UNIVERSITY OF KWAZULU-NATAL

The Impact of Leadership Styles on Employee Performance in the Consultant Civil Engineering Industry

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Declaration

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"Two roads diverged in a wood, and I ---
I took the one less travelled by,
And that has made all the difference."
Robert Frost

Abstract

The consultant civil engineering industry forms part of the service industry. All designers follow the same design code. Hence, companies attempt to gain competitive advantage through quality control, producing efficient and cost effective designs, fostering good relationships with clients and through the performance of their employees. This study focuses on employee performance more specifically on how leadership styles impact upon it. An extensive literature review revealed that leadership styles do impact upon employee performance. It went on to identify job satisfaction as an influencing factor as well. There has been very little research concluded on the leadership styles employed by South Africans and almost none pertaining to South Africa's consultant civil engineering industry. The aim of this study is to bridge that gap by determining the impact of leadership styles on employee performance at different levels of the profession. The target population for this empirical study was any civil engineering technician, technologist and engineer (candidate and professional) in the consulting industry. However, the number of people operating in this industry is unknown. As a result, the Consulting Engineers South Africa's Young Professionals Forum (CESA YPF) was contacted and permission was gained for a questionnaire to be sent out to their Durban members. Therefore, a population frame of 181 was established and the sample size used was 132 for a 95% confidence level and 5% margin of error. The primary data collected was analysed using descriptive and inferential statistics. The empirical findings of this study proved that job satisfaction, a manager's leadership style and their attitude towards their subordinates collectively influence the performance of their subordinates. The findings went on to elaborate that industry predominantly uses the transformational leadership style although employees believe that the transactional leadership style would assist them to achieve the desired performance level. In terms of job satisfaction, employees state that advancement opportunities is the biggest influence on their job satisfaction. The recommendations on which leadership style is best suited to reach performance goals have been provided for. The identified limitations of this study can be used as a foundation for further research in this field.

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CHAPTER ONE
INTRODUCTION

1.1 INTRODUCTION

The consultant civil engineering industry is a service providing industry. Companies differentiate themselves through their level of expertise in effectively and efficiently producing quality designs of infrastructure (roads, building, sewer, storm water, dams, reservoirs, water reticulation, etc.). These designs need to be simplistic, safe, cost effective and off late sustainable. In industry, employee performance is defined by how well a person can complete an assigned task (job/project). Therefore a company can differentiate itself through the performance of their employees.

Herein, Chapter One, the background and motivation of the study is discussed and the focus of the research topic undertaken is defined. It poses a problem statement, objectives and subsequent research questions. This chapter also provides an overview of each chapter of this research study is provided.

1.2 BACKGROUND

Civil engineers are responsible for creating infrastructure. The most beautiful structures in the world are the products of civil engineers for example Dubai's Burj Khalifa, London's Queen Elizabeth Olympic Park, Durban's Moses Mabhida Stadium, Paris's Eiffel Tower, etc. Apart from these prestigious projects civil engineers are responsible for everyday things – the house you live in, the office you work, shops and malls, the roads and bridges you drive on, clean water on tap, waste disposal both solid and liquid, rail systems, harbours, airports and so much more. Civil engineering is about shaping the world by helping people (Institution of Civil Engineers, 2015).

Civil engineering involves the ability to plan, design, construct and management projects (UNISA, 2015). It encompasses earthworks water and sewer reticulation, geometric and pavement, sanitation, structural design and much more. A civil engineer has to be knowledgeable site surveying and geotechnical investigations as well as financial, economic, legal and labour issues.

The civil engineering field is divided into two – a construction and a consultancy sub division. Consulting engineers are mostly office based. They are responsible for creating designs that meet the client's wants and needs. These designs must also be in accordance with SANS and in the case of municipal work – government standards. Once the designs are finalised, detailed drawings and schedules need to be produced. These are delivered to site and the construct builds from them. In some cases the project may require a bill of quantities and tender document to be procured. A project management role is expected on the consultant civil engineer in some projects. The constant is also responsible for site supervision therefore periodic site visits are done to inspect that aspects are being built according to specification. Part of a consulting engineer's job is project feasibility including its financial viability. Civil engineers who form the construction field are purely based on site. They have no input into the consultant engineers design but may be called upon for advice. The civil engineers in construction is sometimes employed and deployed to site by the consultant civil engineering company. This type of job is titled resident engineer (RE). Holders of this titled basically handle all site supervision on behalf of the consulting engineers. Some civil engineers in construction are employed by construction companies. Every project is different because it has different requirements and its own set of problems. Therefore, all civil engineers, regardless of station are problem solvers.

In order to be recognised as a professional, the civil engineer must be registered with the Engineering Council of South Africa (ECSA). An engineer can only legally sign off structures when he or she is registered. A person who attended a Technikon like the Durban Institute of Technology (DUT) will be a Professionally Registered Technologist (PR Tech) upon registration whilst a person who attended a university like the University of Kwa-Zulu Natal (UKZN) will become a Professionally Registered Engineer (PR Eng). There are many paths to attaining PR (Engineering Council of South Africa, 2015). The registration process varies between the different paths however some commonalities may include that a person needs to be in possession of a relevant degree and have a specific number of years' experience. Basically a person needs to prove that they are competent and capable of practising civil engineering as people's lives are at risk. There are many rewards to gained upon being professionally registered such as financial, recognition and being in demand for your experience and registration.

There are numerous other engineering bodies such as the Consulting Engineers South Africa (CESA), South African Institute of Civil Engineers (SAICE), Concrete Society of Southern Africa (CSSA), etc. People in the field are expected to become members of these bodies thus ensurinng that they are abreast with the latest trends and changes in industry.

1.3 MOTIVATION FOR THE STUDY

As previously mentioned consultants in industry provide a service. All consultants follow the same design codes making avenues for company uniqueness rare. Therefore the top management of companies need to create competitive advantage and the vehicle for this is human capital. In order for organisations to survive in the global arena, they need their employees' to perform at optimal levels.

The intention of this empirical study was to determine the impact of leadership styles on employee performance. Once the impact was detected, further investigation was undertaken to determine which leadership style had a positive effect on performance, thus allowing for optimal levels to be achieved. There is little to no existing research done on the management side of consulting civil engineering in South Africa. Basically this study attempts to fill that gapping whole.

This study will benefit organisations that operate in this industry because the study provided a total model or at the very least created a foundation for competitive advantage. Benefit can simultaneously be derived for both employees and organisations as organisations now know what employees want in terms of salary packages and benefits. This study has provided companies with a toolbox of tips reach peak performance levels through the use of specific leadership styles, the correct attitude of managers and ways to increase job satisfaction. The stakeholder that will derive the most benefit is the client reason being that design will be completed quicker. This ensures that construction commences early and should supervision be done properly the project could end quickly and painlessly. Furthermore, the client could enjoy shopping among consultants for the most cost effective designs.

1.4 FOCUS OF THE STUDY

The target population for this empirical study was every Durban based engineer, technician and technologist - candidate or professionally registered. Since the total population of people

in industry is unknown, the Consulting Engineers South Africa's Young Professionals Forum (CESA YPF) was contacted and permission was gained for a questionnaire to be sent out to their Durban members.

The focus of this study is to understand if a manager's leadership style has an impact on employee performance and to uncover under which leadership style employees thought their performance would be best nurtured. This is done through assessing an employee's job satisfaction and their preferred treatment and managerial supervision.

1.5 PROBLEM STATEMENT

Since industry is of a service providing nature, companies discern themselves through the quality of their product (designs, site supervision, management, etc.). Employees' need to produce designs that meet the client's requirements, are cost effective and sustainable. Hence it can be said that a company's competitive advantage stems directly from the performance of their employees. In the consultant civil engineering industry performance is defined as how well a person can complete an assigned task (job/project). The study by Harrison et al. (2006) concludes that an individual's performance is directly proportional to their job satisfaction (Woods & West, 2010).

The management of every organization operation in industry need to acknowledge that leadership does influence the performance of their employees. In understanding the needs of employees and fulfilling them, organizations' can strive for higher levels of excellence.

The literature review, Chapter Two, revealed that no active research has been concluded on the South African Consulting Civil Engineering Industry. Therefore, the question this study sought to answer is, "What is the impact of leadership styles on employee performance?" And as a sub question, "Which leadership would yield the best employee performance?"

1.6 RESEARCH QUESTIONS

The questionnaire used to collect primary data was designed in response to the objectives of the study. To facilitate this, the following questions were put forward:

- Does a manager's leadership style and attitude influence their subordinate's performance?

- Does job satisfaction have an impact on an employee's performance? If so, what do employees need to experience job satisfaction?
- Currently what leadership styles are applied in industry?
- Do people want to be lead differently?
- What leadership style do employees prefer in terms of meeting performance targets?

1.7 OBJECTIVES

The purpose of this study is to determine the impact of leadership styles on employee performance at the different levels in the profession. This is necessary to gain insight so that recommendations can be made to managers in industry which would insure that optimal performance levels are attained and sustained.

Objectives:

- Identify the factors that influence performance in the civil engineering industry
- Investigation of leadership styles currently applied in industry
- The impact of leadership styles on employee performance
- Determine most effective leadership style/s for each level of the profession.

1.8 RESEARCH METHODOLOGY

This study was quantitative in its approach and analysis of data. An electronic questionnaire was utilised to acquire responses from the target population. Mathematical and statistical methods were applied to the data collected to analyse, discuss and present it. A letter of consent to use the CESA YPF database was obtained. Since the questionnaire was electronic in nature QuestionPro was utilised to create the questionnaire. QuestionPro stored all responses on their database. Each response was stored anonymously.

Since the population size is currently unknown, the CESA YPF database was used. Therefore the population frame was 181 – the number of Durban based members. A sample size of 132 was derived for a confidence level of 95% and a margin of error of 5% (Sekaran & Bougie, 2013). The sample was subdivided according to professional levels. The online questionnaire was viewed 407 times with 172 people starting it. However, only 132 people completed it. The actual response did meet the earlier mentioned sample size. Descriptive statistics was used. The data was presented in the form of graphs and tables.

1.9 LIMITATIONS OF THE STUDY

The limitations of a study form a doorway for future studies to be carried out. With respect to this study the following limitations exist:

- Respondents were mostly from large companies (more than 100 staff members). This may have skewed results as the industry is made up of various sized organisations.
- In terms of determining the preferred leadership style for every level of the profession, there was no equality in the distribution of different professional levels as majority of the respondents were engineers.

1.10 OUTLINE OF THE STUDY

This dissertation comprises of five chapters. These are outlined below:

- *Chapter One:* This has introduced the research topic, the problem statement and relating research questions. It also presented the objectives of the study, the research methodology to be employed and the limitations that have been identified.

- *Chapter Two:* Here a literature review is presented. It discussed the definitions of leadership, leadership styles, employee performance and job satisfaction. This chapter also put forward existing literature on the impact of leadership styles on employee performance, the role of leaders and discussed the differences between managers and leaders.

- *Chapter Three:* Here, the research methodology employed by the study is discussed as well as other methods. Further to that the method of data collection, sampling technique and the instrument used was discussed.

- *Chapter Four:* The primary data collected from the questionnaires are analysed and presented here. These findings are discussed per objective.

- *Chapter Five:* This chapter concluded the study. It provided recommendations as to which leadership styles would yield the best performance. Limitations and recommendations for future research are also exhibited here.

1.11 SUMMARY

The success of any business stems directly from the performance of its employees. This also can treated as a way of gaining competitive advantage. This study proves its worth in gold when organisations are looking for avenues to increase the performance of their employees as well as to gauge what employees really need.

The ensuing chapter, Chapter 2, encompasses a literature review on leadership.

CHAPTER TWO
LITERATURE REVIEW

2.1 INTRODUCTION

In the world today, managers need to channel all the efforts and activities of their subordinates toward achieving the organisational goals and objectives of the company. This process is enabled through leadership as effective leadership can determine success or failure. Management at all levels in an organisation need to understand that organisational performance is a direct result of leadership. Therefore their relationships with and the treatment of their employees ultimately influences their employees' performance. Cranwell-Ward et al. (2002) discuss a study carried out by Katzenbach (2000) which entailed the study of 25 North American companies, each of which being successful more many years either financially or in the market place. The study demonstrated that the managers / leaders of those organisations enjoyed such success because they belived that their people made differences in performance.

This literature review is intended to gain insight into the impact of leadership styles on employee performance in the civil engineering industry. The first part of this literature review pertains to the importance of leadership in a service industry; the second part focuses on leadership styles as a strategic tool to generate high employee performance levels and the third part highlights leadership styles used in South Africa and industry.

2.2 DEFINITION OF LEADERSHIP

Every researcher has a different definition of leadership dependant on their individual perspectives and interests. In the simplest terms leadership is about guiding people, getting them to willingly follow and making them positive and happy about their following and the direction they are headed.

House *et al* (1999, cited in Yukul, 2012, p. 21) defines leadership as "the ability of an individual to influence, motivate, and enable others to contribute toward the effectiveness and success of the organisation…"

Leadership is truly complex. Some people believe that leaders are born resulting in trait theories. Some people believe that the way you behave determines the effectiveness of your leadership hence behavioural theories. Other people believe that the prevailing situation yields a specific type of leader, culminating in situational theories. Katz and Kahn (1978, cited in Clegg, et al., 2012, p. 130) views leadership "as the attribute of a position, as the characteristic of a person, and as a character of behavior .... Moreover leadership is a relational concept implying two terms: The influencing agent and the persons influenced ... Leadership conceived of as an ability is a slippery concept, since it depends too much on the properties of the situation and of the people to be led".

Grint, 2005 examines the work of Hughes *et al.* (1999), Northouse (1997), Wright (1996) and Yukl (1998) in hopes of defining leadership. From this following, Grint gathers that leadership is a process and not a position (from Hughes *et al.*), leadership is the process whereby one person influences many people towards a common goal (from Northouse), Yukl sides with the definition provided by Katz and Kahn (mentioned above) and Wright concludes the most common in definitions are the role of followers and influence. Clarity in defining leadership still elluding Grint, he then settles on four approaches that in his view define leadership, namely:

- *Person-based leadership*: This stems from trait theory whereby a leaders personality determines his / her effectiveness at leading and being successful.
- *Result-based leadership*: The effectiveness of a leader is purely determined by the results they produce irrespective of the way they are produced.
- *Process-based leadership*: Here, a leaders' success is detemined by the effectiveness processes he / she employs.
- *Position-based leadership:* Only allows for formal leaders to recognised i.e. people in power, higher up the vertical organisational heirachy are seen as leaders and are therefore allowed to lead whilst subordinates who display leadership quailities and act as informal leaders are discouraged.

2.3 WHAT DO LEADERS DO?

Leadership is simply a tool to attain optimal organisational performance. Managers of today need technical knowledge as well as a human angle hence leadership. Mangers must be leaders because employees are people who have flexibility and control of their careers.

