UNIVERSITY OF KWAZULU- NATAL

CHANGE MANAGEMENT CHALLENGES FACING TRANSNET NATIONAL PORTS AUTHORITY IN IMPLEMENTING THE NEW ENGINEERING CONTRACT (NEC) FORM

By

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DECLARATION

I, Lindiwe Xaba, declare that:

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ii. This thesis has not been submitted for any degree or examination at any other University.

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DEDICATION

I dedicate this thesis to my late father

Samuel Bonginkosi "Shumi lezinsizwa nemfalakahlana" Xaba

And to my mother

Thokozile Agnes "Muntu" Xaba

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ABSTRACT

The South African democratic order has been characterized by a number of legislative changes, which are aimed at transforming organisations. Among the laws that have been enacted is the Construction Industry Development Board (CIDB) Act (2000) which was to standardise procurement routes for all state entities. This Act, like any other law, required organisations to train their employees on how to effect the changes. Codes of good practice were provided to guide organisations on the new processes to be followed. However, there seems to be a problem in some organisations regarding changing to these new procurement processes. The Transnet National Ports Authority (TNPA) is one of those organisations which seem to be experiencing this problem.

The CIDB Act gives an option to State Owned Enterprises to choose from any of the four forms of contract that are provided. TNPA opted for the New Engineering Contract as their form of procurement contract. This contract form has, however, not been successfully implemented in this organisation. This is the situation that gave rise to this study, to establish the real reasons behind the delayed or seemingly resisted use of the said form of contract, which was wilfully chosen by the organisation.

A structured questionnaire was used to collect data from 400 potential users of the NEC at TNPA. A total of 200 questionnaires were returned and this constituted the sample size of this study.

The main finding of this study was that employees had not been adequately trained in using this tool. Quite a high number of employees were not even aware that there was a new procurement tool. The issue of lack of mentoring also featured strongly in this study. Lack of communication was also strongly articulated with an indication that it was not so much resistance but lack of knowledge that made employees not to use the NEC.

The key recommendation is that top management should develop a strategy to promote NEC usage across the TNPA. This strategy should be propelled by adequate communication systems as well as training and development. Further research avenues have also been outlined.

TABLE OF CONTENTS

CHAPTER 3: OVERVIEW – THE NEW ENGINEERING CONTRACT

CHAPTER 4: RESEARCH METHODOLOGY

CHAPTER 5: PRESENTATION AND DISCUSSION OF RESULTS

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

LIST OF FIGURES

LIST OF TABLES

ABBREVIATIONS AND ACRONYMS

AC	Adjudicators Contract
CEO	Chief Executive Officer
CIDB	Construction Industry Development Board
CIPS	Chartered Institute of Purchasing & Supply
CPA	Contract Price Adjustment
ECC	Engineering Construction Contract
ECS	Engineering and Construction Subcontract
ECSC	Engineering and Construction Short Contract
FC	Framework Contract
FIDIC	Federation Internationale des Ingenieurs-Consils
GCC	General Conditions Contract
JBCC	Joint Building Contracts Committee
NEC	New Engineering Contract
OD	Organisational Division
PBMR	Pebble Bed Modula Reactor
PPM	Procurement Procedure Manual
PSC	Professional Service Contract
SANS	South African National Standards
SC	Supply Contract
SOC LTD	State Owned Company Limited

SSC	Supply Short Contract
SPSS	Statistical Package for the Social Science
TNPA	Transnet National Ports Authority
TCP	Transnet Capital Projects
TCS	Term Service Contract
TPL	Transnet Pipelines
TPT	Transnet Port Terminals
TRE	Transnet Rail Engineering
TSSC	Term Service Short Contract

CHAPTER ONE

OVERVIEW OF THE STUDY

1.1 Introduction

Private and public organisations operate in an environment that is both turbulent and unpredictable. Increased customer demands, global competition, technological changes and government legislation are some of the forces that impact heavily on today's organisations (Adenle (2011), Brooks, Weatherston and Wilkinson (n.d), Kumar (2012). The new South African legislative framework has also contributed to instability in organisations. For example, the change from an autocratic and mechanistic way of managing to a democratic and participatory order has been a mammoth change for all (Shiryan, Shee, and Stewart 2012) Despite all these changes, organisations must remain competitive, which means they must change quickly. This changing process is a re-learning process, thus, making them learning organisations.

The philosophy of a learning organisation, according to Antonio (2010), creates an environment that facilitates collaborative enquiry and sharing of expertise and knowledge. However, the reality is that some members do not subscribe to this philosophy. For the implementation of this philosophy, Abdollahi, Katuli and Ma'atoofi (2011) state that a leadership team is required to promote the creativity and shared vision to help the organisation to achieve its strategic objectives. The learning organisation philosophy is propagated as one of the effective tools that can be used by organisations to respond effectively to environmental changes.

The above discussion indicates that, more than anything, change must be led from the top. If employees seem to be reluctant to effect the change to the learning organisation philosophy, Larsen, McInerney, Nyquist, Santos and Silsbee (n.d) suggest that they might not have been assisted to share the vision of the organisation. Furthermore, scholarly work, as will be seen later in the study, shows that there might be other organisational or even individual factors that may hinder learning. These are the factors that this study aims to uncover, specifically

within Transnet National Ports Authority in Durban as the organisation is grappling with changing to a new procurement tool.

1.2 Background of the study

Transnet National Ports Authority (hereinafter referred to as TNPA) is responsible for the safe and effective economic functioning of the national ports' system, which it manages, controls and administers on behalf of the South African Government. In conducting its functions, the execution of the procurement process, which has now been standardised, is a vital component of TNPA.

The procurement process has evolved significantly in the past decade. Before 1990, Transnet SOC LTD used old contracts which did not include the participation of disadvantaged individuals. To bring about transformation, Government promulgated the Construction Industry Development Board (2000) to standardize procurement processes for all state entities. This piece of legislation provided for four forms of contracts to be used. In a website that is dedicated to the development of the NEC there is information about these contracts which are: General Conditions Contract (GCC), the Federation Internationale des Ingenieurs-Conseils (FIDIC), the Joint Building Contracts Committee (JBCC) and the New Engineering Contract (NEC).

As Transnet SOC LTD is a state-owned enterprise whose procurement processes are governed by legislation, it opted to standardize the use of the NEC across the organisation. This meant that Transnet's E5, which was previously used, was done away with. These earlier forms of contracts had clauses within them that were not acceptable to Transnet SOC LTD and did not allow for amendment. The fundamental flaw in the system was that these forms, and more importantly the procurement methods they represented, were not readily interchangeable and were rather one-sided, to protect the employer's interest. With its ability to make provision for such requirements as additional clauses to the contract to be inserted, the NEC form proved to be the most adaptable.

However, there is still a necessity to transit from the old contract management forms to the implementation of the NEC. The transition requires alignment of all contract management processes, including those allied management processes designed for ports. This transition and alignment requires more co-operation from all departments across the organisation.

However, at the Port of Durban, an in-house master agreement still dominates and is used for most of the contracts. For example, contracts that involve Engineering, Supply, Service and Maintenance use this master agreement where the roles and responsibilities of the cross-functional team for purchasing of goods and services are not clearly defined. This lack of definition goes against the stipulations of the CIDB, which are perfectly accommodated in the NEC.

1.3 Statement of the research problem

The legislative change in the procurement processes in Transnet SOC Ltd is but one of the many changes in policy which were developed in South Africa for the sole purpose of guiding processes and conduct within the public sector (Esterhuyse, 2003). As a result, organisations have to renew and adjust their way of doing things by learning and re-learning. They are challenged to create an environment that enables learning and distribution of knowledge. A learning organisation, as Senge (2006) points out, is about building an enterprise which is capable of continually adjusting to changing realities. The learning organisation demands new ways of thinking and operating. These demands, according to Senge (2006), refer to organisational change that should, among other things, incorporate systems thinking, personal mastery and team learning. Such organisational attributes will assist the organisation to effectively deal with challenges they face.

Even though government has enacted laws to enhance the learning organisation philosophy, there are still some problems in Transnet, such as non-compliance to CIDB requirements. Yet, the learning organisation philosophy is propagated as one of the effective tools that can be used by organisations to respond effectively to environmental changes. By opting for the NEC, Transnet was giving an instruction to all its operational divisions, like TNPA, to comply. The NEC has, however, proved to be administratively demanding and therefore, it is heavily reliant on a well-resourced structure. It ascribes many different roles to different people, which indicates that it is crucial to have appropriate resources to ensure successful management.

The CIDB Act (2000), like any other law, required organisations to train their employees in how to effect the changes. Codes of good practice were provided to guide organisations on the new processes to be followed. However, TNPA seems to be battling to embrace the new procurement process. It is also important to note that this form of contract may only be

successful through constant and regular use, which is not the case in TNPA. Achieving the level of commitment necessary to assist in implementing the changes is still a major challenge within the organisation. The organisation is forced to comply with the Construction Industry Board Act's requirements and to keep productivity and profits high, whilst dealing with low morale resulting from employees' refusal to accept the change. Susanto (2008) advises that people are the source and vehicle for change and they are the ones who will either embrace or resist change.

The purpose for undertaking this study was to establish the real reasons behind the delayed, or seemingly resisted, use of the said form of contract, which was wilfully chosen by the organisation. It was therefore deemed necessary and appropriate that TNPA be the relevant place to conduct this study, in order to address the issues mentioned above.

1.4 Aim of the study

The aim of this study is to establish the nature of the challenges experienced by TNPA in implementing the wilfully chosen NEC procurement contract.

1.5 Research objectives

To solve the above problem, the following research objectives were formulated:

1.5.1 To establish the organisational factors that hinder the process of changing to the NEC form.

1.5.2 To ascertain the role of managers in facilitating the change.

1.5.3 To establish the individual factors that hinder the process of changing to the NEC.

1.6 Research questions

The research objectives were established by answering the following research questions:

1.6.1 What organisational factors hinder the process of changing to the NEC?

1.6.2 What role should managers play in the facilitation of change?

1.6.3 What individual factors hinder the process of changing to the NEC form?

1.7 Organisation of study

This study is organised into six chapters in which:

Chapter one introduces the study by giving a background to the problem to be solved, which is also articulated therein. The main research question guiding the study is given and the

research objectives emanating from the research question are tabulated in the chapter. The chapter further describes how the thesis will be structured.

Chapter two reviews literature on leadership roles in a learning organisation. Resistance to change, communicating change, as well as training during change management, are issues that are dealt with in this chapter.

Chapter three presents an overview of the TNPA and the stipulated procurement process for construction and engineering, using the NEC family of contracts. The evolution of NEC in Transnet SOC LTD is also outlined. This document is of vital importance to the tendering process of the TNPA and will assist its transition from the former document to the NEC. The outstanding characteristics of the NEC justify its implementation in the procurement process of the TNPA. The nine core clauses of the NEC indicate that it is a powerful document which can be successfully implemented. The Main and Secondary Options, which give guidance on the selection of the NEC contract, are also highlighted.

Chapter four describes the research design and methodology used in this study. The sampling procedure, the data collection methods, the research instrument used and the statistical techniques used in analysing the collected data are also explained here. Ethical considerations and the limitations of the study are also provided.

Chapter five presents and analyses the research findings.

Chapter six concludes the study by showing how the research question was answered through the establishment of the research objectives. Recommendations for managers of TNPA are put forth as well as proposals for future research.

1.8 Concluding summary

This chapter has given an overview of the study by stating the problem to be solved and giving the background thereof. The main research question that the study aims to answer was posed here, with the resultant research objectives also given. The structure of the thesis has been stated here. The next chapter reviews scholarly work on learning organisation philosophy and resistance to change.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews scholarly work on how an organisation can implement the changes that it faces, be they through legislation or technological advances. To the extent that it needs to be changeable, the organisation therefore becomes a learning organisation. The research studies that provide the tools necessary for such implementation by the learning organisation are reviewed here. Furthermore, there is evidence in literature that this change process can be hampered by feelings of resistance by the employees. Consequently, literature on how to manage this resistance, so as to ensure that the process of implementation succeeds, is touched upon.

This will be followed by a chapter and discussion on the New Engineering Contract (NEC) as a tool to procure goods and services. For this process to succeed, members of the organisation, at their different levels, must take on their different roles and responsibilities. These roles will emerge as the concepts of a change management and learning organisation are dealt with hereunder.

2.2 Defining change management

There are arguably as many definitions of change management as there are authors on the construct. One such author is Bhengu (2007:45) who describes change management "as a structured approach to change in individuals, teams, organisations and societies that enables the transition from a current state to a desired future state". Schmidt (2012:5) contributes to the discussion by stating that "change management is a process of helping a person, group, or organisation change". Barcon (2012:8) supports Bhengu's (2007) approach in that he emphasises structure and planning as he states that "change management involves adoption of changes in an organized manner, structured and planned and is therefore regarded as a process of transition from one state to another, for example, from stage to stage of problem solving".

