

Motivational factors that influence employee productivity within Raubex Construction (Pty) Ltd

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A field study submitted to the UFS Business School in the Faculty of Economic
and Management Sciences in partial fulfillment of the requirements for the
degree

Magister in Business Administration

at the

UFS Business School
University of the Free State
Bloemfontein

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2 November 2020

DECLARATION

I declare that the Field Study hereby submitted for the Magister in Business Administration qualification at the UFS Business School, University of the Free State, is my own independent work and that I have not previously submitted this work, either as a whole or in part, for a qualification at another university or at another faculty at this university.

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A handwritten signature in black ink, appearing to read 'J Meades', written in a cursive style.

Johannes Lodewikus Meades

11 November 2020

ACKNOWLEDGEMENTS

This study would not have been possible without the support of a number of people and institutions. My utmost level of gratitude goes out to the following for the support they provided throughout the research period.

- God, the Almighty, for giving me the strength and perseverance to complete my studies.
- Dr Madelein Fourie (my supervisor) for her guidance and support to enable me to develop as a researcher.
- Raubex Construction (Pty) Ltd for allowing the completion of this study.
- Mrs Naledi Gouws, for her language and editing skills.
- My wife Lize Meades for being my compass, guiding me to reach my aspirations. Thank you for all your love and support.
- My father Wollie Meades who always believed in my potential.

I devote this MBA thesis to my two sons, Killian and Douw Meades. May this be an example to you of what you can achieve if you put your mind to it.

ABSTRACT

The purpose of this study is to identify and rank the most important motivational factors that influence employee productivity within the construction industry, specifically focusing on Raubex Construction (Pty) Ltd. The present study contains a quantitative research design. A structured close-ended questionnaire was developed to collect data in order to rank the motivational factors that influence employee productivity in the construction industry. The questions were grouped into four types of motivational factors, including organisational factors, work-environment factors, monetary factors and facilities factors. The responses were quantified using the Relative Importance Index (RII) technique to analyse the collected data to ease the analysis and interpretation of a large number of respondents' quantified data. The self-completion questionnaire consisted of 25 questions and was randomly sent to the 479 permanent employees of Raubex Construction (Pty) Ltd. A total of 187 complete questionnaires were returned. Respondents were asked to rate the effect and significance of all the motivational factors on a Likert Scale of 1 to 5. The five highest-ranked motivational factors were salaries which are paid on time (RII = 0.957), followed by transport facilities (RII = 0.865), job security (RII = 0.865), good work relationship with team members leading to respectable team cohesiveness (RII = 0.842), the worker's department provides all the equipment, supplies, and resources necessary for him/her to perform his/her duties (RII = 0.837). In conclusion, monetary, facilities and work environment-related motivational factors appear to have the greatest impact on motivating employees within Raubex Construction (Pty) Ltd. However, other aspects such as company culture, communication skills and the socio-economic status of employees has an important role to play in how employees are motivated.

Key terms: motivational factors, motivation, organisational factors, work-environment factors, monetary factors, facilities factors, productivity, construction industry

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Chapter 1: Introduction and Background to the study

1.1 Introduction

Utilising human resource management (HRM) strategies such as motivational factors to increase productivity in the construction industry, is a strategic necessity in labour-intensive industries. When human resources are managed correctly and effectively, higher construction productivity can be reached, resulting in quicker project completions. There is a significant link between motivation and productivity in that productivity is directly linked to motivation, yet motivation is dependent on productivity (Doloi, 2007; Grant, 2008; Manzoor, 2012). Therefore, in order to manage people effectively to deliver on improved performance outcomes, it is relevant and essential to understand which specific motivational factors will have a greater impact on the work output of construction workers.

The focus of this study is to identify and rank the most important motivational factors that influence employee productivity within the construction industry, specifically focusing on Raubex Construction (Pty) Ltd. By identifying such factors, management within Raubex Construction (Pty) Ltd can apply the insights gathered from this study, for the betterment of employee output within the construction industry.

This proposal will provide background to the respective concepts that will be addressed and investigated. Various concepts will be discussed, starting with what motivation is and which theories and factors are known to influence and define it. Furthermore, productivity will be defined, followed by highlighting literature on which motivational factors influence productivity. Lastly, more information will be provided around the operations and successes of Raubex Construction (Pty) Ltd. From the background information provided, a problem statement will be identified and defined, against which respective research questions and objectives will be set on how to meet the aim of the current study.

1.2 Background

The development and motivation of employees in order to retain talent and improve performance is a key functionality of HRM. The key task of the HRM role remains to focus on increasing employee morale, motivation and consequently productivity, often while facing the insecurity of an economic crisis (Majovski, 2016). Motivation takes on various definitions and is most commonly referred to and explained in terms of the respective motivation theories that developed over time. B.F. Skinner was the pioneer behind the reinforcement theory, also known as the learning theory. This theory focuses on how stimuli affect the desired behaviour in different situations (Skinner, 1963).

Adams (1965) developed the equity theory of motivation. This theory focuses on the balance between the employee's input in relation to the outcome, i.e. what they get in return. The third variable of the theory is the reference person or group.

Motivation theories, including the Theory of Human Motivation, Expectancy Theory, Motivation-Hygiene Theory, Goal-setting Theory, Theory X and Theory Z, explain and differentiate between the factors that contribute to motivation (Jarkas & Radosavljevic, 2012). Even though these motivation theories can be simplified into need and process-related categories, there are other factors beyond the "needs" and "process" focused models which could potentially influence the level of motivation of employees and which ultimately have an impact on their performance output. Such factors include non-monetary rewards (Jyothi, 2016), communication techniques (Majovski, 2016) and the quality thereof, and the socio-economic conditions (Chan, 2002), to mention just a few. The topic of employee motivation has gradually become more important as it is directly linked to employee productivity.

Productivity in the construction industry has always been a very important issue, yet it is often the one aspect falling short. Productivity in the construction industry is a universal and complex issue (Radosavljevic, 2001). Numerous factors influence effective output and the concept is difficult to measure, making it very difficult to get a complete and accurate picture of the true level of productivity (Chan, 2002; Cheetham

& Lewis, 2001). Therefore, without grasping the complexity of the factors influencing productivity, attempting to improve it would be challenging.

The construction process primarily involves the management of people (Smithers & Walker, 2000) and even though improvements are often made in the mechanical, technical and practical field, the employees should remain the main focus in construction management (Chan, 2002). However, the understanding of this human factor has its challenges.

Literature on which motivational factors influence productivity with a focus on employees from the construction industry as well as within a South African context is scarce. However, the present study necessitates a better understanding of what motivation is and which factors could potentially influence it in general, as well as which factors influence productivity in the construction industry. Therefore, this research proposal aims to identify, and subsequently rank, the most important motivational factors that employees perceive to influence productivity within Raubex Construction (Pty) Ltd.

Raubex Group Limited (Ltd) is regarded as one of South Africa's leading infrastructure development and construction materials supply groups. Raubex Group Ltd is listed on the Johannesburg Stock Exchange (JSE) and boasts more than 35 years of uninterrupted profitability, employing 7 321 workers and generating an annual turnover of R 8.519 billion in 2019. Raubex Group Ltd consists of 103 separate entities which are divided into three core divisions, namely: materials, roads and earthworks, and infrastructure. The road and earthworks division specialises in road construction, earthworks, road surfacing and rehabilitation, manufacturing and laying of asphalt, chip and spray, slurry seals and the manufacture and distribution of value-added bituminous products throughout Southern Africa (Raubex Group Limited, 2020).

Raubex Construction (Pty) Ltd is one entity that falls under the roads and earthworks division. Raubex Construction (Pty) Ltd was one of the first companies established by JE "Koos" Raubenheimer, and in later years expanded into multiple sister companies, which today are collectively known as Raubex Group Ltd. Raubex Construction (Pty)

Ltd has an annual turnover of R1, 25 billion and primarily focuses on road and civil infrastructure construction. Raubex Construction (Pty) Ltd owns one of Africa's largest fleets of earthmoving and specialised equipment. Furthermore, the project management teams are highly skilled and have adequate resources, contributing to its success (Raubex Group Limited, 2020).

In order for Raubex Group Ltd and Raubex Construction (Pty) Ltd to achieve and maintain the abovementioned results year-on-year, it can be assumed that the company has productive and motivated employees. It is noteworthy that the staff turnover among permanent employees of Raubex Construction (Pty) Ltd is low. This calls for an investigation into the possible reasons for the employees' levels of satisfaction and loyalty towards the company. The question is whether there are certain motivational factors within the work environment that contribute to the productivity and success of the company. Therefore, the current study aims to investigate and identify the motivational factors which potentially influence employee productivity within Raubex Construction (Pty) Ltd.

1.3 Problem statement

Companies within the South African construction industry cannot afford to be unaware of which specific factors are most important and relevant for motivating employees. Furthermore, a current major problem which the construction industry faces is the decline in productivity (Khan, Umer and Khan, 2013). According to PricewaterhouseCoopers (PwC), for the last few years, productivity in the South African construction industry has decreased year-on-year, possibly due to increasing design complexity, less availability of resources, more rigid government regulations and tender specifications, and socio-economic and political changes affecting the workforce (PwC, 2016). Poor productivity results in low financial output of corporate companies, influencing the economic environment negatively. Consequently, the construction industry plays a crucial part in the development of a country's economy (Khan et al., 2013).

Employee motivation seems to have a linear relationship to productivity (Doloi, 2007; Grant, 2008; Manzoor, 2012). Despite the fact that the construction workforce can be motivated; in developing countries construction workers are remunerated at minimum wages, affecting the role of management in meeting the expectations of the workforce in keeping them motivated to ensure productive output. It has been suggested that intrinsic rewards are ranked as better motivators than extrinsic rewards (Kovach, 1987; Harpaz, 1990; Lindner, 1998); however, the socio-economic status of the population among whom the research is conducted must be considered. For example, in well-developed countries (where the majority of the research in this field is conducted) basic human needs such as air, food, water, housing, clothing and sleep are taken for granted and therefore a bigger focus is placed on intrinsic factors such as interesting work, achievement, challenge and achievement. Yet, in less developed countries, such as South Africa, a bigger focus is placed on extrinsic factors such as pay, incentives and promotions (Aworemi, Abdul-Azeez & Durowoju, 2011). Previous studies reported that economic factors have an edge over organisational factors when motivating the construction workforce (Khan et al., 2013). There are numerous studies which explored the relationship between motivational factors and construction workforce productivity across the world (Khan et al., 2013). However, only a limited amount of literature is available in this field of study within the local South African environment (Barg, Ruparathna, Mendis & Hewage, 2014).

Recent research studies conducted by Aworemi et al., (2011), Jarkas and Radosavljevic (2012), Khan et al., (2013), Barg et al., (2014), Maduka and Okafor (2014) and Naoum (2016) are all applicable to the construction industry; however, these articles differ regarding the research strategy implemented. The recurrent motivators (whether single or a combination of factors) reported by the abovementioned authors are: good wages, high success (low level of rework and delays), job security, recognition, the work itself, interesting work, good working conditions, reward systems that include personal growth and development, enrichment and promotions.

A key motivator for one employee might not be the same as for another. This highlights the importance of conducting research among various industries and in

various geographical areas to address similar, previously published research questions.

It is therefore imperative to gain a better understanding of which specific motivational factors the South African construction workforce perceives as most likely to increase productivity. There are many factors which can motivate employees; however, for the present research study the focus will be on the following four groups: work-environment, organisational, monetary and facilities (Khan & Ajmal, 2015).

To date there has been limited literature published on which factors allude to productive and successful outcomes within the South African construction industry. In the current economic state of South Africa, it is crucial that companies achieve success and profitability in effective and productive ways. If human resource (HR) departments within the construction industry are not familiar with the factors which motivate their personnel to be as productive as possible, the sustainability and lucrativeness of these companies may be under threat.

For the current study, a positive problem was identified, namely that Raubex Construction (Pty) Ltd achieves and maintains consistent financial results in combination with a low staff turnover among permanent employees. However, it is fundamental to identify the reasons for these results and to investigate whether certain motivational factors contribute to the productivity of the company. Once these have been documented, these factors must be emphasised within Raubex Construction (Pty) Ltd, by means of formalising them within the HR-related developmental initiatives. Furthermore, by identifying the motivational factors which contribute to the success of one of the largest construction companies in South Africa, the rest of the construction industry is enabled to follow suit. If implemented correctly, this could have a positive effect on the economy of the country and the livelihoods of its citizens.

1.4 Research questions and objectives

The following research questions have been compiled for the present study, to ensure the problem statement is answered and the objectives of the study are met:

1. Which factors influence motivation and how do motivational factors in turn impact employee productivity within the construction industry, as reported in published literature?
2. Which motivational factors are ranked the highest among the employees within Raubex Construction (Pty) Ltd as having the potential to affect their productivity?
3. What are the effects of organisation-related motivational factors on the productivity of construction workers in Raubex Construction (Pty) Ltd?
4. What are the effects of work-environment-related motivational factors on the productivity of construction workers in Raubex Construction (Pty) Ltd?
5. What are the effects of monetary-related motivational factors on the productivity of construction workers in Raubex Construction (Pty) Ltd?
6. What are the effects of facilities-related motivational factors on the productivity of construction workers in Raubex Construction (Pty) Ltd?

1.5 Primary and Secondary Objectives

The primary objective of the present study is to identify the most important motivational factors perceived to influence employee productivity within Raubex Construction (Pty) Ltd. Subsequently, the study wants to describe the ranked importance of motivating factors such as job security, inclusion in decision-making by the organisation, interesting work, good working conditions (environmentally and relationships-related), good wages, growth and development in the organisation, work recognition and motivation from management. These factors will be categorised into one of four respective groups, namely: organisational factors, work-environment factors, monetary factors and facilities factors.

Secondary objectives include the following:

- a. to complete a review of the literature available on the main topics and variables relevant to the present study by defining motivation, reporting which factors influence motivation and how motivational factors in turn impact employee productivity within the construction industry
- b. to provide an overview of the different motivational factors
- c. to rank the relative importance of motivational factors perceived by Raubex Construction (Pty) Ltd as influencing productivity

- d. to make recommendations to the construction industry within South Africa, based on the findings from the current study, on how to keep staff motivated and ensure productive output during challenging times.

1.6 Research Methodology

This section will justify the methods and principles chosen for the present study. The research design, population group and sampling methods, data collection method and the ethical considerations will be discussed in more detail in the sections to follow.

1.6.1 Research design

The focus of the present study is to identify, and then rank, the most important motivational factors perceived to influence employee productivity within one of the largest construction companies in South Africa: Raubex Construction (Pty) Ltd. For this purpose, a questionnaire (Appendix B) was developed and based on a literature review. This research is conducted from a positivistic perspective and will take on a quantitative approach with an exploratory type of study. Quantitative research entails the collection of numerical data (Bryman & Bell, 2018) and is often associated with large-scale studies (Cohen, Manion & Morrison, 2013). Furthermore, quantitative research attempts to define what the reality is, rather than what the case “ought” to be (Cohen, Manion & Morrison, 2013).

1.6.2 Sampling strategy

A randomised sampling strategy will be conducted seeing as though the study’s focus is on all the permanent employees of one of the largest construction companies in the South African market, Raubex Construction (Pty) Ltd. However, since Raubex Construction (Pty) Ltd has 479 permanent employees, it is not feasible to include all these employees in the study. Therefore, respondents will be selected at random from a sampling frame. Having the right sample size is crucial in finding a statistically significant result. Applying Equation 1 will help ensure that there is a high probability that the survey is statistically accurate with the correct sample size. In order to calculate the sample size that is needed to represent the sample frame, certain

statistical values need to be known and decided upon. The population size comprises the total number of permanent employees at Raubex Construction (Pty) Ltd, which in this instance is 479. The margin of error (confidence interval) indicates that no sample will be perfect. Therefore, the author of the study needs to decide how much error to allow. The current study will use a confidence interval of 90%. The confidence level refers to how confident the author wants to be that the actual mean falls within the confidence interval. The confidence level corresponds to a Z-score. Standard of deviation (SD) states how much variance can be expected in the received responses. A safe SD value is 0.5 as this would ensure that the sample will be large enough.