Leaders appeal to the emotional side of an employee; they motivate them and in retrospect contribute to an employee's satisfaction (Mullins, 2013).

Trevin˜o et al. (2003 cited in Hassan, et al., 2013) state that ethical leaders communicate ethical standards, model ethical behaviour and hold followers accountable for the ethical actions. This is done in an effort to transform followers. The article goes on to state that ethical leaders are altruist, honest, trustworthy, principed and care for their followers and society. Leadership in important because leaders grow people through mentorship and training.

Rao (2013) outlines lessons from successful leaders. From these lessons the importance of leaders can be seen. Below is a discusion of them:

- A leader gets a job done by others smoothly and successfully.
- A leader is not proud and power conscious.
- A leader can blend hard and soft skills. They can influence people, build effective teams, motivate people and achieve organisational goals.
- Leaders create and articulate their vision effectively.
- Leaders innovate to find new avenues for growth for both employees and the organisation.
- Leaders manage uncertainty and make things happen. They remain calm and solve problems.
- Leaders should build leaders.
- Leaders should strive to make a difference in the lives of others.

2.4 LEADERSHIP AND MANAGEMENT

Leadership and management by definition are not separate entities. Their meanings may be somewhat contested but on many levels overlap. Table 2.1 highlights the key characteristics of leaders and mangers.

Table 2.1: Characteristics of Being a Leader and Manager

BEING A LEADER MEANS	BEING A MANAGER MEANS
Motivating, influencing and changing behaviour	Practicing stewardship, directing and being held accountable for resources
Inspiring, setting the tone and articulating vision	Executing plans, implementing and delivering goods and services
Managing people	Managing resources
Being charismatic	Being conscientious
Being visionary	Planning, organising, directing and controlling
Understanding and using power and influence	Understanding and using authority and responsibility
Acting decisively	Acting responsibly
Putting people first: the leader knows, responds to and acts for his / her followers	Putting customers first: the manager knows, responds to and acts for his / her customers

Adapted from Kreitner R, Kinicki A., 2010. **Organizational Behaviour**. 9th edition. New York:McGraw-Hill/Irwin. p469.

From the information presented in the Table 2.1 above it is evident that good managers do not always make good leaders. The converse is true as well: good leaders do not always make good managers. Effective leadership must encompass the best of both i.e. to have a vision and take action successfully (Kreitner & Kinicki, 2010).

Jones and George (2013) states that a manager's personal leadership style, this is how the manager wishes to influence people, influences his / her approach to planning, organising and controlling. They suggest that managers at all levels have their own personal leadership styles which will dictate how they lead their subordinates as well as how they perform other managerial tasks.

2.5 LEADERSHIP STYLES

This section of the review serves to investigate leadership styles. Leadership styles produce two very distinctive behaviours, one being task-oriented and the other being employee-oriented. According to Wong and Lee (2012) style can be defined as a person's attitude and

habitual behavior toward a task. Leadership styles are behavioural patterns employed by leaders to direct and influence people (Stoner, et al., 2001).

There are various types of leadership styles. It seems to begin with the Ohio State University studies (1940s) focused on the effectiveness of leaders initiating structure (task orientated) and consideration (employee-oriented). It concluded that leaders that ranked high in consideration had higher employee satisfaction rates and conversely leaders who ranked high in initiating structure experienced low employee satisfaction rates (Northouse, 2012). It was also found that the situation in which the style was applied determined its effectiveness.

The University of Michigan studies (1950s) focused on employee orientation and production orientation leadership behaviours. It was found that employee orientated behaviours resulted in higher employee performance and satisfaction rates than production orientated behaviours (Northouse, 2012).

Theory X and Theory Y by Douglas McGregor, 1969, (Burton, et al., 2011) suggests two views in which leaders view their employees. Under Theory X managers believe employees are incapable of doing anything and need to be directed and coerced into doing work. Under Theory Y, however, managers believe that employees are capable, competent, responsible and that they enjoy their work. McGregor's proposals of participative decision making, good group relations and challenging jobs could increase an employee's job motivation and in turn performance. However, there is no empirical support for Theory X and Theory Y therefore they cannot be accepted but they provide an avenue for further research.

In 1977, House further developed Weber's theory of charismatic leadership which, in a nutshell, stated that followers were motivated by leaders based on their attributions made about them (The Sage Handbook, 2008). Burns (1978 cited in Keskes, 2014) first introduced transformational and transactional leadership. Today, transformational and transactional leadership is defined by B.M Bass and B.J. Avolio (1990 cited in Northouse, 2012).

As it can be seen there are various types of leadership styles. However, this study will concentrate on the Transformational, Transactional, Situational and Laissez-faire leadership styles. These are defined below:

2.5.1 Transformational Leadership

Otherwise known as charismatic leadership engages followers to perform through their idealized influence, inspirational motivation, intellectual stimulation and individualised consideration (Yukl, 2012). In short transformational leaders drive performance through personal vision, energy and inspire followers (Stoner, et al., 2001).

2.5.2 Transactional Leadership

This leadership style engages followers to perform through the use of contingent reward and active and passive management by exception (Yukl, 2012). In short transactional leaders establish what followers need to get the job done, satisfy those requirements and motivate them to do the job.

2.5.3 Situational Leadership Theory

It was developed by Paul Hersey and Ken Blanchard (Robbins, et al., 2010). This is a contingency theory. Vera and Crossan (2004 cited in Sarti, 2014) describes the ideal leader as someone who is able to, when a situation arises and under the right circumstances, identify and exercise the appropriate leadership behaviours for that particular situation.

2.5.4 Laissez-faire Leadership

Laissez-faire Leadership is described as pure avoidance of leadership responsibilities or rather non-leadership. With this type of leadership, leaders fail to offer assistance when requested as well as fail to express their views on important issues (Bass 1997, cited in Lam and O'Higgins, 2012). Apart from Laissez-faire leadership being a hands off style, Frooman, et al. (2012) go on to state, that these leaders neglect their subordinates and do not monitor their performance. They also agree with the previous description.

2.6 DEFINITION OF EMPLOYEE PERFORMANCE

In the consultant civil engineering industry performance is defined as how well a person can complete an assigned task (job/project). Each company in industry has its own performance benchmarks founded on time spent on the task, resources used, cost, accuracy, speed and competency. These benchmarks are in derived from industry and the organisation's previous experience with similar projects. A person's performance is measured against these benchmarks. According to Ispas (2012) an employee's performance is derived from their job

satisfaction via organisational commitment and that performance is measured by efficiency, efficacy and quality.

2.7 JOB SATISFACTION

This section of the review is aimed at determining what factors influence individual performance in industry. The study by Harrison *et al.* (2006) concludes that an individual's performance is directly proportional to their job satisfaction (Woods & West, 2010). Job satisfaction is defined as an attitude related to a job i.e. a positive attitude denotes a higher level of job satisfaction; conversely a negative attitude denotes a lower level of job satisfaction (Hitt, et al., 2009). According to Spector (1997 cited in May-Chuin and Ramayah, 2011) job satisfaction is defined as how much people like (satisfaction) or dislike (dissatisfaction) their job. Job satisfaction can also be defined as how much of a positive emotional response a person has regarding their job. This could be the result of a job being fulfilling or consistent with the person's values (Jenssen 2011, cited in Morris and Venkatesh, 2010).

Job satisfaction and organisational commitment are the foundation of employee performance (Malik, et al., 2010). According to the study by Malik, et al. (2010) the nature of work, remuneration and quality of supervision are determine organisational commmitment.

Job satisfaction is an umbrella term that encompasses the work itself, training and mentorship, advancement opportunities, reward and remuneration as well as the working environment. These influences on performance are expanded below:

2.7.1 Work itself

For the purpose of this study work itself is the actual engineering design, calculations and drawings that a consultant technician or engineer or technologist needs to produce. It also includes site supervision and project management. Halkos and Bousinakis (2010) state that stress decreases worker productivity and when coupled with the overlap of work into and employee's personal life results in decrease in employee satisfaction. There is a positive relationship between work itself and job satisfaction (May-Chuin & Ramayah, 2011).

2.7.2 Training and Mentorship

The use of goal setting theory is often used to set goals in terms of mentorship and training. Organisations that are committed to effective skills and knowledge transfer through a suited mentorship model for the benefit of employee career development enjoy the results of increased employee satisfaction and organisational stability (Anon., 2010). Paradise (2008 cited in Anitha, 2014) confirms that when an employee receives training his / her confidence level increases, their accuracy in completing work also increases therefore their level of performance increases. A positive relationship exists between mentorship and job satisfaction (May-Chuin and Ramayah, 2011).

2.7.3 Advancement Opportunities.

Alderfer (1972 cited in Anitha 2014) advises that organisations need to prioritise career path guidance. This should be partnered with training and mentorship which would lead to growth opportunities. This would increase the level of job satisfaction the employee experiences and in turn increase profit.

2.7.4 Reward and Remuneration

This influences an employee's commitment to the organisation. There are three types of commitment namely affective commitment were the employee lives the brand because values and missions are shared, continuance commitment were an employee stays with the organisation until a better offer comes along and lastly normative commitment were an employee exhibits loyalty and stays with the organisation even though the employee does not agree with the organisations decisions (Woods & West, 2010). With respect to reaching high levels of performance through job satisfaction an employee must be affectively committed to the organisation. Reward and recognition does have an effect on employee motivation and satisfaction (Danish & Usman, 2010).

2.7.5 Working Environment

In order for performance to be at an optimal level the work environment needs to be clean, safe and healthy with respectful and friendly co-workers relationships. Organisations that endorse supportive work environments enjoy greater employee performance (Anitha, 2014). This is done through displaying concern for employees' needs and feelings, encouraging people to voice their concerns, provide feedback and also by developing skills to solve work-

related problems. Kahn (1990 cited in Anitha, 2014) explained that interpersonal relationships between employees that are supportive and trustworthy also foster employee engagement and hence increase employee performance.

2.8 OTHER FACTORS THAT INFLUENCE EMPLOYEE PERFORMANCE

Employee engagement has an impact on employee performance (Anitha, 2014). Employee engagement is the level of commitment an employee has towards the organisation and their involvement in the organisation and its values. A study by Rose, et al., (2011) confirmed the existence of a positive relationship between organisational learning, organisational commitment, job satisfaction and work performance. A learning organisation is an organisation that can modify its behaviour through acquiring, creating and transferring knowledge (Garvin, 1993 cited in Franco and Almeida, 2011). Organisational learning could also be defined as an organisation that continuously and successfully adapts to external and internal environment changes in order maintain sustainability and development. This is done though gaining knowledge (Chen, 2005 cited in Franco and Almeida, 2011). The study by Franco and Almeida (2011) proves that organisational learning does play a role in organisational performance.

This factor actually has an effect on job satisfaction which will in turn impact employee performance. A study by Ghadi, et al. (2013) revealed that work-family conflict has a negative effect on job satisfaction. The study went on to suggest that a supportive leadership style and training and mentorship would reduce work-family conflict, thereby increasing job satisfaction.

2.9 THE IMPACT OF LEADERSHIP STYLES ON EMPLOYEE PERFORMANCE

This section of the literature review serves to discover what already has been researched and written on the impact of leadership styles on employee performance.

A research paper, from May 2008, unveiled gaps in existing literature pertaining to the relationship between leadership and organizational performance. Jing and Avery's (2008) research revealed a popular belief exists that leadership can afffect organisational

performance. They go on to prove another belief, that the leadership style adopted is vital in attaining organisational goals as well for inducing performance among subordinates.

The world in its current economic state of intense competition aided by globalisation places growing pressure on companies to develop and maintain their competitive advantage – human capital. Research proves that a nurturing workplace environment where employees are willing, competent and able to perform effectively is responsible for performance, this is achieved through transformational leadership (Anon., 2013). In the pursuit of sustaining competitive advantage through performance the speed of strategic decision making should be examined. A study in China concluded that transformational leadership impacts more on team behaviour integration and strategic decision making speed than transactional leadership (Gu, et al., 2012).

In Pakistan researchers found that employees who experience acceptable pay, job security, growth in the organization, a friendly work environment and there are sufficient promotional opportunities have a high level of job satisfaction (Danish & Usman, 2010). Although the study does not address leadership it is clear that from the requirements of staff that a transactional leader is needed. However, there is no empirical evidence to suggest the leadership required and is therefore presented as an avenue of future research.

A study carried out in the construction sector of the United Arab Emirates concluded that leadership strongly influences job satisfaction and that leadership style affected organizational commitment in the industry (Randeree & Chaundhry, 2012).

In the construction industry of Iran, people orientation and transformational leadership qualities drive employees to go beyond their own self-interest and gain empowerment (Tabassi & Abu Bakar, 2010). In the Iranian automobile industry research proves that transformational leadership results in employees that are moderately satisfied with their jobs. The research also shows that different leadership styles generate different outcomes with respect to employee satisfaction (Yaghoubipoor, et al., 2013).

An empirical study of Australian local councils found “that by practising aspects of transformational leadership such as articulating clear standards and expectations for performance and showing recognition to work unit members for specific task or goal

achievements, work unit leaders may establish a foundation that later leads to higher performance outcomes. Furthermore, promoting aspects of social processes of leadership such as communication, enhancing adaptability and resolving uncertainties may lead to greater clarification and subsequent higher performance outcomes" (Muchiri, et al., 2012, p. 662).

A study between private and public sector organisations, in India, comprising of a sample of 43 middle managers and 156 subordinates confirmed that leadership does influence employee performance however the level performance achieved is dependent on the type of leadership style used (Pradeep & Prabhu, 2011). The study goes on to prove that an optimal level of performance is achieved when a leader is able to motivate and influence subordinates to reach a predetermined level of success. These leadership qualities are best exhibited through the transformational leadership which as the study shows yields higher performance levels than the use of transactional and Laissez Faire leadership styles.

A Brazilian study concluded that "the characterization of under which combination of leadership style, agility and organizational factors the highest project performance can be achieved" (Aurélio de Oliveira, et al., 2012, p. 653). Agility evident through continuous improvement and delivery, communication, maturing of the team and flexibility of people.

A balance between performance and development in organisations needs to be achieved (Wallo, et al., 2013). This is achieved when leaders create opportunities for developmental learning and are supportive. In terms of relating that study to this one, it can be said that when leaders are supportive of training and mentorship and provide these opportunities subordinates are likely to experience job satisfaction. Thus increasing employee performance.

A study from Australia based on religious non-profit organisations divulged that transformational leadership was responsible influencing workgroup performance (in this study workgroup performance equates to employee performance) whilst transactional leadership was mainly responsible for influencing workgroup climate (in this study climate is equated to working environment). McMurray, et al. (2012) went on to state that a working climate had a large positive effect on workgroup performance.

