that the individual receives directly as a result of task performance; they do not require the participation of another person. A feeling of achievement after accomplishing a particularly challenging task is one example. The distinction between extrinsic and intrinsic rewards is important because each type demands separate attention from a manager seeking to use rewards to increase motivation (Mitchell, 1982:81).

Expectancy theory identifies three major factors that determine a person's motivation: expectancy, instrumentality, and valence (see Figure 2.4).

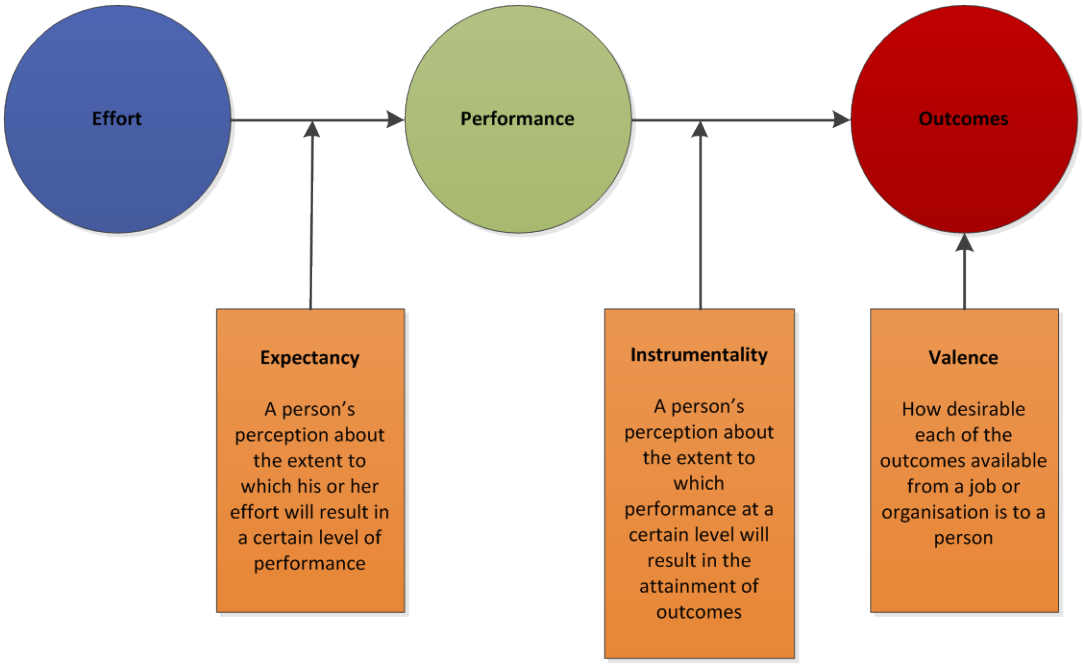

Figure 2.4 Expectancy, Instrumentality and Valence
Adapted from Jones and George, (2009:468)

2.7.3.1 Expectancy

Expectancy, Fig 2.4, is a person's perception about the extent to which effort (an input) results in a certain level of achieved task performance (Schemerhorn *et al.,* 2011:178). A person's level of expectancy determines whether he or she believes that a high level of effort results in a high level of performance (Jones & George, 2009:468).

Supervisors can boost expectancies through expressing confidence in their workers' capabilities (Luthans, 2005:206). Also, in addition to expressing confidence in workers, supervisors can also boost workers' expectancy levels and motivation by providing training so that people have all the expertise needed to perform (Jones & George, 2009:468). Training will also increase the workers' levels of autonomy and responsibility as they gain experience so that they have the freedom to do what it takes at a high level (Jones & George, 2009:468).

2.7.3.2 Instrumentality

Instrumentality, the second major concept in expectancy theory, is a person's perception about the extent to which performance at a certain level results in the attainment of outcomes (Jones, 2009; Schemerhorn *et al*, 2011:178). According to expectancy theory, workers are motivated to perform at a high level only if they think that high performance will lead to outcomes such as

pay, job security, interesting job assignments, bonuses or a feeling of accomplishment (Maurer, Weiss& Barbeite 2003:707).

2.7.3.3 Valence

The term valence refers to how desirable each of the outcomes available from a job or organisation is to a person (Jones & George, 2009:468). To motivate organisational members, supervisors need to determine the outcome each worker values, and make sure that those outcomes are provided when workers perform at a high level (Jones & George, 2009:468). Outcomes with high valance are those that give the worker a great deal of satisfaction – for example, praise from the supervisor, better assignments, and an increase in pay (Jones & George, 2009:468).

2.7.4 Supervisor's implications of Vroom's expectancy theory

The supervisor's implications of Vroom's expectancy theory are summarised in Table 2.4. Expectancy logic argues that a supervisor must try to understand individual thought processes, and then actively intervene in the work situation to influence them (Scemerhorn *et al.,* 2008:172).This includes trying to maximise work expectancies, instrumentalities and valences that support the organisations production purposes. In other words, a manager should strive to create a work setting in which the individual will also value work contributions serving the organisations needs as paths towards desired personal outcomes or rewards (Scemerhorn *et al.,*2008:172).

Table 2.4: Supervisory implications of expectancy theory, adopted from Scemerhorn *et al.* (2008:172)

Expectancy term	The individual's question	Supervisor's implications
Expectancy	'Can I achieve the desired level of task performance?'	Clarify workers' ability; train workers to use ability; support individual ability with organisational resources; identify performance goals.
Instrumentality	'What work outcomes will be achieved as a result of the performance?'	Clarify psychological contracts; communicate performance-reward possibilities; confirm performance-reward possibilities by making actual rewards contingent on performance.
Valence	'How highly do I value the work outcomes?'	Identify individual needs or outcomes; adjust available rewards to match these.

Adapted from Scemerhorn *et al.* (2008:172)

In terms of outcome valence, the supervisor can identify individual needs or outcomes important to each individual, then try to adjust available rewards to match these. In this sense, the theory can be universally applied (Scemerhorn *et al.,* 2008:172). Each individual may be different, though different cultural patterns of values will affect valence of rewards across cultures. It may also be possible to change the individual's perceptions of the valence of various outcomes (Scemerhorn *et al.,* 2008:172).

2.8 Reinforcement as a motivational strategy

Betts (2000:163) states that the methods of inducement or kinds of reinforcement are normally categorised under four headings: positive reinforcement, negative reinforcement, extinction and punishment. Within every group are a number of choices which are contingently applied for positive reinforcement and punishment, and contingently withdrawn for extinction and negative reinforcement (Dubrin, 2005:163).

2.8.1 Skinner's reinforcement theory

Reinforcement theory uses rewards and punishments that follow a person's behaviour as a way to shape that individuals future behaviour (Mosley *et al.*, 2008:197). Reinforcement theory merely looks at the association among behaviour and its consequences (Rao, 2009:261). Consequently, positive reinforcement results from applying positive consequence succeeding a wanted behaviour (Nelson & Quick, 2000:180). Supervisors can use four tactics to affect a worker's behaviour: positive reinforcement, negative reinforcement, punishment and extinction (Schultz *et al.*, 2003:62).

2.8.1.1 Positive Reinforcement

To initiate a strategy of positive reinforcement, it should be noted that positive reinforcers and rewards are not necessarily the same (Roa, 2009:157). Recognition, for example, is both a reward and a possible positive reinforcer. Recognition turns out to be a positive reinforcer only if a worker's performance in future improves (Schemerhorn *et al*., 2005:131).

Positive reinforcement therefore is the use of rewards to increase the possibility that behaviour will be repetitive, like performance bonuses or praise (Phillips & Gully, 2012:147). A positive reinforcer is instantly applied when performance improves (Betts, 2000:163). A positive reinforce is any one thing which reinforces the behaviour it follows and makes the behaviour more possible (Phillips & Gully, 2012:147). If a worker is given a bonus for finishing a certain significant task on time and, as a consequence, the worker finishes other significant tasks on

time in the future, the reward to be paid to the worker would be said to be a positive reinforce (Phillips & Gully, 2012:147).

It should be stressed that what may function as a positive reinforcer for one person may not work the same way for another. (Schemerhorn *et al.*, 2005:131). One worker may be motivated by a bonus or a raise while another may not. Also, it is imperative to remember that something that functions as a positive reinforcer at one point in time for a given worker may not at another point in time (Mcafee & Poffenberger, 1982:20).

Supervisors should be particularly cautious when trying to reinforce a crew of workers as opposed to one worker. The crew reinforcer will work only if most or all of the individuals in the group accept the reward given as a positive reinforcer (Schemerhorn *et al.*, 2005:131).

2.8.1.2 Using Shaping as a positive reinforcer

Shaping is one method in which positive reinforcement can be used. In this technique, behaviour is steadily improved by selectively reinforcing behaviours that are effectively more similar to the kind of behaviour desired (Pettinger, 2006:267). A supervisor cannot assume that a worker's performance will promptly change from totally improper to totally acceptable (Mcafee & Poffenberger, 1982:20). Therefore, the supervisor must reward the worker for advancement made towards targets, not for excellence in performance (Phillips & Gully, 2012:147). Since improvement toward the goal is what is required, each occurrence of progress is rewarded.

2.8.1.3 Reinforcement schedules to acquire desired behaviour

The theory of reinforcement schedules denotes to the design in which needed behaviour must be reinforced. Two key reinforcement schedules are often debated: continuous reinforcement and intermittent reinforcement (Mcafee & Poffenberger, 1982:20).

Using continuous reinforcement, people obtain positive reinforcement each and every time their behaviour improves or changes in the desired way. With intermittent reinforcement, not every desired behaviour is reinforced (Phillips & Gully, 2012:147). Instead, behaviour is reinforced either unsystematically or according to a fixed ratio, such as reinforcing the worker for every five occasions of desired performance, or reinforcement (salary) every Friday (Mcafee & Poffenberger, 1982:20).

Normally, continuous positive reinforcement would be used when a supervisor is first trying to alter a worker's behaviour. Intermittent reinforcement, on the other hand, is specified when the

supervisor needs to maintain the worker's behaviour at a required level (Mcafee & Poffenberger, 1982:20).

Positive reinforcement can be given according to either continuous or intermittent strategies. Continuous reinforcement administers a reward each time a desired behaviour occurs. Intermittent reinforcement rewards behaviour only periodically. These alternatives are important because the two schedules may have different impacts on behaviour. In general, continuous reinforcement elicits a desired behaviour more quickly than does intermittent reinforcement (Roa, 2009:215) Thus, continuous reinforcement would be important in the initial training of the apprentice casters. At the same time, continuous reinforcement is more costly in the assumption of rewards and is more easily extinguished when reinforcement is no longer present. In contrast, behaviour acquired under intermittent reinforcement lasts longer upon the discontinuance of reinforcement than does behaviour acquired under continuous reinforcement. In other words, it is more resistant to extinction. Thus, as the apprentices master an aspect of the pouring, the schedule is switched from continuous to intermittent reinforcement (Phillips & Gully, 2012:147).

As shown in Figure 2.5, intermittent reinforcement can be given according to fixed or variable schedules. Variable schedules typically result in more consistent patterns of desired behaviour than do fixed reinforcement schedules.

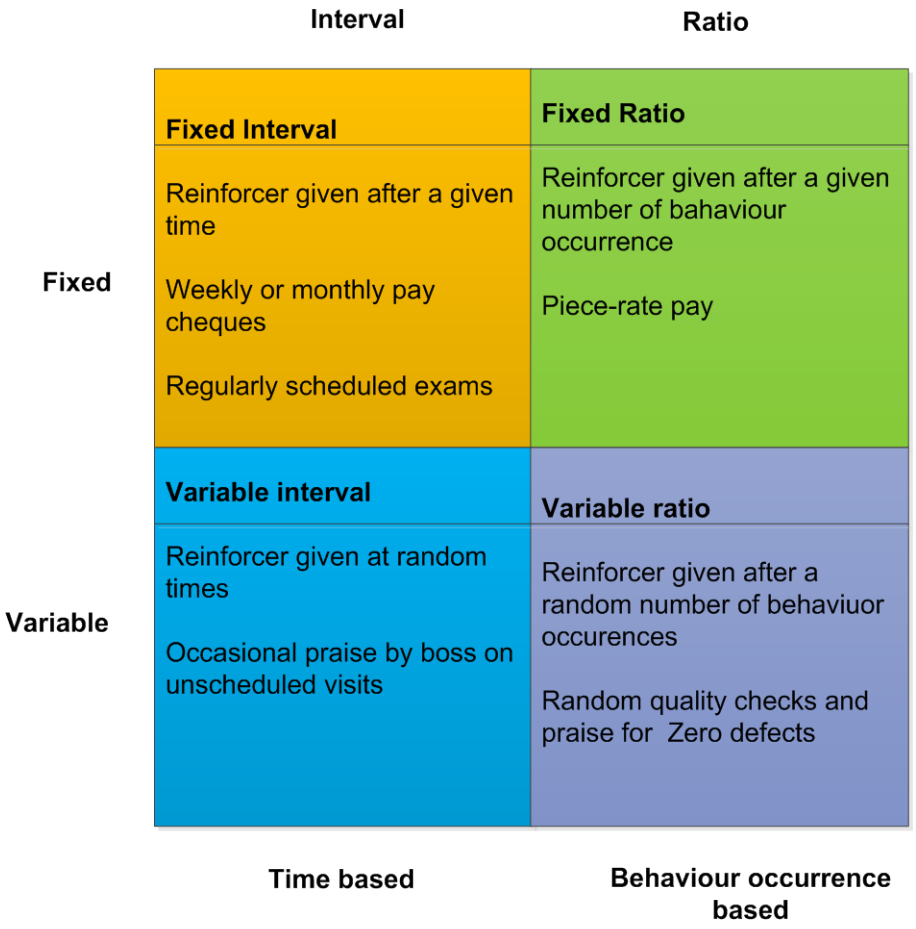

Figure 2.5 Four types of intermittent reinforcement schedules
Adapted from Schemerhorn *et al.* (2008:172)

Fixed-interval schedules provide rewards at the first appearance of a behaviour after a given time has elapsed. Fixed ratio schedules result in a reward each time a certain number of the behaviours have occurred. A variable-interval schedule rewards behaviour at random times, whereas a variable-ratio schedule rewards behaviour after a random number of occurrences. For example, as the concrete worker perfects his technique for a stage of pouring concrete, the astute masters switch to a variable-ratio reinforcement.

Positive reinforcement, when properly directed, can be a very powerful motivator. Unfortunately, one of the lowest-cost tools within positive reinforcement is also one of the least used – and least appropriately used. That is the simple “thank you” (Robbins & De Cenza, 2001:283).

“Failing to use this simple tool sends a powerful message to people; just as effectively using it does…We spend lots of money trying to learn better ways to motivate people through the use of

gift certificates, plaques, and tickets to sporting events given out to only a select group of people. At the same time, we fail to say thank you to each of our workers every day in a manner that means something to them. Saying 'thank you' is free and it is a form of recognition that can be distributed at any time" (Robbins & De Cenza, 2001:283).

2.8.1.4 Negative reinforcement

An unfriendly or disagreeable reinforcement such as harassment or a reprimand is withdrawn or removed if performance is suitable (Betts, 2000:165). Thus, the worker avoids being continually harassed or reprimanded and behaviour improves (Phillips & Gully, 2012:147). Unfortunately, if productivity falls and harassment begins, frustration and anger are created with expected results as the method savours of social blackmail (Betts, 2000:165).

2.8.1.5 Extinction

Discontinuing positive reinforcement for only average performance levels is named extinction (Betts, 2000:165). This condition may occur due to a policy change or in a recession (Pettinger, 2006:201). Behaviour usually declines and the danger of unrest is increased unless a reviewed positive reinforcement programme is presented in an effort to improve productivity (Betts, 2000:165).

2.8.1.6 Punishment

Dissimilar to positive reinforcement and negative reinforcement, punishment is proposed to not encourage positive behaviour, but rather to discourage negative behaviour. Formally defined, punishment is the management of negative consequences or the removal of positive consequences that tend to decrease the possibility of repeating the behaviour in related settings (Schemerhorn, 2005:134).

Harassment and reprimands are applied for only reasonable behaviour (Betts, 1998:165). Although harsh punishment may stop behaviour, unavoidably it seems that in the long term, side effects set in (Pettinger, 2006:210). If a supervisor opts for punishment, it should be mixed with some form of reward or praise for a positive response as a result, and it should be applied directly (Betts, 2000:165).

Punishment is normally defined as the presentation of an aversive event or the removal of a positive event succeeding a reply which decreases the frequency of that response (Pettinger, 2006:201). Punishment incorporates two basic actions:

- taking action against a worker (for example, stern glances, verbal warning, written warning, suspension) which has the result of decreasing or removing an undesirable behaviour, or
- suppressing a reward from a worker in an effort to decrease or remove an undesirable behaviour (for example, not receiving a raise because of recurring absenteeism) (Nelson & Quick, 2000:232).

Discipline is certainly the most common method to improve worker productivity used in companies at the present time. Almost all medium- and large-sized companies use penalties within a set of formal disciplinary procedures which they adhere to. Smaller companies also use penalties significantly even though they may not have formal systems. Examples of specific punishments (for example, finger pointing, cross glances, rebukes, and suspensions) used in companies (Robbins & De Cenza, 2001:225).

However, in both reinforcement theory and expectancy theory motivation is maximised when supervisors make rewards dependent on productivity. Rewarding issues other than productivity only acts to reinforce and encourage those other issues. Important rewards such as pay increases and promotions should be allocated for the achievement of the worker's specific goals. To maximise the influence of the reward contingencies, supervisors should look for ways to increase the visibility of rewards. Publicising productivity bonuses and allocating annual salary increases in a lump sum rather than distributing them out over the entire year are examples of actions that will make rewards more motivating (Robbins & De Cenza, 2001:283).

2.9 Chapter summary

Globally the construction industry is seen as a major contributor to the economy. Moreever is the importance of the construction industry to a developing country as the construction industry is seen as the pulse of a developing country's economy.

Within construction organisations, globally or in South Africa, supervisors are the link between management and the workforce. Therefore, in order to gain sustainable productivity, it is vital that the supervisor, through management, reward the workers to ultimately reach the organisation's ideals and goals.

Within the communication process feedback is a major consideration when motivating construction workers. Motivational communication is all about feedback where the supervisor stimulates the worker's involvement in the task by actively listening to productive thoughts of the

worker (Hiam, 2003:37).Supervisors today in organisations use goal setting theory as a means of motivational communication (Dubrin, 2012:101). However, goal setting theory has a functional nature, because within goal setting theory the feedback is the report on the progression of the task (Locke and Latham, 2002:712). The literature actually found a difference in the meaning of the word “feedback” as stated in the goal setting theory and the word “feedback” as stated in the communication process.

The literature also revealed that there is a trend in the widening of the gap between wages within the construction sector, and thus increasing the inequalities within the sector. Also revealed in the literature is the reluctance of construction companies to train their workers. The trend in this regard is towards outsourcing of not only the general workforce but of skilled workers as well. The literature indicated the relevancy of Victor Vroom’s expectancy theory. The theory indicates that motivation is at its peak when great levels of effort lead to performance and that performance gets rewarded with desirable goals.

Within reinforcement theory, the supervisor uses rewards and punishments that follow a person’s behaviour as a way to shape that individual’s future behaviour. Positive reinforcement therefore is the use of rewards to increase the possibility that behaviour will be repetitive, like performance bonuses or praise. Dissimilar to positive reinforcement and negative reinforcement, punishment is proposed to not encourage positive behaviour but to discourage negative behaviour. However, the literature stated that if a supervisor opts for punishment, it should be mixed with some form of reward or praise for a positive response as a result and it should be applied directly.

CHAPTER THREE
METHODOLOGY

3.1 Introduction

In this chapter, the development of the methodology in obtaining the data is described and the appropriate method to test the hypotheses was identified and selected. The following sections also describe the reason for its selection (positivism, objectivism, deduction and the quantitative approach) by contrasting the alternatives (interpretivism, constructionism, induction and the qualitative approach) that were considered for integral parts of the research design. Sections also discussed are the population, sample, questionnaire design, reliability, validity, methods of data collection and data analysis.

3.2 Methodology

Babbie (2007:17) states that methodology is a philosophical stance of worldviews that underlies and informs a style of research. Therefore, the methodology determines the research design. There is a significant difference between method and methodology. Henn, Weinstein and Foard (2006:9) state that method refers to the range of techniques that are available to collect evidence about the social world. Methodology, however, concerns the research strategy as a whole (Henn *et al.,* 2006:9).

There are two principles covered within the methodology. These principles are epistemology and ontology (Henn *et al.,* 2006:9). Epistemology is the manner in which information is gathered. Ontology on the other hand, focuses on the actual object of the research (Henn *et al.,* 2006:9).

3.2.1 Epistemology

Epistemology is a vital philosophical concept for social scientists, which studies questions to do with the theory of knowledge (Henn *et al.,* 2006:10). Therefore, approaching the data can be based on paradigms or theories. There are two major opposites of the pole reasoning on how these theories work, namely; positivism and interpretivism. Essentially, the two positions of positivism and interpretivism hold contrasting theories (Bryman, 2004:23).

3.2.1.1 Positivism

Henn *et al.* (2006:27) state that the positivist's method is founded on a function of the scientific approach used in the natural sciences (physics, chemistry, etc.). Fundamentally, social

scientists carry out their research with a substantial commitment to objectivity, regarding themselves only with those phenomena that are tangible/measurable (Punch, 2006:45). Positivism is linked with especially quantitative approaches (surveys, experiments, etc.) that emphasise importance on reliability and generalisability (Denschombe, 2007:57). Therefore, positivism is what you would traditionally see as signs, as undertaking experiments. Positivism is associated with hypotheses. These hypotheses are tested in an experimental environment.

3.2.1.2 Interpretivism

Henn *et al.* (2006:28) state that interpretivism holds that to explain human behaviour, social researches need to grasp the meanings and interpretations that people connect to phenomena in the social world. Thus, social research cannot advance by frankly applying the approaches that are used in the natural sciences (Neuman, 2000:46). Interpretivism is linked with especially qualitative methods (observation studies, in-depth interviews, etc.) that place a high emphasis on validity (Lee, 2000:35). Therefore, interpretivism methods are commonly more explorative. Interpretivism can attain strategies such as observation or fieldwork. In Interpretivism, you do not approach data with hypotheses but with questions and propositions (Lee, 2000:35).