The consensus in the literature is that in the process of change management there must be planning at both corporate and personal levels, where the process is controlled and stabilised (Singh, Saeed and Berch, 2012), whilst reacting readily and flexibly to the internal and external environments, as Sujova and Rajnoha (2012) add.

Gerdsri, Assakul and Vatananan (2010:232) warn that "if change is not well managed, resistance will have impact on the change effort and may increase its costs, delay its completion, or even endanger the survival of change". To be able to manage change effectively, the role players need to understand the processes of change as well as its models.

2.3 Change management models

The models that have been proposed do not differ much and those that are frequently referred to are those of Kotter, Kurt Lewin , Doppelt and Prosci ADKAR.

2.3.1 Kotter's model

One of the earliest authors on change is Kotter (1996), as cited in Smith (2010). He posits that the only prescription to success is to view organisational transformation as a long-term process, as opposed to a simple and short-term event. Skipping stages during change management will not accelerate the process. He proposes a model of change management known as the **8-stage process to creating major change**, with the following steps:

1. **Establish a sense of urgency**

   When the company has a lot that needs to be changed, it is crucial to motivate change as a first step and to create a sense of urgency around the need for change; 75% of the buy-in should be obtained from the company's management.

2. **Form a powerful high level coalition to guide and lead the changes**

   A group of experienced employees with enough power and influence should be formed to lead the change within the organisation.

3. **Create a vision of the organisation's future**

   It is important to create a vision for change that will give direction during change management, and will develop the strategies for achieving the vision. This will help the employees to focus on the same direction.

4. Communicate that vision widely, repeatedly and consistently

The change should be communicated on all levels, from the leadership level down to the lower level, and should be done in languages that are understood by all the employees. Leadership should clearly communicate the benefits the desired change will bring to the employees.

5. Empower people in the organisation to act on the vision

Obstacles, change systems, processes and structures should be removed whilst promoting non-traditional thinking. Employees must be encouraged to take risks in performing activities.

6. Plan for visible short-term performance improvements

Create visible and meaningful achievements to build credibility, motivation, morale and commitment of the employees involved during the implementation of change. Employees who made wins possible should be recognized and rewarded.

7. Consolidate improvements and produce more change

Build on the results obtained during change, change systems, structures and policies; hire new employees, promote and develop employees who have the potential to implement the change vision. Analysis should be done on what went right and what went wrong and on improving what needs to be improved.

8. Anchor new approaches in the corporate culture

Sustaining any change is difficult, so management must develop an ongoing leadership change and make sure that the new reality becomes the culture of the organisation.

Kotter (1996) in Nguyen (2010) emphasizes that when steps 1-4 of the Kotter's model are skipped, it is possible that one will face resistance. Schermerhon, Hunt and Osborn (2005) as cited in Nguyen (2010:2) maintain that "when employees resist change they are protecting / defending something they value and which seems threatened by the attempt at change".

2.3.2 Kurt Lewin's model

This theory was developed for the aim of understanding human behaviour relating to change and patterns of resistance to change (Sutherland, 2013). Lewin's model consists of three stages, namely: unfreeze, change or transition and refreeze. The summary of the model is as follows:

i. Unfreezing

Longo (2011) views this stage as a pre-stage to change, which is used to prepare individuals to change and make the organisation ready to move from its current position to the new, desired one. He further emphasizes that, during this stage, it is necessary to provide employees with reasons for change so that approval and support for change can be received from everybody within the organisation. Most employees resist change during this stage. In order to overcome this tendency, management must initiate motivation when changes are implemented (Normandin, 2012).

ii. Change or transition

Normandin (2012) states that, once change is initiated, the organisation moves into a transition period, which may last for a longer period of time. Lewin, in (Connelly, 2014) warned that change is not an event, but a process known as transition. He further states that this stage is the hardest as employees are unsure and even fearful about changes and they need to be given time to understand and work with them. This stage is also known as a period of confusion, Employees are aware that there is change taking place, but there is no clear understanding of what the change will bring. Good leadership is crucial during this stage.

iii. Refreezing

The refreezing stage is about stability and consolidating new systems to prevent employees going back to the previous ways of doing things. This stage can be considered achieved when employees embrace change genuinely and willingly (Longo, 2011). According to Normandin (2012:1) "After change has been accepted and successfully implemented, the company becomes stable again, and staff refreezes as they operate under the new guidelines".

2.3.3 Doppelt's model

In dealing with change management, Doppelt (2003) as cited in Smith (2010:117) in his "wheel of change" model, argues with Kotter's view of the primacy of the ordering of sequential steps in the process of change. He states that "interventions may be made at any time in the cycle, provided that all steps are carried through". Doppelt's main focus is to achieve organisational change whilst achieving environmental sustainability. He developed seven points at which interventions may be made to effect change within the organisation. The seven elements in Doppelt's "wheel of change" model are:

i. Disrupt and change the dominant mindset and establish a compelling need for achieving change

ii. Rearrange the parts of the system by organising transition teams

iii. Alter the goals of the system and create an ideal vision

iv. Restructure the rules of engagement – adopt new strategies

v. Shift the flows of information – communicate vision, strategies, and actions

vi. Correct feedback loops in the organisation – encourage and reward learning and innovation

2.3.4 Prosci ADKAR model

Hiatt (2006) as cited in Gerdsri *et al.* (2010:232) also deals with change management. He developed the Prosci ADKAR model which focuses on five elements that are used in preparing individuals for change within the organsation. These elements are as follows:

i. Awareness of the need to change

One of the most important aspects of successful change is to understand why change is necessary. Employees need to know and understand why the change is being made. Communication is essential and plays a major role in informing employees about changes within the organisation.

ii. Desire to make the change happen

The organisation should create a positive attitude towards change which will motivate and influence the employees to make personal decisions to support and participate in

the change. Desire can only be achieved when the employees are willing to support and engage in the change management.

iii. Knowledge about how to change

Providing knowledge about the change can be successful and can be achieved through education, training and forums. Employees need to know what needs to be done during the transition and what will be acceptable behaviour once the change is implemented.

iv. Ability to implement new skills and behaviours

The resources to support the development of new abilities and skills should be available to ensure that the knowledge on how to change is in place. This can only be achieved through practice, mentoring, coaching and feedback.

v. Reinforcement to retain the change

For the organisation to ensure that changes are in place and that employees do not revert to old ways, employees need reinforcement to keep good behaviour going. This can be achieved through recognition, performance bonuses, rewards and positive feedback.

2.4 Resistance to change

The South African democratic order has been characterized by a number of legislative changes, which are aimed at transforming organisations. This change poses a serious challenge to organisations, as with all change. The almost conditioned response is to resist change (Msweli-Mbanga and Potwana, 2006). As Diamond (1990) cited in Msweli-Mbanga (2006) points out, intervention aimed at change in the status quo challenges organisationally embedded defensive structures. Such interventions are, therefore, more likely to meet with resistance to change. Esterhuyse (2003) refers to this phenomenon as an inbuilt conservation syndrome, one that also affects distribution of knowledge. A closer look at resistance to change reveals that, when there are changes in the organisation, employees lose their control. As Senge (2006) earlier observed, in order to regain control, employees resist, which means that they are actually not resisting change but resisting being changed

According to Susanto (2008:51), “planned change is intended to make the organisation more effective and efficient, resistance from members of the organisation are expected as they

foresee potential threats that can affect their future". Petrescu (2008:81) emphasizes that "change might be seen as a necessity, and moreover, as a process with the potential for adaption and development for each person, organisation and society, and some of the most important factors that differentiate a well implemented change and a bad implemented change are quality, quantity and adequacy of disclosure made".

Paton and McCalman (2008:52) state that "no matter how welcoming an organisation is to change it will still face a degree of employee, supplier, distributor, stakeholder and consumer resistance to change". People naturally resist any change until they are convinced of its benefit. Resistance to change is the key principle that affects certain employees during the process of organisational change. This is witnessed by Erdogan, Anumba, Bouchlaghem and Nielsen (2008) in Ford *et al*. (2002) and in Hoag *et al*. (2002).

Scholars, such as Paton and McCalman (2008) state that people will always resist change because their successes are based on the present and the past, but that they do not focus on the future. Personal preferences and fear of what change might bring can result in some employees resisting change. They can react by lodging grievances with the involvement of their unions, going slow, or restricting output and acting at low efficiency. A number of organisations are faced with challenges regarding technological changes in order to be in line with global competition. Their employees are also faced with significant changes (Singh, 2008). Peacock (2008) therefore perceives and understands change as an external force to be resisted and managed within the organisation.

People naturally resist any change until they are convinced of its benefit. The author further argues that new techniques and skills are understood by those who are introducing and implementing change, not taking into consideration those who will be using and managing the change. That can result in resistance to change.

In general, resistance to change can be experienced by both individuals and societies as a result of change brought about by technology (Haymes, 2008). Moreover, Susanto (2008) emphasizes that people are the source and vehicle for change and are the ones who will either embrace or resist change. Changes in skills can affect those who are unable to perform their

duties to a required standard; the only way for them to show how they feel about the change is when they become rebellious and fight back against the change.

A different view is proposed by Bregman (2009) that people, in their personal lives, make choices. Therefore, when there are changes in the organisation, they lose their control. In order to regain control, they resist, which means that they are actually not resisting change, but are resisting being changed. For example, some tools in procurement can demand administration, where most of the time is spent on paper work for an audit trail, which is heavily reliant on a well-resourced structure and staff competence. There are a number of organisations who are still resisting implementing those tools because they feel it is not necessary to do so.

2.4.1 Definitions of resistance to change

Various scholars provide definitions for resistance to change. These are as follows: Diamond (1995) as cited in Mbanga- Msweli and Potwana (2006) sees resistance to change in the form of a cognitive perspective which involves a "process that fosters learning among organisation participants". A contrary view is Self's (2007) in Kotter (1995) who defines resistance as an obstacle in an organisation's structure that prevents change. Tavakoli, Ebrahim, and Golnam (2008) view resistance to change as a function of different backgrounds that constitute different realities for the participants, and that are difficult to challenge from the wrong reality point of view. These authors propose that, to prevent resistance, careful identification of these different backgrounds need to be identified.

Petrescu (2008) describes resistance to change as an evasion behaviour, fear and uncertainty, manifested in organisational change, which occurs when an individual is not aware of clear objectives and reasons for the transformation and when he feels his status and financial rewards are threatened. Change can occur anytime in the organisation, whether it is planned or unplanned. Harich (2010) further describes resistance to change as a tendency for a system to continue with current behaviour, in a certain way of doing things, despite the application of force to change that behaviour. When there are changes within the organisation, whether they will affect employees negatively or positively, they turn to resist in different ways. In addition, Burge (2008) views resistance to change as a

dangerous roadblock to transformation, since it is real and should be expected when change is proposed (Burke, 2011).

2.4.2. Employee response to change

Resistance to change is the most important principle that affects certain employees during the process of organisational change. This is witnessed by Erdogan, Anumba, Bouchlaghem and Nielsen (2008), in Ford *et al*.(2002), Hoag *et al.* (2002), Norman (n.d), and Tomozii, Usaci, Norel, Vlad (2013) in Nicolescu and Nicolescu (2006) who identify several sources of resistance. These include: fear of the unknown, threats to status, denial, lack of trust and perceived ownership, lack of information, knowledge, skill, fear of failure, lack of perceived benefits, power loss, incapacity to solve new problems, non-existence of a leader and organisational culture, uncertainty regarding change outcomes and internal politics.

In support of what other scholars say, Paton and McCalman (2008) state that people will always resist change because their successes are based on the present and the past, but that they do not focus on the future. Personal preferences and fear of what change might bring can result in some employees resisting change. They can react by lodging grievances with the involvement of their unions, going slow, restricting output and working at low efficiency. Sharma (2008) agrees that change is associated with pain resulting in stiff resistance. Employees resist change for different reasons. They may not understand the objectives driving the change or are not in agreement with the proposed organisation's new direction (Laura-Georgeta, 2008). Laura-Georgeta (2008) and Adenle, (2011) maintain that employees will always resist change because they are scared and worried that there will be no other opportunities for them to find another job. Most employees feel as if organisational change is imposed upon them by senior management rather than jointly developed with them (Maltz, 2008).

Even though the different rules and implementation of procurement policies and procedures are aligned with procurement requirements, employees still resist, because the new tools require complete change in mind-set and behaviour. Sometimes employees feel that it is only management who want the change. Resistance to change can be costly and can cause some delays in the change process which cannot be easily anticipated, but nevertheless requires some consideration. This can have a negative effect on the

implementation of the goals and objectives that have been set by those initiating the change (Tavakoli *et al*., 2008).