A study based on Malaysian business disclosed that in order for businesses to survive in this "new global economic order" performance needs to be continuously improved. The study explained that organisations essentially need to adapt and change according to the environment. Idris and Ali (2008) found that the use of transformational leadership style significantly related to financial performance and that this relationship was facilitated by best practice management.

In contrast to the all of the above, there are arguments that state that leadership has no impact on performance (DuBrin, 2012). These arguments are:

2.9.1 Substitutes for Leadership

A work environment of highly trained, skilled employees who are self-motivated or intrinsically satisfied with their work, that adhere to professional norms and ethics and are equipped with adequate supporting technology require little to no leadership.

2.9.2 Leadership Irrelevance

This agreement revolves around the situations which are outside a leaders control i.e. economic, climatic and trends. It also purports that due to organisational forces such as shareholders leaders have limited access to only a few resources.

2.9.3 Complexity Theory

Similar to leadership irrelevance it denotes that organisations are complex and its performance is largely due to outside forces. This argument goes on to state that the impact of leadership should be judged on the prevailing situation i.e. a leader best exhibits his / her skills in times of crisis e.g. product recall or contractor delays.

2.10 LEADERSHIP STYLES USED IN SOUTH AFRICA

During apartheid South Africa was governed by a white government that believed in segregation as the white race was seen as superior. This was evident in the consultant civil engineering industry hierarchy of the white, predominantly male, race given the positions of engineers, the Indian race filled clerical positions and the black race served as labourers.

The apartheid government was quiet proficient in applying white supremacy through the introduction and application of the Bantu Education Act, Act 47 of 1953 (O'Malley, n.d.).

The Act further aided in strengthening the hierarchy as the black race were only schooled to prepare them for manual labour under white control or to equip them with skills needed in their homeland (a homeland was an assigned area for a specific ethnic group to live). The Extension of University Education Act, Act 45 of 1959, exempted non-whites from attending white universities. This Act coupled with the Coloured Person's Education Act of 1963 (South African Government, n.d.) and the 1965 Indian Education Act were designed to give non-whites enough education for low level jobs.

The only leadership style evident during this period of history is that of autocracy. Autocratic leadership, also known as authoritarian leadership, refers to leaders who make decisions without consulting the people it affects and exhibits absolute control. This leadership style was practised by government and thus was filtered and expected to be performed throughout the country to ensure the white race retained power and supremacy.

Apartheid was abolished in 1990 and a new government was elected in 1994. The new government brought change as people were to be treated equally, receive the same quality and level of education and be afforded the same opportunities for employment and otherwise. The new thinking around equality for all was slow on the uptake therefore the government introduced and implemented the Black Economic Empowerment (BEE) Act of 2003 (The DTI, n.d.). This Act was formed to redress the injustices caused during the apartheid period. The objectives of this Act included that Black people, as defined by the act includes Africans, Indians, Colours, fulfil management and ownership positions in new and existing enterprises. This objective was further elaborated to ensure that black females are presented with management and ownership positions in new and existing enterprises.

This period in history shows a reluctant change in leadership styles from autocratic to transformational. Change management was also extensively used. Today, industry is following the global trend of Globalisation. Jones and George (2013) define globalisation as a set of specific and general forces that work together to integrate and connect economic, political and social systems across countris, cultures or geographic regions so that nations become increasingly interdependent and similar. In recent years, the constalt civil engineering industry has recently seen large multi-national organisations taking over or merging with South African companies for the sole purpose of gaining access to development

in Africa. These organisations use transformational leadership, integration and change management process to consolidate the organisation.

2.11 SUMMARY

From the literature review above it is evident that stand alone leadership, job satisfaction and performance have been researched exhaustively. With respect to the impact of leadership styles on employee performance, there is an iceberg of research concluded and presented here was only the view above the surface. However, from this literature review it can be said the existing research lacks a link between leadership styles, job satisfaction and employee performance. There is very little research on South Africa and none on leadership in the consultant civil engineering industry. This study aims to bridge that rift in research by identifying which leadership style/s employees prefer in terms of reach performance goals. This study also aims at uncovering the influencing factors on employee performance, tailored to the consultant civil engineering industry.

The next chapter will discuss the methodology used in conducting the research.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 INTRODUCTION

Research is a systematic process of collecting, analysing and interpreting data in order to answer a question. Thus moving from the unknown to the known (Sekaran & Bougie, 2013).

The consultant civil engineering industry is a service providing industry. Companies differentiate themselves through their level of expertise in effectively and efficiently producing quality designs that are both cost effective and sustainable. Therefore a company's competitive advantage stems directly from the performance of its employees. It is important for management to understand that leadership does influence performance and that different leadership styles yield different results. This study will uncover which leadership styles are currently utilized in industry and its impact on performance. It will also prove invaluable in uncovering which leadership style/s is most suitable for each level of the profession i.e. technicians, candidate technologists / engineers and professionally registered engineers and technologists. This will ultimately lead to meeting performance goals.

This chapter details the methodology employed by the study. An overview of the research design, research philosophy, and research strategies are explained. The target population and sample are defined and the research instrument used is explained. The pilot studies, administration of questionnaires and data analysis are discussed. Validity and reliability, limitations of the study, elimination of bias and ethical consideration are discussed as well.

3.2 AIM AND OBJECTIVES

The aim of a research study is defined as a statement of what needs to be achieved by the study whilst objectives are specific issues which collectively achieves the aim.

3.2.1 Aim

The preceding literature review reveals that no active research has been concluded on the South African Consulting Civil Engineering Industry. Thus the aim of this study is to bridge that gap by determining the impact of leadership styles on employee performance at different

levels of the profession. This is necessary to gain insight as to which leadership style/s would produce optimal levels of performance thereby allowing recommendations to be made to managers in industry. This practice, should it be adapted by people in management positions, would ensure that the desired performance levels are attained and sustained.

3.2.2 Objectives

The objectives of this research are listed below:

- Identify the factors that influence performance in the civil engineering industry
- Investigation of leadership styles currently applied in industry
- The impact of leadership styles on employee performance
- Determine most effective leadership style/s for each level of the profession

3.3 PARTICIPANTS AND LOCATION OF THE STUDY

Elements, geographic location and time define a target population (Sekaran & Bougie, 2013). The target population for this empirical study is any civil engineering technician, technologist and engineer (candidate and professional) in the consulting industry. In terms of geographic location, this study was carried out in Durban, Kwa-Zulu Natal.

3.4 TYPE OF STUDY

Sekaran and Bougie (2013) state that there are three types of studies, namely:

- *Exploratory Study:* This is undertaken when little or no information is available on the situation at hand or no research was done on similar problems in the past.
- *Descriptive Study:* This is undertaken to describe variables of interest of the situation.
- *Casual Study:* This is undertaken to identify the causes of a problem.

This study used the descriptive study method to meet the objectives that were set. The descriptive method was used because there was no desire to change the behavioural patterns of the target population. However the study was intended to understand how a manager's behaviour and actions influence employee performance.

3.5 RESEARCH APPROACH

Sekaran and Bougie (2013) describes two approachs to research as qualitative and quantitive. These approaches are nessecary for data collection in order to gain insight on the topic being researched. In a qualitative study research involves the analysis of data that is of a descriptive nature. This means it concentrates on words and observations to capture a person's natural reaction to a situation. This is not readily quantifiable unless it is coded and categorised in some way. A quantitative study on the other hand uses statistical and mathematical methods to analyse primary data collected via polls, surveys and questionnaires.

Before a research approach is chosen, it is nessecary to understand their differences as the choice of data collection instrument and the questions it contains is dependant on it. Table 3.1 outlines these differences.

Table 3.1: Differences between qualitative and quantitative research

Qualitative	**Quantitative**
Data collected is in a non-standardised form and requires coding or classification into categories	Data collected is in a standardised numerical form
Subjective	Objective
Single research studies does not allow for generalisation	Multiple research studies allows for generalisation
Meaning expressed through words	Meaning expressed through numbers
Analysis is carried out through conceptualisation	Analysis is carried out through mathematics and the use of diagrams

Adapted from Sekaran, U. and Bougie, R., 2013. **Research methods for business**. 6th edition. West Sussex: John Wiley & Sons Ltd.

Table 3.1 shows distinct differences between the two methods. Qualitative research methods are subjective, non-generalizable and data collection is not standardised whilst quantitative research methods are objective, generalizable and data collection is standardised.

A quantitative research approach was selected for this study due to the time constraint. Primary data was collected via questionnaires from Durban based CESA members.

3.6 SAMPLING

Population is classified as the entire group of subjects (people, events or things) to which the researcher would like to generalize the results of a study. An element is a single member of the population. Therefore a sample is a subset of the population, it is a representation of the population comprising of an adequate number of elements. Given that the size of the sample is sufficient, inferences can be made about the parameters of the population and applied to the population, in other words the study is generalizable to the entire population. A study is not generalizable when the sample size is not large enough to be representative of the population (Salkind, 2012). In that scenario the results of that study are only applicable to the people who took part in that study and not the entire population it originally set out to study.

3.6.1 Description of the population

The consultant civil engineering industry comprises of technicians, technologists and engineers who either have academic qualifications or are studying towards them. This study looks at people who have experience in industry and is independent of the person's professional status i.e. registration with the Engineering Council of South Africa (ECSA). At present the population size is unknown. Therefore a population frame of 181 will be used. This is the number of members of CESA YPF that are Durban based.

3.6.2 Need to sample

When a population is extremely large it becomes difficult and expensive to receive responses, therefore sampling is used. In the simplest of terms sampling is used to gain knowledge about a population by only examining a portion of it (Kothari, 2011). Sampling saves time and money. It is accurate and reliable. Sampling also proves economical when compared to census.

3.6.3 Probability vs. non-probability approach

Salkind (2012) explained two sampling strategies, non-probability sampling and probability sampling. It is important to understand each strategey because sampling affects the quality of the study's results / findings.

3.6.3.1 Non-probability sampling

In non-probability sampling, the researcher selects the elements of the population that make up the sample. Therefore non-probability sampling is subjective (Keller, 2012). Salkind (2012) states that in the non-probability sampling technique any element has an unknown chance of being selected. This technique is best suited for qualitative research as it allows the researcher an avenue to provide reasoning for his / her selection. However, it can be used in quantitative research. This technique uses procedures to select elements that are cheaper, easier and quicker. It is also recommended for exploratory studies where the aim is to find if a problem exists quickly and inexpensively (Lund Research Ltd, 2012).

The types of non-probability strategies are listed and described below:

- *Convenience Sampling:* The most easily accessible elements are chosen. It is quick, convienent and less expensive; however, it is not generalizable.
- *Judgement Sampling:* Also known as purposive, selective or subjective sampling. The selection of elements are based purely on the reasercher (Lund Research Ltd, 2012). Sekaran and Bougie (2013) state that this technique involves element selection based on the element's knowledge of the subject being investigated. This method introduces researcher bias and results may not be generalizable. Although purposive sampling does have many techniques each of which could be used to attain specific research goals.
- *Quota Sampling:* Elements are selected from groups (strata) according to a predetermined number. In proportional quota sampling the number of elements from each group must be proportional. The results yielded by this technique are not easily generalizable although it proves useful when minority participation is crucial.
- *Self-selection Sampling:* Elements volunteer themselves without being approached by the researcher. This technique saves time with respect to finding willing participants. Moreover, willing participants are more likely to be commited to the study. This technique is disadvantaged in self-selection bias and the sample may not be an adequate representation of the population making generalizing difficult.
- *Snowball Sampling:* This technique is used to gain access to populations that are difficult to reach e.g. drug addicts, people with AIDS / HIV, etc. Elements are selected based on referrals.

3.6.3.2 Probability sampling

In probability sampling the likelihood of any element being chosen is known (Salkind, 2012). This sampling strategy is most suitable to quantitative research because it uses mathematical and statistical means to draw conclusions which can be generalized to the population of interest. However, the generalization can only occur if the sample size is an adequate representation of the population. If each element in the sample was randomly selected from the population then every element must have an equal probability of being selected.

Sekaran and Bougie (2013) define six sampling designs in probability sampling. These are explained and tabulated below in Table 3.2.

Table 3.2: Probability sampling designs

Sampling Design	Description	Advantages	Disadvantages
1. Simple random sampling	All the elements in the population are considered and each element has an equal chance of being chosen as the subject.	High generalizability of findings.	Not as efficient as stratified sampling.
2. Systematic sampling	Every *n* th element in the population is chosen starting at a random point in the sampling frame.	Easy to use if sampling frame is available.	Systematic biases are possible.
3. Stratified random sampling (Str.R.S) Proportionate Str.R.S Disproportionate Str.R.S	Population is first divided into meaningful segments; thereafter subjects are draw in proportion to their orginal numbers in the population. Based on the criteria other than their orginal population numbers.	Most efficent amoung all probability designs. All groups are adequately sampled and comparisons among groups are possible.	Stratification must be meaningful. More time consuming than simple random sampling or systematic sampling. Sampling frame for each stratum is essential.
4. Cluster sampling	Groups that have homogeneous members are first identified; then some are chosen at random; all the members in each of the randomly chosen groups are studied.	In geographic clusters, costs of data collection are low.	The least reliable and efficient amoung all the probability sampling designs since subsets of clusters are more homogeneous than heterogeneous.
5. Area sampling	Cluster sampling within a particular area or locality.	Cost-effective. Useful for decisions relating to a particular location.	Takes time to collect data from an area.
6. Double sampling	The same sample or a subset of the sample is studied twice.	Offers more detailed information on the topic of study.	Orginal biases, if any, will be carried over. Individuals may not be happy with responding a second time.

Adapted from Sekaran, U. and Bougie, R., 2013. **Research methods for business**. 6th edition. West Sussex: John Wiley and Sons Ltd. p254

For this study the probability sampling strategy was chosen and the simple random sampling technique was applied. The reasoning being that every individual in industry had a known and equal chance of being chosen for this study.

3.6.4 Sample size

Sekaran and Bougie (2013) state that a sample size is influenced by the research objective, the extent of precision desired, the acceptable risk in predicting that level of precision, the

amount of variability in the population itself, cost, time constraints and the size of the population itself. Precision is the closeness of findings to the actual sample. Confidence refers to the probability that the findings at that point in time are correct. For this study a confidence level of 95% was used meaning that there is a 95% chance that this study's findings are true at this point in time and a 5% chance that they may be wrong. For these reasons a sample size larger than 30 but smaller than 500 is suggusted for most research studies.

At present the number i.e. total population of technicians, technologists and engineers operating in industry is unknown. Therefore, CESA YPF was approached. The YPF has 181 members that are Durban based. This was used as the population frame for this study. With a confidence level of 95% and a margin of error of 5% for a population of 181 the sample size (Sekaran & Bougie, 2013) is 132.

3.7 DATA COLLECTION

There are two sources of data, namely (Sekaran & Bougie, 2013):

- *Primary data* is information acquired first hand by the researcher on the topic of interest for the study. It is collected by means of interviews both face to face and telephonic, questionnaires, observations and experiments.
- *Secondary data* is information obtained from existing sources.