Against the background literature, it is proposed that the present study will follow a positivist approach. One of the reasons for using a positivist approach is that an interpretivist approach seeks to explain human behaviour. However, the research undertaken within this document merely wants to establish the existence of a certain behaviour or the absence thereof. Therefore, a positivist approach is appropriate, as the research will seek scientific proof of a certain phenomenon.

3.2.2 Ontology

The essential point of orientation here is the question of whether social entities can and should be treated as objective entities that have an existence external to social actors, or whether they can and should be considered social constructions built up from the perceptions and action of social actors (Bryman, 2004:16). These positions are regularly referred to respectively as objectivism and constructionism (Gilham, 2005:67).

3.2.2.1 Objectivism

Objectivism is an ontological position that claims that social phenomena and their understanding have a reality that is independent of social factors (Lee, 200:57). It entails that social phenomena and the categories that we use in everyday discourse have an existence that is independent or separate from actors (Silverman, 2006:49).

3.2.2.2 Constructionism

Constructionism is an ontological position (often also referred to as constructivism) that affirms that social phenomena and their meanings are constantly being mastered by social actors (Treiman, 2008:56). It implies that social phenomena and categories are not only formed through social synergy but they are in a continual state of revision (Hall & Hall, 1996:35).

Against the background, it is proposed that the present study's ontological orientation will be that of an objectivism. With objectivism, factors that already exist are studied within a particular organisation and will probably not be changed by outside factors. The ontological orientation of objectivism is also positioned in a positivist, deductive approach.

3.3 Research approach

There are two different views of the relationship between theory and the research process, called deduction and induction.

3.3.1 Deduction

Blaikie (2003:46) states that the deduction approach is generally referred to as using the hypothetico-deductive method, associated with the theory, folloerf ny research strategy in which: theory is consulted, and then guides the formulation of specific research questions; research questions are constructed as propositions, or hypotheses, which are then tested with empirical data.

3.3.2 Induction

Contrary to deduction, induction moves from a set of observations to a theory, and is at the heart of social scientific theory advancement (Babbie, 2007:50). Induction grants a theory to be formulated from developing patterns in the research data (Blaikie, 2003:47). It is associated with an analytical-inductive method, which is part of the research, followed by theory strategy (Bryman, 2004:57).

Against this background, it is proposed that the current study will follow a deductive strategy. With a deductive study, a hypothesis will be stated and tested. Typical of the deduction method is the testing of hypotheses that fall in line with the positivist approach. The induction strategy would obviously be the opposite, where a theory is set up after careful observations, which would be in line with the interpretivist approach.

3.4 Methods of approach

3.4.1 Quantitative

Dunne, Prior and Yates (2006:116) state that quantitative approaches are commonly identified with positivist aspects in social research. The term quantitative method indicates in broad terms to the acceptance of the natural science experiment as the model for scientific research, its important features being quantitative measurement of the phenomena studied and methodical control of the theoretical variables influencing those phenomena (Henn *et al.,* 2006:117). According to Blaikie (2003:21) quantitative studies data commonly begin in words, are converted into numbers, are subjected to different levels of statistical manipulation, and are described in both numbers and words: from words to numbers and back to words. In quantitative study the spotlight will be on control of all the factors and representations of the participants: the variables will be controlled and the study will be guided with an acute focus on how variables are related (Hall & Hall, 1996:45).

3.4.2 Qualitative

Henn *et al.* (2006:156) state that a qualitative research method is more often than not considered with an interpretive perspective in social research, in which the logic of research is not so much to test out given theories about what guides human behaviour, but instead to establish an appreciation of the basic motivations that people have for doing what they do. The data collection process is described as being intensive; very detailed study involves the collection of large quantities of data from a small number of respondents and settings (Gilham, 2004:46).

In qualitative research, the researchers' essential goal is an understanding of social development rather than collecting a representative sample (Dunne *et al.*, 2005:68). Settings and participants are selected using snowball sampling and theoretical sampling (Bryman, 2004:67).

Against the above background and under the careful consideration of the literature it is proposed that the main study will be conducted under the quantitative paradigm. Quantitative research is associated with scientific research. The research is very reliable and a high degree of generalisation can be expected. The study's primary focus will be the existence of certain phenomena. Therefore, a quantitative research will be appropriate as the research will be conducted on a large number of respondents. However, the turnaround time of these surveys is normally quicker than for qualitative research. Quantitative research is also less expensive than

conducting qualitative research. Quantitative research also falls in line with the deductive, positivist and objectivism approach.

3.5 Population

All the people with similar characteristics that are studied are called population (Leedy & Ormrod, 2013:204). Construction workers participated within this study. The following are categories of construction worker who participated in the study: skilled, semi-skilled and unskilled (labourers)

Population validity refers to the extent to which the results collected for a sample of individuals may be generalised to the population to which the research hypotheses applies (Huysamen, 2001:37). The degree of population validity attained depends exclusively on how representative the sample is of the population from which it has been obtained (Neuman, 2000:49).

Denscombe (2001:37) states that as a result of the size of the population, it is usually not practically and economically feasible to involve all its members in a research project. Consequently, we have to rely on the data obtained for a sample from the population (Punch, 2006:42).

3.6 Sample

A distinction can be made between probability samples and non-probability samples (Hall and Hall, 1996:34). Random samples, stratified samples, systematic samples and cluster samples are examples of probability samples, whereas accidental samples, convenience samples, purpose samples, quota samples and snowball samples are non-probability samples (Huysamen, 2001:37).

The current study will make use of non-probability sampling in the form of convenience sampling. A convenience sample is one that is simply available to the researcher by virtue of its accessibility (Maree, 2007:52). It also perhaps ought to be recognised that convenience sampling probably plays a more prominent role than is sometimes supposed (Bryman, 2004:100). Certainly, in the field of organisation studies it has been noted that convenience samples are very common and indeed are more prominent than are samples based on probability sampling (Bryman, 2004:100).

Construction sites were conveniently selected throughout the Western Cape. These construction sites were accessed through the help of the Department of Construction

Management and Quantity Surveying as these were sites where current students were employed. Students within the department do their second-year Work Integrated Learning (WIL) with construction companies.

The workers on site were selected by using purposive sampling, where workers were chosen from as many construction trades as possible. Respondents were also sampled from the Department of Public Works. These respondents were undergoing training in Cape Town as part of the Contractor Development Programme.

3.7 Exploratory study

An exploratory study was undertaken to determine the degree of motivational strategies used by supervisors on construction sites, to improve the productivity of construction workers. Two construction sites in Bellville, Cape Town were conveniently selected for the purpose of this study. The study was qualitative in nature and semi structured questionnaires were used to conduct the interviews. Biggam (2008), states that qualitative research is linked with exploratory studies. The exploratory study undertaken determined whether the intended research was worthy of pursuing. Also the findings of the exploratory study aided in the design of the main study.

3.8 Questionnaire design

Questionnaires are seen as time and cost effective as they present the potential to include many more respondents that would be conceivable through interviews. (Dunne, *et.al.*, 2005:43). Generally, questionnaires hold the following advantages (Gillham, 2004:7):

- low cost in time and money;
- respondents can complete the questionnaire when it suites them;
- analysis of answers to close questions are almost straightforward;
- less pressure for an prompt response;
- respondent anonymity;
- easy to get information from a lot of people very quickly;
- lack of interview bias;
- standardization of questions; and
- respondent can provide suggestive data for testing and hypothesis.

Neuman (2000:251) states that there are two key principles for good survey questions:

- Avoid confusion and keep the respondent’s perspective in mind.

- Good survey questions give the researcher valid and reliable measures.

The questionnaire will make use of predominantly close-ended questions with some open-ended questions. An open-ended question asks a question to which respondents can give any answer. A close-ended question both asks a question and gives a respondent fixed responses from which to choose. It is also preferable that large-scale surveys have close-ended questions because they are quicker and easier for both researcher and respondent.

Questionnaire layout is important (Neuman, 2000:251). The questionnaire is clear, neat and easy to follow. Each question has been given a number, and identifying information (e.g., gender) is on the questionnaire.

The questionnaires for the main study will make use of Likert-scales. Likert-scales are called summated-rating or additive scales because a person's score on the scale is computed by summing the number of responses the persons gives (Neuman, 2000:251). Scales create an ordinal, interval, or ratio measure of a variable expressed as a numerical score (Neuman, 2000:180). Scales are common in situations where a researcher wants to measure how an individual feels or thinks about something.

3.9 Reliability

Bryman (2004:102) states that the reliability of an instrument means that if the same instrument is used at different times or administered to different subjects from the same population, the findings should be the same. The Cronbach Alpha test is a statistical tool that can be used for assessing the reliability of data (Girden and Kabacoff, 2011:381). The reliability in this study will be assessed by using Cronbach Alpha values.

3.10 Validity

Validity refers to the issue of whether an indicator (or set of indicators) which is devised to gauge a concept really measures that concept (Lee, 2000:89). Simply defined, validity is authentically of data collected to produce a desired result. The following steps were taken to ensure that this research outcome is valid and reliable:

a) *Population:* the population considered for this study consisted of construction workers within the construction industry
b) *Participants:* were mostly experienced construction workers occupying different worker levels and working in various trades within the construction industry.
c) *Time:* a reasonable length of time was considered for data collection (6 months).

d) *Instruments:* the most accurate instruments were used.

e) *Exploratory study:* an exploratory study were conducted to determine the methods and techniques to be used in the study to ensure accurate and reliable data collection.

f) Cronbach's alpha coefficient: Cronbach's alpha coefficient were used to test the reliability of all the scale questions in this study.

g) Purposive sampling approach: the use of a purposive sampling approach technique for collecting data and the selection of construction workers according to different worker levels and within various trades were the steps taken to ensure validity and reliability of outcome of findings.

h) Triangulation methods: triangulation methods were used for data and information collection.

i) Recording instruments: Instruments used for recording and analysis of data collected included the statistical package software analysis version 22, and Blackberry 7520 was used to record the interviews.

3.11 Methods of data collection

Once decisions have been made as to a particular research design and on the operation or measurement of variables, the research participants have to be obtained to carry out the research in terms of the chosen design (Babbie, 2007:55). In survey research, data may be collected by means of a structured questionnaire in personal interviews, in telephone interviews, by post and by administering it to groups (Treiman, 2008:59). In the first and second instances, the interviewer puts the questions to the respondent and writes down the responses to the questions, while in the last two cases the respondents complete the questionnaires themselves (Denscombe, 2007:97).

Against the above background, it is proposed that the data should be collected by administering the questionnaires to groups of construction workers. The research was conducted at construction sites within the borders of the Western Cape. The questionnaires were handed to the construction workers on site. The researcher was on site with an assistant/s (with alternative language capabilities) to answer any question arising from the completion of the questionnaires. In addition, the questionnaires will be posed in Afrikaans, English and IsiXhosa

3.10 Data analysis

After an appropriate research design and suitable ways of creating or measuring the relevant variables were decided on, an appropriate statistical procedure was chosen for analysing the

data to be obtained eventually (Gilham, 2005:88). It cannot be emphasised strongly enough that statistical techniques merely serve as aides in assisting the researcher to come to a justifiable decision as to whether or not the data obtained support the hypothesis originally formulated (Babbie, 2007:37).

3.10.1 Result presentation

The research data needs to be presented in a meaningful way so that it provides necessary information (Dunne *et al,* 2005: 47). Once the stage in simplification of the research data has been reached, the results need to be summarised using any of the following to present the research data: tabulation, diagrams and charts; and frequency distributions (George, 2011:76).

3.10.2 Software to be used

Among the software used by social and behavioural scientist, the SPSS (Statistical Package for the Social Sciences), BMDP (Biomedical Data Processing System) and the SAS (Statistical Analysis System) are the best known (Huysamen, 2001:195). Not only are the above programmes versatile and less expensive to use than to develop programmes specifically for individual use, but they yield highly reliable results (Silverman, 2006:124).

The current research made use of the SPSS software programme. Data were descriptively and inferentially analysed.

3.10.3 Statistical techniques

Statistical techniques cannot select themselves, nor can they interpret the results that have been obtained by them or make conclusions on behalf of the person applying them (Treiman, 2008:87). The choice of the appropriate statistical techniques and the interpretation of the results obtained remain the exclusive responsibility of the researcher using them (Huysamen, 2001:194).

3.10.3.1 Descriptive Statistics

After the information has been collected and captured on computer as numbers, called data or raw data, the analysis process usually starts with descriptive statistics (Maree, 2007:183). The term descriptive statistics is a collective name for a number of statistical methods that are used to organise and summarise data in a meaningful way. This serves to enhance the properties in a meaningful way. Descriptive statistics can be divided into two ways of representing or describing data: graphical ways; and numerical ways.

3.10.3.2 Inferential Statistics

More often than not, researchers want to go beyond just summarising and describing the data they have collected (Maree, 2007:183). The purpose of most research is to use the findings from the sample data to generalise or draw conclusions about the population. This is called statistical inference, a field of statistics that relies heavily on probability theory (Maree, 2007:183). It is a means of probability statements that inferences are made, for the simple reason that one can never report anything about a whole (population) with certainty if it is based only on a part sample.

Maree (2007:183) states that statistical tests of hypothesis may be classified as belonging to one of two groups:

1. Parametric methods
2. Non-parametric or distribution-free methods

The reason for this distinction lies in the fact that statistical tests rely on certain population characteristics for their outcome to be valid. In general, parametric methods are used when one has knowledge of the underlying distribution of the study variable. Non-parametric methods are used when very little is known about the variable's distribution in the population.

3.10.3.2.1 The Mann–Whitney U test

In statistics, the Mann–Whitney U test (also called the Mann–Whitney–Wilcoxon (MWW), Wilcoxon rank-sum test (WRS), or Wilcoxon–Mann–Whitney test) is a non-parametric test of the null hypothesis that two samples come from the same population against an alternative hypothesis, especially that a particular population tends to have larger values than the other. It can be applied on unknown distributions contrary to *t*-test which has to be applied only on normal distributions, and it is nearly as efficient as the *t*-test on normal distributions (Wikipedia: online).

3.10.3.2.2 The t-test

Maree (2007:183) states that this technique is used under the following circumstances:

- When two independent groups need to be compared based on their average score on a quantitative variable.
- When the average scores on two quantitative variables need to be compared in a single sample.
- When the average of a quantitative variable needs to be compared with a specified constant value in a single sample.

3.10.3.2.3 The Kruskal–Wallis test

The Kruskal–Wallis test by ranks (named after William Kruskal and W. Allen Wallis) is a non-parametric method for testing whether samples originate from the same distribution. It is used for comparing two or more independent samples of equal or different sample sizes. It extends the Mann–Whitney U test when there are more than two groups. The parametric equivalent of the Kruskal-Wallis test is the one-way analysis of variance (ANOVA) (Wikepedia: online).

3.10.3.2.4 Analysis of variance (ANOVA)

Maree (2007:183) states that this technique is used when there are more than two independent groups that need to be compared on a single quantitative measure or score. Specifically, it tests whether the groups have different average scores.

ANOVA is appropriate if:

- the quantitative variable is normally distributed in each population;
- the spread (variance) of the variable is the same in all populations.

The statistical techniques to be used in this study are the Kruskal Wallis test and the Mann Whitney U test.

3.11 Treatment of hypothesis

The hypothesis will be tested by using the Kruskal Wallis test and the Mann Whitney U test.

3.12 Addressing the objectives

Table 3.1 Analysing the variables

Objectives	Variables	Sourced	Analysis
1. To identify whether there is any significant difference between the communication techniques used by supervisors and the demographics of workers in affecting their productivity.	Communication, Demographics, Linkert scales on productivity.	Artisans, semi-skilled, labourers.	Mann-Whitney U test. Kruskal-Wallis test
2. To identify whether there is any significant difference between the rewards systems used on site and the demographics of workers in affecting their productivity.	Rewards, Demographics. Linkert scales on productivity.	Artisans, semi-skilled, labourers.	Mann-Whitney U test Kruskal-Wallis test
3. To identify whether there is any significant difference between the reinforcement techniques used on site and the demographics of the workers in affecting their productivity.	Reinforcement, Demographics. Linkert scales on productivity.	Artisans, semi-skilled, labourers.	Mann-Whitney U test. Kruskal-Wallis test

3.13 Chapter summary

This chapter explains the research methodology of the study. A qualitative approach was used in the exploratory. Data was collected from two construction sites conveniently selected in Cape Town, South Africa. Purposive sampling technique was used to select construction workers across various trades. Data was analysed by content analysis.

The main study will follow a positivist approach with a deductive strategy. The study's ontological orientation was that of objectivism and the study was conducted under the quantitative paradigm. The study made use of questionnaires, which were personally delivered onto site and waited for upon the questionnaires completion. The study was conducted by using purposive sampling, where respondents were selected across various trades. The validity and reliability of the questionnaire was ensured. The study made use of the SPSS software programme. Data were descriptively and inferentially analysed. The statistical techniques used in this study were analysis of means and analysis of variance.

CHAPTER FOUR
ANALYSIS OF THE EXPLORATORY STUDY

4.1 Introduction

This chapter presents the analysis of data collected at an early stage of the study. This exploratory study aims to gain more insight into the motivational techniques used on a construction site and how these rewards influence productivity. This information was helpful in setting up the questionnaires for the main study. This chapter includes demographics of respondents, analysis and discussions. The following motivational techniques were investigated within this exploratory study: communication, rewards and reinforcement.

4.2 Research participation

An exploratory study was undertaken to determine the degree of motivational strategies used by supervisors on construction sites to improve the productivity of the construction workers. The motivational strategies explored in this study were communication, rewards and reinforcement.

Two construction sites in Bellville, Cape Town were conveniently selected for the purpose of this study. The study was qualitative in nature and semi structured questionnaires were used to conduct the interviews. Biggam (2008:86) indicates that qualitative research is linked with exploratory studies. Two open-ended questions were posed to the workers. The first question asked the workers how supervisors motivate them by using certain communication, rewards and reinforcement techniques. The follow-up question was, how the techniques used by the supervisor, influence the workers' productivity.

Five respondents from each construction site were interviewed. The respondents were selected by using purposive sampling. The purposive sampling method employed was maximum variation sampling or heterogeneous sampling, where the workers were purposively selected from various trades. The trades in which these respondents specialise are earthworks, concrete, plumbing, bricklaying and electrical work. The data was analysed by using content data analysis.

A Total of ten respondents took part in the study. The respondents were all male. The participants in the study as shown in Table 4.1 were mainly experienced workers. About 80% were in the construction industry for more than 5 years.

Table 4.1 Working experience of respondents

Years of experience	No	%
1-5	2	20
6-10	5	50
11-15	3	30
Total	**10**	**100**

Table 4.2 shows the status of the workers' employers. 80% of the workers are employed by sub-contractors and 20% by the main-contractor.

Table 4.2 Employer status

Employer status	No	%
Main contractor	2	20
Sub contractor	8	80
Total	**10**	**100**

Table 4.3 shows the skills level of the construction workers. 70% of the workers were unskilled, 20% semi-skilled and 10% skilled.

Table 4.3 Worker level

Worker level	No	%
Unskilled	7	70
Semi-skilled	2	20
Skilled	1	10
Total	**10**	**100**

Table 4.4 shows the trades that the respondents were involved in. The trades include bricklaying (20%), concrete (20%), plumbing (20%), electrical (20%) and earthwork workers (20%).

Table 4.4 Trades of workers

Trades of workers	No	%
Bricklayers	2	20
Concrete workers	2	20
Electricians	2	20
Plumbers	2	20
Earth workers	2	20
Total	**10**	**100**

4.3. Types of communication techniques used on site

The first question required the respondents to indicate ('yes' or 'no') on whether motivational communication techniques are used by the supervisor on site when issuing instructions to workers – in terms of respect, clear communication, feedback and listening. The workers were then asked to elaborate on their answer. The information in Table 4.5 includes the frequency of use of these techniques on these two construction sites.

Table 4.5 Frequency of use of communication variables (techniques)

No.	Variables	Yes		No	
		N	%	N	%
1.	Respect	10	100.0	0	0.0
2.	Communication	2	20.0	8	80.0
3.	Feedback	1	10.0	9	90.0
4.	Listening	1	10.0	9	90.0

4.3.1 Respect

In the study, all respondents (100%) stated that the supervisor treated them with some kind of respect. However, the workers conveyed that this respect is limited to the supervisor not shouting at them, and not using obscene language when communicating with them. However, this respect excludes the workers' performance and job satisfaction, which is important in providing the construction worker with a motivational environment (Doloi, 2007:30). It is important to note that although workers felt they were treated with 'respect', they actually stated that this form of respect alone does not compel the workers to higher levels of productivity. Cox *et al.* (2006:152) states that a lack of motivation affects productivity negatively.

4.3.2 Communication

In the study 80% of the respondents felt that their supervisors do not communicate clearly when issuing instructions to them. The general view was that the supervisors only stated the task-at-hand and expected the workers to complete it in due time without any further explanation of how the task should be done. The workers stated that they do want a brief explanation and are too afraid to ask the supervisor because they might appear to be incompetent. This subsequently limited the workers' productivity, as they were not certain about the instructions. French *et al*. (2008:514) state that the habits of good communication are to: speak clearly, write clearly, be aware of cultural differences, listen attentively, question precisely, answer honestly and pause for feedback signals.

4.3.3 Feedback

In the study 90% of the respondents stated that the supervisor does not expect any feedback from them. However, Certo (2008:257) states that feedback is at the heart of the communication process, if communication is deemed to be motivational. Although the workers are well experienced in their trades, they complained that they were not asked for any input to better their performance. This is really demotivating for the workers as they are in the perfect position to understand where and in what manner construction productivity is lost or could be achieved (Oglesby *et al.,* 1989:113). Obtaining feedback from the construction workers is important not only to lend support to the workers but also to improve their motivation (Dai *et al.,* 2009:217).

4.3.4 Listening

The study further indicates that 90% of the respondents complained that the supervisors do not listen to them. The workers stated that they sometimes asked for clarity about a task being given by the supervisor but they felt that the supervisor did not respond to their request. Certo (2008:258) states that for motivational communication to be effective the sender of the message (supervisor) must make certain that the receiver (worker) receives the message. The receiver in addition to the sender has a dynamic part to play in communication. If the receiver is not playing that role, communication is not happening. This is also typical of a supervisor practising functional communication, where the supervisor does not influence the workers understanding (French *et al.*, 2008:522).