The study will aim to receive responses from a minimum of 173 employees to ensure that the sample size is reflective of the population size. The self-completion questionnaire will be distributed to each of the randomly-selected participants by means of email or via the internet. For employees without computer and internet access, printed hard copy surveys will be couriered to the respective sites. Employees with computer and internet access will receive an email that will contain a link to complete an online survey via the SurveyMonkey platform.

The target group from the permanent employee randomised samples must include the following occupations: machine operators, traffic controllers, laboratory technicians, artisans, plant hands and assistants, estimators, civil technicians, workshop managers, quantity surveyors, surveyors, supervisors, construction foreman, site agents, engineers, accountants, team leaders, Safety Health Environment and Quality (SHEQ) officers, Health Safety and Environment (HSE) officers, administrators, clerks, and site-clerks who work for Raubex Construction (Pty) Ltd. As a rule of thumb, the prospective respondents will have to have a minimum of three years' work experience at Raubex Construction (Pty) Ltd.

A foreseeable limitation of the present study is that an inadequate number of participants provide their feedback and responses to the surveys distributed. In order to be able to quantify the results, a large proportion of the questionnaires would need to be completed. To ensure the return of sufficient completed questionnaires, prospective participants will be followed up on by means of direct contact, phone calls

and frequent email-based reminders. Receiving feedback from a large number of respondents is crucial in securing reliable results.

1.6.3 Data collection method

In order to rank motivational factors that influence employee productivity in the construction industry, with the researcher approaching from an ontological perspective, the data will be collected by means of a structured, close-ended questionnaire survey. These questions will be clustered into four different major motivational factors, including organisational factors, work environment factors, monetary factors and facilities factors, as described and conducted by Khan and Ajmal (2015). The responses will be quantified using the Relative Importance Index (RII) technique to analyse the collected data. Due to the fact that the study aims to reach a large number of respondents, quantified data will ease the analysis and interpretation processes.

Various studies have been conducted on the current research topic among different work industries, cultures, socio-economic environments and geographical areas. A list of the most dominant motivational factors reported in the literature was compiled and formed the basis of the questionnaire that will be used in the present study (Appendix B).

Respondents will be asked to rate the effect and significance of all the motivational factors on a Likert Scale of 1 to 5, where 1 represented “no effect” and 5 represented a “very high effect”, respectively. The level of “effect” (1 to 5) represents the change which can be achieved in the behaviour of employees within the construction industry as a result (Khan & Ajmal, 2015).

The reliability of the questionnaire survey will first be tested by geographically local employees for assessment and feedback. This specific step will need to be conducted among a sample group of the prospective respondents of the current study to test and assess the following:

- a. the clarity, comprehensibility, interpretation, and appropriateness of the questions provided in capturing the motivational factors relevant to the construction industry of Raubex Construction (Pty) Ltd within South Africa
- b. the range adequacy of response choice
- c. the internal consistency of the questionnaire and
- d. the efficiency with which the respondents complete the questionnaires.

1.6.4 Data analysis

After the collection of the data, it will be analysed with the help of the Relative Importance Index (RII) technique (Kometa, Olomolaiye and Harris, 1994; Kumaraswamy & Chan, 1995) in order to rank the motivational factors that are perceived by the construction workers as most important in influencing performance output.

The RII, whose value ranges from 0 (not inclusive) to 1.00, will be used to determine the rank of each factor investigated; the higher the RII value, the stronger the perceived effect of the motivational factor on the productivity of the employees within the construction industry (Jarkas & Radosavljevic, 2012; Naoum, 2016).

1.6.5 Ethical considerations

The Human Science Research Council (HSRC) Code of Research Ethics states: “The researcher must...protect the welfare of all participants... In general, all research must observe the international norms of avoiding harm...” (HSRC, 2020).

Ethical considerations do not only pertain to the study population/research group but also relate to the possibility of physical or emotional harm to the researcher (Bryman & Bell, 2018).

It is vital that ethical issues are considered when planning to conduct a research study. Ethical considerations that will be particularly relevant to the present study are: obtaining permission from Raubex Construction (Pty) Ltd (Appendix C), obtaining

informed consent from all participants, and ensuring voluntary participation, confidentiality and privacy of information, as well as only assessing relevant components of the collected data. Avoiding the invasion of privacy and maintaining confidentiality are very important aspects to take note of, and the researcher will only ask for the information needed, use it responsibly and avoid sharing information without the respondents' permission. Research such as surveys should always be conducted under the condition that the researcher will keep the findings anonymous. The researcher will not reveal the identity of the participants, to ensure their privacy (Bryman & Bell, 2018).

In the modern, technological era, data protection is crucial as the routine collection and storage of data has raised concerns about the confidentiality of information. In order to allow for ethical data management, data collected is used for its intended purpose, and all personal data will be processed fairly and lawfully (D'Acquisto, Domingo-Ferrer, Kikiras, de Montjoye and Bourka, 2015). Therefore, the researcher will put the necessary measures in place to ensure that data is not accessed by unauthorised individuals or unlawfully processed and that the data is protected against accidental loss or destruction.

1.7 Chapter Layout

The topic of the present paper is to identify and rank the motivational factors that influence employee productivity within the construction industry. Once the problem and aim of the study have been demarcated within the human resource management field, focusing on productivity and the motivational factors that influence it, the second chapter will provide an extensive literature review. The literature review will primarily address all the relevant definitions pertaining to the present study, as well as provide an extensive discussion on the motivational factors that influence employee productivity, after which the motivational factors that influence the productivity of the construction workforce specifically will be elaborated on in even more detail. Chapter Three will consist of the Research and Methodology section which will clarify the specific theoretical perspective followed in the present study. Chapter Three will also describe the details related to the sample group and the sampling techniques applied. It will elaborate on how data will be collected by providing the specified questionnaire,

specific statistical tests and equations, as well as the statistical software program through which the data will be analysed. The Research Methodology chapter also addresses ethical considerations relevant and applicable to the present study. After conducting the research by distributing the questionnaires to the selected population group, obtaining the completed questionnaires from respondents and analysing the data, the results of the study will be discussed and compared to the existing literature, and these findings will be reported in Chapter Four. All the insights and new information obtained from the results and discussion section (Chapter 4) will be highlighted in the concluding chapter (Chapter 5). Future research recommendations and the limitations of the current study will also be addressed in the final chapter.

1.8 Conclusion

Even though various factors (i.e. material and equipment, construction methods) influence productivity in the construction industry, human resources remain the one element without which other resources cannot be utilised to generate productive output.

Numerous factors seem to motivate employees in the construction industry to be more productive. The motivation factors that are reiterated throughout the literature seem to be, but are not limited to: planning (including well-thought-out and realistic plans, the extent of changed orders during execution, unrealistic scheduling and performance expectations), leadership and team skills (incompetent supervisors, an experienced and self-motivated site manager, experienced staff), the frequency and quality of a supervisor's communication as well as the design and technicalities of the project, good working conditions, good pay, job security and promotion possibilities, job enlargement, job enrichment, internal and external incentives, and both monetary and non-monetary compensation.

By identifying the most relevant motivational factors tailored to a specific workforce within a specific industry, this will allow management to implement motivational programmes and policies that would truly and directly affect work productivity.

By means of analysing the feedback that will be received from the participants randomly selected from the Raubex Group, the key motivation factors which the respondents perceive to influence employee productivity within the construction industry will be ranked. This study will give insight into which specific motivational factors should be concentrated on when aiming to increase the morale of the employees within the construction industry in South Africa, particularly during challenging times, to ensure that performance outcomes remain satisfactory.

More productive outputs in the construction industry will have positive effects on the financial outcomes of the construction company providing the research population. To a larger extent and over a long-term period, this may influence the current economic situation positively.

This study recommends that employers should make an effort to identify what motivates their employees and incorporate these factors into their employees' reward system. Furthermore, by implementing certain motivational factors that are in line with the desired company culture, the employer's ideal productive workforce can be built and retained, ensuring the continuation of a newly-established, improved performance output.

Chapter 2: Literature Review

2.1 Introduction

The success of an organisation is determined by the productivity of its labour force. From a company perspective, it is important to know why employees act and perform in the manner in which they do. An organisation should establish if productivity is attributed to habit, or if it is a result of motivation. The following sections will shed light on what "motivation" and "productivity" entail, which factors influence motivation, and how motivational factors in turn impact employee productivity within the construction industry.

2.2 Definitions

Section 2.2 will describe the terminology relevant to the current study. It is important to provide more clarity on what is understood by motivation, employee motivation and productivity in the context of the current study.

2.2.1 Motivation

The term "motivation" is derived from the Latin term *movere*, meaning "to move". Often the definition of motivation focuses on concepts where a person is provided with something that will drive them to do something else (Khan et al., 2013). Motivation is the impelling cause that stimulates individuals physiologically and psychologically to follow one or more goals in order to satisfy their needs or expectations (Lam & Tang, 2003). Motivation can also be categorised as intrinsic or extrinsic (Malka & Chatman, 2003; Latham & Pinder, 2005). Intrinsic motivation results from direct and natural inner desires to perform a particular task well or learn a new task, whereas extrinsic motivation/rewards result from receiving any form of recognition from another individual or the introduction of external rewards (Aworemi et al., 2011; Jarkas & Radosavljevic, 2012).

2.2.1.1 Employee Motivation

Motivated employees are constantly looking for ways in which they can improve their performance and therefore, it is fundamental that organisations encourage the motivation of their employees (Kamalian, Yaghoubi & Moloudi, 2010).

Motivation practices are widely used by managers to improve the management of employees in the organisation (Shadare, Hammed & Ayo, 2009). Training and development, job security, employee motivation, compensation, organisational culture, organisational structure and other motivational factors contribute to employee performance (Manzoor, 2012). Manzoor (2012) reported that employees who are motivated are more responsive to their objectives and goals. Additionally, motivated employees direct all their efforts towards the achievement of these definite goals and objectives. For this reason, organisations can achieve their objectives through the performance of highly motivated employees (Danish & Usman, 2010).

2.2.2 Productivity

According to Productivity SA (2020) the definition of productivity is how well inputs like resources are used to produce the required outputs like goods and services. Moreover, productivity can only be managed if measured. Productivity SA highlights that productivity as a social concept means improving the present situation regardless of the current standard, being able to do better today than yesterday and having an attitude of progress (Productivity SA, 2020).

2.3 Overview of Motivation Theories

A number of motivation theories have emerged in the past eight decades. The most noteworthy motivation theories were the works of Maslow (1954), Herzberg (1959), McGregor (1960), Skinner (1963), Vroom (1964), Adams (1965), Ouchi (1981) and Locke and Latham (1990). The aforementioned theories also shaped research studies on productivity, performance and motivation.

Maslow's hierarchy of needs theory categorises the needs of human beings into self-actualisation, esteem, love and belonging, safety and physiological needs, in descending order of importance. The basic physiological and safety needs have to be met and fulfilled before becoming concerned about higher-order needs. Once a need is fulfilled, it is no longer a motivator (Maslow, 1954).

A behavioural scientist, Frederick Herzberg, developed the two-factor theory, also known as the motivation-hygiene theory in 1959. The two-factor theory of Herzberg (1959) proposed that employees' job satisfaction at their workplace depends on two factors, namely motivators and hygiene. According to the theory, job satisfying factors like responsibility, growth, recognition and opportunity are the true motivators which represent a deeper level of sense and fulfilment, translating into job satisfaction and motivation. Hygiene factors like salary, security, working conditions, relationships with supervisor and subordinates do not provide motivation in themselves, and once such needs have been satisfied, their effects will soon wear off. However, when the employee fails to fulfil the hygiene needs, dissatisfaction may arise.

McGregor (1960) proposed theory X, related to extrinsic motivators, and theory Y for intrinsic motivators to achieve the potential of workers. Theory X suggests that the average employee is naturally unmotivated, indolent, resistant to change, self-centred and dislikes work. Therefore they require close supervision, pressure and enticement to ensure goals are achieved. Theory Y has a more optimistic view in that it proposes that the average worker has the ability to self-motivate, accepts responsibility, desires self-direction and control and takes ownership.

The reinforcement theory, pioneered by the American psychologist Burrhus Frederic Skinner in 1957, proposes that behaviour can be shaped through controlling the consequences of the behaviour (Skinner, 1963). The reinforcement theory indicates that reward and/or punishment are used in combination to reinforce the desired behaviour or to extinguish unwanted behaviour. Behaviour that has positive consequences tends to be repeated, and behaviour with negative consequences tends not to be repeated.

The expectancy theory of Vroom (1964) suggests that, although workers may have different sets of goals, workers with certain expectations can be motivated. However, it is the employees' level of self-motivation that determines their effort and performance. Therefore, the expectancy theory has three components, namely: expectancy, instrumentality, and valence. Expectancy is the belief that an employee's performance is directly correlated to the effort put in, whereas instrumentality is the belief that a reward will be received if you perform well. Valence refers to the importance of the expected outcome, as set by the employee. A positive outcome will result in a desirable reward, which will satisfy an important need that is strong enough to justify the effort.

Adams (1965) developed the equity theory of motivation. This theory is focused on the balance between an employee's input in relation to the outcome (reward), specifically focused on what workers get in return. The third variable of the theory is the reference person or group. Inputs can be regarded as skills, commitment, effort and knowledge that an employee contributes to the organisation. Outcome (output) refers to the reward employees get in return, including recognition and remuneration.

Theory Z (Ouchi, 1981) is an extension of McGregor's theory X and theory Y. It is furthermore a combination of American and Japanese best management practices. Theory Z analyses the culture of the entire organisation. Therefore, the culture of theory Z involves long-term employment, consensual decision-making, individual responsibility, slow evaluation and promotion, and an informal control system with clear measures of performance, moderately focused career paths and extensive commitment to all aspects of the employee's life, including family.

The goal-setting theory of Locke and Latham (1990) suggested that goal setting is linked to task performance. Improved task performance can be achieved through the setting of more specific and challenging goals, followed by appropriate feedback being given. Locke and Latham (1990) identified the following five fundamental principles behind the effective setting of goals: clarity, challenge, commitment, as well as feedback and task complexity.

All of the abovementioned theories define and distinguish the factors contributing to motivation and the extent to which they influence motivation (Jarkas & Radosavljevic, 2012). An extensive review of these theories is beyond the scope of this study. However, these motivation theories can be classified into two general groups, namely (1) need, and (2) process theories (Table 2.1). The need-related approaches focus primarily on the individual needs and factors within a person that encourage the worker to achieve a task with the desired quality and productivity; whereas with the process-related approaches, the focus is on the thinking process which people undertake in choosing one action above another. This philosophy analyses which personal factors result in a change or modify workers' behaviour and learning attitude when using conditional rewards and self-induced life-long learning processes (Khan et al., 2013; Jarkas & Radosavljevic, 2012).

Table 2.1: Two general categories of classifying motivation theories (Jarkas & Radosavljevic, 2012)

Need-related motivation theories	Process-related motivation theories
Maslow's Hierarchy of Needs Theory (1954)	The Expectancy Theory of Vroom (1964)
The Motivation-Hygiene or Two-Factor Theory of Herzberg et al. (1959)	The Goal-setting Theory of Locke and Latham (1990)
Theory X by McGregor (1960)	Adams (1965)
Theory Z (Ouchi, 1981)	The Reinforcement Theory pioneered by Skinner (1963)

Organisations benefit from motivating employees and, therefore, motivation is a very important aspect to recognise and establish in any organisation (Aworemi et al., 2011). The main benefits of motivation for any organisation are that it puts human resources in action, improves the level of efficiency of employees, leads to the achievement of organisational goals, builds friendly relationships and leads to stability of the workforce (Aworemi et al., 2011). For the purpose of the current study, the focus will be on identifying from literature (and subsequently ranking) which motivational factors improve the level of efficiency of employees. These will be discussed in Section 2.4,

emphasising the factors that motivate employees within the construction industry, in particular, to be more productive (Section 2.5).