This empirical study being quantitative in its approach uses questionnaires to collect primary data. A questionnaire is a pre-formulated written set of questions to which the respondent records the answers, commonly within close delineated alternatives. There are various types of questionnaires: personally administered, mail and electronic. It is vital to understand the advantages and disadvantages of each before a type is chosen. Table 3.3 presents these.

Table 3.3: Advantages and disadvantages of different questionnaires

Mode of Data Collection	Advantages	Disadvantages
Personally administered questionnaires	Can establish rapport and motivate respondent	Explanations may introduce bias
	Doubts can be clarified	Take time and effort
	Less expensive when administered to groups of respondents	
	Almost 100% response rate	
	Anonymity of respondent is high	
Mail questionnaires	Anonymity is high	Cannot clarify questions
	Wide geographic regions can be reached	Follow up procedures for non-responses are necessary
	Respondent can take more time to respond at convenience. Can be administered electronically, if desired	Response rate is almost always low. A 30% rate is quite acceptable
	Token gifts can be enclosed to seek compliance	
Electronic questionnaires	Easy to administer	Computer literacy is a must
	Can reach globally	Respondents must have access to the facility
	Respondents can answer at their convenience like mail questionnaire	Respondents must be willing to complete the survey
	Fast Delivery	
	Very inexpensive	

Adapted from Sekaran, U. and Bougie, R., 2013. **Research methods for business**. 6th edition. West Sussex: John Wiley and Sons Ltd. p148.

As it can be seen in Table 3.3 there are significant advantages and disadvantages with the use of each questionnaire. For the purpose of this study, electronic questionnaires were used because of its cost effectiveness, ease, quick turnaround time and respondents could respond at their convenience. The YPF database was used to email 181 of its Durban based members, in June 2014.

3.7.1 Instrument

The questionnaire (Appendix 2) was carefully worded without ambiguity thus ensuring that no confusion was introduced. It was also designed for respondents to navigate with ease. Care was taken to eliminate the use of double barrelled questions. Open-ended and closed-ended questions were used. Open-ended questions permit the respondent to respond without bias and are used for additional insights. Open-ended questions are open to interpretation. Closed-ended questions allow respondents to make quick decisions from answer options that are pre-determined by the researcher. Scales are also used for closed-ended questions. This also assists the researcher with coding thereby enabling mathematical methods to be utilised for the analysis.

Since the questionnaire was to be electronic in nature, QuestionPro was used to capture the questionnaire. QuestionPro is a website which allows questionnaires to be constructed. It allows emails containing a link to the questionnaire to be sent out to respondents. Furthermore, it collects data, saves it and analyses it. The questionnaire although administered electronically was accompanied by a covering letter (Appendix 1). The covering letter seeks to gain the respondents consent and pledges confidentiality and anonymity.

3.7.2 Instrument construction

Keller (2012) advises that questionnaire design takes knowledge, experience, time and money. The text goes on furthur to offer guidelines on questionnaire design. These are listed below:

- The questionnaire should be as short as possible as this will encourage participants to complete it.
- The questions should be short, simple and clearly worded to eliminate ambiguity and confusion. This enables respondents to answer quickly and correctly.
- Questionnaires often begin with demographic questions to ease respondents into a comfort zone.
- Dichotomous questions are useful and popular for their simplicity although it does have its short comings.
- Open-ended questions allow respondents to express their opinions however it is difficult to tabulate and analyse.
- Avoid using leading questions.

- Pretesting a questionnaire, time permitting, is recommended to uncover problems such as spelling and grammatical errors.
- When preparing a questionnaire, consideration must be given as to how it is to be analysed.

The questionnaire used was constructed based on the objectives for this research, thus satisfying the need for the study. It contains one open-ended question whilst the rest are closed-ended. The types of closed-ended questions utilised in this questionnaire were:

- *Dichotomous scale:* Yes / No type questions.
- *Multiple choice questions*: In this type of question a list of appropriate answers are provided by the researcher and the respondent must select an answer. If the correct answer is not in the list the respondent is asked to specify.
- *Likert scale:* With this type of question statements are posed and respondents state their level of agreement and in this study level of importance (Salkind, 2012).

An advantage in employing QuestionPro is that all the answers are numerically coded therefore allowing ease of analysis.

The questionnaire is made up of three sections:

- *Section 1* comprises of 6 questions, the object of which is to collect demographical data. This is necessary to understand the population and is used as a failsafe to ensure that the respondent falls into the targeted population. Closed-ended questions in this section are multiple choice in nature or make use of the dichotomous scale.
- *Section 2* is aimed at determining what influences job satisfaction from an employee's perspective. A Likert scale is applied to the closed-ended questions.
- *Section 3* is sub divided into 2 parts. The first part seeks to understand which leadership styles are currently employed by industry. The second half of this section is intended to gain insight as to which leadership style would produce the best performance and how leadership styles affect employee performance. This section contains one open-ended question whilst the remainder are closed-ended, Likert Scale type questions.

3.7.3 Reliability and validity

Sekaran and Bougie (2013), state that the goodness of data is assessed by reliability and validity as evidenced in Figure 3.1.

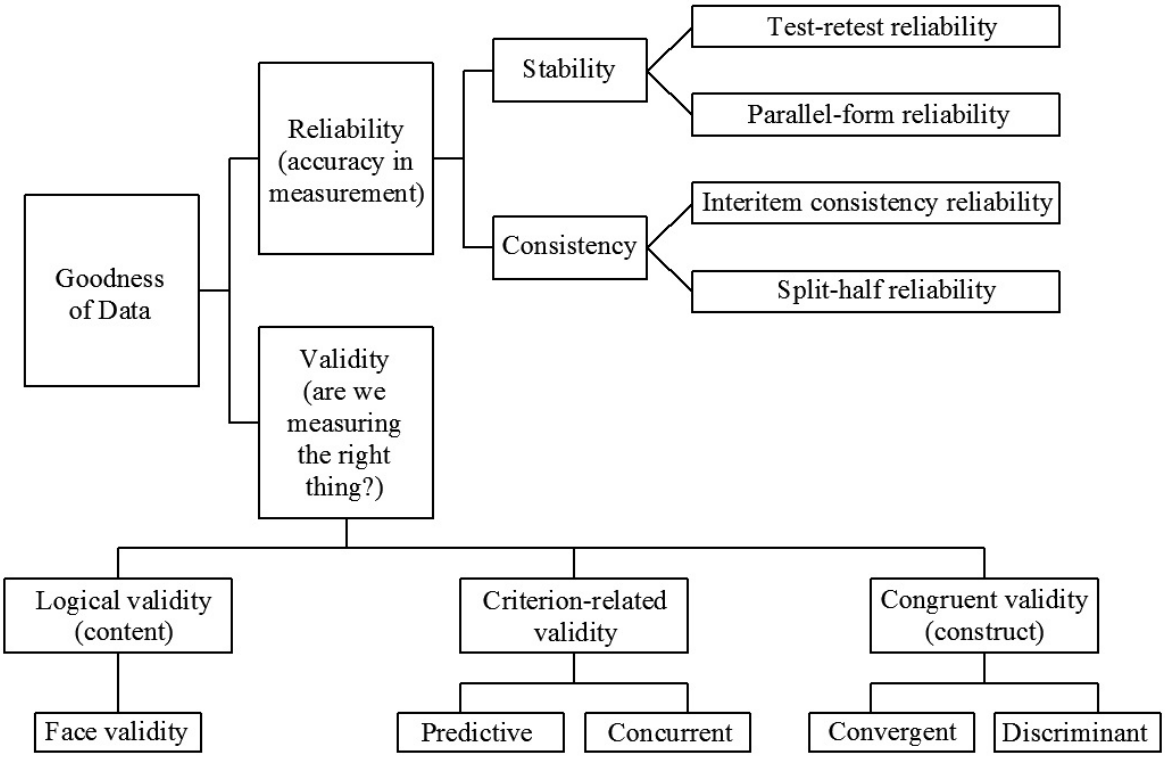

Figure 3.1 Testing goodness of measures: forms of reliability and validity

Adapted from Sekaran, U. and Bougie, R., 2013. **Research methods for business**. 6th edition. West Sussex: John Wiley and Sons Ltd. p226.

According to Sekaran and Bougie (2013) the reliability of a measure attests the extent to constant measurement across time (stability) and across the various items in the instrument (internal consistency).

Validity is evidence that the instrument used to measure a concept does actually measure that concept and nothing else. There are several types of validity, these are outlined below (Sekaran & Bougie, 2013):

- *Content validity*: Questions if the measure adequately measures the concept.
- *Face validity:* Questions if the measure measures what its name suggest.
- *Criterion-related validity:* Is created when the measure differentiates individuals on the criterion it is expected to predict.

- *Concurrent validity:* Is formed when the scale discriminates who are known to be different meaning that they would score differently on the instrument.
- *Predictive validity:* Displays the ability of the instrument to differentiate individuals with respect to future criterion.
- *Construct validity:* Questions how well the findings of the measure actually corresponds to the theories it set out to test.
- *Convergent validity:* Questions if two instruments measuring the concept have a high correlation.
- *Discriminate validity:* Is found when in theory two variables are uncorrelated and when measured it is proved.

To ensure the credibility of a study, reliability and validity tests that minimise limitations must be carried out. The reliability and validity of this study was maximised because the questionnaire used was pilot tested.

3.7.4 Timeframe

A longitudinal study measures behavioural changes of the same subjects at different points in time (Salkind, 2012) for example a group of smokers can be surveyed regarding the condition of their health once a year for ten years thus creating research of how smoking affects a person's health. A cross-sectional study on the other hand measures many different subjects once (Salkind, 2012). This study is cross-sectional in nature as data was only collected at one point in time. Data for this study was collected from June 2014 till August 2014.

3.7.5 Pre and pilot testing

A pilot test is used to test a questionnaire on a small sample (Sincero, 2012). It tests the correctness of the instructions to be measured and seeks to verify that the type of survey meets the intention of the researcher's study. By employing a pilot test, the researcher gains feedback regarding errors. The questionnaire can then be adjusted accordingly.

The pilot test for this research was carried out in February 2014. The pilot group used included the research supervisor and 13 colleagues (6 engineers and 7 technologists). Feedback from the group brought to light the following comments which were noted and amended:

- Spelling and grammatical errors were identified and corrected.
- A time frame of between 10 and 15 minutes was established to complete the questionnaire. This was found to be acceptable to the respondents.
- The length of questions was adjusted.
- The group found that the questions did meet the objectives of the study.
- Duplicate questions discovered and removed.

3.7.6 Distribution and administration of the instrument

QuestionPro was utilised to create and distribute the electronic questionnaire. The questionnaire was emailed to 181 Durban based YPF members. Access to the questionnaire was permitted through start survey link contained in the email. Every completed questionnaire was recorded onto QuestionPro. Thereafter analysis followed. The questionnaire was accessible from June 2014 till August 2014.

Ethics in data collection regulates the appropriateness of the researcher as well as the behaviour of the respondents. For this study to take place ethical clearance needed to be obtained from the University of Kwa-Zulu Natal's Research Office. This is needed to safeguard both the researcher and the University against any ethical issues that may transpire. A letter of permission (Appendix 3) was obtained from the YPF stating that the use of their database was permitted, however, they preferred to send the survey request out on the researcher's behalf. On the survey request email people were advised that participation was voluntary and that privacy and confidentially will be maintained at all times. The email also advised that the respondent had the right to terminate their participation at any time. Once the person had decided to click the "start survey" link, it opened to a page showing the letter of informed consent which reiterated the email. The person gave consent by clicking the "I agree" button which began the questionnaire.

3.8 DATA ANALYSIS

This empirical study being quantitative in approach used mathematical and statistical methods to analyse the primary data derived from questionnaires. QuestionPro statistically codes data and analyses it. However, SPSS was used were further analysis was needed. The Spearman rank correlation and the Kruskal-Wallis test proved useful in analysing correlations.

3.9 SUMMARY

This chapter explained the research methodology employed by the study. It presented various options and reasons for selections. The aim and objectives were presented. The study was carried out in Durban and would follow a descriptive type.

This chapter indicated that the study would be quantitative in its approach. The sampling method and data collection was disclosed. A sample size of 132 was indicated in order to make this study generalizable. Electronic questionnaires were selected as the data collection instrument. The data collection instrument was tested through pre and pilot testing. The instrument proved reliable and valid. Distribution of the questionnaire was to be carried out by email. In terms of ethics, the researcher acquired permission from UKZN, CESA YPF and respondents. This ensured that all information was legally solicited. Data analysis was also discussed here, concluding that QuestionPro and SPSS would be used.

In the ensuing chapter, Chapter Four, the findings of the questionnaire will be published and discussed.

CHAPTER FOUR
PRESENTATION AND DISCUSSION OF RESULTS

4.1 INTRODUCTION

In this chapter the empirical findings derived from the primary data collected are summarised and presented. The data was obtained from Durban based YPF members. It was analysed using graphs, tables and discussions. This chapter is subdivided into three parts. The first part discusses the demographics of the sample which are inferred to the population. In the second component the results for each objective are presented and discussed. In the third and final segment a summary is exhibited.

4.2 DESCRIPTION OF THE SAMPLE

The total population of professionals in the consultant civil engineering field in Durban is currently unknown. Therefore the YPF database was utilised, targeting its Durban members. Thus the population size for this study is 181. For a population of 181 the appropriate sample size with a confidence level of 95% and a margin error of 5% is 132 (Sekaran and Bougie, 2013).

4.3 DEMOGRAPHICS

Demographic information is needed to paint a picture of the environment where the research is being conducted. In this case, it is important because it represents the population. The first component of this chapter deals with the analysis of the demographics of the YPF members. Six questions were posed to attain this data. It has been summarised and presented below in Figures 4.1 to 4.6.

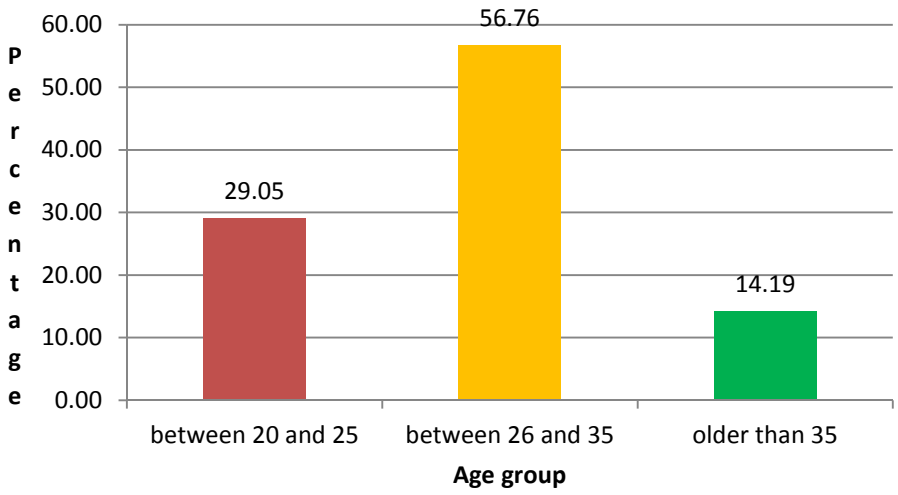

Figure 4.1: Age Distribution of the participants

Figure 4.1 exhibits the age distribution of the respondents: 29.05% are between the age of 20 and 25, 56.76% are aged between 26 and 35 whilst 14.19% are older than 35.