4.4.5 Impact of communication techniques on productivity of construction workers

The follow up question asked whether these communication techniques used by supervisors improved the workers' productivity on site. The findings revealed that 90% of the respondents' productivity was adversely affected by the communication techniques used by their supervisors. Workers indicated that supervisors show little interest towards their empowerment. Workers felt that, on numerous occasions, they would rather wait for the supervisor to repeat his instructions to gain clarity. This was a clear indication that functional communication behaviour dominates over motivational communication. Haim (2003:37) states that functional communication is only directed at the task-at-hand and that the supervisors do not pause for any feedback. Schemerhorn (1986:285) also states that a task-orientated supervisor only emphasizes behaviours that: plan and define work to be done; set clear work standards; urge task completion; and monitor results.

4.4 Reward techniques used

The first question required the respondents to indicate whether the reward techniques used on site in terms of salaries, bonuses, responsibilities and meaningful work, motivated them towards higher performance. The different reward techniques are listed in Table 4.6.

Table 4.6 Frequency of use of reward variables (techniques)

No.	Variables	Yes		No	
		N	%	N	%
1.	Salaries	10	100.0	0	0.0
2.	Bonuses	2	20.0	8	80.0
3.	Responsibility	1	10.0	9	90.0
4.	Training	1	10.0	9	90.0

4.4.1 Salaries

In the study, 100% of respondents stated that they receive their monthly salary. Salaries are an extrinsic reward. However, workers complained that monthly basic salary alone fails to motivate them to higher production levels. In fact, the workers felt that salary increases were long overdue. Therefore, (Schemerhorn *et al*, 2005:178) state that unhappiness with salaries can lead to strikes, grievances, absenteeism, turnover, and sometimes even poor physical and mental health.

4.4.2 Bonuses

In the study, only 20% of the workers receive annual bonuses. Bonuses are an extrinsic reward. Furthermore, 80% of the workers stated that they do not receive bonuses or any other form of reward from their employers. Workers actually indicated that they are reluctant to perform at higher levels, because they will not be rewarded for it. Mosley *et al*, (2008:302) and Maurer, *et al.* (2003:707) state that workers are motivated to perform at a high levels only if they think that high performance will lead to outcomes such as pay and bonuses.

4.4.3 Responsibility

In the study, 90% of the respondents stated that the supervisor does not entrust them with the majority of the given tasks. Responsibility serves as an intrinsic reward (Ryan and Deci, 1999:55). The workers feel less empowered because the supervisor crowds them with his presence and will not let the workers take responsibility for some tasks. However, supervisors can boost expectancies through expressing confidence in their workers capabilities (Luthans, 2005:206).

4.4.4 Training

The study further indicates that 90% of the respondents complained that they do not receive any form of training to ensure that they can produce at higher levels. Training serves as an intrinsic reward (Ryan & Deci, 1999:55). The workers indicated that they would like to excel in their various trades, but are not given the necessary training in order for them to equip themselves. Jones (2009:468) states that supervisors can also boost workers expectancy levels and motivation by providing training so that people have all the expertise needed to perform.

4.4.5 Impact of reward techniques on productivity of construction workers

The follow-up question asked whether these reward techniques used by supervisors improved the workers' productivity on site. The findings revealed that 80% of the respondents' productivity was adversely affected by the rewarding techniques or lack thereof used by management. Workers indicated that management show little interest towards their empowerment. Workers felt that they needed to be rewarded more in order for them to produce at higher levels.

4.5 Reinforcement

The third question required the respondents to indicate whether the reinforcement techniques used on site in terms of verbal affirmation, visual signs of approval and warnings, work towards motivating them to higher performance. The different reward techniques are listed in Table 4.7

Table 4.7 Frequency of use of reinforcement (techniques)

No.	Variables	Yes		No	
		N	%	N	%
1.	Verbal affirmation	3	30.0	7	70.0
2.	Visual signs of approval	5	50.0	5	50.0
3.	Warnings	2	20.0	8	80.0

4.5.1 Verbal affirmation

Only 30% of the respondents stated that the supervisor gives verbal affirmation when he does the task to the supervisor's satisfaction. Phillip and Gully (2012:147) state that positive reinforcement is important because, when used, it increases the possibility that the behaviour will be repetitive.

4.5.2 Visual signs of approval

Only 50% of the respondents state that the supervisor gives visual signs of approval when the task has been done to the supervisor's approval. The workers stated that these visual signs are

important motivators for them during the day. Phillip and Gully (2012:147) states that a positive reinforce is any one thing which reinforces the behaviour it follows and makes the behaviour more possible.

4.5.3 Warnings

Only 20% of the workers state that supervisors do use warnings on them. Some of the workers even stated that supervisors would rather dismiss them than to issue out a warning. Pettinger (2006:210) state that although harsh punishment may stop behaviour, unavoidably it seems that in the long term, side effects set in.

4.4.5 Impact of reinforcement techniques on productivity of construction workers

With regard to productivity, only 10% of the workers felt the need for productivity. Workers felt that reinforcement techniques aren't used enough on construction sites in order for them to improve their productivity.

4.5 Conclusion and further research

Supervisors are the link between management and the workforce. Therefore, in order to gain sustainable productivity it is vital that the supervisor, through management, reward the workers to ultimately reach the organisation's ideals and goals. Therefore an exploratory study was undertaken to determine the extent to which motivational techniques influence the productivity of construction workers.

Findings of the exploratory study indicate that, in communication, feedback is a major consideration when motivating construction workers. Motivational communication is all about feedback where the supervisor stimulates the workers involvement in the task by actively listening to productive thoughts of the worker. The study conveyed that in most cases the supervisors do not allow the workers any input in tasks. Therefore, communication that is more obviously motivational, is avoided. Critically the study showed that only 10% of the workers sampled were encouraged to give feedback, and the subsequent result thereof was higher productivity. However with the other 90% where feedback was absent, the need for increased productivity was absent.

With regard to extrinsic rewards the findings revealed the unhappiness of the workers towards their salaries, as they complained that their salaries were too low. The workers also complained about the absence of bonuses. With regard to intrinsic rewards, workers complained that supervisors do not give them enough responsibility. The workers also complained about the lack

of training available to them. The findings indicated that workers need both extrinsic and extrinsic rewards to better their productivity. The literature and empirical findings confirm the relevancy of Victor Vrooms expectancy theory. The theory indicates that motivation is at its peak when great levels of effort lead to performance and that performance gets rewarded with desirable goals (Mosley *et al.*, 2008:322; Maurer, Weiss and Barbeite, 2003:707). Workers indicated that they do not perform at higher levels because they lack the training to do so, or they feel that they will not be rewarded at all for high performance.

With regard to reinforcement techniques used on site, the workers stated that the supervisors hardly ever, or never, use reinforcement techniques during the day. The findings revealed that the workers need positive reinforcement to encourage them towards higher productivity. The findings also revealed that the supervisors would rather dismiss workers than issue them with warnings for serious wrongdoings.

The research is firstly beneficial to construction workers, because productive workers will enhance their chances of promotion and rewards within the organisation. In addition, the research is beneficial towards the organisation itself, because a motivated productive workforce will indefinitely increase profits.

Further studies are therefore recommended to determine how the use of motivational techniques such as communication, rewards and reinforcement can improve the productivity of construction workers. The findings of the study also helped in the formulation of the questionnaires to be used in conducting the main study.

CHAPTER FIVE

DATA PRESENTATION, ANALYSIS AND DISCUSSION

5.1 Introduction

This chapter consists of analysing and discussing the data gathered in the field. The chapter includes the response rate of the survey, demographical details of the respondents and testing of instrument for reliability purposes. This Chapter subsequently represents the interpretation and discussion of results in respect of communicational motivation techniques; rewarding techniques and reinforcement techniques used by construction supervisors in motivating their workers to higher levels of productivity. Moreover, sections include: reliability testing of scale questions; testing of hypotheses; a discussion of the findings and chapter summary.

5.2 Piloting the questionnaire

The questionnaire was set up in three different languages: English, isiXhosa and Afrikaans. In order to achieve the appropriateness and clarity of the questionnaire, the questionnaire was piloted to staff members of the Cape Peninsula University of Technology within the Department of Construction Management and Quantity Surveying. Twenty questionnaires were also administered to construction workers within Cape Town to draw their comments. The subsequent input from the staff members and construction workers were taken into consideration in the formulation of the final questionnaire.

5.3 Research participation

One hundred and ninety one (191) questionnaires were distributed to construction workers working for construction companies within the borders of the Western Cape of South Africa. The respondents to the study were labourers, semi-skilled and skilled workers, who engaged in various construction trades. The questionnaires were hand delivered to construction workers on site and completed in the presence of the researcher. All questionnaires were returned.

5.3.1 Gender of respondents

The data in Table 5.1 indicate that the majority of respondents were males (85.3%) and 14.7% were females.

Table 5.1 Gender of respondents

Gender	No.	%
Male	163	85.3
Female	28	14.7
Total	**191**	**100.0**

5.3.2 Age of workers

Table 5.2 indicates that the highest percentage of respondents – 42.9% (82) – are between the ages of 31-40 years. 22.5% (43) of the respondents are between the ages of 41-50. Respondents in the age group of 26-30 years amount to 22.0% (42) of the respondents. 3.1% (6) of respondents are between the ages 18-25. 7.9% (15) respondents are in the age group 51-60 years. And finally, 3.1% (6) of the respondents are between the ages of 18-25, and 1.6% (3) of the respondents are more than 60 years old.

Table 5.2 Age of respondents

Age	No.	%
18-25 years	6	3.1
26-30 years	42	22.0
31-40 years	82	42.9
41-50 years	43	22.5
51-60 years	15	7.9
More than 60 years	3	1.6
Total	**191**	**100.0**

5.3.3 Qualification of workers

Qualifications of workers (Table 5.3) are as follows: 4.8% (8) have no formal education, while 9.4% (18) of the respondents attended primary school but did not complete it; 4.2 % (8) of the workers completed primary school; 27.6% (53) of the respondents attended secondary school but did not complete it. Of all the respondents, 33.3% (63) have a Matric certificate while 20.7% (34) of the workers have some form of tertiary certificate or diploma.

Table 5.3 Formal qualification of respondents

Qualification	No.	%
No formal education	8	4.8
Primary – not completed	18	9.4
Primary completed	8	4.2
Secondary – not completed	53	27.6
Matric certificate	63	33.3
Tertiary certificate/diploma	34	20.7
Total	**191**	**100.0**

5.3.4 Experience of respondents

5.3.4.1 Experience of construction workers within the construction industry

Table 5.4 indicates the experience of construction workers working within the construction industry. The table shows that the highest percentage of respondents, 42.8% (82), have been working for less than 5 years within the construction industry. 33.3% (63) of the respondents

have been working for between 6-10 years within the construction industry. 14.6% (28) respondents have been working for between 11-15 years. 1% (2) of the workers have worked for more than 20 years within the construction industry.

Table 5.4 Experience of construction workers within the construction industry

Experience	No.	%
Under 5 years	82	42.8
6-10 years	63	33.3
11-15 years	28	14.6
16-20 years	16	8.3
More than 20 years	2	1.0
Total	**191**	**100.0**

5.3.4.2 Experience of construction workers working for current contractor or employer.

Table 5.5 indicates the experience of construction workers working for their current contractor. The table shows that the highest percentage of respondents, 63.9% (122), have been working for less than 5 years for their current contractor. 29.3% (56) of respondents have been working for between 6-10 years for their current contractor. Respondents working between 11-15 years amount to 6.8% (13).

Table 5.5 Experience of construction workers working for current contractor

Experience	No.	%
Under 5 years	122	63.9
6-10 years	56	29.3
11-15 years	13	6.8
Total	**191**	**100.0**

5.3.5 Designation of respondents

Table 5.6 indicates that the majority of the respondents, 43.4% (83) were skilled workers. The remainder of the respondents includes: 39.3% (75) semi-skilled workers; 17.3 % (33) labourers.

Table 5.6 Designation of respondents

Positions	No	%
Labourer	33	17.3
Semi – Skilled	75	39.3
Skilled	83	43.4
Total	**191**	**100.0**

5.3.6 Level of supervision

Table 5.7 indicates that the majority of the respondent's supervisors were foremen, 40.3% (77). The remainder of the supervision includes: 28.8% (55) General Foremen; 20.4% (39) Junior/ Assistant Foremen and 10.5% (20) Leading/Charge Hands.

Table 5.7 Level of supervision

Positions	No	%
Leading / Charge Hands	20	10.5
Junior / Assistant Foreman	39	20.4
Foreman	77	40.3
General Foreman	55	28.8
Total	**191**	**100.0**

5.3.7 Trade occupied by respondents

Table 5.8 indicates that 33.4% (64) of the respondents work within the bricklaying trade. The remainder of the workers occupy positions in the following trades: Concrete 26.7% (51); Plumbing 14.1% (27); Electrical 10% (19); Earthworks 12.1% (23); Carpenter 3.7% (7).

Table 5.8 Trade occupied by respondents

Positions	No	%
Concrete	51	26.7
Bricklaying	64	33.4
Plumbing	27	14.1
Electrical	19	10.0
Carpenter	7	3.7
Earthworks	23	12.1
Total	**191**	**100.0**

5.3.8 Achievement of worker productivity

5.3.8.1 Meeting expected quantity standards in productivity

Table 5.9 indicates that 78.5% (150) of the respondents indicated that they were meeting expected productivity, while 16.8% (32) of the respondents felt that they were working below expected productivity and 4.7% (9) of the workers felt that they were above expected productivity. This implies that some workers are producing above productivity levels while other workers are not even meeting expected productivity levels, and motivational factors might be the reason for these results.

Table 5.9 Meeting expected productivity

Productivity	No	%
Below expected productivity	32	16.8
Meet expected productivity	150	78.5
Above expected productivity	9	4.7
Total	**191**	**100.0**

5.3.8.2 Meeting expected productivity without compromising with time schedule

Table 5.10 indicates that 72.3% (138) of the respondents felt that they were meeting production targets on time, while 15.7% (30) of the respondents felt that they were taking longer to complete production and 4.7% (9) of the workers felt that they were reaching production targets in a shorter time than expected.

Table 5.10 Productivity standards within expected time

Time	No	%
Longer than expected	30	15.7
On time as expected	138	72.3
Shorter than expected	23	12.0
Total	**191**	**100.0**

5.3.8.3 Meeting expected productivity without compromising with quality standards

Table 5.11 indicates that 69.1% (132) of the respondents felt that they were meeting expected quality, while 16.8% (32) of the respondents felt that they were producing below expected quality standards and 4.7% (9) of the workers felt that they were above expected quality standards.

Table 5.11 Meeting productivity standards (quality)

Positions	No	%
Below quality	37	19.4
Meeting expected quality	132	69.1
Above expected quality	22	11.5
Total	**191**	**100.0**

5.4 Motivational techniques

5.4.1 Reliability of scaled questions

The Statistical Package for Social Sciences Software (SPSS) was used to test the scaled questions for reliability. The values of Cronbach's alpha coefficient are interpreted as follows: Values that are lower than 0.60 degrees are considered unacceptable, values with 0.70 degrees are considered as having low reliability, 0.80 degrees are considered as having moderate reliability and 0.90 degrees are considered having high reliability (Maree, 2007:216). Also, degree values tend to be low when items less than 10 are tested. Table 5.12 represents a summary of the reliability tests. The reliability test of motivational communication factors that, of 10 scaled items applying Cronbach alpha, the calculated percentage was 0.84. The reliability for motivational communication was moderate. Functional communication obtained a low Cronbach alpha value of 0.67 for 9 scaled items. The reliability for functional communication was low. The reason for the low percentage is that the number of items are less than 10. Intrinsic motivation obtained a Cronbach alpha value of 0.87 for 10-scaled items. The degree of reliability test for intrinsic motivation was high. The reliability of extrinsic motivation factors that, of 11 scaled items applying Cronbach alpha, the calculated percentage was 0.94. The reliability for extrinsic motivation was high.Positive reinforcement also obtained a high Cronbach alpha value of 0.96 for 12 scaled items. Therefore, the reliability for positive reinforcement was high. Punishment obtained a Cronbach alpha of 0.94 for 11-scaled items. The reliability for punishment was high.

Table 5.12 Reliability of scaled questions

Item	Headings	Number of items	Cronbach's alpha coefficient values	Reliability
1	Motivational communication	10	0.84	Moderate
2	Functional communication	9	0.67	Low
3	Intrinsic motivation	10	0.87	High
4	Extrinsic motivation	11	0.94	High
5	Positive reinforcement	12	0.96	High
6	Punishment	11	0.94	High

5.4.2 The effect of motivational communication on the productivity of workers

Respondents were requested to indicate their level of agreement in how motivational communication techniques would motivate them towards productivity using a 7-point Likert Scale where 1 = strongly disagree; 2 = disagree; 3 = somewhat disagree; 4 = slightly agree; 5 = somewhat agree; 6 = agree; 7 = strongly agree. From Table 5.13, it was possible to rank

motivational communication techniques using their mean scores. It was revealed that workers are able to speak directly with their supervisors (mean of 5.95); workers receive constructive feedback from their supervisors (mean of 5.79); supervisors actually listen to what workers have to say (mean of 5.77), and communication should be a two-way process (mean of 5.77). This signified that the respondents agreed that supervisory motivational techniques (average mean of 5.62) would motivate them towards higher levels of productivity.

Table 5.13 Motivational communication

Techniques	N	Mean	S.D	Ranking
I speak directly with my supervisor	191	5.95	1.06	1
I receive constructive feedback from my supervisor	191	5.79	1.11	2
My supervisor actively listens to me	191	5.77	1.17	3
There is two-way communication between me and my supervisor	191	5.77	1.29	3
I'm allowed input in tasks assigned to me	191	5.76	1.18	4
My supervisor is interested in the ideas I have	191	5.64	1.20	6
My supervisor uses illustrations and examples when communicating tasks	191	5.64	1.15	6
My supervisor uses gestures to compliment his words	191	5.48	1.36	7
My supervisor gauges my understanding	191	5.47	1.46	8
My supervisor uses facial expressions to compliment his words	191	4.96	1.49	9
Average	**191**	**5.62**	**1.25**	

5.4.3 The effect of functional communication on the productivity of workers

In Table 5.14, respondents were requested to indicate their level of agreement on how functional communication techniques would motivate them towards productivity using a 7-point Likert Scale where 1 = strongly disagree; 2 = disagree; 3 = somewhat disagree; 4 = slightly agree; 5 = somewhat agree; 6 = agree; 7 = strongly agree. It was revealed that workers are unable to express their feelings (mean value of 2.58); also the supervisor wants 'Yes' or 'No' answers (mean of 2.55). Workers stated that instructions are task-orientated (mean of 2.53) and workers are also unable to state their social needs (mean of 2.50). This signified that the respondents disagreed to a large extend that functional communication techniques (average mean of 2.43) would motivate them towards productivity.

Table 5.14 Functional communication

Techniques	N	Mean	S.D	Ranking
I can't express my feelings	191	2.58	1.22	1
My supervisor wants 'Yes' or 'No' answers	191	2.56	1.15	2
I find my supervisor's instructions to be task orientated	191	2.53	1.10	3
I can't state my social needs	191	2.50	1.18	4
Communication has a verbal form only	191	2.42	1.32	5
My supervisor speaks without expecting feedback from me	191	2.40	1.06	6
My supervisor does not clarify instructions	191	2.35	1.28	7
My supervisor sets non-specific goals	191	2.31	1.13	8
My supervisor provides information about task completion	191	2.26	1.11	9
Average	**191**	**2.43**	**1.17**	

5.4.4 The effect of intrinsic rewards on the productivity of workers

Respondents were requested to indicate their level of agreement in how intrinsic reward techniques would motivate them towards productivity using a 7-point Likert Scale where 1 = strongly disagree; 2 = disagree; 3 = somewhat disagree; 4 = slightly agree; 5 = somewhat agree; 6 = agree; 7 = strongly agree. From table 5.15, respondents identified the following as the major intrinsic reward techniques to be used to improve their performance: doing meaningful work (5.63); wanting to feel a sense of accomplishment when completing a task (5.53); doing challenging work (5.53); and being given more responsibility (5.51). Findings indicate that respondents agree that intrinsic rewards techniques (average mean of 5.23) would motivate workers towards productivity.

Table 5.15 Intrinsic rewards

Techniques	N	Mean	S.D	Ranking
Assigns meaningful work to me	191	5.63	1.22	1
Assigns tasks to me that give me a sense of accomplishment when completed	191	5.53	1.18	2
Assigns challenging work to me	191	5.53	1.25	2
Gives me more responsibility	191	5.52	1.26	3
Gauges my enjoyment in doing the task	191	5.51	1.25	4
Likes me when I do right	191	5.46	1.37	5
Favours me when I do right	191	5.11	1.72	6
Clarifies rewards for performance with me	191	5.07	1.63	7
Rewards me according to my needs	191	4.86	1.73	8
Has specific worker rewards (separating rewards)	191	4.77	1.65	9
Average	**191**	**5.23**	**1.43**	

5.4.5 The effect of extrinsic rewards on the productivity of workers

Respondents were requested to indicate their level of agreement on how extrinsic reward techniques would motivate them towards productivity using a 7-point Likert Scale where 1 = strongly disagree; 2 = disagree; 3 = somewhat disagree; 4 = slightly agree; 5 = somewhat agree; 6 = agree; 7 = strongly agree. From Table 5.16, the findings rank as follows: Regular salary being paid (mean of 5.89); satisfactory working conditions (mean of 5.52); receiving paid leave (mean of 5.41); guaranteeing job security (mean of 5.31); and promotional opportunities (mean of 5.24). Findings indicate that respondents somewhat agree that extrinsic rewards (average mean of 5.24) motivate workers towards productivity.