2.4 Motivational factors that influence general employee productivity

Most researchers report a direct correlation between motivation and productivity, meaning that when motivation increases, a rise in productivity is expected (Rojas & Aramvareekul, 2003; Butler, 1999; Herzberg, 1968; Khan et al., 2013).

Aspects to consider in improving the motivation levels of employees, specifically during an economic crisis include the role non-monetary incentives could play (Jyothi, 2016) as well as the influence that good communication by supervisors and leaders could have on motivating employees to be more productive (Majovski, 2016). Non-monetary incentives during an economic downturn, especially when the monetary rewards are low, have an important role to play in motivating employees and helping to build feelings of confidence and satisfaction (Jyothi, 2016). Non-monetary incentives are usually preferred by and most successful with individuals with families, who value flexible work hours and vacation time to allow for adequate time spent with their families. Training opportunities and skills development also fall under non-monetary incentives, allowing employees to grow and develop (Prezi, 2019).

By investing in training supervisors on the use of the three speech acts of motivating language (i.e. direction-giving/uncertainty-reducing language, empathetic language, and meaning-making language), this could assist supervisors in communicating more effectively with their employees (Majovski, 2016). In turn, supervisors should form a habit of having frequent informal communication with their workers, allowing for an adequate and regular supply of information and feedback to the employees. Training supervisors in the use of motivating language could be a strong motivating tool in helping employees meet their desired personal and organisational goals (Majovski, 2016).

Table 2.2 presents the motivational factors, ranked from most to least important, as reported by respondents from various industries i.e. educational consultancy, hotel and catering services, transportation services, retail services and manufacturing

(Aworemi et al., 2011). This study was conducted in Nigeria, which is also a developing country like South Africa. Therefore, it is likely that the motivational factors reported by Aworemi and co-workers (2011) would be relevant to the South African workforce too.

Table 2.2: Ranking of motivational factors (adapted from Aworemi et al., 2011)

Motivational factors	Rank
Good working conditions	1
Interesting work	2
Good wages	3
Job security	4
Promotion and growth in the organisation	5
Full appreciation of the job done	6
Personal loyalty to employees	7

The results from Aworemi and co-workers (2011) indicated that more than three-quarters of the employees of the various companies agreed that the motivational factors listed in Table 2.2 and discussed hereafter, are the factors that motivate them to contribute to the success of their respective companies.

A conducive work environment tends to bring out the best in employees, allowing for better outputs to be delivered. Good working conditions do not only refer to the physical environment but also the working relationships with management and peers (Aworemi et al., 2011). Often, when individuals are interested in the work they need to do, their level of motivation is higher. Good working conditions and interesting work correspond with Maslow's needs hierarchy as these are regarded as self-actualisation factors. Yet, interesting work also verifies Vroom's expectancy theory in the sense that since the employee enjoys what they are doing, they will put in extra effort to achieve their goal, which will, in turn, lead to positive reward (Aworemi et al., 2011). Good wages/monetary factors (such as annual salary increments, meal subsidy, regular promotion opportunities, housing allowance, regular payments and leave bonus) are also regarded as strong motivators for productivity by improving

performance. Job security covers both physical and emotional security and therefore, speaks to the second level of needs in Maslow's hierarchy (Aworemi et al., 2011).

When comparing the abovementioned rankings of the motivation factors reported by Aworemi et al. (2011) with other researchers, a difference in the ranking order is observed (Kovach, 1987; Lindner, 1998; Jarkas & Radosavljevic, 2012). However, this simply highlights that what motivates employees occasionally differs from one organisation to the next as well as between different industries. The motivational factors that seem to repeat themselves across various research studies are stimulating work and monetary benefits.

2.5 Motivational factors affecting productivity in the construction industry

Parham and Zheng (2006) indicated that construction projects are becoming more complex due to the nature of their operations, irrespective of the scope of the project. Construction projects make use of multiple contractors and sub-contractors during the lifetime of the project, which contributes to the complexity, therefore making it difficult to motivate employees to be productive and deliver optimal output. Measuring employee productivity on a construction venture is a very multifaceted process (Cox, Issa & Ahrens, 2003).

A substantial amount of research has been conducted on motivation and productivity, but few reports have provided an extensive analysis of the motivation of construction workers. Research states that productivity in construction has not improved compared to other industry sectors (Naoum, 2016). The global economic conditions demand improvements in the productivity of the construction industry.

Motivation seems to be one of the most important factors impacting the efficiency of construction operations (Jarkas & Radosavljevic, 2012). Furthermore, construction is a labour-intensive industry and, therefore, construction productivity is heavily reliant on human effort and performance (Jarkas, 2012).

Chan (2002) has reported that the human factors that influence productivity levels have not attracted the necessary attention by the construction industry and the

research community to date. As a result, various focus group interviews with the personal concepts of site management staff were conducted to highlight the aspects that lead to productivity improvements. Chan (2002) found planning, teamwork, welfare and job security to be the main areas to influence productivity.

Factors that ensure projects with high productivity include a well-thought-out and realistic plan, building design that enables the use of trade skills, good communication between senior management and operatives, training investment, experienced staff, high staff morale, good welfare, an experienced and self-motivated site manager, a site near home, job security and retention of staff (Chan, 2002). It is clear that there is a definite need to create and maintain a favourable working environment (i.e. presence of site welfare and effective teamwork) when targeting productivity (Chan, 2002).

Despite motivation theories and models simplifying the motivational management in needs- and process-based approaches, the factors involved in motivating construction workers and ultimately influencing productivity are much more complex and multi-faceted (Chan, 2002). Other factors such as the type and characteristics of the industry, cultural and religious beliefs, age, socio-economic conditions, education and maturity levels of individuals could all have an impact on how and what employees perceive to motivate them and in turn improve their work performance (Jarkas & Radosavljevic, 2012)

Figure 2.1 illustrates factors which affect construction labour productivity as summarised by Thomas and Zavrski (1999). There are various factors (whether due to indirect causes or factors influencing the work environment) that could influence the work method and ultimately the work output, apart from the work hours put in (Figure 2.1). For example, changes in the initial construction plan and shift work, along with inadequate supervision and equipment could all influence how the task at hand can be completed, which ultimately will affect the performance outcome (Figure 2.1).

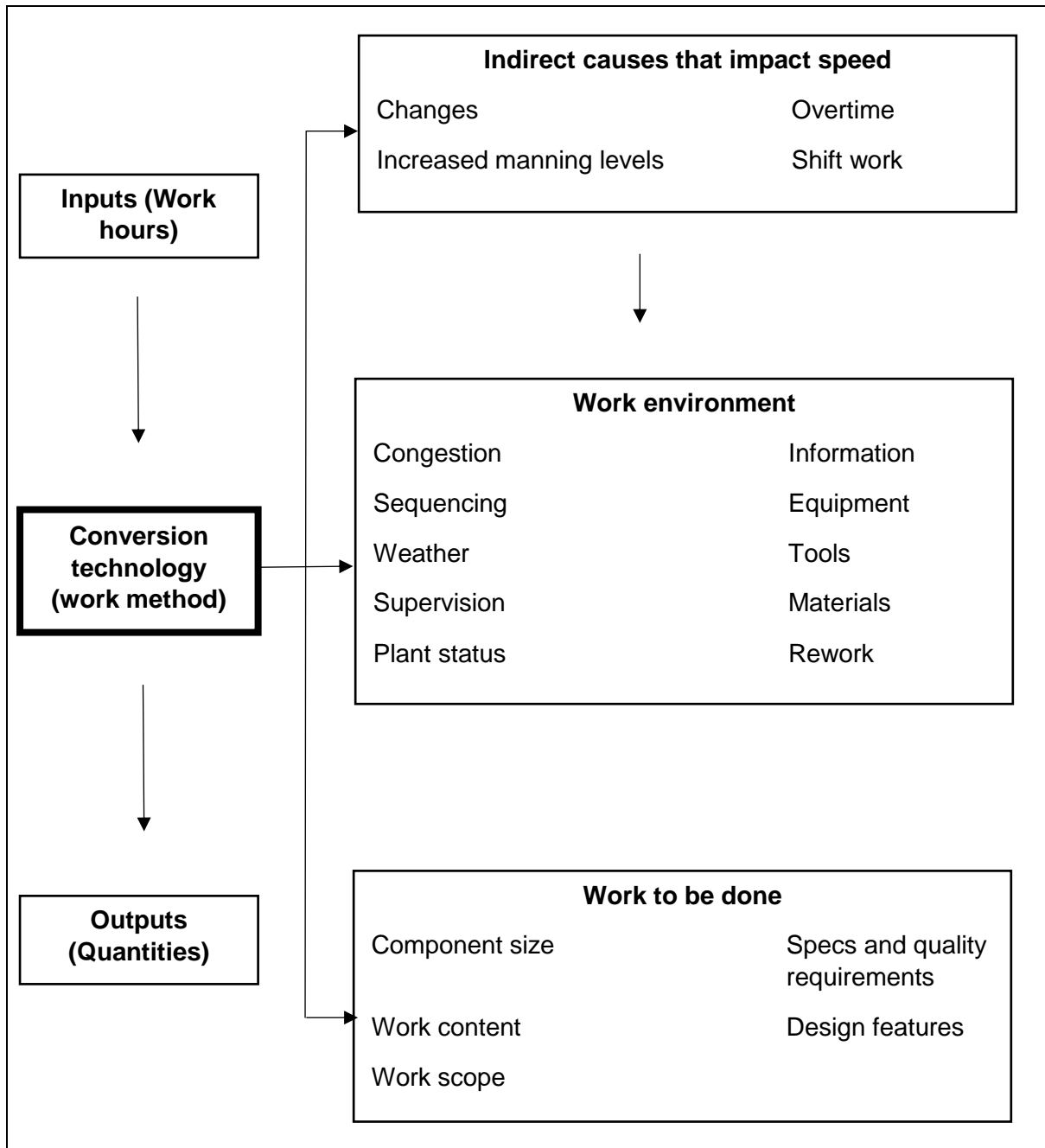


Figure 2.1: Factors affecting construction labour productivity, adapted from Thomas and Zavrski (1999)

Naoum (2016) reported on the four main causes of low productivity: technical, social, managerial and contractual. Technical components refer to aspects such as inadequate planning of resources and building design, whereas social aspects specifically look at how employees are motivated. Poor leadership, project control and procurement methods and implementation all refer to the managerial and contractual modules which may cause low productivity. Naoum (2016) reported on the importance

that the quality of the working environment within the project has, and how this impacts the quality of work, productivity and employees' motivation to work directly. According to Myers (2016), four additional factors can be added to this list of factors influencing the productivity of the construction workforce negatively. These include the inability of the industry to generate quality staff, inability to adapt to project learnings due to the short time frame set out for each project, poor level of investment and innovation and not embracing technology (Myers, 2016).

Ng, Skitmore, Lam and Poon (2004) conducted a study in Hong Kong on construction industry workers. The focus was on demotivating factors influencing the productivity of civil engineering workers. Table 2.3 presents the demotivating factors, ranked from most to least important, as reported.

Table 2.3: Ranking of predominant demotivating factors of construction projects (Ng et al., 2004)

Demotivating factors	Rank
Rework	1
Overcrowded work area	2
Crew interface	3
Tool availability	4
Inspection delays	5
Material availability	6
Foreman incompetence	7

From Table 2.3, it is evident that the three most predominant demotivating factors affecting productivity in construction industry workers are: rework, congested work areas and crew interface. The most prominent de-motivator was rework since it limits the sense of accomplishment once redo work is necessary (Ng et al., 2004).

In 2006, Hewage and Ruwanpura conducted a comprehensive study, including 101 construction workers, which led to a better understanding of various factors that influence employee motivation within the construction industry. In order of importance, the following motivational factors were ranked as the most influential motivational

factors among construction workers in improving work output: incentives (bonus, rewards, and salary); working team (relationship and respect with/from co-workers and supervisors); working conditions (freedom, physical surroundings, and opportunities to learn new things); management and supervision (positive reinforcement and job security) and intrinsic motives (chances to accomplish worthwhile things, do things you like, make decisions, and skill development).

Doloi (2007) stated that an optimum incentive programme as the main motivational factor helps human resource management (HRM) to integrate the different resources available (team/workforce, knowledge, tools/techniques and organisational processes) to influence the team, resulting in the effective delivery of tasks and ultimately the success of a project. The four broad categories of motivation factors which Doloi (2007) investigated to determine each one's role in influencing productivity among construction workers included: incentives (the prospect of promotion, monetary benefits, management pressure, etc.), management processes (employer recognition, the prospect of rewards, contract-related matters), job satisfaction (job security, positive challenges) and external factors (geographical location, employer status). Doloi (2007) reported on 25 attributes in total, of which the recurrent factors, also reported by other researchers, have been highlighted in brackets above.

Half a decade later Jarkas and Radosavljevic (2012) reported on 23 motivational factors perceived to influence productivity, which were identified, explored and established in a case study conducted among construction master craftsmen in South Kuwait. Using the "Relative Importance Index" technique, the following motivational factors were reported as the top 10 most prominent factors perceived to influence productivity:

(1) payment delay; (2) rework; (3) lack of a financial incentive scheme; (4) the extent of changed orders during execution; (5) incompetent supervisors; (6) delays in responding to Requests For Information (RFI); (7) overcrowding and operatives interface; (8) unrealistic scheduling and performance expectation; (9) shortage of materials on-site; and (10) drawings quality level (Jarkas & Radosavljevic, 2012:13).

However, the ranking order of motivational factors among construction workers in Pakistan (Table 2.4) was different from that reported by Jarkas and Radosavljevic in 2012. Potential reasons for these differences could be as a result of the current socio-economic situation in Pakistan. Pakistan is a developing country with a large percentage of the population living below the poverty line. Furthermore, rising inflation, prices of fuel, and the cost of public transport all contribute to the fact that a large section of the population lacks many basic facilities, influencing their perception of which motivational factors could influence their work productivity (Khan et al., 2013).

Table 2.4: Top ten motivational factors within a Pakistani construction industry (Khan et al., 2013)

Motivational Factor	Rank
Bonus on Eid al-Fitr, also called the "Festival of Breaking the Fast", a religious holiday celebrated by Muslims.	1
Occupational education and training (mandatory)	2
On-time payment, pick and drop facility	3
Incentive payments and financial rewards	4
Financial incentives	5
Systematic flow of work	6
Free training for enhancement of skills (optional)	7
Free lunch	8
Camping conditions, material management	9
Quality of site manager	10

From Table 2.4 it is evident that the three most effective economic factors to motivate employees for the improvement of productivity are: a bonus on Eid, the amount of pay/wages and on-time payment accompanied by pick-up and drop-off facilities (Khan et al., 2013). This again reiterates the monetary focus of these influential factors. The three most effective organisational factors, on the other hand, were occupational education and training, the systematic flow of work and camping conditions accompanied with material management, which included more non-monetary elements (Khan et al., 2013).

Barg and co-workers (2014) conducted a comprehensive review of how motivation and productivity link within the construction industry and concluded that the two methods suggested to improve the motivation of construction workers are incentives (intrinsic or extrinsic) and the improvement of management practices, specifically focusing on effective communication.