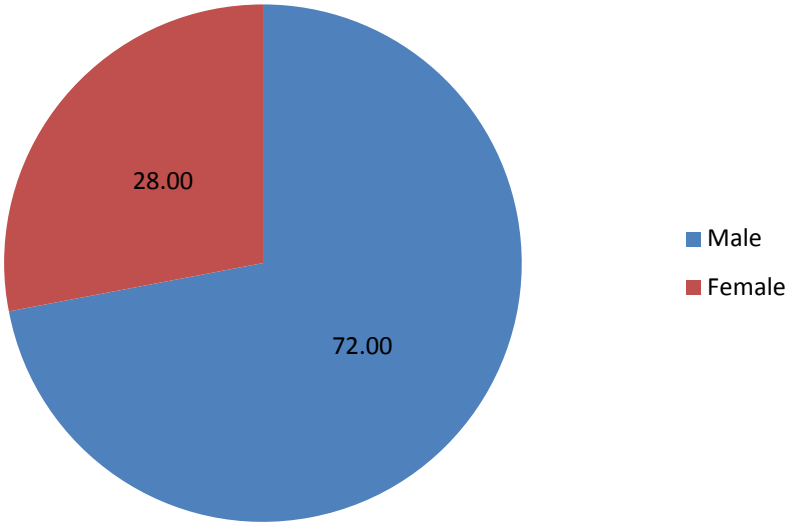

Figure 4.2: Distribution of gender of the participants

It is evident from Figure 4.2 that 72% of respondents were male resulting the remaining 28% being female. This is consistent with the general knowledge of industry being male dominated.

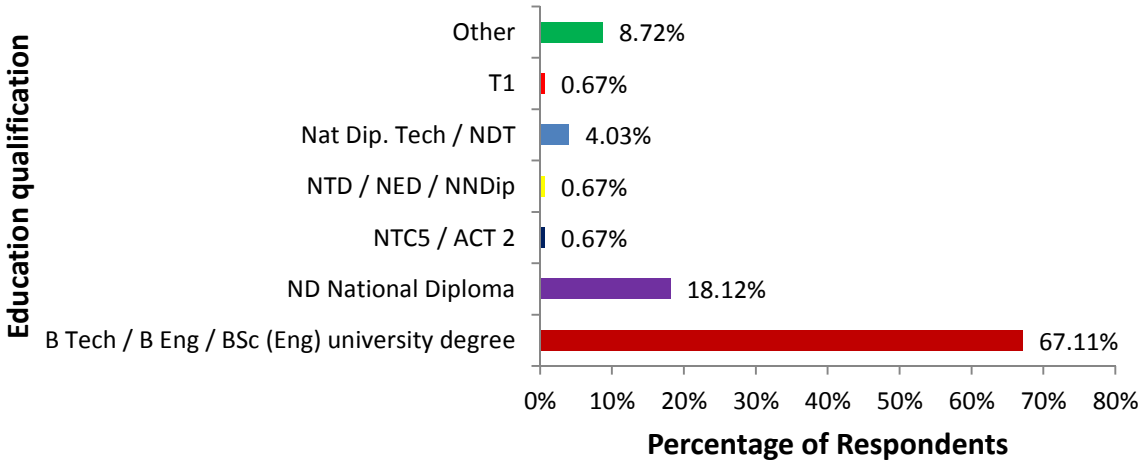

Figure 4.3: Distribution of qualification of the Respondents

Figure 4.3 shows that 67% of respondents have a university qualification.

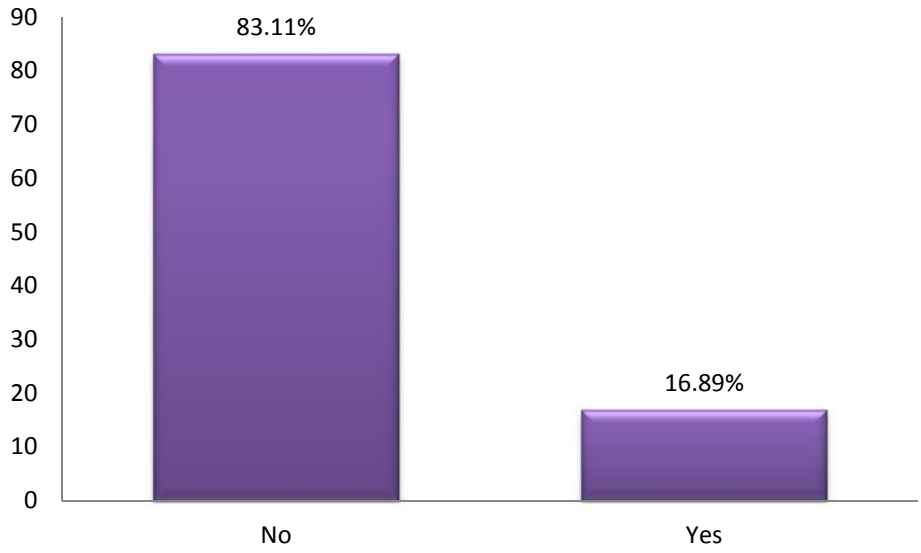

Figure 4.4: Percentage of respondents with additional or post-graduate tertiary qualifications

Figure 4.4 clearly states that 83.11% of respondents do not possess additional or post-graduate tertiary qualifications whilst 16.89% do.

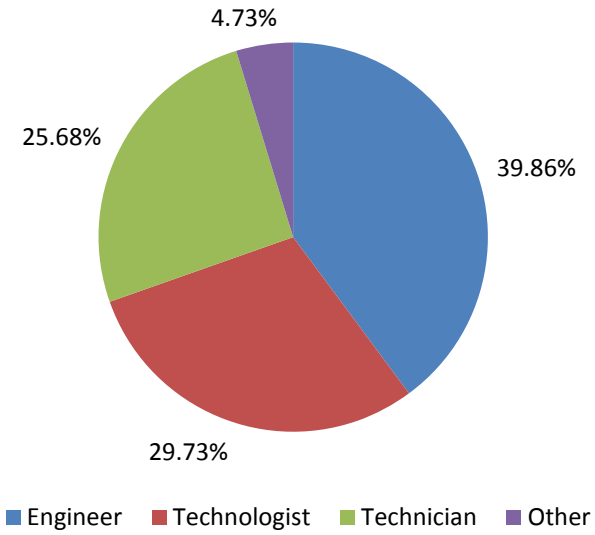

Figure 4.5: Distribution of engineering category of participants

Figure 4.5 depicts that more than a third (40%) of respondents were engineers followed by technologists (30%).

Figure 4.6: Number of staff members in the company

Figure 4.6 illustrates that 61.22% of respondents work for companies containing more than 100 staff members.

4.4 OBJECTIVES OF THE STUDY

The questionnaire was designed in such a way that the objectives are met by the data collected from the respondents. These findings per objective are analysed and discussed below.

4.4.1 Objective One: Identify the factors that influence performance in the civil engineering industry.

Respondents were asked if job satisfaction influences their performance. The results of which are tabulated in Table 4.1.

Table 4.1: Level of influence of Job Satisfaction on Performance

Statements[#]	**SD**	**D**	**N**	**A**	**SA**	**Mean**	**SD**
Job Satisfaction							
You work best when you experience job satisfaction	0.83	1.65	7.44	38.02	**52.07**	4.39	0.77

[#]SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly Agree,
SD = Standard Deviation

Table 4.1 shows that 90.09% of respondents' job satisfaction influences their performance whilst 2.48% of respondents' performance is not influenced by job satisfaction. The rationale for the 7.44% of neutral responses is perhaps their performance is influenced by their passion for industry or they did not understand the question.

Continuing with the theme of job satisfaction, the umbrella term was then sub divided into five components: work itself, training and mentorship, reward and remuneration, working environment and advancement opportunities. Under each component statements were posed to gain a better understanding of which aspects of job satisfaction is most important in producing high performance levels. A total of 18 statements were presented to the respondents. All the statements were 5-point Likert scale type statements. One point was provided for an irrelevant response and five points for crucial response. The higher the score, the better the job satisfaction. These results are displayed in Table 4.2.

Table 4.2: The level of the importance of job satisfaction.

Statements*	Irr	Not imp	Neu	Imp	Cru	Mean	SD
Work Itself							
Constructive work that challenges you	0.76	1.53	3.82	**55.73**	38.17	4.29	0.68
Work that allows you to utilize your skills and talents	0	5.34	18.32	**50.38**	25.95	3.97	0.81
A variety of work i.e. in different competencies	0	4.55	17.42	**50**	28.03	4.02	0.8
Being self-taught because you are expected to complete whatever work you are given	0	6.82	24.24	**52.27**	16.67	3.79	0.8
Training and mentorship							
Structured training and mentorship programs in line with ECSA training requirements	0.76	7.58	15.15	36.36	**40.15**	4.08	0.96
Career path guidance and development	0.76	6.06	9.85	**43.18**	40.15	4.16	0.89
Goals set for you that are agreed upon by management and yourself	2.27	3.79	13.64	**52.27**	28.03	4	0.88
Reward and remuneration							
Market related Salary	2.27	0.76	3.03	40.91	**53.03**	4.42	0.79
Benefits (Medical Aid, pension, etc)	1.54	1.54	14.62	**42.31**	40	4.18	0.85
Bonuses	1.52	2.27	10.61	**43.94**	41.67	4.22	0.84
Rewards for when you go above and beyond what it expected in your job	0	3.03	12.88	**43.18**	40.91	4.22	0.78
Working environment							
Flexibility in working hours	1.52	3.03	15.91	**53.79**	25.76	3.99	0.82
Relationships with co-workers and supervisors	0.76	2.27	15.15	**51.52**	30.3	4.08	0.78
Clean, safe and healthy environment	0.76	3.05	8.4	41.22	**46.56**	4.3	0.81
Being treated fairly without prejudice and bias	1.52	2.27	3.03	38.64	**54.55**	4.42	0.79
Advancement opportunities							
Opportunities to learn new skills	0	3.03	3.79	40.91	**52.27**	4.42	0.71
Job security	0	3.03	9.09	42.42	**45.45**	4.3	0.76
Recognition for work accomplished	0.77	3.85	2.31	46.15	**46.92**	4.35	0.77

*Irr = Irrelevant, Not imp = Not Important, Neu = Neutral, Imp = Important, Cru = Crucial, SD = Standard Deviation

Results indicated that participants found job satisfaction important as the mean score for all the statements were > 3.75 from a possible score of one to five. In other words, majority of the participants (> 75%) indicated important or crucial to all the statements with regards to the importance of job satisfaction. The five components of job satisfaction are ranked from least to most crucial in Figure 4.7 below.

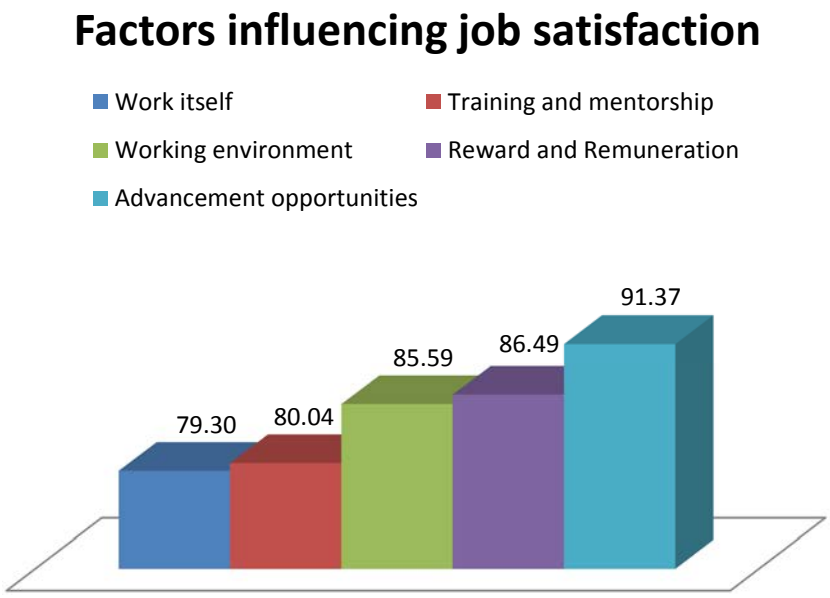

Figure 4.7: Rank of the five components

As evidenced in Figure 4.7, advancement opportunities are the most important influencing factor on job satisfaction. Reward and remuneration came in as the second biggest influence on performance with 86.49%. Eighty six percent (85.59%) of respondents believe that a work environment which is clean, safe and healthy, with respectful and friendly co-worker relationships is responsible for an optimal performance level. Eighty percent (80.04%) of participants believe that training and mentorship is an important factor in job satisfaction and performance. Work itself should be stimulating, challenging, not monotonous and boring as agreed by 79.03% of respondents.

4.4.2 Objective Two: Investigation of leadership styles currently applied in industry

In order to investigate which leadership styles are currently applied in industry, 14 Likert scale type statements were posed to the participants. One point was awarded for strongly disagree and five points for strongly agree. Therefore, a lower the score indicates a negative perception regarding the leadership of the organization. The results are captured in Table 4.3 below.