Hussain and Hafeez (2008) point out that any change taking place in the organisation requires a shift in the mind-set of the employees. New approaches and tools can be tailored to suit any application within the organisation from as simple a task as procuring bolts and nuts to as complex as new works, like infrastructure upgrade or refurbishment. Therefore, resistance will come as the management seek to change mind-sets of the cross-functional team within the organisation.

Ford (2008) emphasizes that those employees who support change within the organisation, but who disagree with a particular change because they feel that change threatens something they value, may engage in the process but also raise their concerns. This helps management to be fully aware of how people feel about the change, and listen to their comments, challenges, complaints, concerns, frustrations and criticism.

Employees do not fear resistance to change itself, but they fear the results of change. Bridges (1991) as cited in Maltz (2008) believes that resistance is a result of fear, expressing how people feel about the change. When there is change, people are always concerned about what they may lose, for example, job, income, position or status, reputation, influence, responsibility, expertise, security, control, freedom of choice, effectiveness, routines or familiar procedures, relationships, mentors, dreams and identity.

Furthermore, Freese (2007), as cited in Heuvel and Schalk (2009:289) stresses that "employees are likely to react differently to different types of changes".

Adopting new approaches to the way employees operate or view things is quite a challenge (Laura-Georgeta, 2008). Specific changes should not be introduced when there are other major changes taking place, which have not yet been fully implemented in the organisation. When those who introduce changes are not sensitive and they introduce changes during awkward times, they are creating resistance to change. If more than one change is implemented within a short space of time, employees will resist changing because they are used to the old system, and they try to find all sorts of reasons for not

changing over to the new systems, if they are not convinced of the benefits for changing (Van den Heuvel and Schalk, 2009).

Cohen *et al*. (2005), as cited in Moerschell (2009), suggest that pushing hard would create even more resistance. However, Cooke (2009) highlights that employees may resist change due to their previous bad experience of change which was poorly implemented, and which can make employees continue doing what they know and understand until they are given a good reason to change. The author further suggests that the causes for resisting change are as follows:

i. Employees who are happy with their status quo will always fight to protect it
ii. Employees may have relevant information that the management is not aware of, which may make their resistance not only understandable, but correct
iii. If there is no clear path between the current state and the new situation, they will not move even an inch towards change
iv. They are only interested in what is going to benefit them during the implementation of the change. Employees always work out whether they are going to be winners or losers from any proposed change
v. If it is not clearly stated that they have necessary skills aligned with the new changes, they will resist
vi. They may require role models of the new change

In support of these, Fosfuri and Ronde (2009) mention that employees seem to react to change by fighting it rather than adjusting to it, which can develop into conflicts between the various functions and departments across the organisation. Misinterpretation of change can create unnecessary stress and negative impact on employees, resulting in resistance (Van Dijk and Van Dijk, 2009). This may be caused by lack of information, lack of understanding of the change, ignorance, or may be not in agreement with the proposed new organisational direction or change. Resistance to change can be associated with certain values, beliefs, habits and attitudes for a specific individual (Davis and Songer, 2009).

Spiker and Lesser, (1995), as cited in Huang and Huang (2009), believe that any change, whether it will benefit employees and the organisation or not, will be met with or be sabotaged by resistance. Organisational change can negatively affect the employees' work-based identity, in terms of demotion or lower-status, which can demotivate the affected employees (Van Dijk and Van Dick, 2009). Patalano (2009) stresses that negative and unimportant messages have a high probability of being ignored by employees. It is human nature to become less interested in messages that one thinks are not going to have an impact on one's job. Foster (2010) believes that resistance to change focuses more on the emotional reaction than the behavioural reaction.

During the process of change management, employees may be driven by emotions on decision making, as outcome for any change cannot be predictable. In their study, Van den Heuvel and (Schalk, 2009) and Adenle (2011) show that employees can lose trust when the new supervisor or manager is appointed. They may become worried about the new team and new rules, because they are not used to the new style. The fear is, should they fail, will they get support from their new superior. However, change is always welcomed as an opportunity for achieving specific goals by those who are flexible and positive about change and who always see change as a necessity rather than an annoying strategy for negative results.

According to Bellanca (2010), resistance to change in the work place can be seen in many ways. Common examples are: ignoring the new process, failing to completely or accurately comprehend, disagreeing with the validity of benefits, criticizing tools or software applications, granting exceptions and delaying the implementation. When the organisation considers alternative sourcing function, it is necessary to assess its operations, risks, strategy, performance and management process before implementation to avoid unnecessary delays and resistance.

Moreman (2010) views those changes in process as the biggest area in the workplace to result in resistance to what employees perceive as something that threatens what they hold to be valuable. Even though new approaches create best value for contracting, it is unlikely to be welcomed by other procurement practitioners because they do not know what they entail. They still resist. Singh (2010) has shown that employees still feel connected with old traditions and past experiences. If the employees still believe that

traditional methods and approaches worked well for them and they felt secure, they will resist changing. They might have fear of what the change will bring for them in the near future, for example, salary reduction or retrenchment and demotions.

According to Mutihac (2010), employees are always interested in what is being changed, why it is changing, when the change is going to be implemented, who are bringing the change, who are going to be affected and in what way is the change beneficial. When there is no explanation, resistance should be expected. Rumours (Visagie, 2010) and surprizes (Schiffer, 2011) should be avoided as much as possible, so employees must be informed at all times.

This is further witnessed by Rick (2011) who emphasizes that employees are used to certain ways of doing things according to an old school of thinking or using traditional approaches. Such employees create comfort zones for themselves. Employees who work for the same organisation in the same positions for a number of years, using the same technology and systems, will always view change as a threat, something which is going to create retrenchment, salary reductions, early retirement and so on. Braun (2011) further stresses that, as much as technology brings some potential in terms of new knowledge and information, it also creates difficulties, resulting in further removal of employees from one place to another.

Moreman (2011) believes that resistance can be caused if an employee is requested to perform duties that do not appear in his or her job description, which will mean more work or different work from the normal day-to-day activities. Employees who are likely to resist change, are those who are waiting for their pension. They do not see why they should learn new things. They believe their experience is more important than new technological changes.

As noted by Moreman (2011), changing of reporting structure, promotions within the groups, due to the implementation of new tools, methods and approaches, can be seen as a threat by some employees. Such change may shake their confidence, especially when they are comfortable and used to reporting to managers or supervisors with whom they get along. Among the stressed group, stress can result in resistance and physical reactions

such as absenteeism, headache, high blood pressure, depression and so on (Maurer, 2011) These can affect the employees' productivity.

Maurer (2011) states that, during the process of change management, employees can go through a denial stage, get angry, start to bargain, get depressed and then accept the change. Smollan (2011) stresses that employee resistance is usually seen as negative behaviour that is paradoxically related to creative performance (Hon, Bloom and Crant, 2011) and this also undermines the effectiveness of the change. Dolah (2011) stresses that any resistance from the employee can have a negative impact on implementation of the changes intended in an organisation. Therefore, for an organisation to effect change, the team driving the change needs senior management to buy in to ensure that change takes place. Employees do not accept change that occurs within a short period of time. It should be a process, involving a lot of explanation, training and communication to the affected stakeholders.

Mariana and Violeta (2011) point out that the use of experts on change management is always recommended to provide strategic guidance to employees across the organisation. However, the specialists or consultants will not decide on the final outcome during the process of implementing change. Ijaz and Vitalis (2011) stress that changing the existing mind-set for an individual is very hard. Changes that benefit employees, for example, working flexi hours, the opportunity to work from home, staff compliments, as well as adding more working hours with the resultant salary increases, are always well received; employees seem not to resist change of that nature (Hurn, 2012). Employees, as well as middle managers, may be concerned about how the change is going to affect their jobs (Anderson, 2012), rather than viewing it as an opportunity for new skills development.

Employees will always be reluctant to give up old habits (Carlstrom and Ekman, 2012; Hon, Bloom and Crant, 2011) and change to new methods and approaches of doing things. They might not be interested in the use of the new tool as well as the training provided, because they are convinced that implementing the tool is a waste of time and they do not need any new challenges. For instance, procurement practitioners, who have been working in an old school of thought for a long time, will definitely challenge the changes which are imposed. They will view these changes as signs of declaring them to be

incompetent. Studying is the last thing one can recommend for such people. They are not interested in any kind of development.

Even though the situation might look gloomy for organisations as a result of the change, leadership and management must still run the organisation effectively and successfully. They are challenged to create an environment that enables learning and distribution of knowledge. It is also the responsibility of leadership in organisations to deal effectively with resistance to change, meaning they must put in place mechanisms that will reduce resistance to change.

2.4.3. Managerial response to change

Maltz (2008) views managing resistance to change as a methodology designed for people who are experiencing resistance in their organisations, to manage transitions regarding organisational change. According to Erdogan, Anumba, Bouchlaghen and Nielsen (2008), during the introduction of the change management, resistance from the employees needs to be managed effectively. Bruckman (2008) believes that employees resist change because it is perceived as the primary cause of personal and organisational stress. The author further states that when change is introduced within a short period of time, stress is experienced by both people and the organisation as whole. Whether change is positive or negative, it cannot be predicted how the recipient will react during the process.

When there is change within the organisation, employees will turn to their line managers or immediate supervisors for more explanation. If they discover that their line managers are not aware and they cannot justify the change announced, the readiness of both employees and line managers can be affected, resulting in resistance (Self and Schraeder, 2009). In comparing the top management and employees, top management is likely to have lower resistance to change because, in most cases, they are in control and they make decisions, whereas employees have no say in the decision-making regarding change in the organisation and are likely to have higher resistance to the change (Davis and Songer, 2009).

However, Bregman (2009), suggests that management should give employees control, and let them make decisions as long as their decisions will result in the outcome acceptable to

those proposed by the management. This can be done to avoid resistance, and the employees will be happy about the decisions that they made themselves. Lawrence (n.d), as cited in Foster (2010), emphasizes that attitudes play a vital role in how managers view resistance to change and what they expect from their employees. Sometimes their expectations are not realistic, which can lead to resistance (Myers, 2012). For instance, in a procurement environment, the procurement manager, who has never done the buying of goods and services can have a different opinion on turnaround times for service delivery because he or she does not know that different services cannot be measured in terms of a fixed turnaround time. It depends on the simplicity or complexity of the works information of specification.

Management should intervene by clarifying the reasons for the change taking place within the organisation, in order to relieve the stress of those who view change negatively (Mariana and Viloleta, 2011). Ijaz and Vitalis (2011) point out that what one manager labels as resistance cannot be the viewed the same way by others. For the organisation to win employees' commitment to change, management need to engage them on both a rational level and an emotional level (Rick, 2011). However, Adenle (2011) argues that, in some instances, employees with high self-esteem and self-confidence are likely to handle changes positively, in both personal and organisational life. They develop trust in the leadership as well. When employees are treated with respect within the organization, the chances of resistance to any change will be minimal.

As suggested by Peccei, Gianreco and Sebastiano (2011:199), "the effective management of change can help to enhance employee commitment and reduce resistance to change. However, during the implementation of change, employees who are not fully committed to the organisation may choose to leave (Hendrickson and Gray, 2012). At the same time, the organisation can lose the experienced, hardworking and knowledgeable employees who might be affected by the change.

According to Bray (2012:1), "Resistance to change is normal and even beneficial, it must be expected and acknowledged, and people's concerns must be listened and responded to". An effective cross-functional management team must be built and sustained. Managers must maximise problem-solving skills and they should hold advanced negotiation skills to be able to tackle all the concerns resulting from resistance to change (Hurn, 2012).

Management needs to take time and understand why employees resist changing. They must understand the employees' feelings and thinking (Lee, 2012). Hendrickson and Gray (2012) conclude that resistance cannot be viewed negatively, but should be seen as a sign that an alternative approach is necessary.

Change that is taking place within the organisation needs to be communicated by management and should reach all the relevant stakeholders. Theorists tend to believe that communication is one of the greatest methods of conveying the message about the change taking place within the organisation.

2.4.4 Communicating change

Petrescu (2008) identifies communication with employees as one of the relevant ways of reducing resistance to change and helping employees to understand the need for change, as it is always made in the interest of the organisation.

In support of what Petrescu mentioned, Laura-Georgeta (2008) pointed out that employees from all levels need to be part of the process during change management. They need to be heard and, more focus should be placed on communicating strategic messages and training. Employees should know that their contributions are welcomed and are important. They should not feel unaccepted, powerless and confused. The author stresses that for the change management team to cope with the resistance, they need to understand the needs of the people affected by change, and steps to address their issues should be considered.