Table 5.16 Extrinsic rewards

Techniques	N	Mean	S.D	Ranking
Pays me my regular salary	191	5.89	1.13	1
Ensures that I have good working conditions	191	5.52	1.36	2
I receive my allocated paid leave	191	5.41	1.59	3
Ensures me that I have job security	191	5.31	1.64	4
Considers me for promotions	191	5.24	1.73	5
Ensures that I receive bonuses	191	5.23	1.68	6
Increases my merit pay for doing well	191	5.10	1.73	7
Gives me employee rewards for example, 'worker of the month'	191	5.07	1.75	8
Arranges transport allowance for me	191	4.96	1.88	9
Arranges paid training	191	4.95	1.82	10
Organises site 'braais' (barbeques)	191	4.94	1.62	11
Average	**191**	**5.24**	**1.63**	

5.4.6 The effect of positive reinforcement on the productivity of workers

Respondents were requested to indicate their level of agreement on how positive reinforcement techniques would motivate them towards productivity using a 7-point Likert Scale where 1 = strongly disagree; 2 = disagree; 3 = somewhat disagree; 4 = slightly agree; 5 = somewhat agree; 6 = agree; 7= strongly agree. From Table 5.17, the following was revealed: receiving recognition for doing well (5.63), verbally thanking me for work well done (5.59) and rewarding workers at the end of a goal (5.43). Findings indicate that respondents somewhat agree that positive reinforcement techniques (average mean of 5.30) would motivate workers towards productivity.

Table 5.17 Positive reinforcement techniques

Techniques	N	Mean	S.D	Ranking
Gives me recognition for doing well	191	5.63	1.33	1
Thanks me for work well done	191	5.59	1.44	2
Rewards me at the end of a goal	191	5.43	1.50	3
Rewards me for advancements made towards goals	191	5.35	1.55	4
Shows me visual signs of approval for doing well	191	5.34	1.52	5
Rewards me with performance bonuses	191	5.34	1.70	6
Gives me performance bonuses	191	5.30	1.70	7
Praises me for doing well	191	5.26	1.56	8
Issues crew rewards	191	5.17	1.63	9
Continuously rewards me for doing well	191	5.09	1.74	10
Rewards me as an individual	191	5.06	1.77	11
Gives me more attention for doing well	191	5.00	1.74	12
Average	**191**	**5.30**	**1.60**	

5.4.7 The effect of punishment techniques on the productivity of workers

Respondents were requested to indicate their level of agreement in how punishment techniques would motivate them towards productivity using a 7-point Likert Scale where 1 = strongly disagree; 2 = disagree; 3 = somewhat disagree; 4 = slightly agree; 5 = somewhat agree; 6 = agree; 7 = strongly agree. From Table 5.18, the following was revealed: verbal warnings (3.56), written warnings (3.49) and reprimanding the workers (3.39). Findings indicate that respondents somewhat disagree that supervisory punishment techniques (average mean of 3.20) would motivate workers towards productivity.

Table 5.18 Supervisory punishment techniques

Techniques	N	Mean	S.D	Ranking
Verbally warns me	191	3.56	1.97	1
Issues me with a written warning	191	3.49	1.90	2
Reprimands me for doing wrong	191	3.39	1.86	3
Rebukes me when I'm doing wrong	191	3.30	1.86	4
Withholds rewards	191	3.23	1.83	5
Gives me stern glances	191	3.20	1.83	6
Harasses me when I'm doing wrong	191	3.14	1.87	7
Avoids me when I do wrong	191	3.09	1.82	8
Withholds promotions for doing wrong	191	3.06	1.74	9
Points his finger at me when I'm doing wrong	191	2.99	1.79	10
Suspends me from work	191	2.71	1.72	11
Average	**191**	**3.20**	**1.84**	

5.5 Hypotheses testing

5.5.1 Hypothesis 1 – demographics on communication techniques

5.5.1.1 Test for normality on motivational communication

$H_0$1. There is no significant difference in the perception of construction workers in relation to communication techniques used by supervisors in affecting their productivity based on demographics.

Table 5.19 shows the results of the tests of normality on motivational communication on average obtained. A significance of 0.00 was obtained. A significance of 0.00 (equal or less than 0.05) indicates the violation of the assumption of normality. Therefore, the hypothesis was computed using non-parametric tests, namely Kruskal-Wallis and Mann-Whitney.

Table 5.19 Tests of normality for motivational communication techniques

	Kolmogorov-Smirnov			*Shapiro-Wilk*		
	Statistic	*Df*	*Sig.*	*Statistic*	*Df*	*Sig.*
Motivational communication	0.26	191	0.00	0.81	191	0.00

5.5.1.2 Test for normality on functional communication

Table 5.20 shows the results of the tests of normality on functional communication on average obtained. A significance of 0.00 was obtained. A significance of 0.00 (equal or less than 0.05) indicates the violation of the assumption of normality. Therefore, the hypothesis was computed using non-parametric tests, namely Kruskal-Wallis and Mann-Whitney.

Table 5.20 Tests of normality for functional communication techniques

	Kolmogorov-Smirnov			*Shapiro-Wilk*		
	Statistic	*Df*	*Sig.*	*Statistic*	*Df*	*Sig.*
Functional communication	0.23	191	0.00	0.84	191	0.00

5.5.1.3 Test of significant difference in demographics on motivational communication

5.5.1.3.1 Gender

The Mann-Whitney outputs shown in Table 5.21 and Table 5.22

Table 5.21 Mann Whitney gender ranks and motivational communication

Motivational communication	Gender	N	Mean Rank	Sum of Ranks	Median
	Male	163	98.29	16021.75	5.90
	Female	28	82.65	2314.25	5.65
	Total	191			

Table 5.22 Mann-Whitney gender statistics and motivational communication

Motivational communication	Mann-Whitney U	Wilcoxon W	Z	Sig. (2-tailed)	N	R
	1908.25	2314.25	-1.45	0.21	191	0.1

A Mann-Whitney U Test revealed no statistically significant difference in the importance of motivational communication levels of males (Md=5.90, n=163) and females (Md=5.65, n=28) U=1908.25, z=-1.45, p=0.21, and r=0.1 having small effect on size.

5.5.1.3.2 Age

To determine if the motivational communication result in significant difference between various age groups, the Kruskal-Wallis test was used (see Table 5.23 and 5.24). Table 5.23 shows the median of how workers perceived the influence of motivational communication across the different age groups: the first was the eighteen to twenty five age group (median of 6.10), the second was the twenty six to thirty age group (median of 6.00), the third was the fifty one to sixty age group (median of 6.00), the fourth was forty one to fifty age group (median of 5.90), the fifth was thirty one to forty age group (median of 5.80) and more than sixty group (median of 4.40). Table 5.24, shows the test statistic in motivational communication in the workers' age groups. It is revealed that there is no statistically significant difference between the different age groups [H (2) = 10.26; p = 0.15]. The Asymp. Sig. (p-value) was 0.15 which is greater than 0.05, indicating that the different age groups were not statistically significantly different. The results revealed that the age groups of workers do not influence their perception of the influence of motivational techniques used on productivity. Thus the null hypothesis is accepted.

Table 5.23 Kruskal-Wallis test applied to the perception of motivational communication techniques based on age of workers

Age of workers (years)	N	Mean rank	Median
18-25	6	110.70	6.10
26-30	42	99.92	6.00
51-60	15	87.33	6.00
41-50	43	104.02	5.90
31-40	82	90.76	5.80
More than 60 years	3	83.58	4.40
Total	191		

Table 5.24 Test statistics related to the perception of motivational communication techniques based on age of workers

Test statistics		
Chi-Square	**Df**	**Asymp. Sig.**
10.26	5	0.15

5.5.1.3.3 Race

The Kruskal-Wallis test was performed in order to find out if the perception of the motivational communication techniques used in improving productivity is based on race (see Table 5.25 and Table 5.26). In Table 5.25, the median of how workers of the different race groups perceived the influence of motivational communication is shown. The black and coloured groups had the highest ranked perception of the motivational communication as a technique used in improving productivity ,(median of 5.90); followed by whites (median of 3.90). In Table 5.26, results show that there was no statistically significant difference between the different race groups [H(2) = 6.58; p = 0.07]. The Asymp. sig. (p-value) was 0.07, which is greater than 0.05, indicating that statistically, the race of the workers does not affect the perception that motivational techniques used significantly influence their productivity. Thus the null hypothesis can be accepted.

Table 5.25 Kruskal-Wallis test applied to the perception of motivational communication techniques based on race of workers

Race of workers	N	Mean rank	Median
Black	91	95.85	5.90
Coloured	97	98.08	5.90
White	3	33.20	3.90
Total	**191**		

Table 5.26 Test statistics related to the perception of motivational communication techniques used on race of workers

Test statistics		
Chi-Square	**Df**	**Asymp. Sig.**
6.58	5	0.07

5.5.1.3.4 Qualification

To determine if the motivational communication results in significant difference between various qualification of workers, the Kruskal-Wallis test was used (see Table 5.27 and 5.28). Table 5.27 shows the median of how workers perceived the influence of motivational communication across the different qualification groups: the first was the ‘secondary school not completed’ group (median of 5.95), the second was the ’Matric certificate’ group (median of 5.95), the third was the ‘tertiary certificate/diploma’ group (median of 5.95), the fourth was the ‘no formal

qualification' group (median of 5.90), the fifth was the 'primary school completed' group (median of 5.90) and the sixth was the 'primary school not completed' group (median of 5.60). Table 5.28 shows the test statistic for the motivational communication in the qualification groups of workers. It is revealed that there is no statistically significant difference between the different qualification groups [H (2) = 6.50; p = 0.42]. The Asymp. Sig. (p-value) was 0.42 which is greater than 0.05, indicating that the different qualification groups were not statistically significantly different. The results revealed that the qualification groups of workers do not influence their perception of the effect of motivational techniques used on productivity. Thus the null hypothesis is accepted.

Table 5.27 Kruskal-Wallis test applied to perception of the motivational communication techniques based on the formal qualification of workers

Qualification of workers (years)	N	Mean rank	Median
Secondary school not completed	53	95.98	5.95
Matric certificate	63	96.10	5.95
Tertiary certificate/diploma	41	96.36	5.95
No formal qualification	8	93.47	5.90
Primary school completed	8	103.16	5.90
Primary school not completed	18	92.84	5.60
Total	**191**		

Table 5.28 Test statistics related to perception of motivational communication techniques used based on the formal qualification of workers

Test statistics		
Chi-Square	**Df**	**Asymp. Sig.**
6.50	5	0.42

5.5.1.3.5 Designation of construction workers

The Kruskal-Wallis test was used to determine if the designation of construction workers and motivational communication techniques used to increase productivity is statistically different (see Table 5.29 and Table 5.30). The medians of how the workers perceived their productivity to be increasing according to their designation, is shown in Table 5.29 as follows: the highest mean rank of worker designation was the labourers (median of 6.00), the second was the skilled worker group (median of 5.93). The third rank was the semi-skilled worker group (median of 5.81). The test statistic in increased productivity in worker level groups is shown in Table 5.30. The results were shown as: H (1) = 3.25; p = 0.31, meaning that worker levels were not statistically significantly different. Therefore the hypothesis tests that there is no significant difference in how workers of different designations perceive the influence of supervisory motivational communication is accepted.

Table 5.29 Kruskal-Wallis test applied to the motivational communication techniques perceived by the level of workers

	N	Mean rank	Median
Labourer	33	104.85	6.00
Skilled	83	95.67	5.93
Semi-Skilled	75	91.64	5.81
Total	191		

Table 5.30 Test statistics related to motivational communication techniques used on level of workers

Test statistics		
Chi-Square	**Df**	**Asymp. Sig.**
3.25	2	0.31

5.5.1.4 Test of significant difference in demographics on functional communication

5.5.1.4.1 Gender

The Mann-Whitney outputs shown in Table 5.31 and Table 5.32

Table 5.31 Mann Whitney gender ranks on functional communication

Functional communication	Gender	N	Mean Rank	Sum of Ranks	Median
	Male	163	95.35	15542.61	2.22
	Female	28	99.76	2793.39	2.11
	Total	191			

Table 5.32 Mann-Whitney gender statistics on functional communication

Functional communication	Mann-Whitney U	Wilcoxon W	Z	Sig. (2-tailed)	N	r
	2113.83	12599.83	-0.65	0.58	191	0.1

A Mann-Whitney U Test revealed no statistically significant difference in the importance of functional communication levels of males (Md=2.22, n=163) and females (Md=2.11, n=28) U=2113.83, z=-0.65, p=0.58, and r=0.1 having asmall effect on size. Thus the null hypothesis can be accepted.

5.5.1.4.2 Age

To determine if the perception of the impact of functional communication on productivity is significantly different between various age groups, the Kruskal-Wallis test was used (see Table 5.33 and 5.34). Table 5.33 shows the median of how workers perceived the influence of functional communication across the different age groups: The first was the eighteen to twenty five age group (median of 2.78), the second was the more than sixty group (median of 2.56), the third was the twenty six to thirty age group (median of 2.44), the fourth was the thirty one to forty

age group (median of 2.22), the fifth was the forty one to fifty age group (median of 2.11) and fifty one to sixty age group (median of 2.11) Table 5.34 shows the test statistic in perception of the impact of functional communication on productivity and the age group of workers in the age groups of workers. It is revealed that there is no significant difference between the perception of age groups [H (2) = 7.05; p = 0.32]. The Asymp. Sig. (p-value) was 0.32 which is greater than 0.05, indicating that the perception of the different age groups were not statistically significantly different. The results revealed that the perception of the impact of functional communication techniques used on productivity. Thus the null hypothesis can be accepted.

Table 5.33 Kruskal-Wallis test applied to functional communication techniques and age of workers

Age of workers (years)	N	Mean rank	Median
18-25	6	113.86	2.78
More than 60 years	3	85.35	2.56
26-30	42	99.43	2.44
31-40	82	88.95	2.22
41-50	43	85.78	2.11
51-60	15	93.96	2.11
Total	**191**		

Table 5.34 Test statistic related to functional communication techniques used and age of workers

Test statistics		
Chi-Square	**Df**	**Asymp. Sig.**
7.05	5	0.32

5.5.1.4.3 Race

The Kruskal-Wallis test was performed in order to find out if workers have significantly differerent views on the influence of functional communication techniques on productivity based on race (see Table 5.35 and Table 5.36). In Table 5.35, the median of how workers of the different race groups perceived the influence of motivational communication techniques, is shown. The highest ranked race was whites (median of 2.67); and blacks (median of 5.90); the third highest was coloureds (median of 2.00). In Table 5.36, results show that there was no statistically significant difference between the different race groups [H(2) = 6.04; p = 0.32]. The Asymp. sig. (p-value) was 0.32, which is greater than 0.05, indicating that statistically, there was no significant difference between workers views on the impact of motivational techniques used on productivity. Thus the null hypothesis can be accepted.

Table 5.35 Kruskal-Wallis test applied to functional communication techniques on race of workers

Race of workers	N	Mean rank	Median
White	3	113.93	2.67
Black	91	101.08	2.44
Coloured	97	90.68	2.00
Total	191		

Table 5.36 Test statistics related to functional communication techniques used on race of workers

Test statistics		
Chi-Square	**Df**	**Asymp. Sig.**
6.04	5	0.32

5.5.1.4.4 Qualification

To determine if the functional communication results in significant difference between various qualification of workers, the Kruskal-Wallis test was used (see Table 5.37 and 5.38). Table 5.37 shows the median of how workers perceived the influence of motivational communication across the different qualification groups: The first was the 'tertiary certificate/diploma' group (median of 2.56), the second the 'Matric certificate' group (median of 2.44), the third the 'primary school completed' group (median of 2.39), the fourth the 'no formal qualification' group (median of 2.33), the fifth the 'primary not completed' group (median of 2.28) and the sixth the 'secondary not completed' group (median of 2.00). Table 5.38 shows the test statistic in the motivational communication in the qualification groups of workers. It is revealed that there is no statistically significant difference between the different qualification groups [H (2) = 7.92; p = 0.28]. The Asymp. Sig. (p-value) was 0.28 which is greater than 0.05, indicating that the different qualification groups were not statistically significantly different. The results revealed that the qualification groups of workers do not influence their perception of the effect of functional communication techniques used on productivity. Thus the null hypothesis can be accepted.

Table 5.37 Kruskal-Wallis test applied to perception of the functional communication techniques based on the formal qualification of workers

Qualification of workers (years)	N	Mean rank	Median
Tertiary certificate / diploma	41	97.24	2.56
Matric certificate	63	100.75	2.44
Primary school completed	8	98.33	2.39
No formal qualification	8	90.73	2.33
Primary school not completed	18	91.04	2.28
Secondary school not completed	53	91.53	2.00
Total	**191**		

Table 5.38 Test statistics related to perception of functional communication techniques used based on the formal qualification of workers

Test statistics		
Chi-Square	**Df**	**Asymp. Sig.**
7.92	5	0.28

5.5.1.4.5 Designation of construction workers

The Kruskal-Wallis test was used to determine if the designation of construction workers perception of functional communication techniques used to increase productivity is statistically significant difference (see Table 5.39 and Table 5.40). The medians of how the workers perceived their productivity to be increasing according to their designation, is shown in Table 5.39 as follows: The highest mean rank of designation was the semi-skilled workers (median of 2.33); the second was the skilled worker group (median of 2.22); the third rank was the labourers (median of 2.00). The test statistic in increased productivity in worker level groups is shown in Table 5.40. The results were shown as: H (1) = 4.40; p = 0.312, meaning that worker levels were not statistically significantly different. Therefore the hypothesis tests that there is no significant difference in how workers of different designations perceive the influence of supervisory motivational communication is accepted. Thus the null hypothesis can be accepted.

Table 5.39 Kruskal-Wallis test applied to the functional communication techniques perceived by the level of workers

	N	**Mean rank**	**Median**
Semi-Skilled	75	100.55	2.33
Skilled	83	94.03	2.22
Labourer	33	90.62	2.00
Total	**191**		

Table 5.40 Test statistics related to functional communication techniques used on level of workers

Test statistics		
Chi-Square	**Df**	**Asymp. Sig.**
4.40	2	0.32

5.5.2 Hypothesis 2 – demographics on communication techniques

5.5.2.1 Test for normality on intrinsic reward techniques

$H_0$2. There is no significant difference in the perception of construction workers in relation to rewards systems affecting their productivity based on demographics.

Table 5.41 indicates the results of the tests of normality on intrinsic reward techniques on average obtained. A significance of 0.00 (equal or less than 0.05) indicates the violation of the assumption of normality. Therefore, hypotheses were computed using non-parametric tests, namely Kruskal-Wallis and Mann-Whitney.

Table 5.41 Tests of normality for intrinsic reward techniques

	Kolmogorov-Smirnov			*Shapiro-Wilk*		
	Statistic	*Df*	*Sig.*	*Statistic*	*Df*	*Sig.*
Motivational communication	0.56	191	0.00	0.85	191	0.00

5.5.2.2 Test for normality on intrinsic reward techniques

Table 5.42 indicates the results of the tests of normality on extrinsic reward techniques on average obtained. A significance of 0.00 (equal or less than 0.05) indicates the violation of the assumption of normality. Therefore, hypotheses were computed using non-parametric tests, namely Kruskal-Wallis and Mann-Whitney.

Table 5.42 Tests of normality for extrinsic reward techniques

	Kolmogorov-Smirnov			*Shapiro-Wilk*		
	Statistic	*Df*	*Sig.*	*Statistic*	*Df*	*Sig.*
Motivational communication	0.28	191	0.00	0.82	191	0.00

5.5.2.3 Test of significant difference in demographics on intrinsic reward techniques

5.5.2.3.1 Gender

The Mann-Whitney outputs shown in Table 5.43 and Table 5.44

Table 5.43 Mann Whitney gender ranks on perception of intrinsic rewards

Intrinsic rewards	**Gender**	**N**	**Mean Rank**	**Sum of Ranks**	**Median**
	Male	163	96.88	15791.30	5.05
	Female	28	90.88	2544.70	5.90
	Total	**191**			

Table 5.44 Mann-Whitney gender statistics on perception of intrinsic rewards

Intrinsic rewards	**Mann-Whitney U**	**Wilcoxon W**	**Z**	**Sig. (2-tailed)**	**N**	**R**
	2108.80	3810.80	-0.67	0.55	191	0.1

A Mann-Whitney U Test revealed no statistically significant difference in the importance of motivational communication levels of males (Md=5.05, n=163) and females (Md=5.90, n=28)

U=2108.80, z=-0.67, p=0.55, and r=0.1 having small effect on size. Thus the null hypothesis can be accepted.

5.5.2.3.2 Age

To determine if the perception of the impact of intrinsic reward techniques on productivity is significantly different between various age groups, the Kruskal-Wallis test was used (see Table 5.45 and 5.46). Table 5.45 shows the median of how workers perceived the influence of intrinsic rewards techniques across the different age groups: the first was the eighteen to twenty five age group (median of 6.05), the second was the forty one to fifty age group (median of 6.00), third was the twenty six to thirty age group (median of 5.90), the fourth was thirty one to forty age group (median of 5.70), the fifth was more than sixty age group (median of 5.70) and the sixth was fifty one to sixty age group (median of 4.60). Table 5.46 shows the test statistic in perception of the impact of intrinsic reward techniques on productivity and the age group of workers. It is revealed that there is no significant difference between the perception of age groups [H (2) = 13.11; p = 0.11]. The Asymp. Sig. (p-value) was 0.11 which is greater than 0.05, indicating that the perception of the different age groups were not statistically significantly different. The results revealed that the age groups of workers do not influence the perception of the impact of intrinsic reward techniques used on productivity. Thus the null hypothesis can be accepted.

Table 5.45 Kruskal-Wallis test applied to intrinsic reward techniques and age of workers

Age of workers (years)	N	Mean rank	Median
18-25	6	115.125	6.05
41-50	43	107.592	6.00
26-30	42	97.893	5.90
31-40	82	91.306	5.70
More than 60 years	3	108.818	5.70
51-60	15	72.91	4.60
Total	**191**		

Table 5.46 Test statistics related to intrinsic reward techniques used and age of workers

Test statistics		
Chi-Square	**Df**	**Asymp. Sig.**
13.11	5	0.11

5.5.2.3.3 Race

The Kruskal-Wallis test was performed in order to find out if the perception of intrinsic reward techniques used in improving productivity is based on race (see Table 5.47 and Table 5.48). In

Table 5.47, the median of how workers of the different race groups perceived the influence of intrinsic rewards is shown. The highest ranked race was blacks (median of 5.90); the second highest was coloureds (median of 5.70); and the third highest was whites (median of 4.20). In Table 5.48, results show that there was no statistically significant difference between the different race groups [H(2) = 4.35; p = 0.19]. The Asymp. sig. (p-value) was 0.19, which is greater than 0.05, indicating that statistically, the race of the workers does not affect the perception that intrinsic reward techniques used significantly influence productivity. Thus the null hypothesis can be accepted.