A recent study published by Emere, Aigbavboa and Thwala (2018) echoes previous research findings that good planning and effective communication within the project environment are vital to ensure productivity. Emere et al. (2018) further elaborate that effective communication includes good dispute management and regular meeting with subordinates, but added that other factors such as frequently looking for innovative ways to improve, setting model actions by the leader, correct supervision of work and rewarding good work done are all indispensable to ensure organisational productivity.

2.6 Strategies to enhance the utilisation of motivational factors to improve productivity

Even though each motivational factor and theory can be interpreted and implemented on its own, it is also relevant to look at how these influence or compare to one another. It is the responsibility of a manager to influence the deficiency needs (such as wages) and growth needs (such as development), as stated by Maslow's hierarchy of needs theory. Therefore, the first strategy to enhance the utilisation of motivational factors to improve productivity would be to ensure that all managers are tasked to ensure that the needs of the employees within their department are addressed. Herzberg's hygiene-motivators theory divides the different sets of needs into two categories, namely the personality needs (hygiene factors) and growth needs (motivators), which is highly indicative of Maslow's hierarchy of needs theory. Theory X proposes that the general employee is unmotivated, whereas Theory Y suggests that employees have the ability to motivate themselves and take ownership of their responsibilities. Theory Z refers to the total culture of the organisation. These three theories all speak purely to the needs-related approaches.

While Maslow's hierarchy of needs theory, along with the other abovementioned theories, describes which outcomes people are motivated by, Vroom's expectancy

theory describes whether employees will act based upon their experiences and expectations. The Vroom expectancy theory links very well with Adams' equity theory, as both theories have a strong focus on the perception of the individual. However, for Adams' equity theory, people will compare their experiences and outcomes with their peers or other people, whereas Vroom's expectancy theory merely focuses on the expectations an individual sets for him-/herself. The reinforcement theory tends to reinforce desired behaviour/ output or extinguish unwanted behaviour by adapting the personal and growth needs of individuals (input).

This leads to the second strategy to enhance the utilisation of motivational factors to influence productivity by ensuring that the needs-related as well as process-related approaches form part of the company's motivational policies. This will ensure that the employees' needs and well-being are addressed holistically and that those motivational policies implemented are not one dimensional. Furthermore, employees from different departments within the company could have different needs and motivational factors which will ensure their productivity. Therefore, it is essential to customise the motivational policies according to respective or similar operational departments.

The goal-setting theory links goal-setting to task performance and theorises that setting more specific and challenging goals and providing appropriate feedback are central to this theory. By investing in training supervisors on the use of motivating language, this would allow the adequate and regular supply of information and feedback to the employees. This could be a strong motivating tool and form part of the third strategy to help employees meet the desired personal and organisational goals (Majovski, 2016).

Figure 2.2 presents the author of the current study's suggestions on how the respective theories, as discussed above and in Section 2.3, influence and connect to one another.

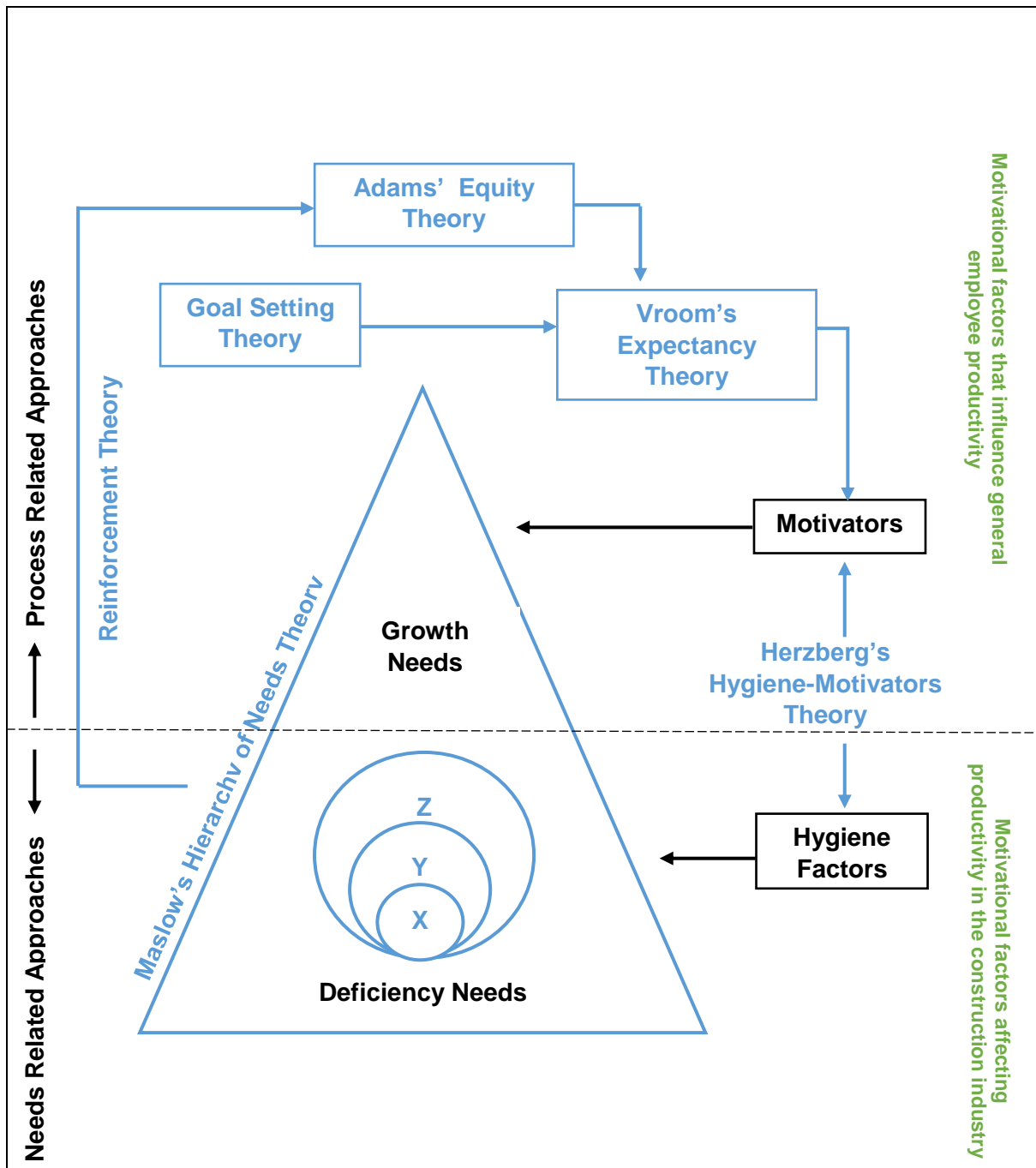


Figure 2.2: Motivational theories in comparison and connection to one another

It is interesting to note that the motivational factors that influence general employee productivity seem to be almost equally represented by both needs- and process-related approaches (Kovach, 1987; Lindner, 1998 Aworemi et al., 2011; Jarkas & Radosavljevic, 2012). However, the motivational factors affecting productivity in the construction industry seem to be more focused on the needs-related approaches, with the majority of motivational factors being more in the nature of hygiene factors and deficiency needs (wages, work environment, etc.) rather than growth needs (Thomas

& Zavrski, 1999; Chan, 2002; Ng et al., 2004; Doloji, 2007; Jarkas & Radosavljevic, 2012; Khan et al., 2013; Myers, 2016; Naoum, 2016; Emere et al., 2018)

This study recommends that employers should make an effort to identify what motivates their employees and incorporate this into the reward system. Furthermore, by implementing certain motivational factors that are in line with the desired company culture, the employer's ideal productive workforce can be built and retained, ensuring the continuation of a newly established, improved performance output.

More productive outputs in the construction industry will have positive effects on the financial outcomes of the present construction company in which the research will be conducted. To a larger extent and over a long-term period, this could influence the current economic situation in a positive way.

2.7 Conclusion

From the aforementioned sections, it is clear that the simple term "motivation" opens up a vast field of study, with various theories and different models respectively, published on the topic. Furthermore, the factors influencing motivation and ultimately, productivity are multidimensional.

Even though various factors (i.e. material and equipment, construction methods) influence productivity in the construction industry, human resources remain the one element which, if not present, means that other resources cannot be utilised to generate productive output.

Numerous factors seem to motivate employees in the construction industry to be more productive. The motivation factors that are reiterated throughout the literature seem to be, but are not limited to: planning (including well-thought-out and realistic plans, the extent of changed orders during execution, unrealistic scheduling and performance expectations), leadership and team skills (competent supervisors, experienced and self-motivated site managers, experienced staff), the frequency and quality of a supervisor's communication as well as the design and technicalities of the project, good working conditions, good pay, job security and promotion opportunities, job

enlargement, job enrichment, internal and external incentives, monetary, and non-monetary compensation.

In order to gain a better understanding of the complexity of the field of study, various factors should be analysed. For example, both the underlying factors (such as culture, age, socio-economics, etc.) as well as the perceptible factors (such as rewards, communication and rework) should be taken into consideration when conducting future studies to investigate the motivational factors that influence productivity. By identifying the most relevant motivational factors tailored to a specific workforce within a specific industry, this allows management to implement motivational programmes and policies that would truly and directly affect work productivity.

Chapter 3: Research methodology

3.1 Introduction

The present study falls within the human resource management field, with a focus on productivity and the motivational factors that influence it. The present study will take place within a section of the construction industry as respondents will be sampled from Raubex Construction (Pty) Ltd, resulting in the possibility of including respondents from across South Africa. Chapter 3 will describe the details related to the sample group and the sampling techniques applied. It will elaborate on how data will be collected by providing the questionnaire that will be used, the specific statistical tests and equations, as well as a statistical software program which will be used to analyse the data. The Research Methodology chapter will also address the ethical considerations relevant and applicable to the present study.

3.2 Research design

The focus of the present study is to identify, and then rank, the most important motivational factors perceived to influence employee productivity within one of the largest construction companies in South Africa: Raubex Construction (Pty) Ltd. For this purpose, a questionnaire (Appendix B) has been developed with the help of the literature review. This research is conducted from a positivistic tradition and will take on a quantitative approach with an exploratory type of study. Quantitative research entails the collection of numerical data (Bryman & Bell, 2018) and is often associated with large-scale studies (Cohen, Manion & Morrison, 2013). Furthermore, quantitative research attempts to define what the reality actually is rather than what the case “ought” to be (Cohen, Manion & Morrison, 2013).

3.3 Sampling

A randomised sampling strategy will be conducted since the study wants to focus on all the permanent employees within one of the largest construction companies in the South African market, Raubex Construction (Pty) Ltd. However, since Raubex Construction (Pty) Ltd has 479 permanent employees, it is not feasible to include all

these employees in the research study. Therefore, respondents will be selected at random from a sampling frame. Having the right sample size is crucial in finding a statistically significant result. Applying Equation 1 will help ensure that there is a high probability that the survey is statistically accurate with the correct sample size. In order to calculate the sample size that is needed to represent the sample frame, certain statistical values need to be known and decided upon. The population size would include the total number of permanent employees at Raubex Construction (Pty) Ltd, which is 479 in this instance. The margin of error (confidence interval) indicates that no sample will be perfect. Therefore, the author of the study needs to decide how much error to allow. The current study will use a confidence interval of 90%. Confidence level refers to how confident the author wants to be that the actual mean falls within the confidence interval. The confidence level corresponds to a Z-score. This is a constant value needed for Equation 3.1; if the confidence level is 90%, the Z-score is 1.645. Standard of deviation (SD) states how much variance can be expected in the responses received. A safe SD value is 0.5 as this would ensure that the sample will be large enough.

$$\text{Necessary Sample Size} = ((Z\text{-score})^2 \times SD(1-SD)) / (\text{Margin of Error})^2$$

Equation 3.1: Necessary Sample Size

Based on the abovementioned calculations, the study will aim to receive responses from a minimum of 173 employees to ensure that the sample size is reflective of the population size. The self-completion questionnaire will be distributed to each of the randomly selected participants by means of email or the internet. For employees without computer and internet access, hard copy surveys will be couriered to the respective sites. Employees with computer and internet access will receive an email that will contain a link to complete an online survey via the SurveyMonkey platform. The contact information of the respective participants will be obtained from the HR and Payroll Managers of Raubex Construction (Pty) Ltd. Furthermore, approval will be obtained for the distribution of the questionnaire.

The target group from the permanent employee randomised samples must include the following occupations: machine operators, traffic controllers, laboratory technicians, artisans, plant hands and assistants, estimators, civil technicians, workshop managers, quantity surveyors, surveyors, supervisors, construction foreman, site agents, engineers, accountants, team leaders, Safety Health Environment and Quality (SHEQ) officers, Health Safety and Environment (HSE) officers, administrators, clerks, and site-clerks who work for Raubex Construction (Pty) Ltd. As a rule of thumb, the prospective respondents will have to have a minimum of three years' work experience at Raubex Construction (Pty) Ltd.

A foreseeable limitation of the present study is that an inadequate number of participants provide their feedback and responses to the surveys distributed. In order to be able to quantify the results, large numbers of questionnaires would need to be completed. To ensure a satisfactory turnover of completed questionnaires, prospective participants will be followed up on by means of direct contact, phone calls and frequent email-based reminders. Receiving feedback from a large number of respondents is crucial in securing reliable results.

3.4 Data collection method

In order to rank the motivational factors that influence employee productivity in the construction industry, with the researcher approaching from an ontological perspective, the data will be collected by means of a structured closed-ended questionnaire survey. These questions will be clustered into four different major motivational factors, including organisational factors, work environment factors, monetary factors and facilities factors, as described and conducted by Khan and Ajmal (2015). The responses will be quantified using the Relative Importance Index (RII) technique to analyse the collected data, due to the fact that the study aims to reach a large number of respondents and quantified data will ease the analysis and interpretation thereof.

Various studies have been conducted on the current research topic, yet among different work industries, cultures, socio-economic environments and geographical areas. A list of the most dominant motivational factors reported in the literature was

compiled and formed the basis of the questionnaire that will be used in the present study (Appendix B).

Respondents will be asked to rate the effect and significance of all the motivational factors on a Likert Scale of 1 to 5, where 1 represents “no effect” and 5 represents “very high effect”, respectively. The level of “effect” (1 to 5) represents the change which can be achieved in the behaviour of employees within the construction industry as a result (Khan & Ajmal, 2015).

The reliability of the questionnaire survey will first be tested by local employees for assessment and feedback. This specific step will need to be conducted among a sample group of the prospective respondents of the current study to test and assess the following:

- a. the clarity, comprehensibility, interpretation, and appropriateness of the questions provided in capturing the motivational factors relevant for the construction industry of Raubex Construction (Pty) Ltd within South Africa
- b. the range adequacy of response choice
- c. the internal consistency of the questionnaire and
- d. the efficiency with which the respondents complete the questionnaires.

After the collection of the data, it will be analysed with the help of the Relative Importance Index (RII) technique (Kometa et al., 1994; Kumaraswamy & Chan, 1995) in order to acquire a ranking order of the motivational factors perceived by the construction workers as most important in influencing performance output. The RII for each factor explored will be calculated using the formula shown in Equation 3.2.

$$RII = \frac{5(n_5) + 4(n_4) + 3(n_3) + 2(n_2) + n_1}{5(n_1+n_2+n_3+n_4+n_5)}$$

Where: n_1 ; n_2 ; n_3 ; n_4 ; and n_5 , are the number of respondents who selected: 1, for no effect; 2, for little effect; 3, for moderate effect; 4, for strong effect; and 5, for very strong effect, respectively.

Equation 3.2: Relative Importance Index (RII)

The RII, whose value ranges from 0 (not inclusive) to 1.00, will be used to determine the rank of each factor investigated; the higher the RII value, the stronger the

perceived effect of the motivational factor on the productivity of the employees within the construction industry (Jarkas & Radosavljevic, 2012; Naoum, 2016).