Bouckenooghe (2008) concludes that the quality of communication justifies the reasons that the change is necessary, and helps in the reduction of change uncertainty which is essential in shaping employees' readiness for change. In support of Bouckenooghe's conclusion, Mutihac (2010) suggests that, for the organisation to gain credibility from its employees, it is advisable to communicate change in advance as well as on a continuous basis. Also, the methods used should be relevant and preferred by the audience.
The author further identifies several typical forms of internal communication as follows:

i. Phone communication – telephones and mobile phones are the most commonly used forms of communication for quick responses. These methods of communication are useful in coordinating meetings and communicating

emergency situations, especially with employees who do not have access to emails. The managers or supervisors do not need to be physically present with employees to give instructions or get updates with regards to tasks and changes taking place.

One of the disadvantages of conveying messages through these methods is that the sender cannot be sure that the confidential messages are only heard by the intended receiver so they are not recommended for use in complex discussions, such as in salary negotiations.

ii. Emails – this method is the most common form of conveying electronic, written information. The advantages of using emails are speed and low cost. The disadvantage is that for those who resist new technology, the method is not good because these employees will not open emails, and cannot even recognize them as important unless the follow up is conducted by telephone;

iii. Company databases - this method is suitable for large organisations where employees have to access information from different company databases.

iv. Face to-face communication and meetings – the advantage of this method of communication is that it allows instant feedback from the employees. The disadvantage is that employees must be physically present in one location. Furthermore, it is time-consuming and employees cannot give their honest opinions. They can be scared of being victimized by management. This can be very expensive, with employees being required to travel from one place to another.

v. Notice boards – these can be used as a source of communication to employees who do not have access to emails.

vi. Memos "can be effectively used for announcing routine changes" (Mutihac, 2010:42). The disadvantage of using this method of communicating is that employees can fail to understand or recognize that they do not understand.

vii. Internal newsletter – this can be relevant to communicate changes in policies and procedures across the organisation (Mutihac, 2010: 42).

Scheid (2011) highlights that when employees do not understand the need for change, chances are very low for the organisation to get their buy in, whereas when the changes are communicated early and effectively, employees will buy into the change. All that they need is to be informed and to be involved. Employees should be informed about changes

taking place from time to time. There is nothing like over communicating during the change management period. It is a necessity to keep employees informed.

In addition to what other scholars present, Fox *et al*. (2001:87), as cited in Schiffer (2011), identify dimensions that should be considered while preparing communication about change, as mentioned below:

- The core message about the change
- How the message is packaged
- The characteristics of the change leaders
- The interaction of change leaders with the audience
- The setting in which interaction takes place

Lack of skills has been identified as a critical area for most organisations. Training and development should be conducted so that they can acquire specialised skills. However, it will be difficult for the organisation to retain and maintain such skills if they are not utilised regularly, because of change resistance.

2.4.5 Training during change management

O'Neill (n.d:1291) as cited in Siegel (2008), describes training as a way to "prepare oneself or prepare employees for performance by instruction, practice, and exercise". The author further stresses that proper training should be conducted and focus should be on areas of resistance to encourage employees to embrace changes.

Moerschell (2009) suggests that resistance to change requires expert knowledge, training, a long–term vision, and sufficient utilisation by those who sustain the technological change. Knowledge and skills transfer should benefit the employees during the implementation of the change. Bellanca (2010) believes that, for the organisation to ensure that people adapt to new policies, proper training should be conducted and one–on–one training is recommended to cater for those who absorb change better in a smaller setting which allows them to ask questions and get responses at their own pace. In large organisations, it is difficult to get all the relevant people or stakeholders trained before implementation.

According to Moreman (2011:2), “a common cause of new procedures not being followed is that employees have not been adequately trained. The more effective and extensive the training, the higher the probability for success”. Therefore, it is necessary for the organisation to send employees for training before implementing the new tool. However, sending them for training only might not help because only basics are normally picked up during training. The real learning can only takes place when employees actually start applying the new concepts. Training and development, mentoring and coaching should be conducted through formal training, teambuilding, workshops and seminars (Lee, 2012).

Before implementing change, it is necessary for management to clearly define the objectives and reasons for change, aligning them with the organisational mission and vision (Bruckman, 2008). As stated, resistance is something that cannot be overlooked; therefore, management should take precautions on how to deal with this reality. Understanding resistance to change is essential. However, it is necessary to implement measures to overcome resistance to change.

2.5 Overcoming resistance to change

Cooke (2009) views overcoming resistance to change differently. He states that, when someone wants to overcome something, he needs to fight it and that is what people resist doing. Management needs to take the time to understand why employees resist changing. Employees need to remove the causes for resistance to change and understand what is behind it. Employees also need to respond appropriately, in such a way as to show that they have listened, learnt and understood. It is management’s responsibility to overcome the level of resistance to change, which will help in improving the intended change initiatives within the organisation (Visagie, 2010).

Mooketsi (2009), as cited in Agboola and Salawu (2011), suggest classic methods be applied to overcome resistance to change, for the organisation to shorten the period between shock and adjusting during the process of change management to ensure its successful implementation. The summary of the methods is as follows:

i. Education and communication: This method can be used when management feel that resistance has resulted from inaccurate information across the organisation. Training

and different methods of communication should be used, although they are time-consuming and expensive, but, at the same time, it may encourage employees to help during the implementation of change.

ii. Foster open communication: During change management, employees will have a number of questions that need to be clarified. Management should be able to provide relevant answers as open communication will reduce rumours and misinterpretation of information.

iii. Negotiation and agreement: This method is relevant when the organisation is engaging with unions and groups that have power to influence employees to resist change. Management need to negotiate and work closely with such groups.

iv. Participation and involvement: This approach is normally used to get buy-in from the employees into the change management process. Employees who participate in the change process will always support its implementation, and any information they have will be integrated into the change management plan. Resistance form these employees will be eliminated.

v. Facilitation and Support: This may be used when employees are resisting because of adjustment problems. Management should provide guidance to make it easy for the employees to move towards change.

vi. Manipulation and co-operation: This method is used as a solution when all other methods have failed as it can be quick and inexpensive.

vii. Implicit and explicit coercion: This method can be used when change is implemented within a short period of time. It is can be used to overcome any kind of resistance. **(**Mooketsi (2009), as cited in Agboola and Salawu, 2011:238).

One of the best ways to overcome resistance to change is to allow the employees to participate in making the changes (Scheng1, 2011). Hon *et al*. (2011) suggest that power-sharing between leaders and subordinates can play a vital role in overcoming employees' resistance to change. Employees feel accepted and involved in the decision-making during change management. Agboola and Salawu (2011) further state that change is all about making things different from the original position and that it involves confrontation with the unknown and loss of familiar behaviour. Therefore, management must be able to identify resistance early to be able to respond before it happens and put action plans in place. Lee (2012) emphasises that management should be open and honest. False

information should be avoided and change must not destroy the trust and loyalty that have been built with the teams. Employees who trust their management are always prepared to accept positively and without any resistance whatever change is initiated.

2.6 Learning organisation

One of the leading theorists who has thrown some light on this concept is Senge (2006). He points out that a learning organisation refers to the building of an enterprise that is capable of continually changing realities. Creating this culture, according to the author, demands new ways of thinking and operating. Organisational change should start at top management and then be implemented across the organisation. While organisations are responding to change, they also have to deal with resistance to change.

In further developing his argument, Senge (2006) identifies five components which can help in the building of a learning organisation. These include: systems thinking, personal mastery, mental models, building shared vision and team learning, which are discussed hereunder:

i. Systems Thinking: This is, according to Senge (2006:7), a conceptual framework, body of knowledge and tools that have been developed to make the full pattern clearer. Systems thinking promotes an environment where departments or units within an organisation do not operate in isolation. Senge (2006) further states that systems thinking is concerned with experiencing more in life as a whole, rather than parts.

In supporting Senge's view, Abdollahi, Katuli and Ma'atooli (2011), in Tafreshi, Abadi and Khadivi (2002), state that systems thinking is a method of thinking in which the superiority of the whole part is confirmed. Amidon (2005), as cited in Al-Qutop, Futa and Ma'ani (2011), further describes systems thinking as a discipline that is concerned with understanding interdependency, complementary relations within the organisation, and the transactions that are processed between other organisations.

According to Gummings and Worley (2009:547) "systems thinking generally requires a radical shift in how members view the world: from seeing parts to seeing wholes, from seeing linear cause-effect chains to seeing interrelationships, from seeing static entities to seeing processes of change" This kind of thinking will help management to understand

cause and effect resulting from any delays in employees' targets delivered on time for certain projects. (Sheffield, Sankaran and Haslett, 2012). Managers should be aware that simple solutions usually fail when applied to complex problem situations or projects.

In actual fact, systems thinking should assist organisations in dealing with resistance to change. As noted by Schneider (2012), people who are wired to think systemically are already systems thinkers because they were born that way. The author further states that roadblocks to learning will affect only how proficient people become in using the innate skills they already have. Systems thinking requires a mental shift towards the whole picture of the organisation. Maani and Cavana (2006) as cited in Sheffield, Sankaran and Haslett (2012) see systems thinking as a field of knowledge for understanding change which involves the following types of thinking, namely:

1. Forest thinking – an ability to think outside the box, seeing things in a bigger picture
2. Dynamic thinking – keep keeping in mind that things can change any time due to technological advancement
3. Operational thinking – understanding how people are affected by how things are done.

ii. Personal Mastery: Senge (2006:7) views personal mastery as "lifelong learning". It focuses on individuals' ability to perform their duties, recognize their incompetence and identify opportunities of growth. Senge (1999), as cited in Bui, Ituma and Antonacopoulou (2012), believes that personal mastery is more about focussing on personal belief, vision, purpose and development. Paroby and White (2010) view personal mastery as the study of one's own intrapersonal skills.

Personal mastery is not naturally given and is viewed as a developmental process. Therefore, people can never fully achieve personal mastery, even though it leads to specific outcomes, like new skills and knowledge. According to Bradley (2010:99), "workers who are required to perform highly demanding jobs are likely to be challenged and invigorated by their work if, and only if, they are also granted high levels of job

control. Under such conditions, workers learn new skills, experience success, and develop feelings of increased personal mastery".

Hunter (2011) agrees with Bradley (2010), and highlights that, in order to allow real learning to take place, personal mastery should focus on personal growth and development so that the person can see things more objectively, without being biased. Nilniyom and Racthatawetchakul (2011) emphasize that the concepts, such as organisational growth and development, are encouraged by personal mastery. This is the language of all organisations that are driven by technological advancement.

Vantankhah, Pakdel, Noruzi, Mahmudi and Vantankhah (2011) suggest that after learning has taken place, employees will be able to perform tasks that they could not perform before learning. It is critical that employees continue improving their capacity in order to have relevant skills. It is important that employees embrace the concept that the working environment is an ever-changing environment and that there are always new skills to learn. This enables them to adjust to changes as they occur and not resist change.
According to McManus (2012:1), "people often do not know what they don't know until they are exposed to best practices outside of their normal world, true masters realize that one never really masters skill, there is always more to learn". People will always prefer to stick to existing knowledge until new approaches are introduced to them. Management needs to encourage employees to embrace the personal mastery concept, by providing opportunities for further learning for the staff.

iii. Mental Models: Mental models, according to Senge (2006:8) are "deeply ingrained assumptions, generalisations, or even pictures that influence how we understand the world and the actions we take". Managers are, therefore, required to instil a culture where mental models of individuals contribute to an organisation's objectives (Senge: 2006). Together with employees, managers need to acquire interpersonal, business and reflective skills. Training them in mental modelling, without connecting with business issues and objectives, will result in resistance to change (Senge, 2006). This helps individuals to reflect, clarify and understand the whole organisation and its internal reality, resulting in critical decision making (Senge, 2006). In essence, employees learn to understand their own assumptions about their working environment (Sheaf and Pilgrim, 2006). On the

other hand, Badke-Schaub, Lauche and Neuman (2007) view mental models as a source which is used to select, interpret and provide guidance on the person's behaviour in new situations.

Paroby and White (2010) describe a mental model as the intuitive understanding and interactions of an organisation in its environment. This helps the organisation with decision-making when changes occur across the organisation (Goel, Johnson, Junglas and Ives, 2010). This view is supported by Zhang and Peng (2010) who argue that mental models can also be used in facilitating problem solving. When new information is introduced to the existing mental models, it helps individuals to acquire new knowledge and understanding in the use of new technologies.