Table 5.47 Kruskal-Wallis test applied to intrinsic reward techniques used and race of workers

Race of workers	N	Mean rank	Median
Black	91	96.75	5.90
Coloured	97	86.94	5.70
White	3	43.00	4.20
Total	**191**		

Table 5.48 Test statistics related to intrinsic reward techniques used and race of workers

Test statistics		
Chi-Square	**Df**	**Asymp. Sig.**
4.35	2	0.19

5.5.2.3.4 Qualification

To determine if the intrinsic reward techniques result in significant difference between various qualifications of workers, the Kruskal-Wallis test was used (see Table 5.49 and 5.50). Table 5.49 shows the median of how workers perceived the influence of intrinsic rewards across the different qualification groups: The first was the 'primary not completed' group (median of 6.00), the second the 'primary completed' group (median of 5.90), the third the 'secondary not completed' group (median of 5.90), the fourth the 'no formal qualification' group (median of 5.60), the fifth the 'Matric certificate' (median of 5.50) and the sixth the 'tertiary certificate/diploma' group (median of 5.40). Table 5.50,shows the test statistic in intrinsic reward techniques in the qualification groups of workers. It is revealed that there is no statistically significant difference between the different qualification groups [H (3) = 11.47; p = 0.11]. The Asymp. Sig. (p-value) was 0.11 which is greater than 0.05, indicating that the different qualification groups were not statistically significantly different. The results revealed that the qualification groups of workers do not influence their perception of the effect of intrinsic reward techniques used on productivity. Thus the null hypothesis can be accepted.

Table 5.49 Kruskal-Wallis test applied to perception of intrinsic reward techniques based on the formal qualification of workers

Qualification of workers (years)	N	Mean rank	Median
Primary school not completed	18	115.92	6.00
Primary school completed	8	107.30	5.90
Secondary school not completed	53	97.50	5.90
No formal qualification	8	107.71	5.60
Matric certificate	63	83.70	5.50
Tertiary certificate/diploma	41	99.73	5.40
Total	**191**		

Table 5.50 Test statistics related to perception of intrinsic reward techniques used based on the formal qualification of workers

Test statistics		
Chi-Square	**Df**	**Asymp. Sig.**
11.47	5	0.11

5.5.2.3.5 Designation of construction workers

The Kruskal-Wallis test was used to determine if the designation of construction workers perception of intrinsic reward techniques used to increase productivity is statistically different (see Table 5.51 and Table 5.52). The medians of how the workers perceived their productivity to be increasing according to their designation, is shown in Table 5.51 as follows: The highest mean rank of designation was the labourers (median of 6.00), the second was the semi-skilled worker group (median of 5.90), the third was the skilled worker group (median of 5.00). The test statistic in increased productivity in designation groups is shown in Table 5.52. The results were shown as: H (3) = 2.87; p = 0.40, meaning that worker levels were not statistically significantly different. Therefore the hypothesis tests that there is no significant difference in how workers of different designations perceive the influence of supervisory intrinsic reward techniques is accepted. Thus the hypothesis can be accepted.

Table 5.51 Kruskal-Wallis test applied to the intrinsic reward techniques perceived by the level of construction workers

	N	Mean rank	Median
Labourer	33	98.95	6.00
Semi-Skilled	75	98.80	5.90
Skilled	83	92.30	5.00
Total	**191**		

Table 5.52 Test statistics related to intrinsic reward techniques used on level of workers

Test statistics		
Chi-Square	**Df**	**Asymp. Sig.**
2.87	2	0.40

5.5.2.4 Test of significant difference in demographics on extrinsic reward techniques

5.5.2.4.1 Gender

The Mann-Whitney outputs shown in Table 5.53 and Table 5.54

Table 5.53 Mann-Whitney gender ranks on extrinsic reward techniques

Extrinsic reward techniques	Gender	N	Mean Rank	Sum of Ranks	Median
	Male	163	97.50	15892.27	5.59
	Female	28	87.27	2436.45	6.00
	Total	**191**			

Table 5.54 Mann-Whitney gender statistics on extrinsic reward techniques

Extrinsic reward techniques	Mann-Whitney U	Wilcoxon W	Z	Sig. (2-tailed)	N	R
	2004.64	3588.81	-1.07	0.38	191	0.1

A Mann-Whitney U Test revealed no statistically significant difference in the importance of motivational communication levels of males (Md=5.59, n=163) and females (Md=6.00, n=28) U=2004.64, z=-1.07, p=0.38, and r=0.1 having small effect on size. Thus the null hypothesis can be accepted.

5.5.2.4.2 Age

To determine if the perception of the impact of extrinsic reward techniques on productivity is significantly different between various age groups, the Kruskal-Wallis test was used (see Table 5.55 and 5.56). Table 5.55 shows the median of how workers perceived the influence of extrinsic rewards techniques across the different age groups: the first was the eighteen to twenty five age group (median of 6.00), the second the twenty six to thirty age group (median of 6.00), the third the forty one to fifty age group (median of 6.00), the fourth the thirty one to forty age group (median of 5.77), the fifth the fifty one to sixty age group (median of 4.90) and the sixth the more than sixty years age group (median of 4.60). Table 5.56 shows the test statistic in perception of the impact of extrinsic reward techniques on productivity and the age groups of workers. It is revealed that there is no statistically significant difference between the perception of age groups [H (3) = 10.23; p = 0.17]. The Asymp. Sig. (p-value) was 0.17 which is greater than 0.05, indicating that the perception of the different age groups were not statistically significantly different. The results revealed that the age groups of workers do not influence the

perception of the impact of extrinsic reward techniques used on productivity. Thus the null hypothesis can be accepted.

Table 5.55 Kruskal-Wallis test applied to extrinsic reward techniques and age of workers

Age of workers (years)	N	Mean rank	Median
18-25	6	114.80	6.00
26-30	42	95.91	6.00
41-50	43	110.82	6.00
31-40	82	90.20	5.77
51-60	15	78.53	4.90
More than 60 years	3	93.17	4.36
Total	**191**		

Table 5.56 Test statistics related to extrinsic reward techniques used and age of workers

Test statistics		
Chi-Square	**Df**	**Asymp. Sig.**
10.23	5	0.17

5.5.2.4.3 Race

The Kruskal-Wallis test was performed in order to find out if the perception of the extrinsic reward techniques used in improving productivity is based on race (see Table 5.57 and Table 5.58). In Table 5.57, the median of how workers of the different race groups perceived the influence of extrinsic rewards is shown. The highest ranked race was coloured (median of 6.00); second black (median of 5.82); the third was whites (median of 2.82). In Table 5.58, results show that there was no statistically significant difference between the perception of extrinsic rewards used in improving productivity and different race groups [H(2) = 7.42; p = 0.11]. The Asymp. sig. (p-value) was 0.11, which is greater than 0.05, indicating that statistically, there was no significant difference between workers views on the impact of intrinsic reward techniques used on productivity. Thus the null hypothesis can be accepted.

Table 5.57 Kruskal-Wallis test applied to extrinsic reward techniques and race of workers

Race of workers	N	Mean rank	Median
Coloured	97	101.11	6.00
Black	91	92.79	5.82
White	3	28.32	2.82
Total	**191**		

Table 5.58 Test stastistics related to extrinsic reward techniques used and race of workers

Test statistics		
Chi-Square	**Df**	**Asymp. Sig.**
7.42	2	0.11

5.5.2.4.4 Qualification

To determine if the extrinsic reward techniques result in significant difference between various qualifications of workers, the Kruskal-Wallis test was used (see Table 5.59 and 5.60). Table 5.59 shows the median of how workers perceived the influence of extrinsic rewards across the different qualification groups: The first was the 'primary school completed' group (median of 6.27), second the 'primary school not completed' group (median of 6.00), third the 'secondary school not completed' group (median of 6.00), fourth the 'Matric certificate' group (median of 5.63), fifth the tertiary certificate/diploma' (median of 5.36) and sixth the 'no formal qualification' group (median of 4.60). Table 5.60 shows the test statistic in the extrinsic rewards in the qualification groups of workers. It is revealed that there is no statistically significant difference between the different qualification groups [H (3) = 12.61; p = 0.11]. The Asymp. Sig. (p-value) was 0.11 which is greater than 0.05, indicating that the different qualification groups were not statistically significantly different. The results revealed that the qualification groups of workers do not influence their perception of the effect of extrinsic rewards to be used on productivity. Thus the null hypothesis is accepted.

Table 5.59 Kruskal-Wallis test applied to perception of extrinsic reward techniques based on the formal qualification of workers

Qualification of workers	N	Mean rank	Median
Primary school completed	8	120.14	6.27
Primary school not completed	18	123.00	6.00
Secondary school not completed	53	93.82	6.00
Matric certificate	63	89.96	5.63
Tertiary certificate / diploma	41	94.92	5.36
No formal qualification	8	78.65	4.60
Total	**191**		

Table 5.60 Test ststistics related to perception of extrinsic reward techniques used based on the formal qualification of workers

Test statistics		
Chi-Square	**Df**	**Asymp. Sig.**
12.61	5	0.11

5.5.2.4.5 Designation of construction workers

The Kruskal-Wallis test was used to determine if the designation of construction workers perception of extrinsic reward techniques used to increase productivity is statistically different (see Table 5.61 and Table 5.62). The medians of how the workers perceived their productivity to be increasing according to their designation is shown in Table 5.61 as follows: The highest

mean rank of worker level was the labourers (median of 6.00), the second was the semi-skilled worker group (median of 5.90), the third rank was the skilled worker group (median of 5.80). The test statistic in increased productivity in designation groups is shown in Table 5.62. The results were shown as: H (1) = 3.56; p = 0.34, meaning that worker levels were not statistically significantly different. Therefore the hypothesis tests that there is no significant difference in how workers of different designations perceive the influence of supervisory motivational communication is accepted.

Table 5.61 Kruskal-Wallis test applied to extrinsic reward techniques perceived by designation of construction workers

	N	Mean rank	Median
Labourer	33	101.52	6.00
Semi-Skilled	75	92.58	5.90
Skilled	83	96.89	5.80
Total	191		

Table 5.62 Test statistics related to extrinsic reward techniques used by designation of construction workers

Test statistics		
Chi-Square	**Df**	**Asymp. Sig.**
2.56	2	0.34

5.5.3 Hypothesis 3 – demographics on reinforcement techniques

5.5.3.1 Test for normality on positive reinforcement techniques

$H_0$3 There is no significant difference in the perception demographics of construction workers in relation to reinforcement techniques affecting their productivity based on demographics.

Table 5.63 indicates the results of the tests of normality on positive reinforcement on average obtained. A significance of 0.00 (equal or less than 0.05) indicates the violation of the assumption of normality. Therefore hypotheses were computed using non-parametric tests, namely Kruskal-Wallis and Mann-Whitney.

Table 5.63 Tests of normality for positive reinforcement techniques

	Kolmogorov-Smirnov			*Shapiro-Wilk*		
	Statistic	*Df*	*Sig.*	*Statistic*	*Df*	*Sig.*
Positive reinforcement	0.26	191	0.00	0.83	191	0.00

5.5.3.2Test for normality on punishment techniques

Table 5.64 indicates the results of the tests of normality on punishment techniques on average obtained. A significance of 0.00 (equal or less than 0.05) indicates the violation of the assumption of normality. Therefore, the hypotheses were computed using non-parametric tests, namely Kruskal-Wallis and Mann-Whitney.

Table 5.64 Tests of normality for punishment techniques

	Kolmogorov-Smirnov			*Shapiro-Wilk*		
	Statistic	*Df*	*Sig.*	*Statistic*	*Df*	*Sig.*
Punishment techniques	0.22	191	0.00	0.87	191	0.00

5.5.3.3 Test of significant difference in demographics on positive reinforcement techniques

5.5.3.3.1 Gender

The Mann-Whitney outputs shown in Table 5.65 and Table 5.66

Table 5.65 Mann-Whitney gender ranks and positive reinforcement techniques

Positive reinforcement	Gender	N	Mean Rank	Sum of Ranks	Median
	Male	163	97.90	14752.50	5.04
	Female	28	84.97	2379.00	5.92
	Total	**191**			

Table 5.66 Mann-Whitney gender statistics and positive reinforcement techniques

Positive reinforcement	Mann-Whitney U	Wilcoxon W	Z	Sig. (2-tailed)	N	R
	1967.67	3453.67	-1.21	0.28	191	0.1

A Mann-Whitney U Test revealed no statistically significant difference in the importance of motivational communication levels perceived by males (Md=5.04, n=163) and females (Md=5.92, n=28) U=1967 z=-1.21, p=0.28, and r=0.1 having small effect on size. Thus the null hypothesis can be accepted.

5.5.3.3.2 Age

To determine if positive reinforcement techniques result in significant difference in the perception of construction workers on the impact of positive reinforcement techniques on productivity between various age groups, the Kruskal-Wallis test was used (see Table 5.67 and 5.68). Table 5.67 shows the median of how workers perceived the influence of positive reinforcement techniques across the different age groups: The first was the eighteen to twenty

five age group (median of 6.25), the second the forty one to fifty age group (median of 5.92), the third the twenty six to thirty age group (median of 5.83), the fourth the thirty one to forty age group (median of 5.67), the fifth the fifty one to sixty age group (median of 4.58) and the sixth more than sixty years age group (median of 3.75). Table 5.68, shows the test statistic in positive reinforcement techniques in the age groups of workers. It is revealed that there is statistically significant difference between the different age groups [H (6) = 19.37; p = 0.03]. The Asymp. Sig. (p-value) was 0.03 which is less than 0.05, indicating that the perception of the impact of positive reinforcement techniques on productivity based on age groups of workers are significantly different. Thus the null hypothesis was rejected. A post-hoc test was deemed necessary and results are reported in Table 5.69 and Table 5.70

Table 5.67 Kruskal-Wallis test applied to the perception of positive reinforcement techniques distributed by age of workers

Age of workers (years)	N	Mean rank	Median
18-25	6	114.57	6.25
41-50	43	109.85	5.92
26-30	42	107.30	5.83
31-40	82	89.25	5.67
51-60	15	57.43	4.58
More than 60 years	3	79.49	3.75
Total	**191**		

Table 5.68 Test statistics related to difference in perception of positive reinforcement techniques used based on the on age of workers

Test statistics		
Chi-Square	**Df**	**Asymp. Sig.**
19.37	5	0.03

From Table 5.69 and Table 5.70 reporting post-hoc results, it is shown that younger age group is more concerned with positive reinforcement than the older age (twenty six to thirty age group: md=5.83 vs fifty one to sixty age group: md=4.58; forty one to fifty age group: md=5.92 vs fifty one to sixty age group: md=4.58); implying that the older age groups have a lesser need for positive reinforcement. The reason for this, according to Codrington and Grant-Marshall (2011:201), is that the workers in the 51-60 years group (baby boomers) view retirement planning and help with financial planning as their more pertinent rewards. Whilst the 41-50 yrs (X Generation) and the 26-30 yrs (Y Generation) group view discounts at retail stores, free meals and free time, as more important rewards. Also, the older generation grew up in an

oppressive era (apartheid). Therefore their reward beliefs might be significantly different from those of the younger generation, who are growing up in a freer, more democratic society.

Table 5.69 Mann-Whitney post-hoc age group ranks based on perception of positive reinforcement techniques

Positive reinforcement	Age group	N	Mean Rank	Sum of Ranks	Median
	26-30 years	42	32.72	1374.08	5.83
	51-60 years	15	18.59	278.92	4.58
	Total	**57**			
	41-50	43	33.83	1454.67	5.92
	51-60	15	17.10	256.33	4.58
	Total	**58**			

Table 5.70 Mann-Whitney post-hoc perception of positive reinforcement techniques distributed by age group

Positive reinforcement	Mann-Whitney U	Wilcoxon W	Z	Sig. (2-tailed)	N	R
	26-30 yrs & 51-60 yrs	278.92	-2.92	0.03	57	0.4
	41-50 yrs & 51-60 yrs	256.33	-3.53	0.01	58	0.5

5.5.3.3.3 Race

The Kruskal-Wallis test was performed in order to find out if workers have significantly different views on in the influence of positive reinforcement techniques on productivity based on race (see Table 5.71 and Table 5.72). In Table 5.71, the median of how workers of the different race groups perceived the influence of positive reinforcement techniques, is shown. The highest ranked race was coloured (median of 5.83); second black (median of 5.75); and third was white (median of 2.75). In Table 5.72, results show that there was no statistically significant difference between the different race groups [H(6) = 7.15; p = 0.07]. The Asymp. sig. (p-value) was 0.07, which is greater than 0.05, indicating that statistically, there was no significant differencebetween workers views on the impact of positive reinforcement techniques used on productivity. Thus the null hypothesis can be accepted.

Table 5.71 Kruskal-Wallis test applied to the perception of positive reinforcement techniques and race of workers

Race of workers	N	Mean rank	Median
Coloured	97	96.64	5.83
Black	91	97.59	5.75
White	3	27.17	2.75
Total	**191**		

Table 5.72 Test statistics related to positive reinforcement techniques used and race of workers

Test statistics		
Chi-Square	**Df**	**Asymp. Sig.**
7.15	2	0.07

5.5.3.3.4 Qualification

To determine if positive reinforcement techniques result in significant difference between various qualifications of workers, the Kruskal-Wallis test was used (see Table 5.73 and 5.74). Table 5.73 shows the median of how workers perceived the influence of positive reinforcement across the different qualification groups: The first was the 'primary school not completed' group (median of 6.17), second the 'no formal qualification' group (median of 6.00), third the 'primary school completed' group (median of 5.88), fourth was the 'secondary school not completed' group (median of 5.83), fifth the 'tertiary certificate/diploma' (median of 5.83) and sixth the 'Matric certificate' group (median of 5.25). Table 5.74 shows the test statistic in positive reinforcement in the qualification groups of workers. It is revealed that there is no statistically significant difference between the different qualification groups [H (6) = 24.00; p = 0.03]. The Asymp. Sig. (p-value) was 0.03 which is less than 0.05, indicating that the different qualification groups were statistically significantly different. The results revealed that the qualification groups of workers do influence the perception of the effect of positive reinforcement used on productivity. Thus the null hypothesis was rejected. A post hoc test was deemed necessary and results are reported in Table 5.75 and Table 5.76.

Table 5.73 Kruskal-Wallis test applied to the perception of positive reinforcement techniques based on the formal qualification of workers

Qualification of workers (years)	N	Mean rank	Median
Primary school not completed	18	135.03	6.17
No formal qualification	8	91.02	6.00
Primary school completed	8	100.73	5.88
Secondary school not completed	53	94.02	5.83
Tertiary certificate/diploma	41	111.43	5.83
Matric certificate	63	76.52	5.25
Total	**191**		

Table 5.74 Test statistics related to perception positive reinforcement techniques based on the formal qualification of workers

Test statistics		
Chi-Square	**Df**	**Asymp. Sig.**
24.00	5	.003

Table 5.75 and Table 5.76 (reporting post hoc results), show that the lesser qualified worker is more concerned with positive reinforcement than the higher qualified (primary school not completed) group: md=6.17 vs 'secondary school completed' group: md=5.83; 'primary school not completed' group: md=6.17 vs 'Matric certificate' group: md=5.25), but not the case in 'Matric certificate' group: md=5.25 vs 'tertiary certificate/diploma' group: md=5.83). This implies that the lesser qualifications need more positive reinforcement except in the case of the Matric certificate group – these workers need less positive reinforcement than the tertiary/diploma group. The reason for this, according to Codrington and Grant-marshall (2011:140), is that the 'primary school not completed' group are merely satisfied because they do have a job. Whilst the 'secondary school not completed' group and the 'Matric certificate' group are more likely to look for meaning and impact in their work. On the other hand the 'tertiary certificate/diploma' group are eager to progress in their careers and less willing to wait three to five years for a promotion.

Table 5.75 Mann-Whitney post-hoc qualification ranks on positive reinforcement techniques

Positive reinforce-ment	Qualification groups	N	Mean Rank	Sum of Ranks	Median
	Primary school not completed	18	47.63	857.25	6.17
	Secondary school not completed	53	32.05	1698.75	5.83
	Total	**71**			
	Primary school not completed	18	61.18	1101.29	6.17
	Matric certificate	63	35.23	203.71	5.25
	Total	**81**			
	Matric certificate	63	45.35	2856.95	5.25
	Tertiary certificate/diploma	41	63.50	2603.04	5.83
	Total	**104**			

Table 5.76 Mann-Whitney post-hoc statistics on positive reinforcement techniques

Positive reinforce-ment	Qualification groups	Mann-Whitney U	Wilcoxon W	Z	Sig. (2-tailed)	N	R
	Primary not completed & Secondary not completed	267.75	1701.75	-2.93	0.01	71	0.3
	Primary not completed & Matric certificate	203.17	2219.71	-4.33	0.00	81	0.5
	Matric certificate & Tertiary certificate / diploma	840.96	2856.96	-3.10	0.01	104	0.3

5.5.3.3.5 Designation of construction workers

The Kruskal-Wallis test was used to determine if the designation of construction workers perception of positive reinforcement techniques used to increase productivity is statistically significant difference (see Table 5.77 and Table 5.78). The medians of how the workers perceived their productivity to be increasing according to their designations is shown in Table 5.77 as follows: The highest mean rank of worker designation was the semi-skilled worker group (median of 6.00), the second was the labourer worker group (median of 5.92), the third rank was the skilled worker group (median of 5.67). The test statistic in increased productivity in worker level groups is shown in Table 5.78. The results were shown as: H (5) = 2.30; p = 0.40, meaning that worker levels were not statistically significantly different. Therefore the hypothesis tests that there is no significant difference in how workers of different designations perceive the influence of positive reinforcement is accepted.