Table 4.3: Leadership styles currently utilised in industry

Leadership statements[#]	SD	D	Neu	A	SA	Mean	StD
Transactional							
Your manager motivates you to perform	5.69	7.32	26.83	**47.15**	13.01	3.54	1.00
Your manager uses rewards to get you to perform well	17.07	**34.15**	30.08	15.45	3.25	2.54	1.05
Your manager assists in highly pressured situations	4.17	12.50	25.83	**40.83**	16.67	3.53	1.04
Transformational							
Your manager influences your performance through support, intellectual stimulation and individualized consideration	4.88	12.20	**34.96**	32.52	15.45	3.41	1.05
Your manager has taken the time to get to know you, your talents, skills and aspirations	4.07	17.89	26.02	**40.65**	11.38	3.37	1.04
Your manager helps you work to the best of your ability	1.65	11.57	**42.98**	33.88	9.92	3.39	0.88
Your manager recognizes and acknowledges your ideas and explains if they do not work	4.96	5.79	20.66	**57.02**	11.57	3.64	0.94
Your manager mentors you i.e. helps you to find, develop and nurture your skills	5.79	17.36	**33.88**	31.40	11.57	3.26	1.06
Laissez-faire							
Your manager gives you little or no guidance regarding work	10.48	29.84	**34.68**	20.97	4.03	2.78	1.02
Your manager and you have a strictly professional relationship as communication is solely about work	3.31	24.79	23.97	**38.02**	9.92	3.26	1.05
Your manager is impatient, unreasonable and unapproachable	**35.00**	35.00	20.83	8.33	0.83	2.05	0.99
Your manager gives you freedom to get the job done	1.67	5.00	18.33	**55.83**	19.17	3.86	0.84
Your manager regards you as incompetent	**56.20**	25.62	9.92	8.26	0.00	1.70	0.95
Your manager feels you need close supervision else you will not work	**48.76**	34.71	7.44	3.31	5.79	1.83	1.09

[#]SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly Agree,
StD = Standard Deviation

Respondents were positive about the transactional type of leadership style in their organization as more than half positively reported that their manager motivated them to perform, and assisted them in highly pressured situations. Similarly, participants were also positive about transformational leadership style in their organization. For example, 68% agreed or strongly agreed that their manager recognizes and acknowledges their ideas and explains if they do not work, and 52% positively mentioned that their manager had taken the time to get to know them, their talents, skills and aspirations. With regards to the Laissez-

faire type of leadership style, all the statements were negatively worded. Therefore, in this section, the lower the score indicated the better the perceptions. Results had shown that majority of the participants negatively mentioned that their manager was impatient, unreasonable and unapproachable (70%), their manager regarded them as incompetent (82%), and their manager felt they needed close supervision else they would not work (84%). In terms of industry as a whole Figure 4.8 displays the most applied leadership styles.

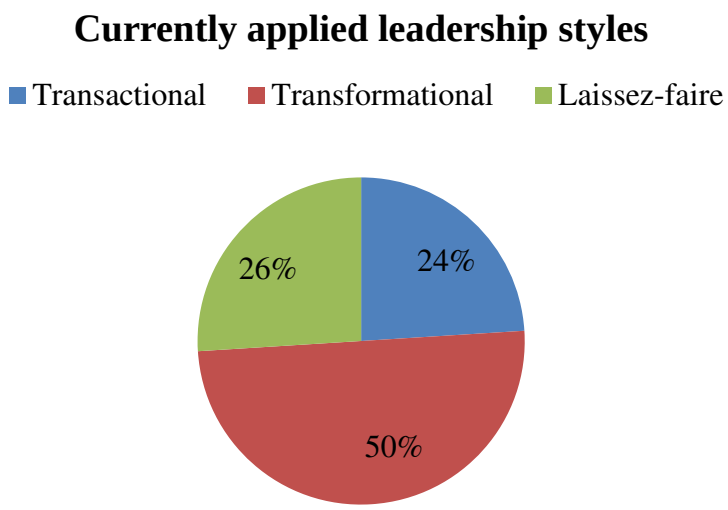

Figure 4.8: Most applied leadership styles in industry

As evidenced in Figure 4.8, the Transformational leadership style is predominately used in industry (50%), followed by Laissez-faire (26%) and the least applied leadership style being the transactional leadership style (24%).

4.4.3 Objective Three: The impact of leadership styles on employee performance

To meet this objective, two Likert scale type statements were posed. The results of which are posted below in Figures 4.9 and 4.10.

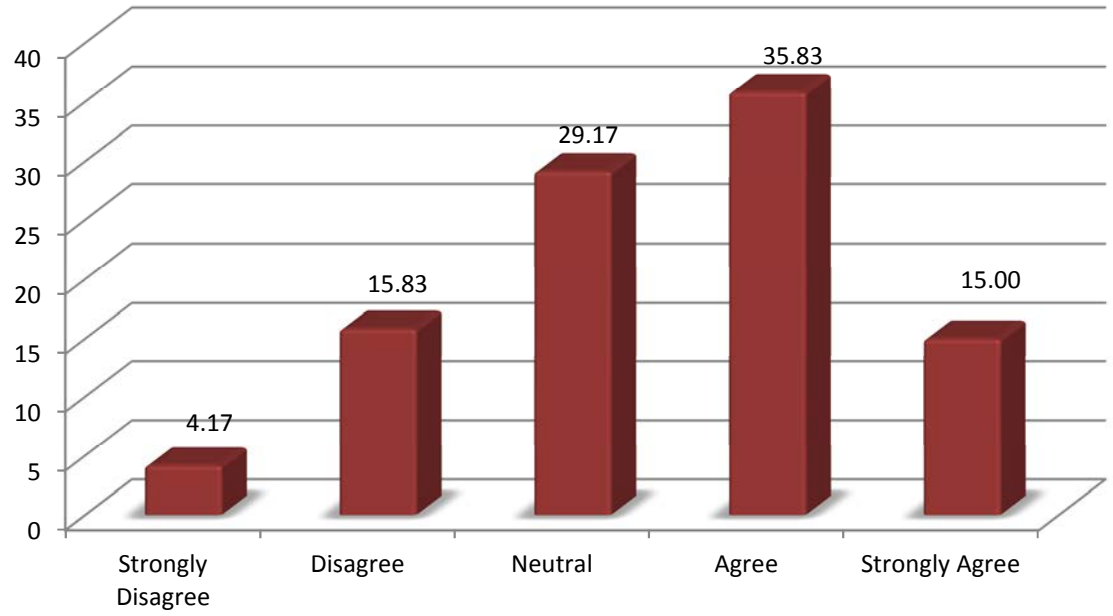

Figure 4.9: Impact of manager's leadership style on performance

As displayed in Figure 4.9, 55.83% of respondents indicated that their managers' leadership had a positive effect on their performance, 20% disagreed whilst 29.17% remained neutral. These results created a mean of 3.42 with a standard deviation of 1.06.

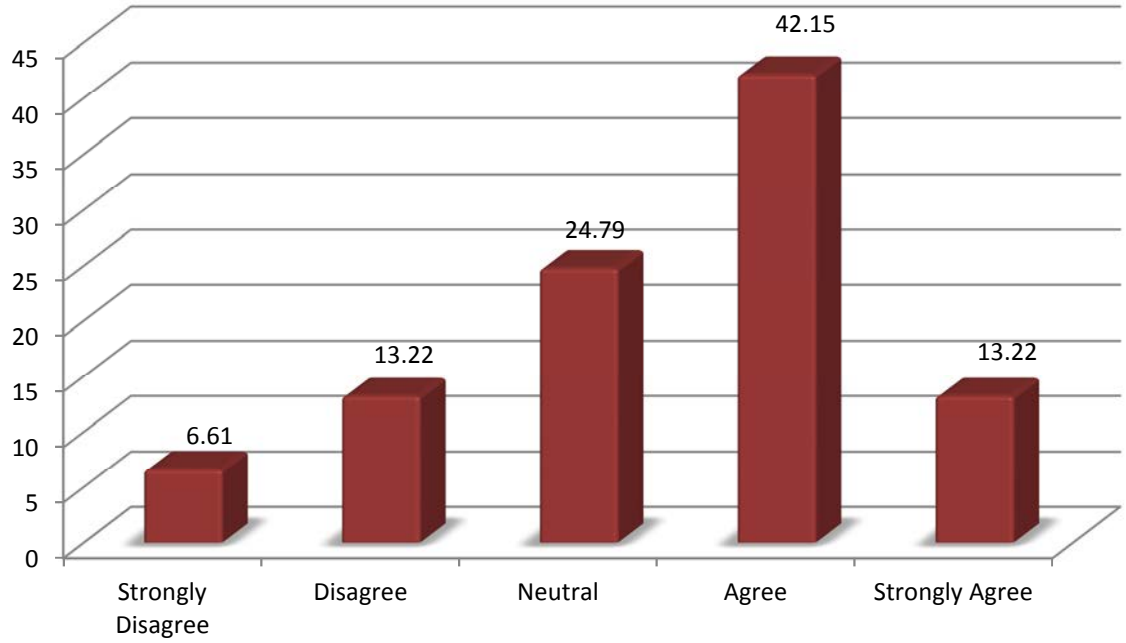

Figure 4.10: Impact of manager's attitude on performance

Figure 4.10 advises that 55.37% of respondents indicated that their managers' attitude towards them positively impacted on their performance whilst 19.38% disagreed. However, 24.79% of respondents remained neutral. These results produced a mean of 3.42 accompanied by a standard deviation of 1.09.

4.4.4 Objective Four: Determine most effective leadership style/s for each level of the profession

In order to meet this objective, 9 Likert scale type statements were posed. One point was specified for strongly disagree and five points for strongly agree. The results tabulated below in Table 4.4 are for all the respondents i.e. the results are shown in totality and not per level of the profession.

Table 4.4: Preferred leadership style

Statements[#]	**SD**	**D**	**N**	**A**	**SA**	**Mean**	**SDev**
Transactional							
Your manager would make time for you, encourage and motivate you to do your best	2.42	6.45	16.13	**50.81**	24.19	3.88	0.93
Your manager offers assistance, guidance and training whenever needed	0.81	6.50	15.45	**55.28**	21.95	3.91	0.84
You work best when your manager outlines procedures, outcomes and explains exactly what you need to do and how it fits into everything else	4.03	12.10	23.39	**33.87**	26.61	3.67	1.12
You work best when you are rewarded	2.48	9.92	20.66	**35.54**	31.40	3.83	1.06
Your manager would strive to make your working environment comfortable	0.85	1.69	22.03	**55.93**	19.49	3.92	0.75
Transformational							
Your manager recognizes and acknowledges the contributions that you make and explain if they do not work	0.81	4.03	14.52	**50.81**	29.84	4.05	0.82
Your manager knows you personally	3.33	12.50	**44.17**	30.83	9.17	3.30	0.92
Laissez-faire							
You work best when your manager simply gives you work and a deadline and leaves you to fill the blanks	5.69	20.33	26.02	**35.77**	12.20	3.28	1.10
Contingency / situational							
Your manager would adapt their leadership to suit the prevailing situation	1.67	6.67	25.83	**46.67**	19.17	3.75	0.90

[#]SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly Agree,
StD = Standard Deviation

All the statements regarding the transactional leadership style had a mean score of 3.67 or more. With regards to the transformational leadership style, majority of the participants (81%) positively reported that their ideal manager recognized and acknowledged the contributions that they made and explained if they did not work but less than half (40%) indicated that their managers knew them personally. About two-thirds of the participants highlighted that managers should adapt their leadership style to suit the prevailing situation.

With regards to identifying which leadership style would produce the highest employee performance per professional level, the primary data was separated using the demographic question of "Which engineering category do you fall under?" Once data was separated the Kruskal-Wallis test was applied. This test serves to compare scores for each type of leadership style according to job category. The test results are tabulated in Tables 4.5 to 4.9.

Table 4.5: Comparison of the transactional leadership style as the preferred amongst different professional levels

Professional Level	Obs	Rank Sum
Engineer	51	3008.00
Technologist	32	1887.50
Technician	33	2274.00
Other	6	333.50

Chi-squared = 2.037 with 3 d.f.
Probability = 0.5647

Table 4.6: Comparison of the transformational leadership style as the preferred amongst different professional levels

Professional Level	Obs	Rank Sum
Engineer	51	3273.00
Technologist	32	1774.50
Technician	33	2176.50
Other	6	279.00

Chi-squared = 2.831 with 3 d.f.
Probability = 0.4184

Table 4.7: Comparison of the Laissez-faire leadership style as the preferred amongst different professional levels

Professional Level	Obs	Rank Sum
Engineer	51	2920.50
Technologist	32	1939.50
Technician	33	2129.00
Other	6	395.00

Chi-squared =1.078 with 3 d.f.
Probability = 0.7824

Table 4.8: Comparison of the Contingency / Situational leadership style as the preferred amongst different professional levels

Professional Level	Obs	Rank Sum
Engineer	51	3072.00
Technologist	32	1804.50
Technician	33	1782.50
Other	6	362.00

Chi-squared = 0.605 with 3 d.f.
Probability = 0.8952

Table 4.9: Comparison of the overall preferred leadership style amongst different professional levels

Professional Level	Obs	Rank Sum
Engineer	51	3136.50
Technologist	32	1884.00
Technician	33	2146.00
Other	6	336.50

Chi-squared = 0.646 with 3 d.f.
Probability = 0.8858

From the Tables 4.5 to 4.9 it is evident that the overall score for an employee's preferred leadership style is similar among the different professional levels. Basically all employees prefer the same type of management regardless of their job category. In terms of ranking most preferred leadership style to least preferred, see Figure 4.11.

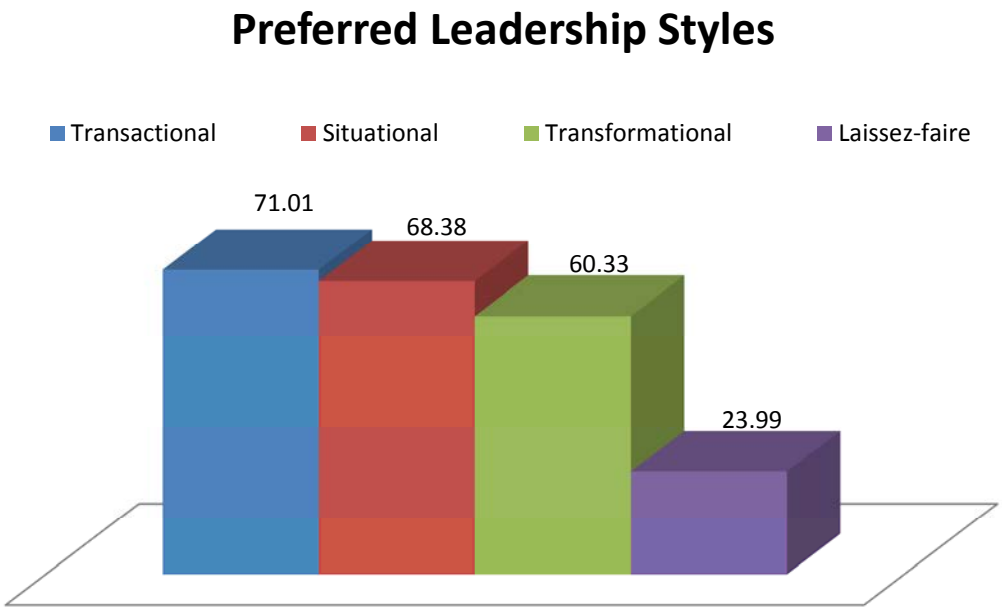

Figure 4.11: Preferred leadership style

As evidenced in Figure 4.11, respondents prefer the transactional leadership style (71%) the most, then the situational leadership style (66%) followed by the transformational leadership style. The least preferred being Laissez-faire at 48%.