Furthermore, basic statistical tests such as a normality test, i.e. the Shapiro Wilk test will be performed to check whether or not the distribution of the data (sample size \leq 2000) is normal. The null hypothesis (H_0) for the test is that the data follows the normal distribution and is rejected if the result is significant, with a significance value \leq 0.05 meaning that data is not normally distributed (Khan & Ajmal, 2015).

3.5 Ethical considerations

The Human Science Research Council (HSRC) Code of Research Ethics states: “The researcher must...protect the welfare of all participants... In general, all research must observe the international norms of avoiding harm...” (HSRC, 2020).

Ethical considerations do not only pertain to the study population/research group but also relate to the possibility of physical or emotional harm to the researcher (Bryman & Bell, 2018).

The researcher obtained approval from the UFS Ethics committee (refer to Appendix A for the signed approval letter). It is vital that ethical issues are considered when planning to conduct a research study. Ethical considerations that will be particularly relevant to the present study are: obtaining permission from Raubex Construction (Pty) Ltd (Appendix C), obtaining informed consent from all participants and ensuring their voluntary participation, confidentiality and privacy of information, and only assessing relevant components of the collected data. Avoiding an invasion of privacy and maintaining respondents' confidentiality are very important aspects to take note of, and the researcher will make sure to only ask for the information needed, to use it responsibly and avoid sharing information without the respondents' permission. Research such as surveys should always be conducted under the assumptions that the researcher will keep the findings anonymous. The researcher will agree not to reveal the identity of the participants, to ensure their privacy (Bryman & Bell, 2018).

In the modern, technological era data protection is crucial as the routine collection and storage of data has raised concerns about the confidentiality of information. In order to allow for ethical data management, data collected will only be used for the purpose for which it was intended, and all personal data will be processed fairly and lawfully (D'Acquisto et al., 2015). Therefore, the researcher will put the necessary measures in place to ensure that data is not accessed by unauthorised individuals or unlawfully processed and that the data is protected against accidental loss or destruction.

Information will be obtained anonymously. The researcher is the HR Manager at Raubex (Pty) Ltd and this could potentially create a perception that this could influence the way research issues are defined and findings are presented. However, the role the researcher occupies is independent and not directly involved in any decision-making processes or employee-related matters pertaining to Raubex Construction (Pty) Ltd. Therefore, this allows for a more objective and unbiased analysis of the results which will be obtained from this study (Remenyi, 1998).

3.6 Conclusion

By analysing the feedback that will be received from the participants randomly selected from Raubex Construction (Pty) Ltd, the key motivation factors which the respondents perceive to influence employee productivity within the construction industry will be ranked. This study will give insight as to which specific motivation factors should be concentrated on when aiming to increase the morale of the employees within the construction industry in South Africa, particularly during challenging times, to ensure that performance outcomes remain satisfactory.

Chapter 4: Data analysis and findings

4.1 Introduction

The current study aims to investigate which motivational factors contribute to the productivity of Raubex Construction (Pty) Ltd, a company which has managed to achieve and maintain consistent financial results in combination with a low staff turnover among permanent employees. The fact that Raubex Construction (Pty) Ltd maintains its productivity despite the challenges the construction industry in South Africa faces can indicate one of two things. Either it showcases how this company manages to collaborate with government and the private sector respectively to ensure success, or it showcases how robust and rigorous the company's infrastructure is to withstand the various external (negative) factors and continue delivering on the set outcomes.

4.2 Response rate

A self-completion questionnaire, consisting of 25 questions, was randomly sent to the 479 permanent employees of Raubex Construction (Pty) Ltd. All the questions were answered, no questions were skipped, and a total of 187 completed questionnaires were returned, ensuring that the results are quantifiable and reliable. This translates to 39% of all the distributed questionnaires that were fully completed and which were therefore used for analysis. It is important to consider that the researcher aimed to receive a minimum of 173 responses to ensure that the sample size would be reflective of the population size and therefore, this response rate is acceptable. Since it was crucial to ensure a satisfactory response in terms of completed questionnaires, the researcher followed up with prospective respondents via direct contact, phone calls and frequent email-based reminders.

4.3 Analysis and interpretation of biographical data

The target group from the permanent employee randomised samples included the following occupations: machine operators, traffic controllers, artisans, plant hands and assistants, estimators, civil technicians, workshop managers, quantity surveyors, surveyors, supervisors, construction foreman, site agents, engineers, accountants,

team leaders, Safety Health Environment and Quality (SHEQ) officers, Health Safety and Environment (HSE) officers, administrators, clerks and site-clerks.

4.3.1 Years at company

The staff turnover at Raubex Construction (Pty) Ltd is low, with the majority of permanent employees having been employed at the company for between 5 and 15 years at the time the research was conducted (Figure 4.1). More than a third (34.22%) of the respondents have five to ten years' work experience at Raubex Construction (Pty) Ltd, followed by 28.88% of the respondents who have worked at the company for 11 to 15 years (Figure 4.1). A remarkable 8.56% (Figure 4.1) of the respondents had more than 20 years' experience at Raubex Construction (Pty) Ltd, emphasising loyalty, work satisfaction and the level of job security employees' experience.

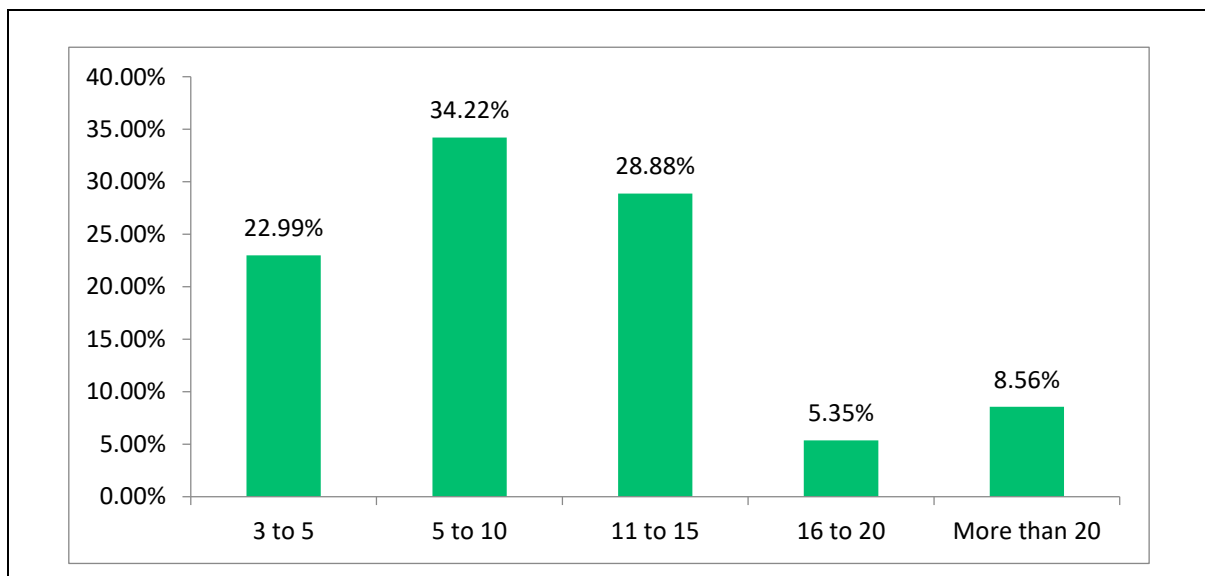


Figure 4.1: Years at company

Interestingly, the respondents' years at the company are similar to the number of years' experience, as discussed in Section 4.3.2.

4.3.2 Years of experience

The study respondents have not only been at the company for long periods, but it appears that their years at the company form a solid basis for the years of experience

too (Figure 4.2). This emphasises that permanent employees are satisfied at the company and choose to stay with the company.

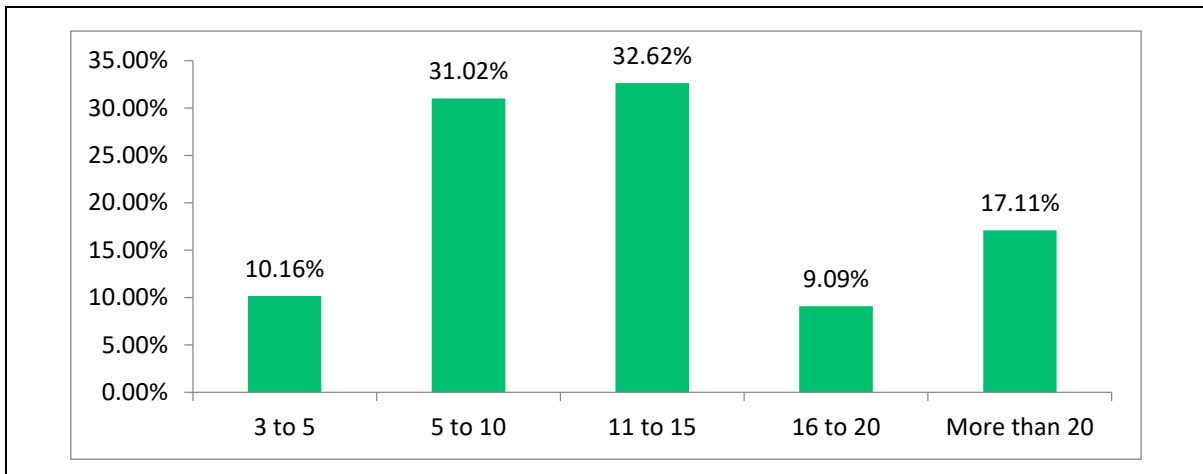


Figure 4.2: Years of experience

4.3.3 Highest qualification

Figure 4.3 illustrates that most of the respondents hold a matric certificate as their highest qualification (72.19%). Only a small number of respondents hold a Master’s degree as their highest qualification, which merely highlights the type of industry the study is conducted in and that the construction industry typically employs more hands-on and practically-skilled individuals and does not necessarily require the most academically qualified individuals.

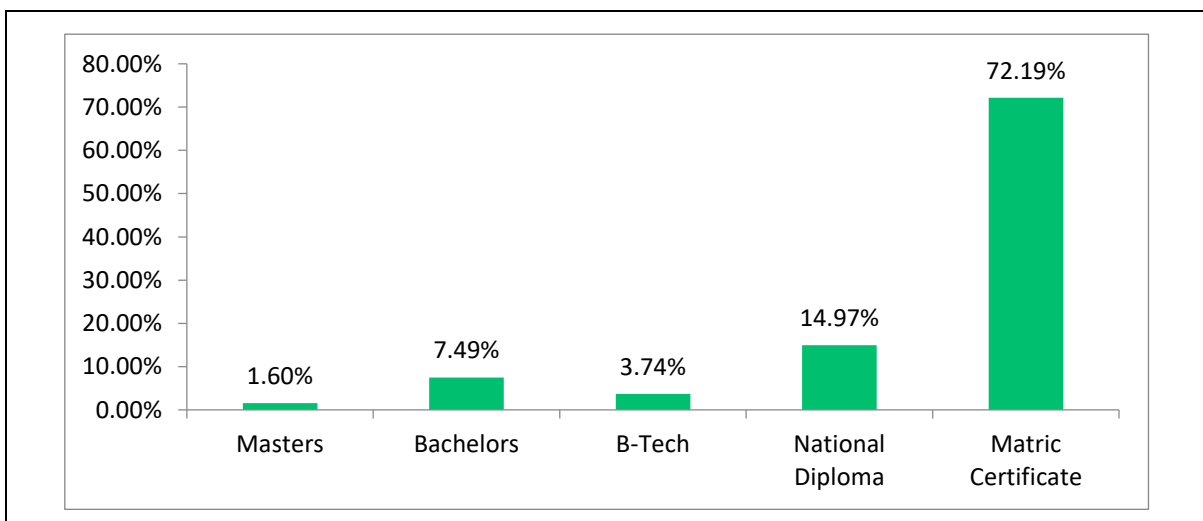


Figure 4.3: Highest qualification

4.4 Analysis and interpretation of data

Respondents were asked to rate the effect and significance of all the motivational factors on a Likert Scale of 1 to 5, where 1 represented “no effect” and 5 represented “very high effect” respectively. The level of “effect” (1 to 5) represents the change which can be achieved in the behaviour of employees within the construction industry as a result (Khan & Ajmal, 2015).

Table 4.1 presents the motivational factors, ranked from most to least important (based on the Relative Importance Index (RII) values calculated), as reported by respondents from Raubex Construction (Pty) Ltd. The higher the RII value, the stronger the perceived effect of the motivational factor on the productivity of the permanent employees. The top three motivational factors which were ranked highest among the current study respondents are categorised in the monetary and facilities factors. The highest-ranked motivational factor was that salaries are paid on time, followed by transport facilities as part of the organisation and that job security is provided; regarded as equally important since these two factors received the same RII value of 0.865 (Table 4.1).

The ranking order of the various motivational factors in this study differed from those reported by Aworemi and co-workers in 2011, who were reporting on responses from various industries and therefore, did not focus on the construction industry alone. The expectation was that the results would have been more similar since both studies were conducted in developing countries, namely Nigeria and South Africa. Yet, the most noticeable differences were that the motivational factors related to interesting work, promotion and growth in the organisation, as well as high success (low level of rework and delays) were not ranked highly by the respondents in the present study. Monetary, work environment and facilities-related motivational factors played a more prominent part in the current study and are in agreement with some of the recurrent motivators such as good wages, job security, good working conditions and teamwork, as reported by previous authors (Chan, 2002; Doloji, 2007; Aworemi et al., 2011; Jarkas & Radosavljevic, 2012; Khan et al., 2013; Barg et al., 2014; Maduka & Okafor, 2014; Naoum, 2016).

Table 4.1: Motivational factors ranked from most to least important in influencing productivity as reported by respondents from Raubex Construction (Pty) Ltd .

Motivational factors	Relative Importance Index (RII)
Salaries are paid on time	0,957
Job security is provided	0,865
Transport facilities as part of the organisation	0,865
Good work relationship with team members leading to respectable team cohesiveness	0,842
My department provides all the equipment, supplies, and resources necessary for me to perform my duties	0,837
A good working environment is set by management	0,804
The quality of communication from my direct manager influences my level of productivity	0,774
The right amount of support and guidance from my direct supervisor influences my level of productivity	0,771
Work recognition is provided	0,770
Provision of medical care	0,768
Easy communication with members from all levels of this organisation influences my level of productivity	0,767
Bonuses for builders' break	0,753
The interest of management in motivating employees influences my level of productivity	0,702
Management involves employees in the decision-making process when it is related to their department	0,698
Motivational activities as part of the company policy	0,69
Opportunities to develop professional skills	0,682
Higher wages provided annually to increase motivation	0,673
Education and training is frequently provided by the organisation	0,657
Delays caused by design error and specifications influence my level of productivity	0,636
Management provides work appreciation and financial performance rewards	0,616

Ng, Skitmore, Lam and Poon (2004) conducted a study in Hong Kong on construction industry workers. The focus was on demotivating factors influencing the productivity of civil engineering workers. Rework, tool and material availability, and inspection delays are all factors which are among the predominant demotivating factors in construction projects (Ng et al., 2004). These factors resonate with the results from the present study, indicating that the respective departments within Raubex Construction (Pty) Ltd provide all the equipment, supplies, and resources necessary for employees to perform their duties and that this was ranked among the top five motivational factors (Table 4:1). However, the factor related to whether delays caused by design error and specifications influence employees' level of productivity, was ranked at a very low level of importance in the current study. This could possibly be

ascribed to the level of education of the respondents in Ng and co-workers' (2004) report, and the present study is different. The high unemployment rate in South Africa could also influence why the respondents of the current study did not regard this factor as important in influencing their productivity since it can be argued that the respondents are simply too relieved to have employment and that delays to the project are not a pressing concern. It could also be that the respondents merely misinterpreted the question, which could have skewed the results.