As Espevik, Johnsen and Eid (2011) put it, mental models provide people with the ability to process and integrate relevant elements to form an understanding, thereby allowing them to use these elements for the current state for future projections. New information and changes are not always welcomed by employees who are affected. In most cases, employees resist adopting new ideas. Hsu, Huang and Linden (2011) emphasize that building mental models occurs when there is a change in the existing mental model which is caused by the new information received from the newly perceived situation and environment. One of the key challenges faced by educators is the provision of help to the managers on the discovery of mental models that ensures that they are aligned with reality (Dhanaraj and Khana, 2011).

iv. Building Shared Vision: Building of a shared vision as a picture of the future that fosters genuine commitment and enrolment rather than compliance. This is where employees work as a collective to achieve goals. They also need to understand the vision clearly and must know how their day-to-day activities contribute towards achieving that vision (Senge, 2006). When employees share the vision for the future of the organisation, this will lead to less resistance to change because they will accept that change is necessary for the future of the organisation. Paroby and White (2010) emphasize that, in most cases, individuals usually confuse what is real with what is being perceived. According to McDonnel, Gunnigle and Lavelle (2010:36), "some organisations are operating in a type of vacuum whereby they are utilising a number of mechanisms aimed at transferring

learning between its operations, but these are not being guided or coordinated by an explicit policy".

Akhatar and Khan (2011), in their study, believe that top management should develop and communicate the shared vision across the organisation so that everybody will work towards the same goal. However, Singh (2011) reveals that a learning organisation may be viewed as a process which is concerned with long-term activities that build competitive advantages over time and that it requires sustained management attention, commitment and effort. In support of this, Al-Qutop, Futa and Ma'ani (2011) cite Chang and Sun (2007) who emphasize that shared values should be facilitated among all the people who require knowledge within the organisation.

v. Team Learning: As one of Senge's (2006) components, team learning starts with a dialogue, where team members forget about assumptions and begin thinking together and building commonality of directions. Rooke, Altounyan, Young, and Young (2007) describe building a learning organisation as an approach used to develop organisations through the resolution of work-based problems. This allows individuals to work together in small groups for information sharing and these results in problem solving. Furthermore, Edmundson (1999), as cited in Knapp (2010), defines team learning as a process which requires the team to take action, obtain and reflect on feedback, and make changes to adapt or improve. In addition, Marquardt, Seng and Doodson (2010: 242) view a team as a "group of willing individuals who are united around a common goal, interdependent on each other, structured to work together, sharing responsibility for team tasks, and empowered to implement decisions".

As much as Senge (2006) Rooke *et al*. (2007) and Rigg, (2010) support team learning, Dickenson, Burgoyne and Pedler (2010) have observed that learning for initiating and facilitating virtual teams can be a complex and difficult experience, which requires training and organisational support for successful results. Despite such difficulties, team learning should be encouraged Savelsberg, van der Heijden and Poell (2009) view team learning as an outcome that takes place through communication and coordination for the aim of developing knowledge sharing within the team about their responsibilities. While

the team is focussing on productivity, a good working environment and a pleasant atmosphere, managers are only interested in the output (Van Woerkom and Croon, 2009).

In most cases, experience for the project performed by team members on the projects performed are not documented anywhere. Experience is stored in their minds, which can have a negative impact when the members of the group are no longer in the organisation, as managers will not be able to refer to the key learning and experience on a specific project (Van Woerkom and Croom, 2009).

Team members need to share views and opinions, and discuss critical issues within the group. Rigg (2010) agrees with other scholars when he describes learning as a tool that focuses on bringing individuals together for the aim of sharing learning, resulting in the improvement of relationships and understanding. However, some studies reveal that cross-functional teams are usually formed by experts from different disciplines who are working towards one goal, and that there is more creativity involved than in tasks that are performed by individuals. Teamwork is usually required for information sharing and problem solving because of its complexity and stimulation (Xu and Yang, 2010).

Dickenson, Burgoyne and Pedler (2010) have observed that learning for initiating and facilitating virtual teams can be a complex and difficult experience, which requires training and organisational support for successful results. Despite such difficulties, team learning should be encouraged. According to Aslam, Javid, Tanveer, Khan and Shabbier (2011), teams are viewed as the building blocks of any organisation that are made up of different individuals who are accelerating and supporting organisational growth through training and development. Team learning should be encouraged even more in organisations, as this will enable the employees to work more closely together for the benefit of the organisation. However, if there is no connection between the team and the organisational context, information learnt will be meaningless and will also not be supported in the contextual environment (Li, D'Souza and Du, 2011).

2.6.1 Characteristics of learning organisation

Several characteristics of a learning organisation have been suggested by different authors who view this concept in different ways. Knutson and Miranda (2000) suggest that one of

the characteristics that makes learning organisations differ from other organisations is that there is continuous learning in learning organisations. Global changes require that employees who are always willing to learn, improve their skills and abilities. Likewise, Sebestova and Rylkova (2011), in their study, share the view that the learning organisation aims at adding value to the knowledge acquired and communicated across the organisation.

Soliman (2011) emphasizes that a learning organisation is concerned with interactions among individuals and decision-makers within the organisation. Trakselys (2011) considers a learning organisation as a way of translating the data received and relevant knowledge aligned with the essential objectives and made available to all members of the organisation.

Furthermore, Marquard (2002), as cited in Abdollahi *et al.* (2011:214), identifies the following five characteristics of a learning organisation:

1. Organisational activeness in learning at individual, group and organisational levels
2. Management of knowledge or the state of creation, transmission, revision, participation and utilization of knowledge
3. Organisational revolution for desired vision, culture, strategy and structures to be acquired
4. Electronic usages such as informative systems, learning technology and electronic supportive systems of performance
5. Making employees, managers and customers more powerful

The characteristics of a learning organisation can be obtained from studies conducted by other readers and their views, which add important information to what already exists about the concept. The above discussion indicates that there are different roles to be played by the different members of the organisation, starting at the top level management. These roles are discussed hereunder.

2.6.2 Leadership roles in organisations

In order to fully understand the functioning of the learning organisation, a closer analysis of the leadership roles will be useful. According to Senge (2006:366), "when managers are committed to growing people in order to grow the enterprise or committed to utilizing conversation as the core process for change, their practices reflect insights into human nature". The author emphasizes that organisational change should start at top management before it is implemented across the organisation. Theron and Wetmore (2007) suggest that leadership development should involve informal training, planning and implementation, as well as project evaluation within the organisation.

Kanter (2010: 51), as cited in Duden (n.d.) suggests that "creating organisational culture means creating the basis for learning organisations". Therefore, organisations need managers who are mentally mature and also talented in organising, making sure that they find ways to forecast the future for the benefit of the enterprise. However, Beddoe (2009) argues that learning organisations have been critical regarding the positioning of managers in a dominant role. It has been clearly stated that they are often not empowered by learning and development policies. An organisation's leadership and its workers should interact on a daily basis for continuity in the shaping of the organisational environment and a clear direction to the organisation's vision (Paroby and White, 2010).

Bennington and Hurley 2009, Gibney and Murie (2008), as cited in Rigg (2011:24), stress that there is a close overlap of the skills, mindsets and capabilities that have been identified as necessary for effective leadership across the public service system. Organisations that have implemented a strong transformational leadership have a higher percentage of employees who are motivated for self-learning and participating in creative activities that contribute to the building of the learning organisation (Elkin, Zhang and Cone, 2011).

Furthermore, Sebestova and Rylkova (2011) also suggest that leaders of the organisation adding value towards the organisational future should provide guidelines for change and lead their workers to the same direction. Jones and Spammer (2011) believe that action learning is adaptable and flexible. Therefore, it can be effective in developing leadership skills for the organisation so that it can keep up with the changing environment.

According to Jones and Spammer (2011), organisational leadership needs to assist people to move beyond the edge of familiar patterns into unknown terrain of greater complexity, new learning and behaviour, which usually require loss, grief, conflict, risk, stress and creativity. It is the leadership's responsibility to address problems that will help people to move from one direction to another.

As noted by Akhtar and Khan (2011), leaders and managers should provide support and resources to the learning and development designed for the employees, in order to ensure that commitment leads to achieving organisational objectives, new learning and dissemination of knowledge. The author stressed that organisational learning should be strongly influenced by a leader's behaviour, to ensure that people are encouraged to learn and to make sure that opportunities are provided to speak and facilitate the promulgation of dialogue and debate. Vantankhah *et al.* (2011) emphasize that leaders should be committed to organisational goals and objectives, especially the goal of learning. Watkinz and Marsick (1996), as cited in Abdollahi (2011), describe leadership commitment and empowerment as strategic leadership.

According to Elkin *et al*. (2011:359), "transformational leadership commonly leads to the expectation that leaders will influence individuals to transcend their own interests and to act for the achievement of their group's collective goals". In support of what Elkin (2011) states, Al-Qutop *et al*. (2011) describe transformational leadership style as the most suitable tool for establishing a learning organisation. The author further describes leadership and management as different disciplines, which complement each other. He argues that leaders are more concerned about shining outside than managing within the organisation. However, leaders and managers are the drivers of a learning organisation.

The above discussion indicates that a learning organisation is an organisation that is going through the process of change. This change happens in a period in which the leadership of the organisation is challenged to manage the process of change by creating the culture that will reduce resistance**.**

2.7 Concluding summary

The above discussion has shown that a learning organisation is intertwined with change. Various journals have been written about different schools of thought regarding the approach to the development and implementation of a learning organisation, over a wide range of organisations or enterprises, public and private, as well as big and small. Resistance caused by the changes, and employees' and managerial responses to change have been highlighted. The importance of these concepts has been realised worldwide and across industries. The technicalities of both concepts have been covered in this study.

The next chapter will deal with the theoretical and conceptual body of knowledge to present an understanding regarding changing to the New Engineering Contract (NEC) which is the chosen form of contracting when goods and services are procured.

CHAPTER THREE

OVERVIEW OF THE NEW ENGINEERING CONTRACT

3.1 Introduction

The previous chapter reviewed scholarly work on the learning organisation and how the process of learning can lead to resistance to change. The context of that discussion was a view that some personnel in learning organisations might not easily adjust to the change that comes with learning. Chapter two therefore examined literature to ascertain what would cause employees not to convert to newly and highly acclaimed processes.

The focus of this study is Transnet National Ports Authority (hereafter referred to as TNPA). The procurement process to which the organisation is expected to implement is called the New Engineering Contract (hereinafter referred to as NEC). The NEC was chosen from other forms of contracts to procure goods and services for TNPA in order to enhance efficiency and effectiveness in the procurement process. The problems that were identified, as articulated in the first chapter of this study, were that firstly, the tool was not being used as widely as it was supposed to be and secondly, it was not being used as well as it should have been.

This chapter describes and analyses the new procurement tool, the NEC, to demonstrate its qualities and its convenience in these changing times, especially during this era of expected adherence to governance procedures. The analysis begins by giving an overview of TNPA and then explaining how the tool evolved; finally it discusses the NEC as a form of contract, its characteristics, main and secondary options which give guidance regarding the selection of the conditions of the NEC contract. A brief overview of TNPA follows.

3.2 TNPA: An overview

The following overview of TNPA has been sourced mainly from the Transnet intranet. Transnet SOC LTD is the holding company of TNPA.

TNPA, previously known as National Ports Authority, is responsible for the safe, effective economic functioning of the national ports system, which it manages, controls, and

administers on behalf of the Government of South Africa. It manages seven ports, which are: Saldahna Bay; Cape Town; Mossel Bay; East London; Port Elizabeth; Durban and Richard's Bay. The Port of Ngqura is now in operation, and has become the eighth port under the control of the TNPA.

The evolution of the buying function has seen a transition from the normal over-the-counter transaction to what is known as the procurement process, a scientific and strategic activity now seen in various enterprises. Procurement is playing an increasingly important role in assisting major corporations to achieve their savings and profitability objectives from the competitive cost input.

Transnet State Owned Company (SOC) LTD is the custodian of major rail, port and pipeline assets in South Africa. TNPA is one of the five interdependent operating divisions where this study was conducted. Transnet SOC LTD has a number of processes, with specific rules and guiding information applicable to each process. These processes are used as a guide by all the divisions across the organisation. The Procurement Procedure Manual (PPM) is used to govern most of the contracts, including Engineering, Supply, Service and Maintenance contracts. The underlying principle within each process is that no supplier should receive any unfair treatment.

Transnet SOC LTD has embarked on a drive to develop the country's infrastructure and to improve service delivery through capital expansion. A sum of R300 billion, over a seven-year infrastructure investment programme, has been allocated to expand rail, port and pipeline in order to increase capacity ahead of demand and improve productivity and operational efficiency. TNPA was allocated R2.376 billion to spend on capital projects in 2012-2013, which is the first financial year of the implementation of the seven-year infrastructure investment programme. This is the portion of the R46, 9 billion expected to be spent over the next seven years (Ports SA, 2012).

In order to achieve its objective, TNPA must be efficient in the use of NEC as a form of contracting and contracts management. The organisation has thus established cross-functional teams which include various disciplines. These would be departments such as Procurement, Finance, Engineering, Quality, Health and Safety, Legal, Marine Engineering, Environmental, Property and Technical. The aim is to share ideas and capture divergent

views. These teams usually meet to reach consensus more quickly and hasten decision-making. External experts are invited in at times, depending on the nature of the decision to be made.