Table 5.77 Kruskal-Wallis test applied to positive reinforcement techniques perceived by the designation construction workers

Intrinsic reward techniques	N	Mean rank	Median
Semi-Skilled	75	98.77	6.00
Labourer	33	99.79	5.92
Skilled	83	91.99	5.67
Total	**191**		

Table 5.78 Test statistics related to positive reinforcement techniques based on designation of construction workers

Test statistics		
Chi-Square	**Df**	**Asymp. Sig.**
2.30	2	0.40

5.5.3.4Test of significant difference in demographics on punishment techniques

5.5.3.4.1 Gender

The Mann-Whitney outputs shown in Table 5.79 and Table 5.80

Table 5.79 Mann-Whitney gender ranks on punishment techniques

Punishment techniques	Gender	N	Mean Rank	Sum of Ranks	Median
	Male	163	95.27	15529.18	2.86
	Female	28	100.25	2806.82	2.73
	Total	**191**			

Table 5.80 Mann-Whitney gender statistics on punishment techniques

Punishment techniques	Mann-Whitney U	Wilcoxon W	Z	Sig. (2-tailed)	N	R
	2071.64	10630.36	-0.80	0.46	191	0.1

A Mann-Whitney U Test revealed no statistically significant difference in the importance of punishment techniques levels of males (Md=2.86, n=163) and females (Md=2.73, n=28) U=2071.64, z=-0.80, p=0.46, and r=0.1 having small effect on size. Thus the null hypothesis can be accepted.

5.5.3.4.2 Age

To determine if the perception of the impact of punishment techniques on productivity is significantly different between various age groups, the Kruskal-Wallis test was used (see Table 5.81 and 5.82). Table 5.81 shows the median of how workers perceived the influence of positive reinforcement techniques across the different age groups: The first was the eighteen to twenty five age group (median of 3.45), second the fifty one to sixty age group (median of 3.36), third the thirty one to forty age group (median of 2.73), fourth was the more than 60 years age group (median of 2.72), fifth was the forty one to fifty age group (median of 2.45) and sixth was the twenty six to thirty age group (median of 2.10). Table 5.82 shows the test statistic in perception of the impact of punishment techniques on productivity and the age group of workers. It is revealed that there is no significant difference between the perception of age groups [H (6) = 10.10; p = 0.16]. The Asymp. Sig. (p-value) was 0.16 which is more than 0.05, indicating that the perception of the different age groups were not statistically significantly different. The results revealed that the age groups of workers do not influence the perception of the impact of punishment techniques used on productivity. Thus the null hypothesis can be accepted.

Table 5.81 Kruskal-Wallis test applied to punishment techniques and age of workers

Age of workers (years)	N	Mean rank	Median
18-25	6	123.52	3.45
51-60	15	107.07	3.36
31-40	82	100.89	2.73
More than 60 years	3	104.56	2.72
41-50	43	92.31	2.45
26-30	42	81.74	2.10
Total	**191**		

Table 5.82 Test statistics related to punishment techniques used and age of workers

Test statistics		
Chi-Square	**Df**	**Asymp. Sig.**
10.10	5	0.16

5.5.3.4.3 Race

The Kruskal-Wallis test was performed in order to find out if workers have significantly different views on the influence of punishment techniques techniques based on race (see Table 5.83 and Table 5.84). In Table 5.83, the median of how workers of the different race groups perceived the influence of punishment techniques is shown. The highest ranked race was whites (median of 5.55); second was coloureds (median of 2.91); the third highest was blacks (median of 2.45). In Table 5.84, results show that there was no statistically significant difference between the different race groups [H(6) = 5.30; p = 0.10]. The Asymp. sig. (p-value) was 0.10, which is greater than 0.05, indicating that statistically, there was no significant difference between workers views on the impact of punishment techniques used on productivity. Thus the null hypothesis can be accepted.

Table 5.83 Kruskal-Wallis test applied to the perception of punishment techniques and race of workers

Race of workers	N	Mean rank	Median
White	3	160.36	5.55
Coloured	97	94.26	2.91
Black	91	95.03	2.45
Total	**191**		

Table 5.84 Test statistics related to punishment techniques based on race of workers

Test statistics		
Chi-Square	**Df**	**Asymp. Sig.**
5.30	2	0.10

5.5.3.4.4 Qualification

To determine if the punishment techniques result in significant difference between various qualifications of workers, the Kruskal-Wallis test was used (see Table 5.85 and 5.86). Table 5.85 shows the median of how workers perceived the influence of punishment techniques across the different qualification groups: The first was the 'no formal qualification' group (median of 3.36), second was the 'primary school not completed' group (median of 3.27), third was the 'Matric certificate' group (median of 2.82), the fourth was the 'tertiary certificate/diploma' group (median of 2.73), fifth was the 'secondary school not completed' group (median of 2.64) and sixth was the 'primary school completed' group (median of 2.45). In Table 5.86, shows the test statistic in the punishment techniques in the qualification groups of workers. It is revealed that there is no statistically significant difference between the different qualification groups [H (6) = 6.61; p = 0.40]. The Asymp. Sig. (p-value) was 0.40 which is greater than 0.05, indicating that the different qualification groups were not statistically significantly different. The results revealed

that the qualification groups of workers do not influence their perception of the effect of punishment techniques used on Productivity. Thus the null hypothesis can be accepted.

Table 5.85 Kruskal-Wallis test applied to the perception of punishment techniques based on the formal qualification of workers

Qualification of workers (years)	N	Mean rank	Median
No formal qualification	8	110.54	3.36
Primary not completed	18	101.75	3.27
Matric certificate	63	98.45	2.82
Tertiary certificate / diploma	41	92.12	2.73
Secondary not completed	53	92.63	2.64
Primary completed	8	92.35	2.45
Total	**191**		

Table 5.86 Test statistics related to perception of punishment techniques based on the formal qualification of workers

Test statistics		
Chi-Square	**Df**	**Asymp. Sig.**
6.61	5	0.40

5.5.3.4.5 Designation of construction workers

The Kruskal-Wallis test was used to determine if the designation of construction workers and perception of punishment techniques used to increase productivity does is statistically different (see Table 5.87 and Table 5.88). The medians of how the workers perceived their productivity to be increasing according to their designation is shown in Table 5.87 as follows: The highest mean rank of worker level was the semi-skilled worker group (median of 2.73), the second was the labourer worker group (median of 2.64), the third rank was the skilled worker group (median of 2.45). The test statistic in increased productivity in designation groups is shown in Table 5.88. The results were shown as: H (1) = 2.35; p = 0.41, meaning that worker levels were not statistically significantly different. Therefore the hypothesis tests that there is no significant difference in how workers of different designations perceive the influence of supervisory punishment techniques is accepted.

Table 5.87 Kruskal-Wallis test applied to punishment techniques perceived by the level of construction workers

Punishment techniques	N	Mean rank	Median
Semi-Skilled	75	98.18	2.73
Labourer	33	99.01	2.64
Skilled	83	92.83	2.45
Total	**191**		

Table 5.88 Test statistics related to the perception of punishment techniques based on the level of construction workers

Test statistics		
Chi-Square	**Df**	**Asymp. Sig.**
2.35	2	0.41

5.6 DISCUSSION OF THE FINDINGS

This section discusses the findings of supervisory motivational techniques as shown by this study. The techniques are: communication, rewards, and reinforcement.

5.6.1 Communication

5.6.1.1 Motivational communication

The study examines the extent to which supervisory motivational communication can improve the productivity of construction workers (mean average of 5.62). The findings revealed the following motivational communication techniques as the most influential in propelling the workers to productivity. The major motivational techniques identified were: That workers are able to speak directly with their supervisors, that workers receive constructive feedback from their supervisors, that supervisors actually listen to what workers have to say, and that communication should be a two-way process.

The most influential finding indicated that workers need to be able to speak directly with their supervisors. This is supported by Oglesby *et al.* (1989:113), where it is stated that it is crucial to know what construction workers' needs are, and what impinges on their behaviour, in order to achieve productivity. Certo (2008:260) also supports this finding by stating that supervisors should inspire one-on-one conversations to give quieter workers an opportunity to propose ideas. The second ranked finding is that workers need to receive constructive feedback from their supervisors. Certo (2008:258) supports this finding by stating that supervisors can also use feedback when the supervisor is communicating, in particular when a supervisor is unclear about the importance of a message. The third ranked finding is that supervisors should actually listen to what workers have to say. This finding is supported by Borchedering (1976:443), who indicates that it crucial to acquire input from construction workers and supervisors to better techniques and advocate two-way communication between construction workers and supervisors.

Hypotheses testing were done using the Kruskal Wallis and Mann Whitney U tests. The hypothesis tests of supervisory motivational communication on worker designation to increase

productivity do not result in statistically significant differences. Also indicated in the results is that the gender, age, race and qualification groups were not statistically significantly different with regard to supervisory motivational communication. The results revealed that the gender, age, race and qualification groups of workers do not influence the perception of supervisory motivational communication techniques to be used on productivity.

5.6.1.2 Functional communication

The study examines the extent to which supervisory functional communication can improve the productivity of construction. The total mean score for these techniques are very low (mean average of 2.43). So on average the construction workers disagreed with these techniques. The major functional techniques identified were: That workers were unable to express their feelings; that supervisors wanted 'Yes' or 'No' answers; that workers stated that instructions are task orientated; and that workers were unable to state their social needs.

The first ranked finding was that workers were unable to express their feelings. Schemerhorn (1986:285) supports the low mean rank of this finding, because for a supervisor to express motivational communication, instead of functional communication: the supervisor must highlight behaviour that bears warmth and social empathy with workers, and must also have a high regard for the feelings of workers. The second ranked finding was that supervisors want 'Yes' or 'No' answers. Certo (2008:260) supports the low mean of this finding because, in general 'Yes' or 'No' questions motivate too little feedback. Therefore the motivation of workers will also be low because feedback is at the heart of the communication process, if communication is deemed to be motivational (Rao, 2009:360).The third ranked finding was that workers stated that instructions are task orientated. Schemerhorn (1986:50) supports the low mean rank of this finding because a task (functional) orientated supervisor only emphasizes behaviours that assign task responsibilities, plan and define work to be done, set work standards, urge task completion and monitor results.

Hypotheses testing were done using the Kruskal Wallis and Mann Whitney U tests. The hypothesis tests of supervisory functional communication on worker designation to increase productivity do not result in statistically significant differences. Also indicated in the results is that the perceptions based on gender, age, race and qualification groups were not statistically significantly different with regard to the impact of supervisory functional communication on productivity. The results revealed that the perceptions based on gender, age, race, qualification

groups and designation of workers do not influence the impact of supervisory functional communication techniques on productivity.

5.6.2 Rewards

5.6.2.1 Intrinsic rewards

The study examines the extent to which supervisory intrinsic rewards can motivate construction workers to higher level of productivity. Intrinsic rewards achieved a high total mean (mean average of 5.23). The techniques that achieved the highest means are: doing meaningful work; wanting to feel a sense of accomplishment when completing a task; doing challenging work; and being given more responsibility. These were the major intrinsic reward techniques to be used to improve the workers performance.

The highest rankng mean was that workers want do to meaningful work. Nicolaou, (1987:12) supports this finding because organisations cannot rely only on extrinsic rewards to motivate and reward their workers, as these workers are less ambitious to obtain work that gives them little flexibility, and they are not easily motivated by work that does not utilise their skills, abilities and education. The second highest ranking technique was that workers want to feel a sense of accomplishment when completing a task. Roa (2009:201) supports this finding because intrinsic rewards are that behaviour which an individual produces because of the enjoyable experiences of the task which is associated with a sense of accomplishment after completing a particularly interesting task. The third highest ranking technique was doing challenging work. Mosley *et al.* (2008:185) supports this finding because satisfaction of tasks may originate from factors such as: relishing the work done; sensation of achievement; and meeting the challenges.

Hypotheses testing were done using the Kruskal Wallis and Mann Whitney U tests. The hypothesis tests of supervisory intrinsic rewards on worker designation to increase productivity do not result in statistically significant differences. Also indicated in the results is that the perception based on gender, age, race and qualification groups were not statistically significantly different with regard to the impact of supervisory intrinsic rewards on productivity. The results revealed that the perception based on gender, age, race and qualification groups of workers do not influence the impact of supervisory intrinsic rewards techniques on productivity.

5.6.2.2 Extrinsic rewards

The study examines the extent to which supervisory extrinsic rewards can motivate construction workers to higher levels of productivity. Extrinsic rewards achieved a high total mean (mean

average of 5.24). The findings rank as follows: regular salary being paid; satisfactory working conditions; receiving paid leave; guaranteeing job security; and promotional opportunities.

The highest ranking finding was that workers receive their salary. Schemerhorn *et al.* (2005:178) supports this finding because companies entice and hold on to vastly skilled workers, and it can satisfy and motivate these workers to work hard to attain high performance. The second highest ranking finding was satisfactory working conditions. Alinaitwe *et al.* (2007:169) supports this because building construction puts a high demand on workers as it is largely in situ; the workers are exposed to bad weather conditions; motivation structures are poor and the working conditions are hazardous. The third highest mean ranking finding was that workers receive their annual paid leave. Cox *et al.* (2006:152) support this finding because the reality of the business world is that money, fringe benefits, culture and leadership all make a motivational change because workers relate to them.

Hypotheses testing were done using the Kruskal Wallis and Mann Whitney U tests. The hypothesis tests of supervisory extrinsic rewards on worker levels to increase productivity do not result in statistically significant differences. Also indicated in the results is that the perception based on gender, age, race, qualification groups and designation were not statistically significantly different in regards to the impact of supervisory extrinsic rewards on productivity. The results revealed that the perception based on gender, age, race and qualification groups of workers do not influence the impact of supervisory extrinsic rewards techniques on productivity.

5.6.3 Reinforcement

5.6.3.1 Positive reinforcement

The study examines the extent to which supervisory positive reinforcement can motivate construction workers to higher levels of productivity. Positive reinforcement achieved a high total mean (mean average of 5.30). The techniques that achieved the highest means were receiving recognition for doing well, verbally thanking for work well done and rewarding workers at the end of a goal.

The highest mean rank was receiving recognition for doing well. This finding supports Robbins *et al.* (2006:154) where rewarding behaviour with recognition instantaneously following that behaviour is likely to encourage its repetition. The second highest mean rank was verbally thanking for work well done. Robbins and De Cenza (2001:283) supports this finding because saying ‘thank you’ sends a powerful motivational message to people and is a form of recognition that can be distributed at any time. The third highest mean rank was rewarding workers at the

end of a goal. Robbins and De Cenza (2008:172) supports this finding because motivation is maximised when supervisors make rewards dependent upon productivity.

Hypotheses testing were done using the Kruskal Wallis and Mann Whitney U tests. The hypothesis tests of supervisory positive reinforcement techniques on worker designation to increase productivity do not result in statistically significant differences. Also indicated in the results is that the perception based on gender, and race groups were not statistically significantly different with regard to the impact of supervisory extrinsic rewards on productivity. However the results show significant difference in the perception based on age and qualifications' groups on productivity. The results revealed that the perception based on gender and race groups of workers do not influence the impact of supervisory positive reinforcement techniques on productivity. However perceptions based on age and qualification of workers do influence the impact of supervisory positive reinforcement on productivity.

5.6.3.2 Punishment techniques

The study examines the extent to which punishment techniques can motivate construction workers to higher levels of productivity. Punishment techniques achieved a low mean total (mean average of 3.20). The techniques that achieved the highest means were verbal warnings (mean of 3.56), written warnings (mean of 3.49) and reprimanding the workers (mean of 3.39).

Punishment overall scored a low average mean rank. The average Likert score (3.20) of the workers indicate that the workers 'somewhat disagree' that punishment will lead to higher productivity levels. Pettinger (2006:210) supports this finding because although harsh punishment may stop behaviour, unavoidably it seems that in the long term, side-effects set in.

Hypotheses testing were done using the Kruskal Wallis and Mann Whitney U tests. The hypothesis tests of supervisory punishment techniques on worker designation to increase productivity do not result in statistically significant differences. Also indicated in the results is that the perception of the construction workers based on gender, age, race and qualification groups were not statistically significantly different with regard to the impact of supervisory punishment techniques on productivity. The results revealed that the perception based on gender, age, race and qualification groups of workers do not influence the impact of supervisory punishment techniques on productivity.

5.7 Chapter summary

In this chapter, data from questionnaires completed by construction workers were analysed. The data were analysed using a software programme called Statistical Package for the Social Sciences (SPSS). Data were analysed using descriptive and inferential statistics. The scaled questions were found reliable on the grounds of the Cronbach alpha coefficient.

The findings revealed that construction workers agreed that supervisory motivational communication will motivate workers to higher levels of productivity. The Mann-Whitney and Kruskal-Wallis tests were used to determine whether the demographics of construction workers resulted in statistically significant difference in the perception of supervisor motivational communication ued on productivity. Results prove that the demographics of construction workers do not result in a statistically significant difference to the perception of supervisory motivational communication used on productivity; demographics of construction workers do therefore not influence the perception of supervisory motivational communication on productivity.

The findings revealed that construction workers disagreed that supervisory functional communication will motivate workers to higher levels of productivity. The Mann-Whitney and Kruskal-Wallis tests were used to determine whether the demographics of construction workers resulted in statistically significant difference in the perception of supervisory functional communication used on productivity. Results prove that the demographics of construction workers do not result in a statistically significant difference to the perception of supervisory functional communication used on productivity; demographics of construction workers do therefore not influence the perception of supervisory functional communication on productivity.

The findings revealed that construction workers somewhat agreed that supervisory intrinsic reward techniques will motivate workers to higher levels of productivity. The Mann-Whitney and Kruskal-Wallis tests were used to determine whether the demographics of construction workers resulted in statistically significant difference in the perception of supervisor intrinsic reward techniques ued on productivity. Results prove that the demographics of construction workers do not result in a statistically significant difference to the perception of supervisory intrinsic reward techniques used on productivity; demographics of construction workers do therefore not influence the perception of supervisory intrinsic reward techniques on productivity.

The findings revealed that construction workers somewhat agreed that supervisory extrinsic reward techniques will motivate workers to higher levels of productivity. The Mann-Whitney and

Kruskal-Wallis tests were used to determine whether the demographics of construction workers resulted in statistically significant difference in the perception of supervisor extrinsic reward techniques used on productivity. Results prove that the demographics of construction workers do not result in a statistically significant difference to the perception of supervisory extrinsic reward techniques used on productivity; demographics of construction workers do therefore not influence the perception of supervisory extrinsic reward techniques on productivity.

The findings revealed that construction workers somewhat agreed that supervisory positive reinforcement techniques will motivate workers to higher levels of productivity. The Mann-Whitney and Kruskal-Wallis tests were used to determine whether demographics of construction workers resulted in statistically significant difference in the perception of supervisor positive reinforcement techniques used on productivity. Results prove that the gender, designation and race of construction workers do not result in a statistically significant difference to the perception of supervisory positive reinforcement techniques used on productivity; gender, worker level and race of construction workers do therefore not influence the perception of supervisory positive reinforcement techniques on productivity. However the results also revealed that age and qualification of construction workers do result in a statistically significant difference to the perception of supervisory positive reinforcement techniques on productivity; age and qualification of construction workers do therefore influence the perception of supervisory positive reinforcement techniques on productivity.

The findings revealed that construction workers somewhat disagreed that supervisory punishment techniques will motivate workers to higher levels of productivity. The Mann-Whitney and Kruskal-Wallis tests were used to determine whether the demographics of construction workers resulted in statistically significant difference in their perception of supervisory punishment techniques used on productivity. Results prove that the demographics of construction workers do not result in a statistically significant difference to the perception of supervisory punishment techniques used on productivity; demographics of construction workers do therefore not influence supervisory punishment techniques on productivity.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter concludes the study, highlights the limitations, recommends further study areas to be investigated and provides a summary of the contribution to the body of knowledge. The aim of the research is to assess the extent to which supervisory motivation strategies can improve worker productivity on site.

6.2 Conclusions

The extent to which the communication techniques used by supervisors on site have an impact on the productivity of workers, is determined. The pilot and main study agreed that motivational communication needs to be used in order to improve construction worker productivity. In the pilot study the majority of the respondents stated that the supervisor did not expect any feedback from them, therefore the workers felt less of a need for productivity. In the main study, motivational communication achieved higher mean scores than functional communication.

The significant difference between the perception of communication techniques used by supervisors based on the demographics of workers in affecting their productivity, is identified. The main study revealed that there are no significant difference between worker designation, age, gender, race and qualification of construction workers in their perception of communication techniques used on productivity, whether those communicational techniques are motivational or functional.

The extent to which the rewards systems used on site have an impact on the productivity of workers is determined. The pilot as well as the main study agreed that both intrinsic and extrinsic reward techniques are needed to improve the productivity of construction workers. The pilot study emphasised the importance of reward techniques such as salaries, bonuses, responsibilities and training to improve productivity. In the main study both intrinsic and extrinsic reward techniques scored high mean ranks. The most prevalent intrinsic reward techniques are: Assigns meaningful work to me; assigns tasks to me that give me a sense of accomplishment when completed; assigns challenging work to me. The most prevalent extrinsic rewards are: Pays me my regular salary; ensures that I have good working conditions; I receive my allocated paid leave.

The significant difference between the perception of reward techniques used by supervisors based on the demographics of workers in affecting their productivity, is identified. The main study revealed that there are no significant difference between designation, age, gender, race and qualification of construction workers in their perception of reward techniques used on productivity, whether those reward techniques are intrinsic or extrinsic.

The extent to which the reinforcement techniques used by supervisors on site have an impact on the productivity of workers, is determined. The pilot and main study agreed that positive reinforcement needs to be used in order to improve construction worker productivity. In the pilot study, the majority of the respondents stated that the supervisors need to use positive reinforcement techniques rather than punishment to improve worker productivity. In the main study, positive reinforcement techniques achieved higher mean scores than punishment techniques. The most prevalent of the positive reinforcement techniques are: gives me recognition for doing well; thanks me for work well done; rewards me at the end of a goal.

The significant difference between the perception of reinforcement techniques used by supervisors based on demographics of workers in affecting their productivity, is identified. The main study revealed that there are no significant differences between designation, gender, and race of construction workers in their perception of positive reinforcement techniques used on productivity; however there are significant differences in age and qualification of workers in their perception of positive reinforcement. There are no significant difference in designation, gender, age, race, and qualification in their perception of punishment techniques on productivity.

6.3 Summary of conclusions

Based on the above conclusions, it is important to note the role motivation plays in increasing productivity levels. Motivational communication has proven to be a powerful motivator when communicating with construction workers. Both intrinsic and extrinsic rewards are needed to motivate construction workers to higher levels of productivity. Also, positive reinforcement proves to be more ideal in motivating construction workers, than using punishment techniques.