4.5 CRITICAL CORRELATIONS

A correlation matrix is used to examine relationships between variables. Since the data was not normally distributed, the Spearman rank correlation was carried out among different sections of job satisfaction, currently applied leadership styles, and preferred leadership styles. The Spearman rank correlation is a nonparametric test, used to study the relationship between two ordinal variables (Sekaran & Bougie, 2013). The results of the correlations are presented in Table 4.10 to 4.13.

Table 4.10: Spearman rank correlation output for job satisfaction

```
. spearman score2a score2b score2c score2d score2e, star(0.05)
(obs=123)
```

	score2a	score2b	score2c	score2d	score2e
score2a	1.0000				
score2b	0.4001*	1.0000			
score2c	0.5019*	0.4791*	1.0000		
score2d	0.3635*	0.4816*	0.5765*	1.0000	
score2e	0.4394*	0.6769*	0.6416*	0.5061*	1.0000

Legend: score2a = work itself; score2b = training and mentorship; score2c = reward and remuneration; score2d = working environment; score2e = advancement opportunities.

Results had shown that a significantly positive correlation exists among different sections job satisfaction ($p < 0.05$) (Table 4.10). From these results it is evident that a person's job satisfaction is influenced by work itself, training and mentorship, reward and remuneration, working environment and advancement opportunities.

Table 4.11: Spearman rank correlation output for currently applied leadership style

```
. spearman score3a score3b score3c, star(0.05)
(obs=122)
```

	score3a	score3b	score3c
score3a	1.0000		
score3b	0.7353*	1.0000	
score3c	0.1073	0.1236	1.0000

Legend: score3a = transactional leadership style; score3b = transformational leadership style; score3c = laissez-faire leadership style

There was positive relationship found between the transactional and transformational leadership styles but no significant relationship was observed with the Laissez-faire leadership style (Table 4.11).

Table 4.12: Spearman rank correlation output for preferred leadership style

```
. spearman score4a score4b c1 d1 score4e, star(0.05)
(obs=119)
```

	score4a	score4b	c1	d1	score4e
score4a	1.0000				
score4b	0.5054*	1.0000			
c1	-0.0080	0.0478	1.0000		
d1	0.5464*	0.5053*	-0.0289	1.0000	
score4e	0.6414*	0.6595*	0.1674	0.6091*	1.0000

Legend: score4a = transactional leadership style; score4b = transformational leadership style; c1 = laissez-faire leadership style; d1 = situational / contingency; score4e = general.

For preferred leadership style, all the sub-sections were positively correlated with each other (Table 4.12).

Table 4.13: Spearman rank correlation between job satisfaction, Leadership, and work situation

```
. spearman jobsatisfactionscore leadershipscore worksituation, star(0.0
> 5)
(obs=122)
```

	jobsat~e	leader~e	worksi~n
jobsatisfa~e	1.0000		
leadership~e	-0.0446	1.0000	
worksituat~n	0.3386*	0.3552*	1.0000

Legend: jobsatisfa~e = job satisfaction; leadership~e = preferred leadership style; worksituat~n = performance.

It was found that overall score for performance was significantly positively correlated with job satisfaction and preferred leadership style (Table 4.13). Simply put these results prove that when an employee is satisfied with the leadership he / she receives then he / she experiences job satisfaction and therefore his / her performance level increases.

4.6 ADDITIONAL DATA

Five Likert scale type questions were put to respondents in order to gain a better understanding of what they expected from management in order to reach optimal performance levels. One point was granted for strongly disagree and five points for strongly agree. The findings are demonstrated below in Table 4.14.

Table 4.14: General

Statements[#]	**SD**	**D**	**N**	**A**	**SA**	**Mean**	**SDev**
General							
Your manager would be understanding when issues / concerns are raised (personal or otherwise)	0.81	5.69	16.26	**55.28**	21.95	3.92	0.83
Your manager communicates effectively with patience and understanding	0.82	4.10	22.95	**50.00**	22.13	3.89	0.83
Your manager would not be bias with respect to gender and academic qualification	3.33	5.83	20.00	**37.50**	33.33	3.92	1.03
You work best when you have a challenge or rather an opportunity to show your capabilities	0.83	2.50	9.17	**48.33**	39.17	4.23	0.78
Your manager would allow you to work at your own pace without pressure	4.96	16.53	33.88	**35.54**	9.09	3.27	1.01

[#]SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly Agree,
StD = Standard Deviation

As Table 4.14 demonstrates majority of the participants were positive about these statements.

Furthermore, all the scores for each sub-section of job satisfaction and currently applied leadership styles were compared according to job category. For this, the Kruskal-Wallis test was applied. In the test results given by Table 4.15 to 4.25; 1 = engineer; 2 = technologist; 3 = technician; 4 = other.

Table 4.15: Comparison of general work situation score among different professional group

```
. kwallis score4e, by(whichengineeringcategorydoyoufal)

Kruskal-Wallis equality-of-populations rank test
```

whiche~l	Obs	Rank Sum
1	51	3161.00
2	32	1978.50
3	33	2000.00
4	6	363.50

```
chi-squared =     0.037 with 3 d.f.
probability =     0.9981
```

Table 4.15 is based on the responses from Table 4.14 being categorised into levels of the profession. Table 4.15 confirms that employees, regardless of their professional level, want the same qualities in and treatment from their managers.

Table 4.16: Comparison of work itself score among different professional group

```
. kwallis score2a, by(whichengineeringcategorydoyoufal)

Kruskal-Wallis equality-of-populations rank test
```

whiche~l	Obs	Rank Sum
1	51	3174.50
2	32	2051.00
3	33	1937.00
4	6	340.50

```
chi-squared =     0.510 with 3 d.f.
probability =     0.9166
```

This test proves that different levels of the profession agree that work itself does have an impact on job satisfaction.

Table 4.17: Comparison of training and mentorship score among different professional group

```
. kwallis score2b, by(whichengineeringcategorydoyoufal)

Kruskal-Wallis equality-of-populations rank test
```

whiche~l	Obs	Rank Sum
1	51	3154.00
2	32	1948.50
3	33	2069.00
4	6	331.50

```
chi-squared =     0.240 with 3 d.f.
probability =     0.9710
```

Table 4.17 provides evidence different levels of the profession agree that job satisfaction is influenced by training and mentorship.

Table 4.18: Comparison of reward and remuneration score among different professional group

```
. kwallis score2c, by(whichengineeringcategorydoyoufal)

Kruskal-Wallis equality-of-populations rank test
```

whiche~l	Obs	Rank Sum
1	51	3057.50
2	32	1829.50
3	33	2245.50
4	6	370.50

```
chi-squared =     1.708 with 3 d.f.
probability =     0.6351
```

Table 4.18 verifies that all levels of the profession are in total agreement that reward and remuneration does have an effect on job satisfaction.

Table 4.19: Comparison of working environment score among different professional group

```
. kwallis score2d, by(whichengineeringcategorydoyoufal)

Kruskal-Wallis equality-of-populations rank test
```

whiche~l	Obs	Rank Sum
1	51	3349.50
2	32	1801.00
3	33	2079.50
4	6	273.00

```
chi-squared =     2.697 with 3 d.f.
probability =     0.4407
```

Table 4.19 demonstrates that working environment does influenced job satisfaction. All professional levels are in agreement.

Table 4.20: Comparison of advancement opportunities score among different professional group

```
. kwallis score2e, by(whichengineeringcategorydoyoufal)

Kruskal-Wallis equality-of-populations rank test
```

whiche~l	Obs	Rank Sum
1	51	3155.50
2	32	1865.50
3	33	2097.00
4	6	385.00

```
chi-squared =     0.413 with 3 d.f.
probability =     0.9376
```

Table 4.20 depicts that all professionals, regardless of level, are in agreement that job satisfaction is influenced by advancement opportunities.

In summary, with regards to job satisfaction, it was found that median score for work itself, training and mentorship, reward and remuneration, working environment, and advancement opportunities were similar among different professional groups (Table 4.15 to 4.20).

Table 4.21: Comparison of overall job satisfaction score among different professional group

```
. kwallis jobsatisfactionscore, by(whichengineeringcategorydoyoufal)

Kruskal-Wallis equality-of-populations rank test
```

whiche~l	Obs	Rank Sum
1	51	3120.00
2	32	1896.00
3	33	2168.00
4	6	319.00

```
chi-squared =     0.932 with 3 d.f.
probability =     0.8177
```

Overall score for job satisfaction was similar among the different professional level groups (Table 4.21).

Table 4.22: Comparison of transactional leadership style score among different professional group

```
. kwallis score3a, by(whichengineeringcategorydoyoufal)

Kruskal-Wallis equality-of-populations rank test
```

whiche~l	Obs	Rank Sum
1	51	3364.00
2	31	1726.00
3	33	1840.50
4	6	450.50

```
chi-squared =     3.435 with 3 d.f.
probability =     0.3294
```

Table 4.23: Comparison of transformational leadership style score among different professional group

```
. kwallis score3b, by(whichengineeringcategorydoyoufal)

Kruskal-Wallis equality-of-populations rank test
```

whiche~l	Obs	Rank Sum
1	51	3279.00
2	31	1817.50
3	33	1851.00
4	6	433.50

```
chi-squared =     1.855 with 3 d.f.
probability =     0.6030
```

Table 4.24: Comparison of Laissez-faire leadership style score among different professional group

```
. kwallis score3c, by(whichengineeringcategorydoyoufal)

Kruskal-Wallis equality-of-populations rank test
```

whiche~l	Obs	Rank Sum
1	51	2939.50
2	31	2014.50
3	33	2117.50
4	6	309.50

```
chi-squared =     1.570 with 3 d.f.
probability =     0.6662
```

Table 4.25: Comparison of overall leadership score among different professional group

```
. kwallis leadershipscore, by(whichengineeringcategorydoyoufal)

Kruskal-Wallis equality-of-populations rank test
```

whiche~l	Obs	Rank Sum
1	51	3250.50
2	31	1818.50
3	33	1903.00
4	6	409.00

```
chi-squared =     0.997 with 3 d.f.
probability =     0.8021
```

With regards to Tables 4.22 to 4.25, it is apparent that employees are managed the same regardless of professional level. In totality these tables deduce that the transformational leadership style is predominately in use as compared to the use of the transactional leadership style and the Laissez-faire leadership style.

4.7 SUMMARY

This study was successful in gathering primary data to meet the objectives set out. In terms of sampling, the sample size of 132 was set and matched. Inferences from the study can be made i.e. since the sample size was adequately met, the findings from the study are generalizable to the population. Majority of the elements in the sample are aged between 26 and 35, are male, had some form of academic qualification but no post-graduate degree and are currently employed by companies containing more than 100 staff members.

This study depicted that job satisfaction does influence an employees' performance. More specifically advancement opportunities, reward and remuneration, working environment, training and mentorship and work itself with advancement opportunities being the biggest influence on performance and work itself being the least.

Results uncovered that the transformational leadership style was predominately utilized by industry followed by the transformational leadership style. The least applied leadership style was Laissez-faire.

The findings of the study revealed that a manager's leadership style and attitude does influence an employee's performance. Furthermore, the results go on to suggest that employees all want the same things in terms of job satisfaction and leadership styles. The findings suggest that an employee's performance level is highest when their manager uses the transactional leadership style. It also proves that performance levels are lowest when the Laissez-faire leadership style is used.

In the succeeding chapter, Chapter Five, the study is concluded and recommendations are made.

CHAPTER FIVE
CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

The consultant civil engineering industry has followed the world trend of globalisation. With that being said competition for work has become fiercer because the amount of work available is the same but there are that many more organisations with capability and capacity to complete it. Companies are now looking for ways to differentiate themselves in order to gain a competitive advantage. One of the ways is through employee performance. Macey and Schneider (2008) state that employee engagement is a source of sustainable competitive advantage. This ultimately determines the survival of a company (Song, et al., 2012). The literature review has further evidenced that leadership styles does influence employee performance. The objectives defined for this study are aligned in a similar manner but further go on to question which leadership style would yield the best results. This study also attempts to fill the gap of little or no research on the managerial dimension of civil engineering.

This chapter discusses findings, recommendations are proposed based on the findings, limitations are identified and recommendations for future research are made.

5.2 KEY FINDINGS

The questionnaire in Appendix 2 was created to collect primary to meet the objectives of this empirical study. The findings per objective are discussed below.

5.2.1 The demographics of the sample

The demographic section of the questionnaire found that majority of the sample was aged between 25 and 35. An interesting finding is that majority of the sample was male, in this day and age it would be thought that the gender equality gap would have substantially if not completely closed. Of the sample it can be found that a majority had some form of higher education however a minority had additional or post-grad tertiary qualifications. The sample is representative mainly of engineers and technologists who are employed by organisations with more than 100 staff members.

5.2.2 Objective One: Identify the factors that influence performance in the civil engineering industry

The results show that a majority of people in industry perform better when they experience job satisfaction. After further investigation, the findings identified that advancement opportunities and reward and remuneration are most important in the experience of job satisfaction. With this being said, the findings illustrate that training and mentorship and work itself are least important to people in industry with regards to experiencing job satisfaction. Working environment places third.

This leads to the conclusion that people in industry perform when they experience job satisfaction specifically when advancement opportunities are clearly visible, attainable and available and when reward and remuneration is adequate. This can be achieved from an organisational point of view with visible structuring and career path guidance. From the findings one can conclude that young people (aged between 25 and 35) are driven in terms succeeding in their careers. It can also be said that reward and remuneration is vital because at that stage in a person's life wedding bells are ringing, children are being born and foundations to their family lives are being built. Appropriate rewards and remuneration provide a sense of security that people will be able to provide for their families at present and build a future worth getting up for in the morning and going to work.

5.2.3 Objective Two: Investigation of leadership styles currently applied in industry

For this objective the most frequent application of Transactional, Transformational and Laissez-faire leadership styles was questioned.

Findings conclude that the transformational leadership style was predominately applied in industry followed by the transactional leadership style. The least applied leadership style was Laissez-faire.

5.2.4 Objective Three: The impact of leadership styles on employee performance

For meeting this objective, respondents were asked if their manager's leadership style and attitude towards them affected their performance. A majority of the respondents agree or strongly agreed.

It can thus be concluded that a manager's leadership style as well as their attitude towards their employees influences their employees' performance.

5.2.5 Objective Four: Determine most effective leadership style/s for each level of the profession

The definitions of Transformational, Transactional, Situational and Laissez-faire leadership styles were proposed to respondents. This was done in order to gain insight as to which was the most preferred leadership style that would yield the highest level of employee performance. The sample was also divided into segments under the criteria of level in the profession to gauge the most effective leadership style for each level of the profession.

The findings lead one to conclude that the respondents' requirements in terms of job satisfaction and leadership styles are the same regardless of their professional level. With this in mind, the transactional leadership style is the most preferred in terms of attaining high performance levels.