A generic procurement process, used by the State-Owned Enterprises for construction and engineering projects, has been identified. This requires all the organs of state in South Africa to comply with the requirements of the Standard for Uniformity in Construction Procurement (Baird, 2011). The process is adapted from South African National Standards (SANS 294:2004), which is line with the procurement processes that are currently used by TNPA, as well as NEC and Construction Industry Development Board (CIDB) requirements.

The procurement of construction works covers all the aspects from design, manufacture, test, supply, deliver, install commission and maintenance for all the complex works. The procurement process is discussed hereunder.

3.3 Procurement Process for Construction and Engineering

The procurement process has, over the years, evolved from a mere buying function to a strategic support function for organisations. This evolution can be witnessed from the different phases that procurement has undergone, the specialization that has resulted in the procurement profession and the new functional titles that have evolved from Buyer to Commodity Managers and Contracts Managers (SANS 294, 2004).

The various steps of the procurement process for construction and engineering are listed and discussed below.

i. Establish what is to be procured

The procurement planning phase involves the establishing of what is to be procured. The procurement plans are normally generated from the various user departments' budgets for the next financial year or years to come. The information from the user departments is then used by procurement to create procurement plans. For the purposes of this exercise, the researcher will only be discussing how the information relates to construction and engineering projects.

The user department will develop a detailed scope of work and specification for the project to be submitted, together with the financial estimates for budgetary purposes and negotiation to procurement. For purposes of process, this submission requires flow, that a demand document or requisition be raised with proper approvals for procurement to start the process.

ii. Establish the procurement strategy

An approved demand document will then launch the next phase of the procurement process, for example, the sourcing strategy. Procurement will now be based on the scope of work and the desired financial and social outcomes decided for the policy to follow. In SOCs, this outcome would be a Preferential Procurement Policy, as prescribed by the National Treasury. An appropriate procurement mechanism is also established and adopted in this phase. This mechanism needs to be in line with the broader procuring body's objectives. Procurement also has, in this phase, to establish the contract and pricing strategies.

According to SANS (294:2004), the procurement strategy involves deciding on the appropriate allocation of responsibilities and risks and the methodology by which contractors are to be paid. It is also important that procurement, at this stage, studies the potential market and develops proper methods regarding how to get full participation from the desired supply market, and obtain financial information from the user department on the allocated funds for the construction project. Hereafter the completed procurement strategy for the project must be approved by the designated person or the Acquisition Council, with delegated authority for approval.

iii. Requesting tender offers

With an approved sourcing strategy, procurement would now commence the bid process. Tender documents will be prepared in line with the chosen and approved strategy. The suppliers are invited, through an appropriate procurement mechanism, to submit tenders for the project. Where required, a site briefing is held prior to the closing date, to clarify all questions that might arise about the technical and commercial specification of the tender. Once the tenders are received, they are recorded at the tender office as per the company procurement policy and procedure. Where only one offer is received,

procurement, with approval from the designated person with delegated authority, may decide to reissue the tender in order to get greater participation from the market.

iv. Evaluation of tenders offers

The tender evaluation commences when all qualifying bids, or bids with all requested supporting documents, have been received and recorded and submitted to procurement. The evaluation is broken down into two aspects: technical and commercial evaluation. The requesting user department members, who are professionals, will conduct the technical evaluation in the presence of procurement and minutes of the meeting will be recorded. The technical evaluation needs to be conducted in line with the approved criteria in the sourcing strategy. Procurement will then conduct the commercial and financial evaluation, based on the appropriate approved strategy, and come up with a shortlist of the bidders.

A risk analysis on the highest ranked bidder is carried out to satisfy the company that the successful bidder has the capacity to perform when required. Once this assessment is completed, a recommendation to award is prepared for the bidder. A tender evaluation report is prepared detailing the process followed in the evaluation and the points awarded to the recommendation made. This report is then submitted to the designated person or acquisition council with appropriate delegated authority for endorsement.

v. Award of the contract

When a sanction to award the contract is received, with all questions from the person or acquisition council having been satisfied, only then can procurement notify the successful and unsuccessful bidders. A contract containing the offer and all conditions put forward in the bid will then be drafted and approved by the legal experts of the company. The signing of the contract becomes the final acceptance of the bidder's offer. The contract is then captured onto the database and a copy is kept in a contract repository. A valid purchase order is generated and issued to the bidder before commencement of work.

vi. Administration and termination of the contract

When the contract is in place, procurement will administer the contract to ensure that all the agreed deliverables are met by both sides. This will be established during scheduled progress meetings which do not exclude urgent or emergency meetings to discuss a new

turn of events. When deviations are noticed or reported, they are dealt with in accordance with the clauses provided for in the contract and proper remedies are applied (SANS 294, 2004).

When all the contract requirements are met or the contract has been terminated for whatever reason, SANS requires that a record be kept in the database detailing the performance indicators relating to time, cost and the attainment of specific goals associated with a preferential procurement policy, or the reason for the termination.

One of the pieces of legislation that has been introduced is the Construction Industry Development Board Act (2000) CIDB, which sought to standardize procurement routes for all state entities. This was one of the laws that were met with resistance, even though it was meant to ease the problems of procurement in the country. This piece of legislation provides for only four forms of contracts to be used prior to the closing date.

These are the General Conditions Contract (GCC), the Federation Internationale des Ingenieurs-Conseils (FIDIC), the Joint Building Contracts Committee (JBCC) and the New Engineering Contract (NEC). As indicated earlier the information about the said contracts is obtained in a website that is dedicated for the development of the NEC.

Since the NEC is an international procurement tool, it also gives users tools to draw out their skills to apply to the environment in which they are working (Baird, 2006). It is necessary to present a brief background on how NEC was introduced at Transnet SOC LTD.

3.4 Evolution of the NEC in Transnet SOC LTD

Transnet SOC LTD opted for the NEC, which was developed to assist in partnering agreements between Contractor and Employer, based on mutual trust and understanding, not for each party to manipulate the agreement or exploit the other. Below is an account of how NEC evolved at Transnet SOC LTD.

Before 1990, Transnet was known as a government-run enterprise and state-supported service, which was not concerned with economic gains. Transnet subsequently joined the

ranks of other profit-seeking corporations. Since then, the company has been expected to produce dividends for its only shareholders, the government. The company is also subject to auditing and it pays tax on its profits (Transnet article, 2006). With regards to procurement processes, at this time Transnet used the old contracts, which did not meet the new government's requirements for considering previously disadvantaged individuals. For Transnet to comply with government initiatives, a number of contracts were introduced to balance the imbalances. Transnet's executive management chose the New Engineering Contract (NEC) as the contracting form to be used for all major professional and construction projects.

The NEC, being a family of contracts, facilitates the implementation of sound contracts, management principles and practices, as well defining legal relationships. The main aspect of the NEC was to move away from a reactive and hindsight-based decision-making and management approach to one that is foresight-based, which encourages a creative environment with pro-active and collaborative relationships.

There is still a necessity to transition from the numerous current contract management forms that Transnet ports still use, to the NEC. The transition requires the alignment of all contract management processes, including those allied management processes designed for ports. This transition and alignment require more cooperation from all departments within Transnet National Ports Authority.

The NEC is the contract of choice for Transnet SOC, therefore, a large number of capital projects are run in the organisation. The contractual relationship arising from those projects is governed by the NEC. As Transnet is a state-owned enterprise, whose procurement processes are governed by legislation, Transnet Limited ruled to standardize the use of NEC across the organisation. Transnet Limited, a State Owned Company (SOC), used its own form of contract, the E5 General conditions of Contract (Transnet presentation, 06 April 2009).

Construction works mean the combination of goods and services arranged for the development, extension, installation, repair, maintenance, renewal, removal, renovation, alteration, dismantling or demolition of a fixed asset, including building and engineering infrastructure. In parallel with the regulations being promulgated, Transnet embarked on a Capital Expansion Programme, in line with its national Infrastructure Plan. Herein lay the

major challenge for Transnet, as this plan encompassed major construction works (Transnet presentation, 06 April 2009).

This meant that Transnet's E5, which was previously used, was not recognised or recommended. Transnet had to comply with and utilise a standard set of procurement documents, as defined in the regulation. Transnet had to comply by November, 2005. The Construction Industry Development Board (CIDB) Act, (Act 38 of 2000) was enacted to provide for the establishment of the CIDB, to implement an integrated strategy for the reconstruction, growth and development of the construction industry and to provide for matters connected therewith.

Since Transnet was not ready, the CIDB granted Transnet an extension to comply by the 01 July, 2006. Subsequently, a number of workshops were coordinated with the different Organisational Divisions (ODs). On 14 October, 2005, at a final workshop, consensus was reached that Transnet would adapt the NEC3 suite of contracts as its official form of contract. This strategy was ratified by top management. Transnet officially launched the NEC3 at a seminar in Midrand on the 15 November, 2006. (Transnet presentation, 06 April 2009).

Earlier forms of contracts had clauses within them that were not acceptable to Transnet and did not allow for an amendment of clauses. The fundamental point is that these forms, and more importantly, the procurement methods they represented, were not readily interchangeable but were rather one-sided, to protect the employer's interest. These forms of contracts were simply a range of choices, using different words, to address essentially the same need.

Therefore, the most adaptable contract is the current NEC form. The NEC form makes provision for such requirements to be inserted as additional clauses at "Option Z". This form allows for a choice of options that are risk-related. The trend in construction procurement worldwide is towards design-and-build projects. One of the great strengths of the NEC is precisely its modular structure. It is, therefore, more easy to change than the other families of forms to different bases for pricing and to different bases for design liability. If implemented well, by parties committed to its use and to understanding how it is intended to work, the NEC offers considerable potential advantages over the more traditional families of forms (Transnet presentation, 06 April 2009).

3.5 Moving towards NEC as a form of contract

A number of organisations chose the NEC as a form of contracting, but this meant they had to learn the stipulations thereof. Further information obtained from the NEC website is that NEC a family of contracts that facilitates the implementation of project management principles and practices, as well as defining legal relationships. It is suitable for buying a diverse range of works, services and supply, major framework projects through to minor works and purchasing of supplies and goods.

The NEC was published as a ground breaking best-practice process and it was developed to try and manage problems related to contracting and also promote collaboration between the contractor and the employer. A project's success requires, and to a large extent depends on, the collaboration between all stakeholders. In order for collaboration to exist within a project, there needs to be trust, common purpose and co-operation amongst the project team. Good collaboration among the project team members will result in a seamless flow of activities and processes in executing project specific goals within an agreed set of parameters (Sun and Oza, 2008).

The NEC also simplifies administration actions between all parties involved. It is specific and not project-specific. The NEC is free from technical standard and local law, thus making it universal and able to be used internationally. It allows the employer to choose how or what will be the basis of payment and how risk is distributed among the involved parties by selecting the correct contract. Its principal objective is to stimulate good management of the relationship between the parties to a contract and of the work in the contract. The principal objective is to create a process to deliver contract outcomes that are both:

- good value for the client
- a reasonable return for the supplier and contractor

The first contract in the works category was called "New Engineering Contract" and was published in its first edition under this name in 1993. Due to a recommendation in the Latham Report, its name was changed in 1995, when it was published as the second edition, to better represent what it is, namely, the Engineering and Construction Contract (ECC). Other

contracts were developed and the acronym “NEC” was retained as a brand name for the whole family of contracts (Baird, 2011:11).

Baird (2011) stresses that the NEC family was extensively updated in 2005 and that all contracts within the new enlarged family are branded “NEC”. Some of the contracts are at third edition, whilst others are still at second edition. The new members of the family deal with the services and supply category of procurement. Together with the established Engineering & Construction and Professional Services Contracts, the enlarged family now covers all aspects of procurement using modern project management principles.

As indicated earlier the website on the NEC a lot of information. In this website, it is indicated that the initial usage of the NEC form of contracts quickly grew to include a list of top South African state organisations and private corporations. This list includes Transnet, the state- owned organisation responsible for ports and harbours, railways (including rail engineering), multipurpose pipelines and airports, PBMR, the developer of the Pebble Bed Modular Reactor (nuclear), Sasol, who pioneered the oil from coal process, Anglo Platinum and Gold Fields in the platinum and gold mining sectors respectively, ABSA Bank (owned by Barclays), Johannesburg Housing Company, Gauteng Housing Department, University of the Witwatersrand, and Tshwane (Pretoria) and Ethekwini (Durban) municipalities, each with substantial infrastructure projects.

The NEC was developed to try and manage problems related to contracting. It simplifies administration actions between all parties involved. It is not project-specific and is also free from any technical standards and local laws, thus making it universal. Transnet, the employer, can choose how or what will be the basis of payment and how risk is distributed between the parties involved by selecting the correct contract from the NEC family of contracts.