The results from the present study appear to be most aligned with the results reported by Hewage and Ruwanpura in 2006, ranking incentives (bonus, rewards, and salary); working team (relationship and respect with/from co-workers and supervisors); management and supervision (positive reinforcement and job security) as important. However, factors such as working conditions (freedom, physical surroundings, and opportunities to learn new things) as well intrinsic motives (chances to accomplish worthwhile things, do things you like, make decisions, and develop skills) were not ranked as important factors in the present study.

The results reported by Khan and co-workers in 2013, ranking motivational factors among construction workers in Pakistan, are also similar to those found by the present study. The monetary and facilities-related emphasis of these influential factors could be ascribed to the poor socio-economic situation in both Pakistan and South Africa, where these studies were conducted. This emphasises how the lack of basic facilities influences employees' perception of which motivational factors could influence their work productivity.

Five organisation-related motivational factors were included in the questionnaire, namely: motivational activities as part of the company policy, work recognition is provided, management involves employees in the decision-making process when it is related to their department, the interest of management in motivating employees to influence the level of productivity, and the right amount of support and guidance from a worker's direct supervisor influences his/her level of productivity (Table 4.2).

Table 4.2: The effects of the various organisation-related motivational factors on the productivity of construction workers in Raubex Construction (Pty) Ltd

Answer Choice	Motivational activities as part of the company policy		Work recognition is provided		Management involves employees in the decision-making process when it is related to their department		The interest of management in motivating employees influences my level of productivity		The right amount of support and guidance from my direct supervisor influences my level of productivity	
	% Responses	# Responses	% Responses	# Responses	% Responses	# Responses	% Responses	# Responses	% Responses	# Responses
1	17.11%	32	9.63%	18	17.65%	33	15.51%	29	11.23%	21
2	5.35%	10	6.95%	13	5.88%	11	6.42%	12	6.95%	13
3	21.39%	40	13.90%	26	17.65%	33	20.86%	39	12.83%	24
4	28.34%	53	27.81%	52	27.27%	51	26.20%	49	22.99%	43
5	27.81%	52	41.71%	78	31.55%	59	31.02%	58	45.99%	86

% = percentage, # = number

The effects of the various organisation-related motivational factors on the productivity of construction workers in Raubex Construction (Pty) Ltd differs. From the results presented in Table 4.2, it is apparent that 41.71% of the respondents rated that they experience work recognition (Figure 4.4).

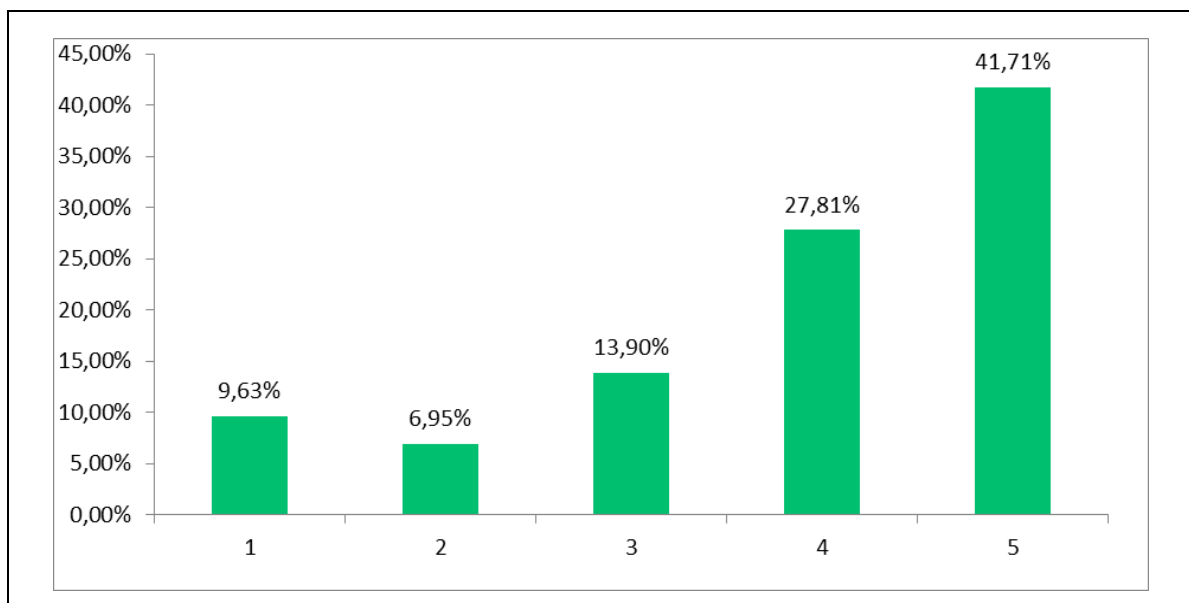


Figure 4.4: Work recognition is provided

Almost half of the respondents were of the opinion that the right amount of support and guidance from their direct supervisor influences their level of productivity (Figure 4.5). These two factors also achieved the highest RII score (0.77) among the respective organisation-related motivational factors (Table 4.1).

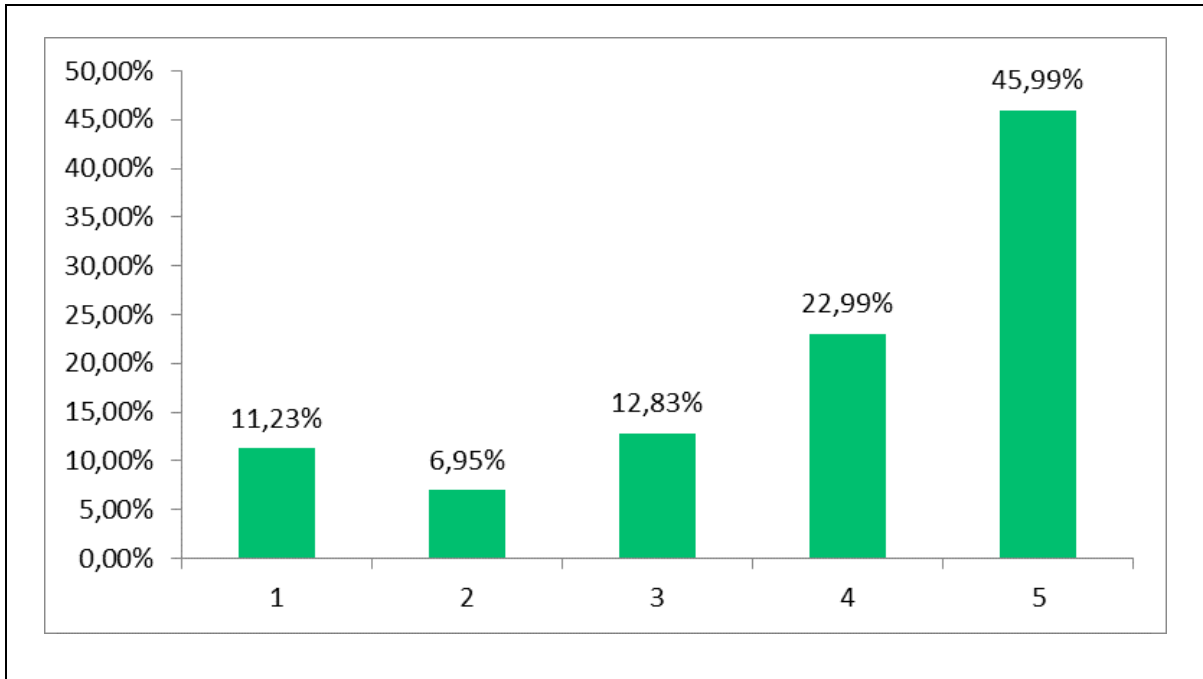


Figure 4.5: The right amount of support and guidance from my direct supervisor influences my level of productivity

These organisationally-based motivational factors could contribute to ensuring an encouraging work environment, boosting employees to give of their best and delivering better outputs. This reiterates the fact reported by Aworemi and co-workers (2011), that a good working environment does not only refer to the physical environment but also the working relationships with management and peers.

Therefore, the present study also investigated what the effects of work environment-related motivational factors on the productivity of construction workers in Raubex Construction (Pty) Ltd could be. Six work environment motivational factors were included in the questionnaire, as indicated in Table 4.3.

Table 4.3: The effects of the various work environment-related motivational factors on the productivity of construction workers in Raubex Construction (Pty) Ltd

Answer Choice	The quality of communication from my direct manager influences my level of productivity		Delays caused by design error and specifications influence my level of productivity		Easy communication with members from all levels of this organisation influences my level of productivity		A good working environment is set by management		Good work relationship with team members leading to respectable team cohesiveness		My department provides all the equipment, supplies, and resources necessary for me to perform my duties	
	% Responses	# Responses	% Responses	# Responses	% Responses	# Responses	% Responses	# Responses	% Responses	# Responses	% Responses	# Responses
1	11.23%	21	18.18%	34	9.09%	17	8.56%	16	5.35%	10	5.88%	11
2	5.88%	11	11.23%	21	8.02%	15	5.35%	10	2.14%	4	2.14%	4
3	14.97%	28	27.27%	51	13.37%	25	12.83%	24	12.30%	23	16.04%	30
4	20.32%	38	20.86%	39	29.41%	55	21.93%	41	26.74%	50	19.25%	36
5	47.59%	89	22.46%	42	40.11%	75	51.34%	96	53.48%	100	56.68%	106

% = percentage, # = number

Based on the respective RII values reported, a good working environment is set by management within Raubex Construction (Pty) Ltd and appears among the top ten factors influencing productivity positively (Table 4.1 and 4.3). Good working conditions speak to Maslow's needs hierarchy as they are regarded as self-actualisation factors (Aworemi et al., 2011). Therefore, it is vital to set a favourable working environment when targeting productivity (Chan, 2002). In the present study, four of the top ten motivational factors influencing productivity which were ranked were work environment-related factors, i.e. the department provides all the equipment, supplies, and resources necessary for employees to perform their duties; good work relationship with team members leading to respectable team cohesiveness; a good working environment is set by management, and the quality of communication from his/her direct manager influences the worker's level of productivity (Table 4.1 and 4.3). These results are aligned with the conclusion made by Naoum (2016) in that the quality of the working environment within the job has a direct impact on the quality of work, employees' motivation to work and ultimately the level of productivity.

A more recent study suggests that good planning and effective communication are vital in ensuring productivity within the project environment (Emere et al., 2018). Elements of this notion seem to be supported by the present study since the motivational factors related to the quality of communication were highly rated by employees as influencing their level of productivity (Table 4.3). As expected, the quality of communication from direct managers was ranked higher than how easy

communication with members from all levels of this organisation influences employees' level of productivity (Table 4.1).

Other strong motivators for productivity by improving performance are monetary factors. Previous studies reported that economic factors have the edge over organisational factors when motivating the construction workforce (Khan et al., 2013). The effects of various monetary-related motivational factors on the productivity of construction workers in Raubex Construction (Pty) Ltd are summarised in Table 4.4.

Table 4.4: The effects of the various monetary-related motivational factors on the productivity of construction workers in Raubex Construction (Pty) Ltd

Answer Choice	Higher wages provided annually to increase motivation		Management provides work appreciation and financial performance rewards		Bonuses for builders' break		Salaries paid on time	
	% Responses	# Responses	% Responses	# Responses	% Responses	# Responses	% Responses	# Responses
1	14.44%	27	24.60%	46	6.95%	13	0.53%	1
2	11.76%	22	13.37%	25	13.90%	26	1.07%	2
3	23.53%	44	20.32%	38	19.79%	37	4.81%	9
4	23.53%	44	12.83%	24	14.44%	27	6.42%	12
5	26.74%	50	28.88%	54	44.92%	84	87.17%	163

% = percentage, # = number

The fact that annual wage increases do not have such a major impact on productivity could be ascribed to the fact that annual increases are usually only related to inflation and therefore, do not necessarily result in an increase in the actual amount of money available each month for the employees' use. Furthermore, financial performance rewards are not a company benefit which all employees are eligible for, which explains why the results from the current study did not rank this as an important motivator in influencing productivity, since the majority of the respondents are not appointed at this level. A very basic element – that of paying salaries on time – was ranked as the most important factor in influencing productivity (Figure 4.6).

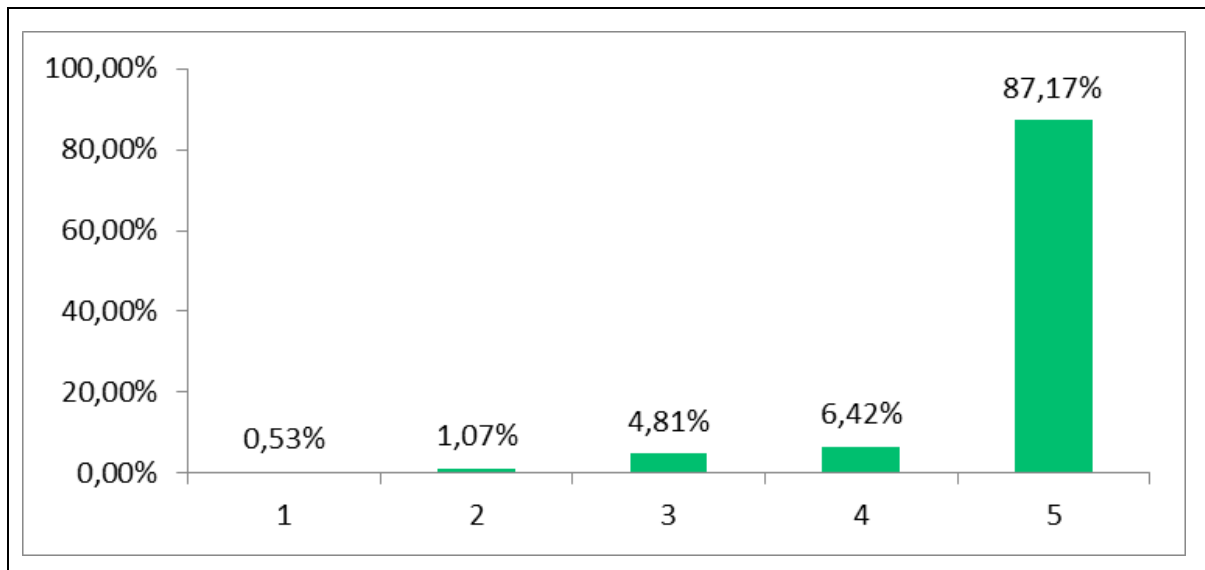


Figure 4.6: Salaries are paid on time

Previous studies have proposed that intrinsic rewards are ranked as better motivators than extrinsic rewards (Kovach, 1987; Harpaz, 1990; Lindner, 1998), but that the socio-economic status of the population among which the research is conducted must be considered. The present study supports the notion that despite the fact that the construction workforce is remunerated at minimum wages in developing countries, they are very dependent on their salaries and live from one month to the next. Therefore, prioritising extrinsic factors such as wages will have a positive impact on productivity (Aworemi et al., 2011). Salaries which are paid on time, and the financial safety which that provides to employees, link very well with the role job security also plays in motivating productive outcomes.

Job security is ranked as the second most important factor in influencing productivity among the employees from Raubex Construction (Pty) Ltd (Table 4.1). Job security covers both physical and emotional security and therefore, speaks to the second level of needs in Maslow's hierarchy (Aworemi et al., 2011).

Job security is categorised among the facilities-related motivational factors, alongside other factors such as frequent education and training provided by the organisation, opportunities to develop personal skills, provision of medical care and transport facilities as part of the organisation (Table 4.5).