6.4 Limitations

The study was done within the borders of the Western Cape. Only construction workers and not their supervisors were surveyed. The respondents on site were determined by their availability and therefore there was an uneven ratio with regard to skilled workers, semi-skilled workers and labourers.

6.5 Contribution to the body of knowledge

This study is one of a few studies to be done on the motivation of construction workers in African and Sub-Saharan African conditions. Most motivational studies were completed in the United States of America and are therefore biased to American conditions.

From the study it has the emerged that demographics of construction workers, namely designation, gender, age, race and qualification, do not have an influence on motivational communication, functional communication, extrinsic rewards and punishment. However age and qualification do have an influence on positive reinforcement. This indicates that although supervisory motivation is a crucial productivity strategy, it has to be clearly monitored to suit the individual.

6.6 Recommendations

Supervisory motivational techniques are strongly recommended to improve the productivity of construction workers. In terms of supervisory communication techniques, motivational communication techniques are recommended. Motivational communication has the intention of challenging workers' engagement by asking them to get involved in whatever they are thinking about (Hiam, 2003:37).

In terms of supervisory reward techniques, both extrinsic and intrinsic rewards techniques are recommended. According to Nicolaou, (1987:12) organisations cannot rely only on extrinsic rewards to motivate and reward their workers, as these workers are less inclined to obtain work that gives them little flexibility, and they are not easily motivated by work that does not utilise their skills, abilities and education.

In terms of supervisory reinforcement techniques, positive reinforcement techniques are recommended. Positive reinforcement concentrates on reinforcing the desired behaviour (Gonzalez, 1991:20). This is a pleasant or a desirable stimulus (Betts, 1998:163).

6.7 Further research

The study is aimed on supervisory motivational strategies to improve the productivity of construction workers. These motivational strategies were assessed on construction workers, and not the supervisors. As such further studies are recommended to determine how supervisors view the use of motivational strategies to improve the productivity of construction workers.

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APPENDICES

APPENDIX A – EXPLORATORY STUDY INTERVIEW QUESTIONS

Respondent profile

1. Kindly indicate your worker level

   ☐ Labourer ☐ Semi – skilled ☐ Artisan

   ☐ Other (please specify)……..……

2. Please indicate your gender:

   ☐ Female ☐ Male

3. Please indicate your race:

   ☐ White ☐ Black ☐ Coloured ☐ Indian

   ☐ Other (please specify) ……...……

4. Please indicate your age:

   ☐ Under 21years ☐ 21 – 30 years ☐ 31 – 40 years ☐ 41 – 50 years

   ☐ 51 – 60 years ☐ More than 60 years

5. Please indicate your trade:

   ☐ Concrete ☐ Bricklaying ☐ Plumbing ☐ Electrical ☐ Carpenter

   ☐ Other (please specify)…….....

6. Communication Techniques

6.1 Answer Yes or No on whether motivational communication techniques are used by your supervisor when issuing instructions in terms of respect, clear communication, feedback and listening. Please elaborate on your answer.

……
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……..

6.2 Please state whether these various communication techniques used by the supervisors improves your productivity.

……
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……
……
……
……..

6.Reward Techniques

6.1 Answer Yes or No on whether motivational communication techniques are used by your supervisor when issuing instructions in terms of salaries, bonuses, responsibility and training. Please elaborate on your answer.

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……..

6.2 Please state whether these various reward techniques used by the supervisors improves your productivity.

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……..

6. Reinforcement Techniques.

6.1 Answer Yes or No on whether motivational communication techniques are used by your supervisor when issuing instructions in terms of verbal affirmation, visual signs of approval and warnings. Please elaborate on your answer.

……
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……..

6.2 Please state whether these various reinforcement techniques used by the supervisors improves your productivity.

……
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……..

APPENDIX B – QUESTIONNAIRE SURVEY (English)

Department of Construction Management and Quantity Surveying

Symphony Way

Bellville

7530

03 June 2015

Dear Sir/Madam,

RE: Participation in Survey

You are kindly invited to participate in a research survey. This survey aims at analysing how communication, rewarding and reinforcing motivation techniques compel workers towards productivity. The topic of the resulting thesis is: Supervisory motivational strategies to improve the productivity of construction workers. Participants to the survey will be labourers, semi-skilled and skilled workers involved in various construction trades including bricklayers, plumbers, electricians etc. This survey is purely conducted for academic purpose by a Masters of Technology degree student of Construction Management in the Department of Construction Management and Quantity Surveying at Cape Peninsula University of Technology.

Please read each question carefully and try to answer them all. Your responses should be based on one of the most recent projects you have been involved in as a labourer, or semi-skilled worker, or skilled worker. Your responses should reflect your experience with your supervisor motivating you towards productivity. The responses to this questionnaire will be kept strictly confidential.

Kindly complete the survey and return to:

Alvin Opperman

Cape Peninsula University of Technology

Department of Construction Management and quantity Surveying

Telephone: 021 959 5870, Fax: 021 959 6870

Email: oppermanag@cput.ac.za

Section A: Employee Profile

Please provide some details about yourself: mark the appropriate box with an (**x**)

1.1 Please indicate your gender:

☐ Female ☐ Male

1.2 Please indicate your age:

☐ 18 – 25 years ☐ 26 – 30 years ☐ 31 – 40 years ☐ 41 – 50 years

☐ 51 – 60 years ☐ More than 60 years

1.3 Indicate your race:

☐ White ☐ Black ☐Coloured ☐Indian

☐ Other (specify) ……

1.4 Please indicate your highest formal qualification:

☐ No formal qualification ☐Primary – not completed ☐ Primary completed

☐ Secondary – not completed ☐Matric certificate ☐ Tertiary Certificate / diploma

☐ Undergraduate degree ☐ Postgraduate degree

☐ Other (Please specify): .....

1.5 Please indicate the status of your employer on the current project.

☐ Main contractor ☐ Sub-contractor

1.6 Please indicate whether your company is participating or has been participating in the Western Cape Contractor Development Programme (WCCDP).

☐ Yes ☐ No ☐ Unsure

1.7 Please indicate your worker level

☐ Labourer ☐ Semi – skilled ☐ Artisan

☐ Other (please specify)……

1.8 Please indicate the level of your supervisor

☐ Leading / Charge hands ☐ Junior / Assistant Foreman ☐ Foreman

☐ General Foreman

1.9 Please indicate your experience working in the construction industry

☐ Under 5 years ☐ 6 – 10 years ☐ 11 – 15 years ☐ 16 – 20 years ☐ More than 20 years

1.10 Please indicate your experience working for current contractor

☐ Under 5 years ☐ 6 – 10 years ☐ 11 – 15 years ☐ 16 – 20 years ☐ More than 20 years

1.11 Please indicate only one trade you are currently occupying on the project in which you spend more time than on other trades

☐ Concrete ☐ Bricklaying ☐ Plumbing ☐ Electrical ☐ Carpenter

☐ Other (please specify)……

Section B: Productivity status

2.1 Please indicate how you meet expected productivity targets (delivered quantity)

☐ below expected productivity ☐ meet expected productivity ☐ above expected productivity

2.2 Indicate how you meet productivity standards on a given task

(a) Time: ☐ longer ☐ on time as expected ☐ sorter than expected

(b) Quality: ☐ below quality ☐ expected quality ☐ above expected quality

Section C: Communication Techniques

3. Please read the following statements and indicate your agreement with an (**x**). Your responses should reflect your experience with your supervisor motivating you towards productivity.

I feel motivated towards productivity when…..		Degree of agreement							
		Strongly Disagree	Disagree	Somewhat Disagree	Slightly Agree	Somewhat Agree	Agree	Strongly Agree	Unsure
Motivational communication									
3.1.1	I speak directly with my supervisor	1	2	3	4	5	6	7	u

3.1.2	there is two way communication between me and my supervisor	1	2	3	4	5	6	7	u
3.1.3	my supervisor actively listens to me	1	2	3	4	5	6	7	u
3.1.4	my supervisor gauges my understanding	1	2	3	4	5	6	7	u
3.1.5	my supervisor is interested in the ideas I have.	1	2	3	4	5	6	7	u
3.1.6	I'm allowed input in tasks assigned to me	1	2	3	4	5	6	7	u
3.1.7	I receive constructive feedback from my supervisor	1	2	3	4	5	6	7	u
3.1.8	my supervisor uses illustrations and examples when communicating tasks	1	2	3	4	5	6	7	u
3.1.9	my supervisor uses gestures to compliment his words	1	2	3	4	5	6	7	u
3.1.10	my supervisor uses facial expressions to compliment his words	1	2	3	4	5	6	7	u
	Functional communication								
3.2.1	my supervisor speaks without expecting feedback	1	2	3	4	5	6	7	u
3.2.2	I find my supervisor's instructions appropriate without questioning him	1	2	3	4	5	6	7	u
3.2.3	my supervisor speaks in a respectful tone and does not shout at me	1	2	3	4	5	6	7	u
3.2.4	my supervisor sets non-specific goals	1	2	3	4	5	6	7	u
3.2.5	my supervisor provides timeously information about task completion	1	2	3	4	5	6	7	u
3.2.6	I can't express my feelings	1	2	3	4	5	6	7	u
3.2.7	I can't state my social needs	1	2	3	4	5	6	7	u
3.2.8	communication has a verbal form only	1	2	3	4	5	6	7	u
3.2.9	my supervisor wants 'Yes' or 'No' answers	1	2	3	4	5	6	7	u

Section C: Reward Techniques

4. Please read the following statements and indicate your agreement with an (**x**). Your responses should reflect your experience with your supervisor motivating you towards productivity.

I feel motivated towards productivity when my supervisor…..		Degree of agreement							
		Strongly Disagree	Disagree	Somewhat Disagree	Slightly Agree	Somewhat Agree	Agree	Strongly Agree	Unsure
	Intrinsic rewards								
4.1.1	assigns Challenging work to me	1	2	3	4	5	6	7	u
4.1.2	gives me more responsibility	1	2	3	4	5	6	7	u
4.1.3	assigns tasks to me that gives me a sense of accomplishment when completed	1	2	3	4	5	6	7	u
4.1.4	assigns meaningful work to me	1	2	3	4	5	6	7	u
4.1.5	gauges my enjoyment in doing the task	1	2	3	4	5	6	7	u
4.1.6	likes me when I do right	1	2	3	4	5	6	7	u

4.1.7	favours me when I do right	1	2	3	4	5	6	7	u
4.1.8	has specific worker rewards (separating rewards)	1	2	3	4	5	6	7	u
4.1.9	rewards me according to my needs	1	2	3	4	5	6	7	u
4.1.10	clarify rewards for performance with me	1	2	3	4	5	6	7	u
Extrinsic rewards									
4.2.1	pays me my regular salary	1	2	3	4	5	6	7	u
4.2.2	ensures me that I have job security	1	2	3	4	5	6	7	u
4.2.3	ensures that I have good working conditions	1	2	3	4	5	6	7	u
4.2.4	arranges transport allowance for me	1	2	3	4	5	6	7	u
4.2.5	gives me employee rewards for example: worker of the month	1	2	3	4	5	6	7	u
4.2.6	considers me for promotions	1	2	3	4	5	6	7	u
4.2.7	I receive my allocated paid leave	1	2	3	4	5	6	7	u
4.2.8	ensures that I receive bonuses	1	2	3	4	5	6	7	u
4.2.9	organise site 'braais' (barbeques)	1	2	3	4	5	6	7	u
4.2.10	arranges paid training	1	2	3	4	5	6	7	u
4.2.11	increases my merit pay for doing well	1	2	3	4	5	6	7	u

Section D: Re-enforcement Techniques

5. Please read the following statements and indicate your agreement with an (**x**). Your responses should reflect your experience with your supervisor motivating you towards productivity.

I feel motivated towards productivity when my supervisor…..		Degree of agreement							
		Strongly Disagree	Disagree	Somewhat Disagree	Slightly Agree	Somewhat Agree	Agree	Strongly Agree	Unsure
Positive reinforcement									
5.1.1	praises me for doing well	1	2	3	4	5	6	7	u
5.1.2	rewards me with performance bonuses	1	2	3	4	5	6	7	u
5.1.3	gives me more attention for doing well	1	2	3	4	5	6	7	u
5.1.4	issues crew rewards	1	2	3	4	5	6	7	u
5.1.5	shows me visual signs of approval for doing well	1	2	3	4	5	6	7	u
5.1.6	rewards me for advancements made towards goals	1	2	3	4	5	6	7	u
5.1.7	rewards me as an individual	1	2	3	4	5	6	7	u
5.1.8	continuously reward me for doing well	1	2	3	4	5	6	7	u
5.1.9	gives me recognition for doing well	1	2	3	4	5	6	7	u
5.1.10	rewards me at the end of a goal	1	2	3	4	5	6	7	u
5.1.11	thank me for work well done	1	2	3	4	5	6	7	u
5.1.12	gives me performance bonuses	1	2	3	4	5	6	7	u
Punishment									

5.2.1	harasses me when I'm doing wrong	1	2	3	4	5	6	7	u
5.2.2	reprimands me for doing wrong	1	2	3	4	5	6	7	u
5.2.3	avoids me when I do wrong	1	2	3	4	5	6	7	u
5.2.4	gives me stern glances	1	2	3	4	5	6	7	u
5.2.5	points his finger at me when I'm doing wrong	1	2	3	4	5	6	7	u
5.2.6	rebukes me when I'm doing wrong.	1	2	3	4	5	6	7	u
5.2.7	withholds promotions for doing wrong	1	2	3	4	5	6	7	u
5.2.8	withholds rewards	1	2	3	4	5	6	7	u
5.2.9	verbally warns me	1	2	3	4	5	6	7	u
5.2.10	issues me with a written warning	1	2	3	4	5	6	7	u
5.2.11	suspends me from work	1	2	3	4	5	6	7	u

Section E: Supervision improvement measures

6. From the experience, indicate how supervisors may improve productivity of workers in following aspects.

	Motivational supervision techniques	How supervisors may improve productivity
1	Communication	
2	Rewarding techniques	
3	Reinforcement	

THANK YOU

APPENDIX C– QUESTIONNAIRE SURVEY (isiXhosa)

Department of Construction Management and Quantity Surveying

Symphony Way

Bellville

7530

03 EyeSilimela 2015

Mnumzana/Nenekazi elibekekileyo,

MALUNGA: Nentatho-nxaxheba kuVavanyo

Uyacelwa ngokuzithoba ukuba uthabathe inxaxheba kuvavanyo lophando. Olu vavanyo lujoliswe ekucaluleni indlela eluthi unxibelelwano, ukuvuzwa nokuqinisekiswa kobuchule bokukhuthaza,kuthi kunyanzelise abasebenzi ekuveliseni kumsebenzi abawenzayo. Isihloko sethisisi sithi: “Ubuchule obongameleyo nobukhuthazayo ukuphucula ukuvelisa kubasebenzi bolwakhiwo.” Abathathi-nxaxheba kolu vavanyo iya kuba ngabasebenzi jikelele, abasebenzi abanezakhono ezingagqibelelanga, kunye nabo benezakhono ezigqibeleleyo, abachaphazeleka ngqo kwizakhono ezahlukeneyo zomsebenzi kumsebenzi abawenzayo, kuquka abakhi ngezitena, abatywini bemibhobho yamanzi, abasebenzi bombane, njl njl. Olu vavanyo luqhutyelwa ngokuphandle iinjongo zezifundo ngumfundi weSidanga iiMasters kubuChwepheshe boLawulo loLwakhiwo kwiSebe loLawulo loLwakhiwo noVavanyo loKuthelekelela ubuninzi bento ethile efunekayo ekwakheni, (i-Construction Management in the Department of Construction Management and Quantity Surveying) kwiYunivesithi yobuchwepheshe yoSinga-siqithi weKapa,.

Nceda ufundisise umbuzo ngamnye, wandule ukuzama ukuyiphendula iyonke. Iimpendulo zakho mazisekelezelwe kwenye yeeprojekthi osandul’ ukubandakanyeka kuyo kutshanje njengomsebenzi jikelele, umsebenzi onezakhono ezingagqibelelanga, okanye umsebenzi onezakhono ezigqibeleleyo. Iimpendulo zakho mazibonakalise amava akho apho umphathi wakho ekukhuthaza ekuveliseni. Iimpendulo kolu xwebhu lophando ziya kugcinwa ziyimfihlelo ngokupheleleyo.

Nceda ugcwalise olu xwebhu, ze ulubuyisele ku:

Alvin Opperman

Cape Peninsula University of Technology

Department of Construction Management and quantity Surveying

Umnxeba: 021 959 5870, Ifeksi: 021 959 6870

I-imeyile: oppermanag@cput.ac.za

ICandelo A: IBali elifutshane ngobomi boMqeshwa

Nceda unikezele ngeenkcukacha malunga nawe: Phawula kwibhokisi efanelekileyo ngophawu u-(**x**)

1.1 Nceda uphawule isini sakho:

☐ Owasetyhini ☐ Oyindoda

1.2 Nceda uphawule ubudala bakho:

☐ 18 ukuya ku-25 ☐ 26 – 30 ☐ 31 – 40 ☐ 41 – 50

☐ 51– 60 ☐ Ngaphezulu kweminyaka engama-60

1.3 Nceda uphawule uhlanga olulo:

☐ Omhlophe ☐ Omnyama ☐ OweBala ☐ Indiya

☐ Olunye (cacisa) ……

1.4 Nceda uphawule ezona zifundo zisesikweni uziphumeleleyo:

☐ Andinazifundo zisesikweni ☐ Amabanga aphantsi – andiwaqukumbelanga

☐ Amabanga aphantsi - ndiwaqukumbele ☐ Amabanga aphezulu - andiwaqukumbelanga

☐ Isiqinisekiso sebanga leShumi ☐ Isiqinisekiso seMfundo ePhakamileyo/iDiploma

☐ ISidanga sokuqala ☐ Isidanga esilandela esokuqala

☐ Esinye (Nceda ucacise): .....

1.5 Nceda uphawule iwonga lomqeshi wakho kwiprojekthi eqhubayo kungokunje.

☐ Ngabanini bekontraka ephambili ☐ Ngabanini bekontraka engenelayo

1.6 Nceda ubonakalise ukuba inkampani yenu ithabatha inxaxheba okanye ibithabatha inxaxheba kusini na kwiNkqubo yoPhuhliso loLwakhiwo yeleNtshona-Koloni (i-WCCDP).

☐ Ewe ☐ Hayi ☐ Andiqinisekanga

1.7 Nceda uphawule izinga okulo emsebenzini

☐ Umsebenzi osezantsi ☐ Onezakhono ezingagqibelelanga ☐ Onezakhono ezigqibeleleyo

☐ Elinye (nceda ucacise)……

1.8 Nceda uphawule izinga lomphathi wakho

☐ Uyakhokhela/Uyalawula ☐ NguSekela-Mphathi-basebenzi ☐ NguMphathi-basebenzi

☐ NguMphathi-Jikelele ☐ Olunye uhlobo ……..

1.9 Nceda uphawule amava akho omsebenzi kumsebenzi wokwakha

☐ Ngaphantsi kwe-5 seminyaka ☐ 6 – 10 iminyaka ☐ 11 – 15 iminyaka ☐ 16 – 20 iminyaka

☐ Ngaphezulu kwama-20 eminyaka

1.10 Nceda uphawule amava akho omsebenzi apho usebenza khona ngoku

☐ Ngaphantsi kwe-5 seminyaka ☐ 6 – 10 iminyaka ☐ 11 – 15 iminyaka ☐ 16 – 20 iminyaka

☐ Ngaphezulu kwama-20 eminyaka

1.11 Nceda uphawule lube lunye kuphela uhlobo lomsebenzi owenzayo kungokunje kwiprojekthi apho uchitha ixesha ngaphezulu kuminye imisebenzi

☐ Isamente ☐ Ukubeka isitena ☐ Ukutywina imibhobho ☐ Umbane ☐ Umchweli

☐ Omnye (nceda ucacise)…….....

ICandelo B: Iwonga lokuvelisa

2.1 Nceda uphawule indlela ofikelela ngayo kumsebenzi ekujoliswe kuwo wokuvelisa (ubungakanani bomsebenzi owuphumezayo)

☐ Ngaphantsi kokuba kulindelekile ☐ ndifikelela kwimveliso elindelekileyo

☐ Ndivelisa ngaphezulu kunokuba kulindelekile

2.2 Phawula indlela ofikelela ngayo kwimigangatho yokuvelisa kumsebenzi owunikiweyo

(c) Ixesha: ☐ ngaphezulu ☐ kwelo lilindelekileyo ☐ ngaphantsi kwelo lilindelweyo

(d) Umgangatho: ☐ ngaphantsi ☐ kumgangatho olindelweyo ☐ ngaphezulu kulowo ulindelweyo

ICandelo C: Ubuchule bonxibelelwano

3. Nceda ufunde ezi ngxelo zilandelayo, wandule ukuphawula ukuvumelana kwakho kunye nazo ngophawu u-(**x**). Iimpendulo kufuneka zibonakalise amava akho kunye nomphathi wakho ekukukhutahzeni ekuveliseni.