According to Baird (2011,28) “the contracts making reference to an NEC3 form must be developed so that they are compatible with it, otherwise ambiguity and inconsistency may arise, leading to disputes”. To highlight its advantages, the chief characteristics of the NEC are outlined below.

3.6 Characteristics of the NEC

The NEC is an influential document in the procurement process of the TNPA. The characteristics of the NEC are presented below.

3.6.1 Flexibility

The strength of the NEC suite of contracts is that each one uniquely caters for a specific need or service required. The foundation of the NEC is mutual trust and understanding between both parties engaging within the contract. It assists in mediating this relationship by applying various clauses which ensure that each party is treated equally as both client and service provider. Provision is made for compensation events or delay damages. (NEC 3 Engineering and Construction Contract (ECC)-Black Book, 2005).

3.6.2 Clarity and simplicity

The NEC is the most efficient and precise method of contracting due to its simplistic use of words - no legal or Latin words; it is appropriately worded. There are main, secondary and additional clauses, each of which can be selected to cater for procurement of either services or products to be supplied (NEC 3 Engineering and Construction Contract (ECC)-Black Book, 2005).

3.6.3 Stimulus good management

Application of sound contract management tools and techniques form a base for the use of the NEC agreements due to their effective communication protocols, management techniques, which are clearly explained in its guidelines, and notes, which are provided with each agreement (NEC 3 Engineering and Construction Contract (ECC)-Black Book, 2005).

Besides operating as a stand-alone contract, the NEC also has a number of different contracts for different services within the NEC suite of contracts. Each individual NEC agreement is tailored to suit any application within the organisation, for the supply and delivery of goods and services simple as nuts and bolts, to contracts for projects as complex as new works, like infrastructure upgrade or refurbishment

3.7 NEC family of contracts

The NEC3 Procurement and Contract Strategies were compiled by the members of the NEC panel in December, 2009. Each one of the contracts within the suite of contracts is applicable for either the short or long term service, supply of goods or consultancy service to be provided, for example, engineering works, construction or maintenance or supply of goods. The scope will determine what type of contract will be used. According to Baird (2011, 14) "the NEC system is the only system of standard form of contracts in the world to cover the full procurement spectrum of works, services and supply whilst also offering a range of pricing strategies, sub-contracts and short versions for less complex procurement". A brief description of each NEC title is given below:

i. NEC3 Engineering and Construction Contract (ECC)

The ECC is used to appoint contractors for engineering and construction works, including design responsibility. It is used for complex and high risk works. It requires sophisticated management techniques. According to Wright and Ferguson (2008:4) in Bennett and Baird (2001) "one of the strengths of ECC is its provision for detailed programme and planning which enable the project manager and team to manage time pro-actively and co-operatively to ensure that a realistic forecast of completion is always available and up-to-date".

ii. NEC3 Engineering and Construction Subcontract (ECS)

The ECS is used when the sub-contractor is appointed for engineering and construction work, where the main contractor was appointed under the ECC. It will be the main contractor's responsibility to manage the sub-contractor during the execution of the project. The main contractor is accountable for the service delivery of the sub-contractor. The ECS contains only five of the six main options used in the ECC.

iii. NEC3 Engineering and Construction Short Contract (ECSC)

The ECSC is used as an alternative to ECC, and is applicable to contracts which do not require sophisticated management techniques, but are straightforward and low-risk for both the contractor and the client. The ECSC is structured in the same way as the ECC, for example there are provisions for compensation events, early warnings and programmes,

but these provisions are shortened and made simpler to suit the simple nature of the shorter contract.

iv. NEC3 Engineering and Construction Short Subcontract (ECSS)

The ECSS can be used for low risk and straightforward contracts to appoint the sub-contractor, when the main contractor is appointed on ECC or ECSC.

v. NEC3 Professional Services (PSC)

The PSC is applicable when a supplier is appointed to provide professional services, for example, design and engineering consultation. Liabilities that are carried out for the services rendered by the consultant are identified in the contract.

vi. NEC Term Service Contract (TCS)

This is a time-based contract which is applied when the supplier gets appointed for a period of time to manage and provide a service. The TCS also makes provision for the employer to engage suppliers for construction or non-construction on a term basis.

vii. NEC3 Term Service Short Contract (TSSC)

The TSSC is an alternate to TCS and is used for simple and straightforward contracts that do not require sophisticated management skills and is used for low-risk contracts.

viii. NEC3 Supply Contract (SC)

The SC is used for local and international procurement of high-value goods and related services, including design, for example, supply and delivery of tugs, helicopters, ships, trains, wagons, wooden and steel sleepers electric components and so on.

ix. NEC3 Supply Short Contract (SSC)

The SSC is used for both local and international low-risk procurement of goods on a single order or on a batch order. It can also be used to buy construction-related goods which include building materials, simple plant equipment, manufactured parts and personal protective equipment (Fullalove, 2010).

x. NEC3 Framework Contract (FC)

The FC is used for the appointment of one or more suppliers to carry out construction works or to provide design or advisory services on an "as instructed" basis, over a set term. The scope of work should be defined in such a way that both employer and supplier are satisfied that the supplier has the resources, and that he is capable carrying out the work as instructed.

xi. NEC3 Adjudicators Contract (AC)

The AC is used to appoint an adjudicator when disputes arise. An adjudicator can be appointed during the inception of every contract. The adjudicator will make decisions under the NEC family of contracts. The adjudicator's decisions are independent and he cannot be held liable for any decision made; he acts for all parties involved and gets paid equally. (NEC3 Procurement and Contract Strategies, 2009:2)

When the NEC contract is established, the format of the professional, supply and service contracts is the same. Each NEC contract is divided into three sections: nine core clauses, which are similar to all contracts, and main and secondary options which can be different from one contract to another.

3.8 The structure of the NEC Contract

This structure was adopted from the NEC3 Engineering and Construction Contract-Black Book, 2005. In compiling the NEC, the format is similar to all the contracts and it should be divided into three main sections: nine (9) clauses, main and secondary options. These NEC conditions of contract vary according to the procurement strategy selected.

3.8.1 Nine (9) core clauses

Nine (9) core clauses form the basis and foundation of the contract. These core clauses deal with issues ranging from defects, payment, time, contractor's responsibilities and ambiguities, as well as interpretation of the law. They are not to be changed and they should talk to the scope of work or works information. They are generic and are discussed as follows:

i. **General core clause.** This clause covers or protects and favours the employer and, sometimes, does not cater for foreign content. Therefore, the contractor will propose to change the clause to accommodate the requirements by means of a deviation, which is subject to negotiation and approval by the Legal Department.

The employer obliges Transnet, the contractor, the project manager and the supervisor to do everything which the contracts states they must do. The contract covers the identification and definition of terms, interpretation of the law, ambiguities and inconsistencies, as well as early warning procedures.

ii. **Core clause 2** stipulates the main responsibility, which deals with the design of the works on behalf of the employer, design and use of the equipment, and key persons working on the project. The design submitted by the contractor should be aligned with the works information and the applicable law, and it should be accepted by the project manager. The clause also covers the sub-contracting of a certain portion of the works in a project. Key persons should be named in the contract data, relevant qualifications and experience should also be given.

iii. **Clause 3** focuses on the key dates that outline the specific period of time that guides the contractor to complete the works stated in the works information. The use of key dates can be used to manage multiple contractors working on a project to facilitate cooperation as well as progression of the project as a whole. Access dates are also specified in the contract data, which allows the contractor to have access to the various parts of the site. Access can be also given on the starting date of the project.

Anything to do with time will be addressed in this clause, for example, the start and completion dates of the contract. It also covers the issue of the programme submitted by the contractor for acceptance by the project manager before the commencement of the project. If there are changes to the key dates, the contractor will be required to submit the revised programme to the project manager.

iv. **Core Clause 4.** This clause deals with testing and defects. Provisions for tests are made to ensure that the employer is getting value for money for goods or services supplied or provided. as per the specification. Greater emphasis is placed on the quality standards, as specified in the Works Information. Tests should be specified in the Works Information with respect to the nature of the tests, when they are to be done, where they are to be done, who does the test, who provides materials, facilities and samples, their objectives and procedures, and whether or not payment or authorization is needed to proceed to the next stage of the work.

The searching and notification of defect is done by the project manager, who does the assessment and notifies the contractor for any defects for correction. The project manager accepts the correction of the defects. If not corrected, the clause also provides for procedure for uncorrected defects.

v. **Clause 5** relates to payment. The project manager does the assessment of the work done and amount due at each assessment date, as stated in the contract data provided by the employer. The project manager should certify payment within one week after the assessment date and, before the contract date, check that the employer is able to pay within the stated period after the assessment date. A certified payment is made within three weeks of the assessment date as stated in the contract data. Interest is payable on late payments, as stated in part one of the contract data.

vi. **Core clause 6** deals with compensation events and is more concerned with unforeseen circumstances that were not initially covered in the contract. A key feature of the NEC contract has always been compensation events. Unlike other standard forms, the NEC deals with time and money in respect of each compensation event. If the compensation event occurs, the NEC contemplates that the event will lead to an assessment of time and money rather than a consideration of extension of time to the contract, an assessment of the value of any varied works and a further assessment in respect of any damages or loss and expense

This core clause covers the process to be followed in the event of a compensation event, which starts from the notification of the compensation event, from the project manager or contractor, depending on the situation. Thereafter, quotations for compensation events will be requested and submitted to the contractor. The project manager will do the assessment of the compensation event for acceptance. Thereafter, the compensation event will be implemented.

vii. **Core clause 7** deals with title, which refers to the employer's entitlement to plant, equipment and materials, as well as the removal of the equipment from the site. The contractor should remove the equipment from the site when it is no longer required, unless the project manager allows it to be left on site.

viii. **Core clause 8** deals with the general, legal and insurable risks of loss damage, injury or death and what insurances are required to cover them (NEC3 ECC Guidance Notes, 2006:31-70). The contractor should provide the insurance as stated in the insurance table except the clauses provided by the employer, as stated in the contract data.

The employer will cover certain risks of the contract. It must be clearly stated that the contracts equipment, machinery, people and the contractor's risks are not the responsibility of the employer. The insurance table specifies the type of insurances required. Certificates are provided by the contractor as a proof of all that is covered. If the contractor does not have insurance, the employer will ensure this aspect is covered and pass on the costs to the contractor. Both parties can request copies of the policy documents for the insurance that is going to cover them for the duration of the contract.

ix. **Core clause 9.** This clause covers any reason that may lead to the termination of the contract. Both the employer and the contractor have the right to terminate the contractor's employment. The party that wishes to terminate may follow the procedure and notify the project manager, giving reasons for termination. A

termination certificate can be issued by the project manager if the reasons for termination are valid. The employer cannot terminate the contract for no reason.

In addition to the nine clauses, there are six main option clauses which deal with contracting mechanisms to suit different projects and payment methods. Eggleston (2006) as cited in Besaiso (2012:50) states that "the main option clauses pertain to the contract strategy and define which of the six options is to be followed"

3.8.2 Main Option Clauses

The main option clause governs the direction the contract will take in terms of costing. For example, each option will determine how the contractor will be paid, either for the activities or the services that are rendered. Ideally, risk should be shared between the supplier and the employer, however, employers usually draft the contract with clauses that will benefit the organisation.

i. Main Option A: Priced with activity schedule

This option is suitable when the scope of work is not clearly defined, the supplier price as per the activities provided by the employer. This is a lump sum contract, meaning quantities are not re-measurable, which means all components of the works or services are costed. This option is only used when the scope of work at tender stage is well known and the bulk of the financial risk is carried out by the contractor or consultant. The Employer pays the contractor for each activity only when it is complete. This is used in the ECC, ECS, PSC and TCS.

ii. Main Option B: Priced with bill of quantities

This option is used when the scope of work is well defined and the employer knows exactly what he/she wants. Each item is measurable upon completion of each activity for the payment of actual amounts. This is used in the ECC, ECSC.

iii. Main Option C: Target contract with activity schedule

This option allows the employer flexibility in developing his/her design. This is a reimbursable contract and the risk lies with the employer. The target price is based on a lump sum. This is used in the ECC, ECSC, PSC and TCSC.

iv. Main Option D: Target contract with bills of quantities

Here, risk lies with the contractor and the target price is based on the bills of quantities. The quantity of work completed by the contractor is multiplied by the rate. If the price for the work done to date is less than the total of the prices, the contractor is paid his share of the savings. This is used in the ECC and ECS.

v. Main Option E: Cost reimbursable contract

The contractor carries the cost agreed upon on the mark-up before the contract is awarded. The employer pays the cost plus the mark-up. This is applicable in a contract where the scope is not completely defined from the beginning and where the extent of the possible damage to specific equipment is unknown. This used in the ECC, ECSC, PSC and TSC.

vi. Main Option F: Management contract

The supplier does not give his/her cost and mark-up. The employer appoints only experienced companies to manage complex contracts. This option is used when the employer has no resources or lacks knowledge of and experience in the specific industry. This is used in the ECC.