Table 4.5: The effects of the various facilities-related motivational factors on the productivity of construction workers in Raubex Construction (Pty) Ltd

Answer Choice	Job security is provided		Education and training is frequently provided by the organisation		Opportunities to develop personal skills		Provision of medical care		Transport facilities as part of the organisation	
	% Responses	# Responses	% Responses	# Responses	% Responses	# Responses	% Responses	# Responses	% Responses	# Responses
1	5.35%	10	17.65%	33	18.18%	34	17.11%	32	2.14%	4
2	1.07%	2	12.83%	24	9.63%	18	4.81%	9	6.95%	13
3	11.76%	22	22.46%	42	18.72%	35	10.16%	19	10.70%	20
4	19.25%	36	17.65%	33	19.79%	37	12.83%	24	16.58%	31
5	62.57%	117	29.41%	55	33.69%	63	55.08%	103	63.64%	119

% = percentage, # = number

Researchers such as Jyothi (2016) and Majovski (2016) reported that the role which non-monetary incentives and good communication by supervisors and management could play, specifically during an economic crisis, should be considered as ways of improving the level of motivation among employees. However, frequent education and training and opportunities to develop personal skills, which are regarded as non-monetary incentives, were not ranked as important factors in increasing productivity among the respondents from the present study (Table 4.5). Extrinsic incentives such as the provision of medical care and transport facilities (Figure 4.7) as part of the organisation were rated as more important facilities-related motivational factors to influence productivity among Raubex Construction (Pty) Ltd employees (Table 4.5). Furthermore, as mentioned before, effective communication was ranked highly as a factor influencing productivity among respondents in this study.

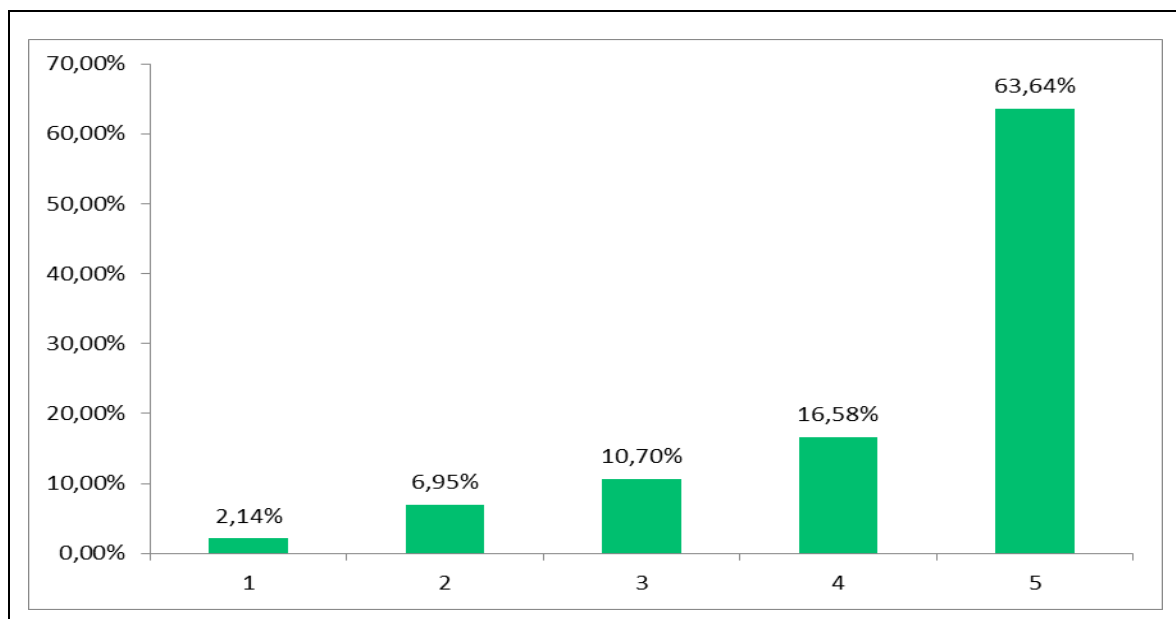


Figure 4.7: Transport facilities as part of the organisation

4.5 Conclusion

The difference in the ranking order compared to previous studies, highlights that motivators differ from one employee and organisation to the next as well as between different industries. The socio-economic status of the country in which the study is conducted also seems to play a fundamental part in which motivational factors influence productivity the most. A poorer socio-economic status seems to enforce that motivators which speak to basic needs are prioritised as influencing productivity positively. The motivational factors that seem to repeat themselves across various research studies are an encouraging work environment and monetary benefits.

Chapter 5: Conclusion and recommendations

5.1 Introduction

While it is important to uphold a certain standard in terms of the mechanical and technical aspects within construction, the employees and the management of people should be the central focus of a construction company. Raubex Construction (Pty) Ltd holds one of Africa's largest fleets of earthmoving and specialised equipment along with highly skilled and equipped project management teams, all of which contribute equally to the company's success. Raubex Group Ltd and Raubex Construction (Pty) Ltd achieve and maintain pleasing financial results each year and taking the abovementioned into account, the assumption can be made that the employees are motivated, productive and also loyal towards the company, especially when looking at the low staff turnover among permanent employees.

Ensuring productivity within labour-intensive industries such as the construction industry necessitates the input and implementation of human resource management strategies such as motivational factors. Therefore, the present study aimed to identify and rank the most important motivational factors that influence employee productivity within the construction industry, specifically focusing on Raubex Construction (Pty) Ltd.

5.2 Conclusions to the study

The primary objective of the present study was to identify and rank the most important motivational factors perceived to influence employee productivity within Raubex Construction (Pty) Ltd. In order to ensure that the problem statement is answered and the objectives of the study are met, a summary of the answers to the respective research questions will be provided and discussed in this section.

The top five motivational factors which were ranked the highest among the employees of Raubex Construction (Pty) Ltd as having the potential to affect their productivity are listed in Table 5.1.

Table 5.1: The top five motivational factors as reported by respondents from Raubex Construction (Pty) Ltd in influencing productivity

Motivational category/ group	Motivational factors	Rank
Monetary-related	Salaries are paid on time	1
Facilities-related	Job security is provided	2
Facilities-related	Transport facilities as part of the organisation	3
WorkEnvironment-related	Good work relationship with team members leading to respectable team cohesiveness	4
Work Environment-related	My department provides all the equipment, supplies, and resources necessary for me to perform my duties	5

The effect of organisation-related motivational factors on the productivity of construction workers in Raubex Construction (Pty) Ltd seems to be less important when considering that these factors do not feature in the top five ranked motivational factors (Table 5.1). However, facilities-related and workenvironment-related motivational factors were strongly represented in the top five ranking, after the most impactful motivational factor which was financially driven (Table 5.1).

It is apparent that the motivational factors among employees of Raubex Construction (Pty) Ltd are uncomplicated and remain focused primarily on needs-related approaches. This is highlighted when linking the top five ranked motivational factors identified in the present study to the various motivational theories respectively (Figure 5.1).

Motivational factors such as salaries being paid on time (monetary-related motivational factor) and transport facilities as part of the organisation (facilities-related motivational factors) are “desired” or basic needs, which aligns with Maslow’s hierarchy of needs theory (Figure 5.1). Furthermore, good working conditions speak to Maslow’s needs hierarchy as these are regarded as self-actualisation factors. In contrast, job security speaks to the growth needs in Maslow’s hierarchy since it covers both physical and emotional security. Interestingly, according to Maslow’s theory, once a basic need has been met it is no longer a motivator, which raises the question as to why these needs are such strong motivators among the respondents from the present study (Figure 5.1).

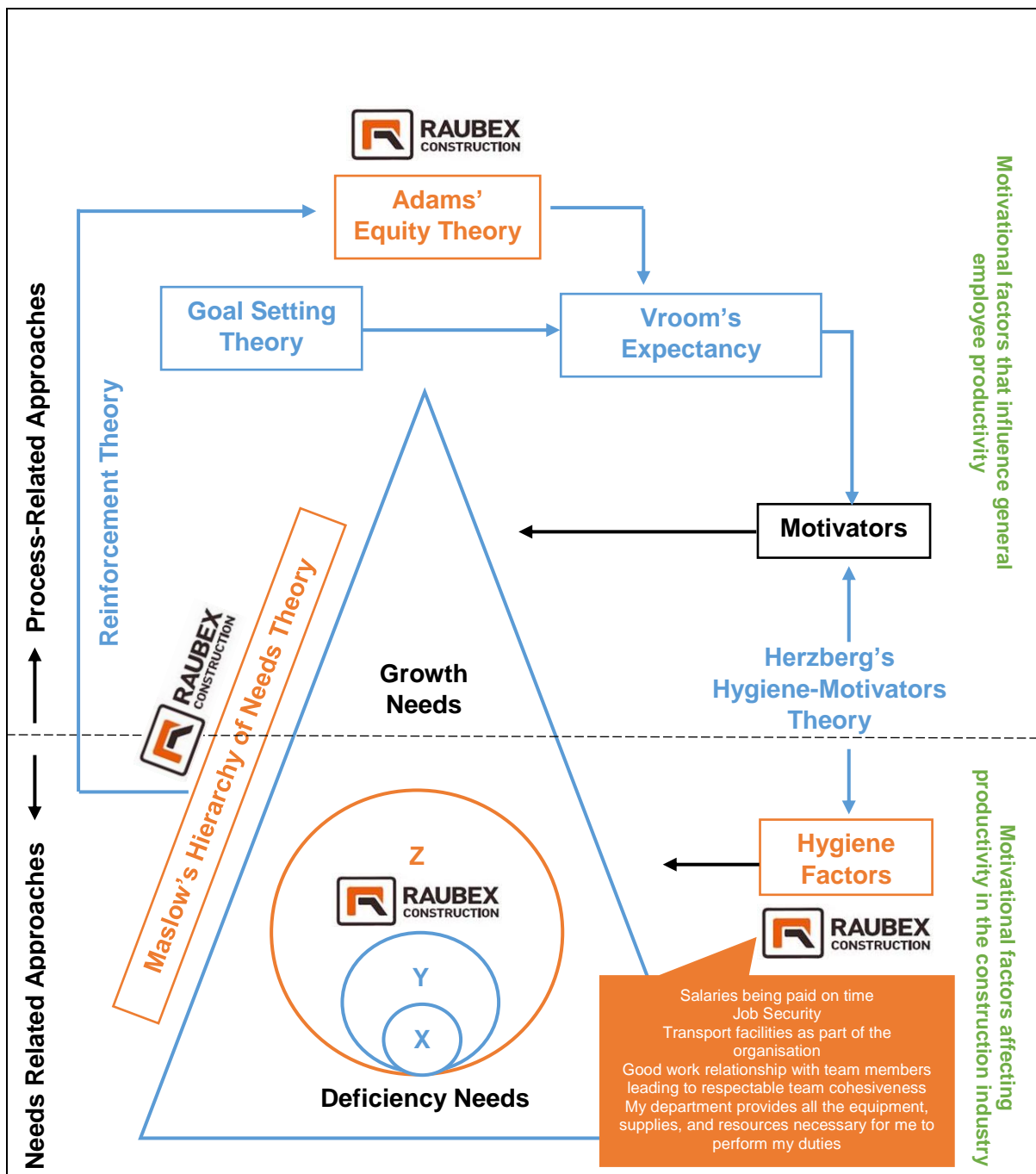


Figure 5.1: The link between the most impactful motivational factors from the present study and the respective motivational theories

This concept links with the motivation-hygiene theory, in that once hygiene factors such as salary, job security, working conditions and work relationships have been met, their effect may wear off and hence they are not seen as motivators any more. Yet, if these are not met, work dissatisfaction occurs, emphasising the very delicate balance in ensuring that employees' basic needs are met to such an extent that employees will be satisfied, remain motivated and not lose motivation. Since it appears that it is basic

needs that drive the motivational levels of the respondents to remain productive at work, Adams' equity theory of motivation where the focus is on the balance between an employee's input (achieving goals and meeting deadlines) in relation to the outcome (salary or work recognition) seems to be the most prominent motivational theory the present study's findings can be based on (Figure 5.1). Another relevant theory would be Theory Z, taking the culture of the organisation into account and the impact it has on employee motivation and satisfaction, as it involves aspects such as long-term employment and clear measures of performance (Figure 5.1).

The findings from the present study support the notion that despite simplifying motivational factors into needs and process-related categories, motivating employees within the construction industry is more complex. The culture of the company, communication techniques and the socio-economic status impact employee motivation and performance.

The secondary objectives of the study have also been addressed since a complete literature review was conducted, looking at the main topics and variables relevant to the present study by defining motivation, reporting which factors influence motivation and how motivational factors in turn impact employee productivity within the construction industry (Chapter 2). In Chapter Two, an overview of the different motivational factors was provided, addressing another secondary objective of the current study. The relative importance of motivational factors perceived by Raubex Construction (Pty) Ltd employees in influencing productivity were ranked and discussed in Chapter Four. Lastly, based on the findings from the current study, recommendations to the construction industry within South Africa on how to keep staff motivated and ensure productive output during challenging times will be discussed in Section 5.3 to follow.

5.3 Recommendations

In light of the specific motivational factors which seem to contribute to the productivity of Raubex Construction (Pty) Ltd, recommendations can be made to the rest of the construction industry in South Africa to consider for implementation within their HR-related developmental initiatives. These recommendations will be discussed in the sections to follow.

5.3.1 Implement a reliable payroll system

It is crucial to ensure a reliable and trustworthy payroll system is in place. This may appear to be a standard aspect to be in place in established big corporate companies; however, this is not always the case. The top motivating factor in the present study was the reliability of salaries being paid on time and for other companies to meet this basic need, a financial and time investment should be made to implement and utilise a reliable payroll system. Here HR and Financial Departments should collaborate closely to ensure salary payments are consistently paid correctly and on time.

5.3.2 Personalise corporate reward system

Once employers identify what motivates their employees, a more personalised reward system can be incorporated and aligned to the desired company culture. This will ensure that an extremely productive workforce can be formed and employers can retain high-performing employees.

5.3.3 Appoint influential and responsible managers

Deficiency and growth needs are the responsibility of a manager to influence and to ensure that the needs of their team members are met. These needs should be reflected in the company's motivational policies to ensure that these are well-rounded and multidimensional. This could also allow that the different needs and motivational factors to ensure productivity per operational department are customised and made relevant to each department.

5.3.4 Implement flat communication structure

It is crucial that employees have the confidence and assurance to inform management of any obstacles that are inhibiting growth and performance. Management needs to be open-minded enough to act on such feedback to ensure that outcomes can be met. This contributes to good work relationships and team cohesiveness.

5.3.5 Equip employees with the necessary tools to conduct their everyday tasks

The HR Departments in conjunction with the respective Site of Departmental Managers need to conduct an in-depth analysis of what each role within the company requires to enable employees to do their work to the best of their abilities. This will ensure that employees experience a positive work environment, which will have a positive impact on their level of motivation to enhance their own performance.

5.4 Limitations of the study

The present study only focused on four specific groups of motivational factors to motivate employees, namely the work environment, organisational, monetary and facilities-related factors. There is the possibility that the level of productivity among Raubex Construction (Pty) Ltd employees is influenced by motivational factors not included in the questionnaire of the present research project. No open-ended questions were added to the questionnaire to allow employees to add any other motivational factors they regard as impactful to their productivity. By including this option, the researcher could potentially have found more leads to a broader range or more specific motivational factors to investigate or consider for further discussions.

The current questionnaire determined the level of highest qualification of the respondents including: Master's, Bachelor's, B-Tech, National Diploma and Matric Certificate. However, these provided options omitted the fact that some of the workers might not have a matric certificate. Yet, because this was the lowest level of qualification and no other option was provided, many respondents selected this option which skewed the results for this question.

It is questionable whether all the respondents completely understood the concept of rating the effect and significance of all the motivational factors on a Likert Scale of 1 to 5, where 1 represented "no effect" and 5 represented "very high effect", respectively. The researcher could have explained this concept in more detail to potential participants to ensure that all the questionnaires were completed as accurately as possible.