5.3 RECOMMENDATIONS ARISING FROM THIS STUDY

The findings of this study have provided empirical evidence that job satisfaction, leadership styles and managers attitude towards employees all have an impact on employee performance. Based on this certain recommendations have been proposed that will ultimately increase productivity / performance levels.

As concluded in objective one, an employee's performance is highest when that employee experiences job satisfaction. Deeper investigation revealed that advancement opportunities are the most influential factor on job satisfaction, followed by reward and remuneration, working environment, training and mentorship and the least influential factor being work itself. Organisations can structure employee packages in a way that encourages job satisfaction. In terms of creating job satisfaction the following recommendations are proposed:

- Advancement opportunities must be clear to employees. This enable employees to identify a specific career path and provides a direction to pursue. Once a path is identified adequate training, mentorship and work itself must be provided by the

organisation. This synergy promotes job satisfaction. An individual's growth in an organisation is critical towards his/her job satisfaction as it provides a sense of security.

- Rewards and remuneration is an excellent exhibit of how expectancy theory can be used to generate the required performance levels. These must seem fair in the eyes of an employee in order create job satisfaction. Research (Day, 2011) on pay communication shows perceived pay communication directly affects pay satisfaction and perceptions of organisational justice / fairness. Organisations need to effectively communicate to employees how their pay is derived and why they deserve that pay because this influences job satisfaction which in turn affects performance.

- Work environment needs to be clean, safe and healthy, with respectful and friendly co-worker relationships. Due to the favourable work environment, job satisfaction increases and in turn performance levels for example a manager gives an employee three hours of leave to take his cat to the vet even though there is work to do, that employee is likely to go the extra mile for that employer. Perceived organisational support also comes into play here as employees need to feel that they are valuable to the organisation.

- Training and mentorship is an important influencing factor in job satisfaction and performance. In industry a graduate with a B-Tech degree or BSc degree is in search of a job that will allow him / her the experience needed to become a professional competent engineer / technologist. Basically, the next step in the career path is the attainment of Professional Registration (PR). The work, training and mentorship the graduate receives must be in direct correlation to the requirements of PR. On the one end of the spectrum, graduates become stagnant in positions such as "glorified" draughtsmen (graduates that solely draft) and resident engineers. This generates a negative attitude with respect to job satisfaction resulting in the graduate searching for a new job (increased turnover rates) and poor performance. On the other end of the spectrum, the work itself is used as a tool to mentor graduates. Adequate training is provided with respect to enhancing their core competencies to become PR worthy. This creates a positive attitude towards job satisfaction.

- Work itself should be stimulating, challenging, not monotonous and boring. This aids in promoting job satisfaction and thus increasing employee performance. Managers need to establish what an employee's core competencies are and feed them work around that. It seems fruitless providing a roads engineer with a structural project unless, of course, the roads engineer wants to broaden his/her horizon.

The findings went on to further conclude that the transformational leadership style was mostly applied in industry, that a manger's leadership style and attitude affects employee performance and finally that people perform at their best under a transactional leadership style. From these conclusions the following recommendations have been put forward:

- A paradigm shift needs to be driven. Organisations need to take into consideration the evidence brought to light by this study and motivate their managers to change or improve on their application of leadership styles as well as their behaviour towards and interaction with their employees. This study has revealed an entire toolbox of elements that employees themselves identified that would help them perform.

- This study revealed that a transactional leadership style would yield the highest levels of employee performance as suggested by employees. However, as a recommendation, a combination of both the transactional and situational leadership style would be more conducive to achieving high performance levels. According to Goleman (2000) research shows that some of the most successful leaders use a combination leadership style, each in the correct amount at the right time. The research also states this flexibility in leadership styles has a positive effect on performance.

5.4 LIMITATIONS OF THE STUDY

The researcher must identify and document all the limitations of the study. This will assist future studies in the field as well as serve as the foundation for the recommendations for further studies. The following limitations have been identified:

- The sample consisted of a majority of the respondents being aged between 25 and 35. Therefore the results of the study can be seen as skewed because there was not an equal spread between different age groups.

- Respondents were mostly from large companies (more than 100 staff members). This may have skewed results as the industry is made up of various sized organisations.
- In terms of determining the preferred leadership style for every level of the profession, there was no equality in the distribution of different professional levels as majority of the respondents were engineers.

5.5 RECOMMENDATIONS FOR FUTURE RESEARCH

Based on this study's findings and limitations, recommendations for further research can be made. These recommendations are as follows:

- The sample should be broadened to include more age groups and not restricted to one body such as the YPF.
- The study can make use of a proportionally stratified sample to gain a better understanding of which leadership style is preferred for reaching performance goals for each level of the profession. This is possible when the Engineering Council of South Africa (ECSA) have concluded their census.
- In keeping with the theme of creating competitive advantage, future research can be done on the impact of quality management on employee performance as well as on how quality management can be used as a vehicle to create a positive brand image.
- The study can also be applied to other industries.
- This study could be repeated to managers to gauge how they perceive their leadership styles as compared to how employees perceive it and prefer it.

5.6 SUMMARY

The aim and objectives initially set out for this research study have been fully achieved. Bearing in mind the limitations of the study, many important facts were uncovered. The findings of the study revealed the true impact of leadership styles on employee performance in the civil engineering consulting industry. In light of this, numerous recommendations have been put forward. If these recommendations be applied as directed then optimal performance levels are attainable. Taking all of this into account, organisations now have the "insider" strategy to increasing their employee performance through the use of leadership styles. Thus generating a sustainable competitive advantage.

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APPENDIX 1:

INTRODUCTORY LETTER

Informed Consent Letter 3C

UNIVERSITY OF KWAZULU-NATAL
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP

Dear Respondent,

MBA Research Project
Researcher: V. Rampersadh (082 359 2380)
Supervisor: Dr Kader (031-2774804)
Research Office: Ms P Ximba 031-2603587

I, Virushka Rampersadh, am an MBA student at the Graduate School of Business and Leadership, of the University of KwaZulu Natal. You are invited to participate in a research project entitled Impact of Leadership Styles on Employee Performance. The aim of this study is to identify the impact of leadership styles on employee performance and determine most effective leadership style/s for each level of the profession.

Through your participation I hope to understand how optimal performance levels can be reached through the use of leadership styles in the civil engineering industry.

Your participation in this project is voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequence. There will be no monetary gain from participating in this survey. Confidentiality and anonymity of records identifying you as a participant will be maintained by the Graduate School of Business and Leadership, UKZN.
If you have any questions or concerns about completing the questionnaire or about participating in this study, you may contact me or my supervisor at the numbers listed above.

The survey should take you about **10** minutes to complete. I hope you will take the time to complete this survey.

Sincerely

Investigator's signature_____

Date_____

This page is to be retained by participant

APPENDIX 2:

QUESTIONNAIRE

Section 1 : Personal Details

1.1 Age and Gender :

1. between 18 and 19
2. between 20 and 25
3. between 26 and 35
4. older than 35
5. Male
6. Female

1.2 Tertiary Education - What is your highest engineering qualification?

1. B Tech / B Eng / BSc (Eng) university degree
2. ND National Diploma
3. NTC4 / ATC1
4. NTC5 / ACT 2
5. N4
6. N5
7. N6
8. NTD / NED / NN Dip
9. Nat Dip. Tech / NDT
10. NCT / NND / NHCT / ID
11. T1
12. T2
13. Other

1.3 Do you have additional or post-graduate tertiary qualifications?

1. No
2. Yes, specify

1.4 Which engineering category do you fall under?

1. Engineer
2. Technologist
3. Technician
4. Other, specify

1.5 Are you registered with the Engineering Council of South Africa? If yes, please specify

1. No
2. Yes - Registered Pr Eng
3. Yes - Candidate Pr Eng
4. Yes - Registered Pr Tech Eng
5. Yes - Candidate Pr Tech Eng
6. Yes - Registered Pr Techni Eng
7. Yes - Candidate Pr Techni Eng
8. Yes - Registered Pr Cert Eng
9. Yes - Candidate Pr Cert Eng
10. Other, specify

1.6 The organisation under which you are currently employed have:

1. <10 staff members
2. <100 staff members
3. >100 staff members

Section 2 : Job Satisfaction

Using the scale shown below, rate the level of the importance of the following regarding job satisfaction.

	Irrelevant	Not important	Neutral	Important	Crucial
Constructive work that challenges you	❑	❑	❑	❑	❑
Work that allows you utilize to your skills and talents Work only in your core competency	❑	❑	❑	❑	❑
A variety of work i.e. in different competencies	❑	❑	❑	❑	❑
Structured training and mentorship programs in line with ECSA training requirements	❑	❑	❑	❑	❑
Opportunities to learn new skills	❑	❑	❑	❑	❑
Being self-taught because you are expected to complete whatever work you are given	❑	❑	❑	❑	❑
Career path guidance and development	❑	❑	❑	❑	❑
Job security	❑	❑	❑	❑	❑
Goals set for you that are agreed upon by management and yourself	❑	❑	❑	❑	❑
Market related Salary	❑	❑	❑	❑	❑
Benefits (Medical Aid, pension, etc)	❑	❑	❑	❑	❑
Recognition for work accomplished	❑	❑	❑	❑	❑
Bonuses	❑	❑	❑	❑	❑
Rewards for when you go above and beyond what it expected in your job	❑	❑	❑	❑	❑

	Irrelevant	Not important	Neutral	Important	Crucial
Flexibility in working hours	❑	❑	❑	❑	❑
Relationships with co-workers and supervisors	❑	❑	❑	❑	❑
Clean, safe and healthy environment	❑	❑	❑	❑	❑
Being treated fairly without prejudice and bias	❑	❑	❑	❑	❑

Section 3 : Leadership

Please rate the following with respect to your current employment:

	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
Your manager motivates you to perform	❑	❑	❑	❑	❑
Your manager influences your performance through support, intellectual stimulation and individualized consideration	❑	❑	❑	❑	❑
Your manager uses rewards to get you to perform well	❑	❑	❑	❑	❑
Your manager gives you little or no guidance regarding work	❑	❑	❑	❑	❑
Your manager has taken the time to get to know you, your talents, skills and aspirations	❑	❑	❑	❑	❑
Your manager and you have a strictly professional relationship as communication is solely about work	❑	❑	❑	❑	❑
Your manager is impatient, unreasonable and unapproachable	❑	❑	❑	❑	❑
Your manager helps you work to the best of your ability	❑	❑	❑	❑	❑
Your manager gives you freedom to get the job done	❑	❑	❑	❑	❑
Your manager assists in highly pressured situations	❑	❑	❑	❑	❑
Your manager regards you as incompetent	❑	❑	❑	❑	❑
Your manager feels you need close supervision else you will not work	❑	❑	❑	❑	❑
Your manager recognises and acknowledges your ideas and explains if they do not work	❑	❑	❑	❑	❑
Your manager mentors you i.e. helps you to find, develop and nurture your skills	❑	❑	❑	❑	❑
Your manager's leadership has a positive effect on your performance	❑	❑	❑	❑	❑
Your manager's attitude towards you has a positive effect on your performance	❑	❑	❑	❑	❑

In your ideal work situation:

	Strongly disagree	Disagree	Neutral	Agree	Strongly
Your manager would make time for you, encourage and motivate you to do your best	❑	❑	❑	❑	❑
You work best when you manager keeps pressurising you by checking your progress every few minutes	❑	❑	❑	❑	❑
Your manager offers assistance, guidance and training whenever needed	❑	❑	❑	❑	❑
You work best when your manager outlines procedures, outcomes and explains exactly what you need to do and how it fits into everything else	❑	❑	❑	❑	❑
Your manager would be understanding when issues / concerns are raised (personal or otherwise)	❑	❑	❑	❑	❑
You work best when you experience job satisfaction	❑	❑	❑	❑	❑
Your manager recognizes and acknowledges the contributions that you make and explain if they do not work	❑	❑	❑	❑	❑
You work best when you are rewarded	❑	❑	❑	❑	❑
Your manager would strive to make your working environment comfortable	❑	❑	❑	❑	❑
You work best when your manager simply gives you work and a deadline and leaves you to fill the blanks	❑	❑	❑	❑	❑
Your manager communicate effectively with patience and understanding	❑	❑	❑	❑	❑
Your managers know you personally	❑	❑	❑	❑	❑
Your manager would not be bias with respect to gender and academic qualification	❑	❑	❑	❑	❑
You work best when you have a challenge or rather an opportunity to show your capabilities	❑	❑	❑	❑	❑
Your manager would adapt their leadership to suit the prevailing situation	❑	❑	❑	❑	❑
Your manager would allow you to work at your own pace without pressure	❑	❑	❑	❑	❑

Comments - Please take this opportunity to share your opinions on anything above

_____
_____
_____
_____

End of Survey – Thank You!

APPENDIX 3:
CONSENT LETTER

CESA
Consulting Engineers South Africa

03 April 2014

To: Miss V. Rampersadh

Copy to : **Humanities and Social Sciences Research Ethics Committee**

Email: Virushka.Rampersadh@mottmac.com
Cell: 082 359 2380

Dear Virushka

Consulting Engineers South Africa's Young Professionals Forum (CESA YPF) has a great interest in your study therefore we hereby give you permission to carry out your study using our database. However, due to privacy rules we cannot give you email addresses but rather we can forward the survey to our members on your behalf.

As background, Consulting Engineers South Africa (CESA) is a non-profit organisation and the 'Proud Voice of Consulting Engineering in South Africa'. CESA represents for its members, a body that promotes their joint interests and, because of its standing, provides quality assurance for clients. Over 500 firms employing around 24 500 staff, including 1500 Young Professionals, are members of CESA, with a total fee income in excess of R23 billion per annum.

We wish you all the best in your study.

Yours faithfully

Godfrey Ramalisa
Manager: Liaison

1952
2012

CESA: Consulting Engineers South Africa
P O Box 68482, BRYANSTON, South Africa 2021
Ground Floor, Fulham House, Hampton Park North, 20 Georgian Crescent, Bryanston, Johannesburg, SOUTH AFRICA 2021
Tel: +27 11 463 2022 • Fax: +27 11 463 7383
general@cesa.co.za • www.cesa.co.za

APPENDIX 4:
ETHICAL CLEARANCE

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

27 May 2014

Ms Virushka Rampersadh (211521880)
Graduate School of Business & Leadership
Westville Campus

Protocol reference number: HSS/0304/014M
Project title: The impact of leadership styles on employee performance in the Consultant Civil Engineering Industry

Dear Ms Rampersadh,

Full Approval – Expedited Application

In response to your application dated 08 April 2014, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol have been granted **FULL APPROVAL.**

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

.....
Dr Shenuka Singh (Chair)

/ms

Cc Supervisors: Dr Abdulla Kader
cc Academic Leader Research: Dr E Munapo
cc School Administrator: Ms Zarina Bullyraj