Ndiziva ndikhuthazeka ekuveliseni xa…..		Izinga lokuvumelana							
		Ndala ngamandla	Ndiyala	Ndiyala noko	Ndiyavuma kancinci	Ndiyavuma noko	Ndiyavuma	Ndivuma ngamandla	Andiqinisekanga
Unxibelelwano lwenkuthazo									
3.1.1	Ndithetha ngqo nomphathi wam	1	2	3	4	5	6	7	u
3.1.2	Kukho unxibelelwano olumacala-mabini phakathi kwam kunye nomphathi wam	1	2	3	4	5	6	7	u
3.1.3	umphathi wam ezinika ithuba lokundimamela	1	2	3	4	5	6	7	u
3.1.4	umphathi wam elinganisela ukuqonda kwam	1	2	3	4	5	6	7	u
3.1.5	umphathi wam enomdla kwizimvo endinazo.	1	2	3	4	5	6	7	u
3.1.6	ndivunyelwa ukuba ndiphawule ngomsebenzi endiwunikwayo	1	2	3	4	5	6	7	u
3.1.7	ndifumana impendulo eyakhayo kumphathi wam	1	2	3	4	5	6	7	u
3.1.8	umphathi wam esebenzisa imifanekiso nemizekelo xa endicacisela ngemisebenzi	1	2	3	4	5	6	7	u
3.1.9	umphathi wam esebenzisa nezandla ukucacisa intetho yakhe	1	2	3	4	5	6	7	u
3.1.10	umphathi wam esebenzisa nenkangeleko yobuso ukucacisa amazwi akhe	1	2	3	4	5	6	7	u
Unxibelelwano lomsebenzi									
3.2.1	umphathi wam ethetha engalindelanga mpendulo	1	2	3	4	5	6	7	u
3.2.2	ndiyifumana ichanekile imiyalelo yomphathi wam ndingakhange ndimbuze	1	2	3	4	5	6	7	u
3.2.3	umphathi wam ethetha ngelizwi elinentlonipho, yaye engandingxolisi	1	2	3	4	5	6	7	u
3.2.4	umphathi wam ebeka injongo ezingathanga ngqo	1	2	3	4	5	6	7	u
3.2.5	umphathi wam enikela ngolwazi rhoqo malunga nokugqitywa komsebenzi	1	2	3	4	5	6	7	u
3.2.6	ndingenakukwazi ukuvakalisa indlela endiziva ngayo	1	2	3	4	5	6	7	u
3.2.7	ndingenakuzichaza iimfuno zam ngokwasekuhlaleni	1	2	3	4	5	6	7	u
3.2.8	unxibelelwano ilolomlomo kuphela	1	2	3	4	5	6	7	u
3.2.9	umphathi wam efuna impendulo u-'Ewe' okanye u-'Hayi" kuphela	1	2	3	4	5	6	7	u

ICandelo D: Ubuchule bokuvuza

4. Nceda ufunde ezi ngxelo zilandelayo, wandule ukuphawula ukuvumelana kwakho ngophawu u-(**x**). Iimpendulo zakho mazibonakalise amava akho ngendlela umphathi wakho akukhuthaza ngayo ekuphumezeni umsebenzi wakho.

Ndiziva ndikhuthazeka xa umphathi wam		Izinga lokuvumelana							
		Ndala ngamandla	Ndiyala	Ndiyala noko	Ndiyavuma kancinci	Ndiyavuma noko	Ndiyavuma	Ndivuma ngamandla	Andiqinisekanga
Imivuzo yemvelo									
4.1.1	enidnika umsebenzi ocela umngeni	1	2	3	4	5	6	7	u
4.1.2	endinika uxanduva ngakumbi	1	2	3	4	5	6	7	u
4.1.3	endinika imisebenzi endenza ndizive ndiphumelele ukuyigqiba kwam	1	2	3	4	5	6	7	u
4.1.4	endinika umsebenzi onentsingiselo	1	2	3	4	5	6	7	u
4.1.5	elinganisela ukuvuyela kwam ukwenza umsebenzi	1	2	3	4	5	6	7	u
4.1.6	endithanda xa ndisenza okulungileyo	1	2	3	4	5	6	7	u
4.1.7	endincoma xa ndisenza okulungileyo	1	2	3	4	5	6	7	u
4.1.8	evuza abasebenzi ngokukodwa ngomsebenzi ngamnye (ezohlula iindlela zokubavuza ngokohluka kwemisebenzi abayenzileyo)	1	2	3	4	5	6	7	u
4.1.9	endivuza ngokweemfuno zam	1	2	3	4	5	6	7	u
4.1.10	endicacisela ngemivuzo yokwenza umsebenzi	1	2	3	4	5	6	7	u
Imivuzo yangaphandle									
4.2.1	xa ndihlawulwa umvuzo rhoqo (yinkampani)	1	2	3	4	5	6	7	u
4.2.2	endiqinisekisa ukuba umsebenzi wam ukhuselekile	1	2	3	4	5	6	7	u
4.2.3	endiqinisekisa ukuba ndineemeko ezifanelekileyo zokusebenza	1	2	3	4	5	6	7	u
4.2.4	endilungiselela iindlela zokuthutho ukuza emsebenzini	1	2	3	4	5	6	7	u
4.2.5	endinika umvuzo wabasebenzi: umvuzo wenyanga	1	2	3	4	5	6	7	u
4.2.6	endicingela ngokundinyusela emsebenzini	1	2	3	4	5	6	7	u
4.2.7	ndifumana ikhefu elihlawulelwayo lomsebenzi	1	2	3	4	5	6	7	u
4.2.8	eqinisekisa ukuba ndifumana imali eyongezelelweyo	1	2	3	4	5	6	7	u
4.2.9	eququzelela amathuba okosiwa kwenyama phandle emsebenzini (ibhrayi)	1	2	3	4	5	6	7	u
4.2.10	eququzelela uqeqesho oluhlawulelwayo	1	2	3	4	5	6	7	u
4.2.11	unyuso lomvuzo ngenxa yokusebenza kakuhle	1	2	3	4	5	6	7	u

ICandelo E: Ubuchule bokomeleza

5. Nceda ufunde ezi ntetho zilandelayo, wandule ukubonakalisa ukuvumelana kwakho ngophawu u-(**x**). Iimpendulo zakho mazibonise amava akho apho uMphathi wakho akukhuthazayo ukuba usebenze ngakumbi.

Ndiziva ndikhuthazeka ekusebenzeni xa umphathi wam…		Amazinga okuvumelana							
		Ndala ngamandla	Ndiyala	Ndiyala noko	Ndiyavuma kancinci	Ndiyavuma noko	Ndiyavuma	Ndivuma ngamandla	Andiqinisekanga
Ukomeleza okukhuthazayo									
5.1.1	endincoma ngokuqhuba kakuhle	1	2	3	4	5	6	7	u
5.1.2	endivuza ngemali eyongezelelweyo yomvuzo ngokomsebenzi	1	2	3	4	5	6	7	u
5.1.3	endinika ingqalelo engaphezulu ngokuqhuba kakuhle	1	2	3	4	5	6	7	u
5.1.4	ekhupha imivuzo yabasebenzi ngokobuninzi babo	1	2	3	4	5	6	7	u
5.1.5	ebonisa iimpawu ezibonakalayo zokuncoma xa ubani eqhube kakuhle	1	2	3	4	5	6	7	u
5.1.6	endivuza ngokugqithisa koko bekujoliswe kuko	1	2	3	4	5	6	7	u
5.1.7	endivuza ndindedwa	1	2	3	4	5	6	7	u
5.1.8	eqhubeka nokundivuza ngokuqhuba kakuhle	1	2	3	4	5	6	7	u
5.1.9	endinika ingqalelo ngokuqhuba kakuhle	1	2	3	4	5	6	7	u
5.1.10	endivuza ukugqitywa komsebenzi	1	2	3	4	5	6	7	u
5.1.11	endibulela ngomsebenzi oqhutywe kakuhle	1	2	3	4	5	6	7	u
5.1.12	Endinika umvuzo owongezelelweyo ngomsebenzi omhle endiwenzileyo	1	2	3	4	5	6	7	u
Isohlwayo									
5.2.1	enditshutshisa xa ndisenza into engalunganga	1	2	3	4	5	6	7	u
5.2.2	endingxolisa xa ndisenza into engalunganga	1	2	3	4	5	6	7	u
5.2.3	endiphepha xa ndisenza into engalunganga	1	2	3	4	5	6	7	u
5.2.4	endijonga kakubi	1	2	3	4	5	6	7	u
5.2.5	endikhomba xa ndisenza into engalunganga	1	2	3	4	5	6	7	u
5.2.6	endikhalimela xa ndisenza into engalunganga	1	2	3	4	5	6	7	u
5.2.7	engandinyuseli xa ndisenza into engalunganga	1	2	3	4	5	6	7	u
5.2.8	engandivuzi	1	2	3	4	5	6	7	u
5.2.9	endilumkisa ngomlomo	1	2	3	4	5	6	7	u
5.2.10	endinika isilumkiso esibhaliweyo	1	2	3	4	5	6	7	u
5.2.11	endinqumamisa emsebenzini	1	2	3	4	5	6	7	u

ICandelo F: Ukuphuculwa kobuPhathi

6. Ngokwamava akho, phawula indlela abaphathi abanokuthi baphucule ngayo ukusebenza kwabasebenzi ngokwale miba ilandelayo yokukhuthaza.

	Ubuchule bokukhuthaza komphathi	Indlela abaphathi abanokuthi bakuthaze ngayo abasebenzi ukuphucula indlela yokusebenza
1	Unxibelelwano	
2	Ubuchule bokunika imivuzo	
3	Ukomeleza	

ENKOSI

APPENDIX D – QUESTIONNAIRE SURVEY (Afrikaans)

Departement Konstruksiebestuur en Bourekene / Department Construction Management and Quantity Surveying

Symphonyweg

Bellville

7530

03 Junie 2015

Geagte Heer/Dame

Uitnodiging om aan opname deel te neem

U word hiermee vriendelik uitgenooi om aan 'n navorsingsopname deel te neem. Die doel met hierdie opname is om te ontleed hoe kommunikasie, beloning en tegnieke ter versterking van motivering werkers tot produktiwiteit aanspoor. Die onderwerp van die tesis wat hieruit voortvloei, is: "Supervisory motivational strategies to improve the productivity of construction workers". Deelnemers aan die opname sal arbeiders, halfgeskoolde en geskoolde werkers uit verskillende konstruksiebedrywe wees, insluitende messelaars, elektrisiëns, ens. Die opname word suiwer vir akademiese doeleindes onderneem deur 'n meestersgraadstudent in Kontruksiebestuur in die Departement Konstruksiebestuur en Bourekene/Department of Construction Management and Quantity Surveying aan die Kaapse Skiereilandse Universiteit van Tegnologie.

Lees asseblief elke vraag noukeurig deur en probeer om al die vrae te beantwoord. U antwoorde moet gebaseer wees op een van die projekte waarby u as arbeider, of halfgeskoolde werker, of geskoolde werker onlangs betrokke was. U antwoorde moet u ervaring aandui van hoe u toesighouer u tot produktiwiteit aanspoor. Die antwoorde op hierdie vraelys sal streng vertroulik gehanteer word.

Voltooi asseblief die opname en stuur aan:

Alvin Opperman

Kaapse Skiereiland Universiteit van Tegnologie

Departement Konstruksiebestuur en Bourekene/Department of Construction Management and Quantity Surveying

Telephone: 021 959 5870, Fax: 021 959 6870

E-pos: oppermanag@cput.ac.za

Afdeling A: Werkerprofiel

Verskaf asseblief besonderhede oor uself: merk met 'n (**x**) in die toepaslike blokkie.

1.1 Dui asseblief u geslag aan:

☐ Vroulik ☐ Manlik

1.2 Dui asseblief u ouderdom aan:

☐ 18 – 25 jaar ☐ 26 – 30 jaar ☐ 31 – 40 jaar ☐ 41 – 50 jaar

☐ 51 – 60 jaar ☐ Bo 60 jaar

1.3 Dui asseblief u ras aan:

☐ Wit ☐ Swart ☐ Kleurling ☐ Indiër

☐ Ander (spesifiseer) ……

1.4 Dui asseblief u hoogste formele kwalifikasie aan:

☐ Geen formele kwalifikasie ☐ Primêr – onvoltooid ☐ Primêr voltooid

☐ Sekondêr – onvoltooid ☐ Matrieksertifikaat ☐ Tersiêre sertifikaat / diploma

☐ Voorgraadse graad ☐ Nagraadse graad

☐ Ander (Spesifiseer asseblief)……

1.5 Dui asseblief die status van u werkgewer in die huidige projek aan.

☐ Hoofkontrakteur ☐ Subkontrakteur

1.6 Dui asseblief aan of u maatskappy deelneem of deelgeneem het aan die Wes-Kaapse Kontrakteurontwikkelingsprogram (WCCDP).

☐ Ja ☐ Nee ☐ Onseker

1.7 Dui asseblief u werkersvlak aan:

☐ Arbeider ☐ Halfgeskoold ☐ Geskoold

☐ Ander (spesifiseer asseblief)……

1.8 Dui asseblief die vlak van u toesighouer aan:

☐ Hoofvoorman / Werkopsiener ☐ Junior / Assistent-voorman ☐ Voorman

☐ Algemene voorman ☐ Ander (spesifiseer asseblief)……..

1.9 Dui asseblief u werkondervinding in die konstruksiebedryf aan:

☐ Onder 5 jaar ☐ 6 – 10 jaar ☐11 – 15 jaar ☐ 16 – 20 jaar ☐ Meer as 20 jaar

1.10 Dui asseblief u werkondervinding met u huidige werkgewer aan:

☐ Onder 5 jaar ☐ 6 – 10 jaar ☐11 – 15 jaar ☐16 – 20 jaar ☐ Meer as 20 jaar

1.11 Dui asseblief 'n ambag aan in die projek waarby u tans betrokke is waaraan u meer tyd bestee as aan ander ambagte.

☐ Beton ☐ Messelwerk ☐ Loodgietery ☐ Elektries ☐ Timmerman

☐ Ander (spesifiseer asseblief)……

Afdeling B: Produktiwiteitstatus

2.1 Dui asseblief aan hoe u verwagte produktiwiteitsteikens bereik (hoeveelheid behaal)

☐ laer as verwagte produktiwiteit ☐bereik verwagte produktiwiteit ☐bo die verwagte produktiwiteit

2.2 Dui aan hoe u u produktiwiteitstandaarde met 'n gegewe taak bereik:

(e) Tyd: ☐ langer ☐ op die verwagte tyd ☐ korter as die verwagte tyd

(f) Kwaliteit: ☐ laer as verwagte ☐kwaliteit verwagte kwaliteit ☐ bo die verwagte kwaliteit

Afdeling C: Kommunikasietegnieke

3. Lees asseblief die volgende stellings en dui u instemming aan met 'n (**x**). U antwoorde moet u ervaring aandui van hoe u toesighouer u tot produktiwiteit motiveer.

Ek voel gemotiveer tot produktiwiteit wanneer ...		Graad van instemming							
		Stem glad nie saam nie	Stem nie saam nie	Verskil in 'n mate	Stem in 'n geringe mate saam	Stem in 'n mate saam	Stem saam	Stem heelhartig saam	Onseker
Motiverende kommunikasie									
3.1.1	ek direk met my toesighouer praat	1	2	3	4	5	6	7	u
3.1.2	daar tweerigting-kommunikasie is tussen my en my toesighouer	1	2	3	4	5	6	7	u
3.1.3	my toesighouer aandagtig na my luister	1	2	3	4	5	6	7	u
3.1.4	my toesighouer my begrip toets	1	2	3	4	5	6	7	u
3.1.5	my toesighouer belang stel in die idees wat ek het	1	2	3	4	5	6	7	u
3.1.6	ek toegelaat word om insette te lewer in die take wat aan my gegee word	1	2	3	4	5	6	7	u
3.1.7	ek opbouende terugvoer van my toesighouer ontvang	1	2	3	4	5	6	7	u
3.1.8	my toesighouer illustrasies en voorbeelde gebruik wanneer idees oorgedra word	1	2	3	4	5	6	7	u
3.1.9	my toesighouer handgebare gebruik om sy woorde te komplementeer	1	2	3	4	5	6	7	u
3.1.10	my toesighouer gesigsuitdrukkings gebruik om sy woorde te komplementeer	1	2	3	4	5	6	7	u
Funksionele kommunikasie									
3.2.1	my toesighouer praat sonder om terugvoer te verwag	1	2	3	4	5	6	7	u
3.2.2	ek my toesighouer se instruksies gepas vind sonder om aan hom vrae te stel	1	2	3	4	5	6	7	u
3.2.3	my toesighouer respekvol met my praat en nie op my skreeu nie	1	2	3	4	5	6	7	u
3.2.4	my toesighouer nie spesifieke doelwitte stel nie	1	2	3	4	5	6	7	u
3.2.5	my toesighouer vroegtydig inligting verskaf oor wanneer 'n taak voltooi moet wees	1	2	3	4	5	6	7	u
3.2.6	ek nie my gevoelens kan uitdruk nie	1	2	3	4	5	6	7	u
3.2.7	ek nie my sosiale behoeftes kan stel nie	1	2	3	4	5	6	7	u
3.2.8	kommunikasie slegs mondelings plaasvind	1	2	3	4	5	6	7	u
3.2.9	my toesighouer 'Ja' of 'Nee' as antwoord verlang	1	2	3	4	5	6	7	u

Afdeling D: Beloningstegnieke

4. Lees asseblief die volgende stellings en dui u instemming aan met 'n (**x**). U antwoorde moet u ervaring aandui van hoe u toesighouer u tot produktiwiteit motiveer.

	Ek voel gemotiveer tot produktiwiteit wanneer ...	Graad van instemming							
		Stem glad nie saam nie	Stem nie saam nie	Verskil in 'n mate	Stem in 'n geringe mate saam	Stem in 'n mate saam	Stem saam	Stem heelhartig saam	Onseker
	Intrinsieke belonings								
4.1.1	my toesighouer vir my uitdagende werk gee	1	2	3	4	5	6	7	u
4.1.2	ek meer verantwoordelikheid gegee word	1	2	3	4	5	6	7	u
4.1.3	ek take kry wat my met 'n gevoel van genoegdoening laat wanneer ek dit voltooi het	1	2	3	4	5	6	7	u
4.1.4	ek betekenisvolle werk gegee word	1	2	3	4	5	6	7	u
4.1.5	vasgestel word of ek dit geniet om 'n taak uit te voer	1	2	3	4	5	6	7	u
4.1.6	my toesighouer van my hou as ek die regte ding doen	1	2	3	4	5	6	7	u
4.1.7	ek guns geniet wanneer ek iets reg gedoen het	1	2	3	4	5	6	7	u
4.1.8	ek spesifieke werkerbelonings ontvang (onderskeidende belonings)	1	2	3	4	5	6	7	u
4.1.9	ek beloon word ooreenkomstig my behoeftes	1	2	3	4	5	6	7	u
4.1.10	belonings vir prestasie aan my verduidelik word	1	2	3	4	5	6	7	u
	Ekstrinsieke belonings								
4.2.1	my gereelde salaris aan my betaal word (maatskappy)	1	2	3	4	5	6	7	u
4.2.2	ek gerus gestel word dat ek werksekerheid het	1	2	3	4	5	6	7	u
4.2.3	ek verseker word dat my werksomstandighede goed is	1	2	3	4	5	6	7	u
4.2.4	my vervoerreëlings getref word	1	2	3	4	5	6	7	u
4.2.5	werknemersbelonings aan my gegee word, bv. werker van die maand	1	2	3	4	5	6	7	u
4.2.6	ek vir bevordering oorweeg word	1	2	3	4	5	6	7	u
4.2.7	ek my toegestane betaalde verlof ontvang	1	2	3	4	5	6	7	u
4.2.8	daar sorg gedra word dat ek bonusse ontvang	1	2	3	4	5	6	7	u
4.2.9	braaigeleenthede op die perseel gereël word	1	2	3	4	5	6	7	u
4.2.10	betaalde opleiding gereël word	1	2	3	4	5	6	7	u
4.2.11	my merietevergoeding verhoog word op grond van goeie werk gelewer	1	2	3	4	5	6	7	u

Afdeling E: Versterkingstegnieke

5. Lees asseblief die volgende stellings en dui u instemming aan met 'n (**x**). U antwoorde moet u ervaring van hoe u toesighouer u tot produktiwiteit motiveer, aandui.

Ek voel gemotiveer tot produktiwiteit wanneer my toesighouer...		Graad van instemming							
		Stem glad nie saam nie	Stem nie saam nie	Verskil in 'n mate	Stem in 'n geringe mate saam	Stem in 'n mate saam	Stem saam	Stem heelhartig aaam	Onseker
Positiewe versterking									
5.1.1	my prys oor ek goeie werk gelewer het	1	2	3	4	5	6	7	u
5.1.2	my met prestasiebonusse beloon	1	2	3	4	5	6	7	u
5.1.3	meer aandag aan my gee oor ek goeie werk gelewer het	1	2	3	4	5	6	7	u
5.1.4	belonings vir spanlede uitreik	1	2	3	4	5	6	7	u
5.1.5	sigbare tekens van goedkeuring toon oor ek goeie werk gelewer het	1	2	3	4	5	6	7	u
5.1.6	my beloon oor ek gevorder het met die bereiking van doelwitte	1	2	3	4	5	6	7	u
5.1.7	my as 'n individu beloon	1	2	3	4	5	6	7	u
5.1.8	my gereeld beloon vir goeie werk gelewer	1	2	3	4	5	6	7	u
5.1.9	my erkenning gee vir goeie werk gelewer	1	2	3	4	5	6	7	u
5.1.10	my beloon wanneer 'n doel bereik word	1	2	3	4	5	6	7	u
5.1.11	my bedank vir goeie werk gelewer	1	2	3	4	5	6	7	u
5.1.12	my prestasiebonusse gee	1	2	3	4	5	6	7	u
Straf									
5.2.1	my streng hanteer wanneer ek iets verkeerd doen	1	2	3	4	5	6	7	u
5.2.2	my betig oor ek iets verkeerd gedoen het	1	2	3	4	5	6	7	u
5.2.3	my vermy wanneer ek iets verkeerd gedoen het	1	2	3	4	5	6	7	u
5.2.4	my streng kyke gee	1	2	3	4	5	6	7	u
5.2.5	met sy vinger na my wys wanneer ek iets verkeerd doen	1	2	3	4	5	6	7	u
5.2.6	my teregwys wanneer ek iets verkeerd doen	1	2	3	4	5	6	7	u
5.2.7	bevordering weerhou oor ek iets verkeerd gedoen het	1	2	3	4	5	6	7	u
5.2.8	belonings weerhou	1	2	3	4	5	6	7	u
5.2.9	my mondeling waarsku	1	2	3	4	5	6	7	u
5.2.10	'n skriftelike waarskuwing aan my rig	1	2	3	4	5	6	7	u
5.2.11	uit die werk skors	1	2	3	4	5	6	7	u

Afdeling F: Verbetering van toesighouding

6. Uit u ervaring, dui aan hoe toesighouers die produktiwiteit van hul werkers met behulp van die onderstaande motiveringsaspekte kan verbeter:

	Motiverende toesighoudingstegnieke	Hoe toesighouers werkers kan motiveer om hul produktiwiteit te verbeter
1	Kommunikasie	
2	Beloningstegnieke	
3	Versterking	

DANKIE