Lastly, the reliability of the questionnaire survey which was first tested by local geographical employees for assessment and feedback could have been extended to a broader or more diverse sample group of prospective respondents. This way the clarity, comprehensibility and appropriateness of each question could have been assured.

5.5 Conclusion

Raubex Construction (Pty) Ltd is known for the material, equipment and construction methods they have available and which they utilise to conduct their work within the construction industry and this most definitely influences their employees' level of productivity. Motivated employees are not only more responsive to their objectives and goals, but have a sense of responsibility or loyalty towards the company to direct all their efforts to meet set outcomes.

The present study found that monetary, facilities and workenvironment-related motivational factors have the biggest impact on motivating employees within the construction industry. Yet, other aspects such as company culture, communication skills and the socio-economic status of the respondents contributes to how employees' morale within the construction industry in South Africa can be improved to ensure pleasing results.

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Appendix A



GENERAL/HUMAN RESEARCH ETHICS COMMITTEE (GHREC)

09-Jun-2020

Dear Mr Johannes Meades

Application Approved

Research Project Title:

Motivational factors that influence employee productivity within Raubex Construction (Pty) Ltd

Ethical Clearance number:

UFS-HSD2020/0581/0906

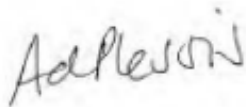
We are pleased to inform you that your application for ethical clearance has been approved. Your ethical clearance is valid for twelve (12) months from the date of issue. We request that any changes that may take place during the course of your study/research project be submitted to the ethics office to ensure ethical transparency. Furthermore, you are requested to submit the final report of your study/research project to the ethics office. Should you require more time to complete this research, please apply for an extension. Thank you for submitting your proposal for ethical clearance; we wish you the best of luck and success with your research.

Please ensure that COVID-19 government guidelines are followed to ensure health and safety of all participants.

Yours sincerely

Prof Derek Litthauer

Chairperson: General/Human Research Ethics Committee



Adri du Plessis

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Appendix B

RESEARCH STUDY INFORMATION LEAFLET AND CONSENT FORM

24 April 2020

May – August 2020

TITLE OF THE RESEARCH PROJECT

Motivational factors that influence employee productivity within Raubex Construction (Pty) Ltd

PRINCIPAL INVESTIGATOR / RESEARCHER(S) NAME(S) AND CONTACT NUMBER(S):

Hannes Meades

2018619169

0726573561

FACULTY AND DEPARTMENT:

Economic and Management Sciences

Business School

STUDY LEADER(S) NAME AND CONTACT NUMBER:

Madelein Fourie

0837188727

WHAT IS THE AIM / PURPOSE OF THE STUDY?

The current study aims to identify, and subsequently rank, the most important motivational factors that employees perceive to influence the productivity within Raubex Construction (Pty) Ltd. The primary objective of the present study is to describe the ranked importance of motivating factors such as job security, inclusion in decision-making by the organisation, interesting work, good working conditions (environment and relationships-related), good wages, growth and development in the

organisation, work recognition and motivation by management. These factors will be categorised under organisational factors, work environment factors, monetary factors, and facilities factors. Secondary objectives include: to complete a review of the literature available on the main topics relevant to the present study, to provide an overview of the different motivational factors and to make recommendations to the construction industry within South Africa, based on findings from the current study, on how to keep staff motivated and ensure productive output.

WHO IS DOING THE RESEARCH?

The research will be conducted by Hannes Meades. I am employed as a Human Resources Manager at Raubex (Pty) Ltd. I have a general interest in what results in positive financial outcomes in companies and how to emphasise and/or implement certain procedures to contribute to this aspect of the business. Taking all these aspects into account, I found myself curious to explore the link between the role human resources (people) play in the success of a company and how, by ensuring their optimal motivational levels, this could result in better productivity and ultimately better financial outcomes of a company.

HAS THE STUDY RECEIVED ETHICAL APPROVAL?

This study has received approval from the Research Ethics Committee of UFS. A copy of the approval letter can be obtained from the researcher.

Approval number: UFS-HSD2020/0581/0906

WHY ARE YOU INVITED TO TAKE PART IN THIS RESEARCH PROJECT?

Raubex Construction (Pty) Ltd achieves and maintains consistent financial results in combination with a low staff turnover among permanent employees. However, it is fundamental to identify the reasons for these results and to investigate whether certain motivational factors contribute to the productivity of the company. The study will aim to receive responses from a minimum of 173 employees to ensure that the sample size is reflective of the population size. The target group from the permanent employee randomised samples must include the following occupations: machine operators, traffic controllers, laboratory technicians, artisans, plant hands and assistants, estimators, civil technicians, workshop managers, quantity surveyors, surveyors, supervisors, construction foreman, site agents, engineers, accountants, team leaders, Safety Health Environment and Quality (SHEQ) officers, Health Safety and Environment (HSE) officers, administrators, clerks, and site-clerks who work for Raubex Construction (Pty) Ltd. As a rule of thumb, the prospective respondents will have to have a minimum of three years' work experience at Raubex Construction (Pty) Ltd. The contact information of the respective participants will be obtained from the HR and Payroll Managers of Raubex Construction (Pty) Ltd. Furthermore, approval will be obtained for the distribution of the questionnaire.

WHAT IS THE NATURE OF PARTICIPATION IN THIS STUDY?

The self-completion questionnaire will be distributed to each of the randomly selected participants by means of email or internet. For employees with no computer and internet access, paper-based surveys will be couriered to the respective sites. Employees with computer and internet access will receive an email that will contain a link to complete an online survey via the SurveyMonkey platform. The questionnaire consists of 25 questions and will therefore not take longer than 30 minutes to complete.

CAN THE PARTICIPANT WITHDRAW FROM THE STUDY?

Participation is voluntary and there is no penalty or loss of benefit for non-participation. Being in this study is voluntary and you are under no obligation to consent to participation. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a written consent form. Once a completed questionnaire has been submitted, you will not be able to withdraw from the research project, since the project involves the submission of a non-identifiable questionnaire.

WHAT ARE THE POTENTIAL BENEFITS OF TAKING PART IN THIS STUDY?

There are no benefits for the participants to take part in this study. However, by identifying the motivational factors which contribute to the success of one of the largest construction companies in South Africa, it enables the rest of the construction industry to follow suit. If implemented correctly, it could have a positive effect on the economy of the country and the livelihoods of its citizens. The information will be kept confidential and in the reporting of the findings mention will only be made of the overall findings.

WHAT IS THE ANTICIPATED INCONVENIENCE OF TAKING PART IN THIS STUDY?

Completing the questionnaire will take either of your personal time or time from work. Breach of confidentiality could be a potential risk. However, this will be mitigated by involving the HR Manager of Raubex Construction (Pty) Ltd, to ensure that no private or confidential information is accidentally shared/ written on the questionnaire, before the researcher receives/ analyses the questionnaires.

WILL WHAT I SAY BE KEPT CONFIDENTIAL?

Confidentiality will be maintained since your name will not be recorded anywhere and no one will be able to connect you to the answers you give. Your answers will be given a fictitious code number or a pseudonym and you will be referred to in this way in the data, any publications, or other research

reporting methods such as conference proceedings. Only the researcher will have access to the data. The internet platform which will be used is SurveyMonkey. In order to have full access to this program's capabilities a subscription fee needs to be paid by the researcher. An account with username and password is created and therefore, only the researcher has access to the data obtained. There will be a dedicated safe allocated in the researcher's company office in which the hard copies will be locked away as soon as they are received and/or after analysing the data contained therein. Your answers may be reviewed by people responsible for making sure that research is done properly, including the transcriber, external coder, and members of the Research Ethics Committee. Otherwise, records that identify you will be available only to people working on the study, unless you give permission for other people to see the records. The anonymous data obtained may be used for other purposes, e.g. research report, journal articles, conference presentation, etc. A report of the study may be submitted for publication, but individual participants will not be identifiable in such a report or any other publication. While every effort will be made by the researcher to ensure that you will not be connected to the information that you share during the focus group, I cannot guarantee that other participants in the focus group will treat information confidentially. I shall, however, encourage all participants to do so.

HOW WILL THE INFORMATION BE STORED AND ULTIMATELY DESTROYED?

Hard copies of your answers will be stored by the researcher for a period of five years in a locked cupboard/filing cabinet in the researcher's office at work. For future research or academic purposes, electronic information will be stored on a password-protected computer. Future use of the stored data will be subject to further Research Ethics review and approval if applicable. Electronic copies of data will be destroyed after the five years by deleting the files permanently whereas the hard copies will be shredded.

WILL I RECEIVE PAYMENT OR ANY INCENTIVES FOR PARTICIPATING IN THIS STUDY?

Participants will not receive any incentive or payment. Completing the questionnaire will take either of your personal time or time from work. However, since the questionnaire only comprises 25 questions, it will not take more than 30 minutes to complete. Breach of confidentiality could be a potential risk. However, this will be mitigated by involving the HR Manager of Raubex Construction (Pty) Ltd, to ensure that no private or confidential information is accidentally shared/ written on the questionnaire, before the researcher receives/ analyses the questionnaires.

HOW WILL THE PARTICIPANT BE INFORMED OF THE FINDINGS / RESULTS OF THE STUDY?

If you would like to be informed of the final research findings, please contact Hannes Meades on +27 72 657 3561 or Hannes.me@raubex.com. Should you require any further information or want to contact the researcher about any aspect of this study or if you would like to be informed of the final research findings , please contact Hannes Meades on +27 72 657 3561 or Hannes.me@raubex.com.

Should you have concerns about the way in which the research has been conducted, you may contact Madelein Fourie on +27 83 718 8727 or madeleinfourie@telkomsa.net. The findings are accessible for 5 years after the completion of the study.

Thank you for taking time to read this information sheet and for participating in this study.

CONSENT TO PARTICIPATE IN THIS STUDY

I, _____ (participant name), confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation.

I have read (or had explained to me) and understood the study as explained in the information sheet. I have had sufficient opportunity to ask questions and am prepared to participate in the study. I understand that my participation is voluntary and that I am free to withdraw at any time without penalty (if applicable). I am aware that the findings of this study will be anonymously processed into a research report, journal publications and/or conference proceedings.

I agree to the recording of the structured close-ended questionnaire.

I have received a signed copy of the informed consent agreement.

Full Name of Participant: _____

Signature of Participant: _____ Date: _____

Full Name(s) of Researcher(s): _____

Signature of Researcher: _____ Date: _____

SURVEY: Motivational factors that influence employee productivity within the construction industry

PLEASE NOTE: All information provided will be kept confidential. None of your personal data will appear on any research work. All results will be reported as statistical summaries only.

INSTRUCTIONS: Please read the following questionnaire and based on your experience, try to answer as accurately and correctly as possible.

Respondent's Information

Project site name					
Years at company	3 – 5	5 - 10	11 - 15	16 – 20	More than 20
Years of experience	3 – 5	5 - 10	11 - 15	16 – 20	More than 20
Highest qualification	Masters	Bachelors	B-Tech	National Diploma	Matric Certificate
Current occupation					

Please indicate from a scale from 1 (no effect) to 5 (very high effect) whether the respective factors listed below would influence your level of productivity:

Factors		Rating (1 = no effect & 5 = very high effect)				
Organisational Factors						
1	Motivational activities as part of the company policy	1	2	3	4	5
2	Work recognition is provided	1	2	3	4	5
3	Management involves employees in the decision-making process, when it is related to their department	1	2	3	4	5
4	The interest of management in motivating employees influences my level of productivity	1	2	3	4	5
5	The right amount of support and guidance from my direct supervisor influences my level of productivity	1	2	3	4	5
Work Environment Factors						
6	The quality of communication from my direct manager influences my level of productivity	1	2	3	4	5
7	Easy communication with members from all levels of this organisation influences my level of productivity	1	2	3	4	5
8	A good working environment is set by management	1	2	3	4	5
9	Good work relationship with team members leads to respectable team cohesiveness	1	2	3	4	5
10	My department provides all the equipment, supplies, and resources necessary for me to perform my duties	1	2	3	4	5

11	Delays caused by design error and specifications influence my level of productivity	1	2	3	4	5
Monetary Factors						
12	Higher wages provided annually to increase motivation	1	2	3	4	5
13	Management provides work appreciation and financial performance rewards	1	2	3	4	5
14	Bonuses for builders' break	1	2	3	4	5
15	Salaries are paid on time	1	2	3	4	5
Facilities Factors						
16	Job security is provided	1	2	3	4	5
17	Education and training is frequently provided by the organisation	1	2	3	4	5
18	Opportunities to develop professional skills	1	2	3	4	5
19	Provision of medical care	1	2	3	4	5
20	Transport facilities as part of the organisation	1	2	3	4	5

Appendix C

PERMISSION LETTER

Request for permission to conduct research at Raubex Construction (Pty) Ltd.

“Motivational factors that influence employee productivity within Raubex Construction (Pty) Ltd”

16 March 2020

Jaco Louw

Cleveley Head Office

Finance Department

Jaco.L@raubex.com; 051 406 2000

Dear Mr Louw,

I, Hannes Meades, am doing research with Madeleine Fourie, a part-time lecturer in the Business School, towards a Master's of Business Administration at the University of the Free State. We are inviting you to participate in a study entitled *Motivational factors that influence employee productivity within Raubex Construction (Pty) Ltd.*

The primary objective of the present study is to identify the most important motivational factors perceived to influence employee productivity within Raubex Construction (Pty) Ltd.

Raubex Construction (Pty) Ltd has been selected because literature on which motivational factors influence productivity with a focus on employees from the construction industry as well as with a South African context is scarce. However, the present study necessitates a better understanding of what motivation is and which factors could potentially influence it as well as which factors influence productivity in the construction industry. Therefore, this research proposal aims to identify, and subsequently rank, the most important motivational factors that employees perceive to influence the productivity within Raubex Construction (Pty) Ltd.

The present study falls in the human resource management field, with a focus on productivity and the motivational factors that influence it. The present study will take place within a section of the

construction industry as respondents will be sampled from Raubex Construction (Pty) Ltd, resulting in the possibility of including respondents from across South Africa.

The benefits of this study are that it focuses on identifying and ranking the most important motivational factors that influence employee productivity within the construction industry, specifically focusing on Raubex Construction (Pty) Ltd. By identifying such factors, management within the South African industry can apply the insights gathered from this study, for the betterment of employee output within the construction industry. Furthermore, by identifying the motivational factors which contribute to the success of one of the largest construction companies in South Africa, this enables the rest of the construction industry to follow suit. If implemented correctly, it could have a positive effect on the economy of the country and the livelihoods of its citizens.

Potential risks are that employees may not participate in the study, which will result in poor data collection and analysis. As a result, the aim of the study may not be met and the much needed insights to the topic will not be gained.

Once the motivational factors are documented, they must be emphasised within Raubex Construction (Pty) Ltd, by means of formalising them within the HR-related developmental initiatives. Therefore, the feedback procedure will entail that all Managing Directors and HR Managers will be informed of the findings from this study and a proposal on which HR-related developmental initiatives will be submitted for discussion and implementation.

Yours sincerely



Hannes Meades

HR Manager



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Raubex (Pty) Ltd Registration number: 1978/004596/07

03 April 2020

Re: Request for permission to conduct research at Raubex Construction (Pty) Ltd.

Dear Mr Hannes Meades,

We are eager to participate in the study entitled Motivational factors that influence employee productivity within Raubex Construction (Pty) Ltd.

It would be of interest to the company to acknowledge the important motivational factors perceived to influence employee productivity within Raubex Construction (Pty) Ltd.

We wish you much success with your studies and look forward to the prospect of formalising the research findings from this study within the HR related developmental initiatives.

Yours sincerely

A handwritten signature in black ink, appearing to read "Jaco Louw", is written over a thin horizontal line.

Jaco Louw
Director