Besides the main options, secondary options are also part of the NEC contract where the employer will have to choose only the options that are suitable for a specific project. Eggleston (2006) as cited in Besaiso (2012:50), states that "The secondary option clauses permit the employer to further refine the risk allocation profile" The secondary options in NEC are identified as follows.

3.8.3 Secondary options

Different contracts within the suite have different applicable options. These options will depend on the works information for a specific project or contract and will differ from one contract to another.

i. Option X1: Price adjustment for inflation

This option is used only with main options A-D. The base and latest index dates are used to calculate the price adjustment of items costed within the scope of work, such as labour, material and transport. Contract price adjustment (CPA) is applicable on the long-term contracts for increase in prices during the execution of the contract. The employer provides the formula for calculations and the indices to be used. The contractor has to prove the basis of the price increase and the employer will verify the basis by using the table for indices. This allows the contractor to take price risks for longer duration.

ii. Option X2: Changes in the law

This option is applicable when there is a change in the law within the boundaries of the site where the works are performed. This option impacts on the contractor's costs when providing the service or works, resulting in compensation events. It protects both the employer and the contractor. Where there are any changes in the law that can affect the contractor's performance, such as economic embargo, and result in the cancellation of the contract, the contractor will not carry any risks related to changes in the law.

iii. Option X3: multiple currency

This is used when payment is made in a currency that differs from the one in the contract. The currency should not exceed the maximum amount stipulated in the contract data. Here, the employer is prepared to take the risk of currency fluctuations and forward cover will be taken from the forex market. If the option is not selected, the contractor takes all the risk associated with the foreign portion, and will be responsible for payments and for making all the arrangements.

iv. Option X4: Parent company guarantee

Option X4 is used for additional security or guarantee from the parent company in the event of the contractor failing to carry out his/her obligations as per the contract. The parent company gives the employer a guarantee of the contractor's performance. This is applicable for complicated, high value and high risk scopes of work and can be

determined by means of financial evaluations through cash flows and financial statements.

v. Option X5: Sectional completion

This is used for longer period contracts. Some sections will be taken for use rather than only when the work is completed, especially the sections that generate income for the organisation. Once the completed section has been taken over by the employer, the contractor would not be expected to carry out any other work to thatsection; the contractor will use the completed section only for the correction of defects.

vi. Option X6: Bonus for early completion

This option may be used if there is a financial case for earlier completion of the works. In this case, the contractor should be rewarded for achieving such milestones. This motivates the contractor to complete the contract before the completion date.

vii. Option X7: Delay damages

This is applicable for the late completion of the works or late delivery of the milestones. It is stated in the contract data as a rand value per day and is regarded as a penalty to be charged by the employer. This option is recommended for most of the contracts. The employer should keep a record of all delay damages costs incurred during the execution of the contract.

viii. Option X12: Partnering

This option may be used in multi- contract projects of a very complex nature. Risks are shared. Team work is recommended and decisions are made by the team. Partners will be named in the schedule of partners needed to complete the works. One partner's performance may affect the others' when a development project is underway. Partnering information includes the following: sharing of offices, arrangements for joint development, risk management, use of common information systems, value engineering and value management, attendance at partners' and core group meetings as well as participation in partnering workshops.

ix. Option X13: Performance bond

Performance bond is a security that may be used when the contractor is performing outside the parameters. It may be requested by the employer in a form of monetary guarantee, and it is obtained from financial institutions, banks or insurance companies.

x. Option X 14: Advanced payments for the contractor

Employers do not normally use this option as it is risky. If used, financial evaluations should be conducted to check whether they are beneficial to the employer. This option may be used for assisting the contractor with cash flow to buy the equipment at an early stage of the contract. This payment is paid before the first assessment of the amount due by the project manager.

xi. Option X15: Limitation of contractor's liability for his/her design to reasonable skill and care

This option may be used for design and construction contracts, where the contractor appoints an engineer to do the design and he/she provides insurance to cover his/her professional indemnity, when the contractor is not prepared to take the risk gap between reasonable skill and care.

xii. Option X16: Retention

This option covers the risks that may occur. The employer may retain a portion of the amount due to the contractor as a form of a guarantee against the contract in the event of his not returning to correct defects after the completion date.

xiii. Option X17: Low performance damages

This option depends on the scope of work, where the performance is required as stated in the works information. This option will apply when the defects certificate is issued at the end of the maintenance period.

xiii. Option X18: Limitation liability

This option covers the total contract and is not carried by the contractor. Most contractors will require this option to be applicable. They may use this option for

international contracts because of the uncertain position which contractors could face in some jurisdictions regarding their liabilities.

xiv. Option X20: Key performance indicators

This option may be used to pay incentives or bonuses to the contractor for exceeding performance. This should be stated in the tender data; alternatively, the employer can set up specific objectives that are important to him and request the tenderers to propose suitable Key Performance Indicators (KPIs). The use of KPIs is to encourage the tenderers to perform and it should only be used as an incentive, not as a penalty.

xv. Option Z: Additional conditions of contract

This option may be used in instances that are not covered by the NEC where there are deviations, although it is clearly stated that the contractor provides works in accordance with the Works Information.

3.9 Concluding summary

This chapter presented an overview of the TNPA which has embarked on a programme to improve its infrastructure and provide efficient and effective service delivery. The evolution of NEC in Transnet SOC LTD was discussed.

The NEC has been instrumental in the introduction of an innovative procurement process for construction and engineering. This document is of vital assistance to the tendering process of the TNPA and will assist its transition from the former document to the NEC. The outstanding characteristics of the NEC justify its implementation in the procurement process of the TNPA. The nine core clauses of the NEC indicate that it is a powerful document which can be successfully implemented. The main and secondary options, which give guidance on the selection of the NEC contract, were also highlighted.

The next chapter focuses on the research methodology for this study.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1 Introduction

Sekaran and Bougie (2009:2) describe research as the "process of finding solutions to a problem after a thorough study and analysis of the situational factors". In line with this description, this chapter describes the research design and methodology used in solving the problem stated in the first chapter. A review of the relevant variables was done in chapter two. The sampling procedure, the data collection methods, the research instrument used and the statistical techniques used in analysing collected data are also explained herein.

4.2 Research objectives

To answer the research questions, the following objectives were formulated:

4.2.1 To establish the organisational factors that hinder the process of changing to the NEC form.

4.3.1 To ascertain the role of managers in facilitating the change.

4.3.2 To establish the individual factors that hinder the process of changing to the NEC.

The research design and methodology aimed to answer the following questions:

4.3 Research questions

4.3.3 What organisational factors hinder the process of changing to the NEC?

4.3.4 What role should managers play in the facilitation of change?

4.3.5 What individual factors hinder the process of changing to the NEC form?

4.4 Research design

Saunders, Lewis, and Thornhill (2009) regard research design as a general plan of how a researcher will go about answering questions that contain clear objectives derived from the research questions, highlighting the sources to be used to collect the data and taking into consideration the limitations and challenges that the researcher will come across as well as ethical issues.

Sekaran and Bougie (2009) have identified four main research designs, these being:

i. Exploratory study

This type of study is conducted when there is no information available and known on how a similar problems or research issues have been resolved in the past.

ii. Descriptive study

A descriptive study is undertaken in order to ascertain and be able to describe the characteristics of the variables of interest in a situation. It can thus be undertaken in organisations in order to describe and learn about the characteristics of a group of employees.

iii. Hypothesis testing

Hypothesis testing is undertaken in order to establish the differences among groups and it is also used to explain the relationships between variables.

iv. Case study analysis

According to Sekaran and Bougie (2009:109) this type of study "involves in-depth, contextual analyses of matters relating to similar situations in other organisations.

The design for this study has thus been descriptive because it described both the individual and organisational factors at play in TNPA which have led to the company not implementing the newly stipulated procurement contract form, the NEC.

4.5 Research philosophy

The research philosophy in this study was positivist. This was because the data collected was analysed using various analytical tools that were quantitative in nature. These analytical tools allowed for statistical comparison between various groups such as engineering, procurement, health and safety, operations, finance, legal and compliance, dredging services, workshop 24 and properties department.

The study has also been quantitative in nature because a structured questionnaire was used to collect data regarding the situational factors that hinder the process of adaptation of the NEC. This method was considered suitable for this study because quantitative study helps in

exploring, describing, presenting and examining trends within the collected data among other things like charts, graphs tables and statistics (Saunders *et al.,* 2009).

It is important to note that had statistical procedures or other means of quantification not been used, this study would have been qualitative (Bless and Higson-Smith, 2009). With qualitative research, meanings are derived principally from words and not numbers. Words may have multiple meanings as well as unclear meanings, and require great care with regard to exploration and clarification, impacting the time of the study (Saunders *et al*., 2009).

4.6 Research methodology

The above stated research design necessitated the following research methodology to be followed.

4.6.1 Research instrument

The research instrument for this study was a structured questionnaire with close ended questions put as statements (Annexure1). This instrument was chosen because it is easy to administer, time efficient and cost effective. Sekaran and Bougie (2009:185) state that "questionnaires have the advantage of obtaining data more efficiently in terms of researcher time, energy and costs".

The respondents were asked to choose from different statements where the Likert Scale was used with five categories ranging from 1= Strongly Agree to 5= Strongly Disagree. They were asked to make a cross (X) in a box next to the aspect that best described their responses.

4.6.2 Questionnaire construction

In designing the questions, Bhengu's (2007:48) guidelines were taken into consideration. The author advises that statements should avoid prestige bias, assumption of prior knowledge, leading questions, double-negative and double-barrelled questions. Guidance was also obtained from (Gill and Johnson, 2010) who advise that questions should be intelligible to respondents to minimize bias, and to provide data that can be statistically analysed. The view of Soles (2010) who states that questionnaires should have clear objectives to avoid questions that waste the respondent's time, complicate the work of the

researcher and also compromise the data required for the specific study was also considered when drafting the questionnaire. The nominal scale was used for this study as it allows respondents to be categorised as Sekaran and Bougie (2009) advise. The questionnaire was then divided into the following three parts:

Part A focused on the **biographical data** of the participants such as gender, age, educational level, race, number of years employed by TNPA, work position and department where the employee's work department.

Part B aimed to ascertain the **organisational factors** that hinder the process of changing to the NEC as well as the role that managers should play in the facilitation of change. To establish these factors the participants had to respond to the statements provided.

Part C consisted of statements that sought to ascertain the **individual factors** that hinder the process of changing to the NEC form.

Before this questionnaire was distributed, it was pilot tested on a few colleagues to refine it.

4.6.3 Pilot study

"The purpose of the pilot test is to refine the questionnaire so that respondents will have no problems in answering the questions and there will be no problems in recording the data" Saunders *et al.* (2009:394).

For this pilot study ten colleagues were randomly picked and invited to a meeting in a boardroom during lunch. The purpose of the meeting was explained. Questionnaires were personally distributed and the respondents were requested to complete these right there. The pilot study served as a useful tool to identify the challenges and problems in the survey and also to check whether the questions were clear and relevant. The identified errors in this study were corrected. For example, question 9 of Part C was re-worded in line with the suggestions of the colleagues.

The pilot test also helped to estimate the time it would take to complete the questionnaire which was around fifteen minutes.

4.6.4 Administration of the questionnaire

After the questionnaire was ethically cleared, it was personally handed to the Business Unit Managers who distributed it to the target employees at their weekly meetings. Attached to the questionnaire was a letter of consent explaining to the respondents that completing the questionnaire was voluntary and that confidentiality would be maintained at all times (Annexure 2). The letter further informed the respondents that they had an option to withdraw from participating in the research study at any stage and that there were no incentives provided for participation.

The respondents were requested to place the completed questionnaire in a marked box which was placed at a convenient location in each department. A period of four weeks was allowed for all the employees to complete the questionnaire. A few respondents requested that they scan the questionnaires and send back via the email and that was allowed.

4.6.5 Test for reliability

Reliability of a scale "refers to the degree to which the items that make up the scales hang together" (Pallant, 2010:97). The common indicator of the level of reliability is the Cronbach's Alpha coefficient which should not be less than 0.7. To test for reliability Cronbach's Alpha was done and it came to 0.859 which is an acceptable level of reliability.

4.6.6 Test for validity

Sekaran and Bougie (2009) describe validity as a function of how well the chosen instrument developed measures the concepts under study. Validity allows the researcher to make claims that what was chosen as the focus of the research to be conducted was actually studied (Rule and John, 2011). The pilot test and the institution's ethical clearance assisted in validating the questionnaire. To further ensure validity, the following were considered:

i. Face validity

Govender (2010:163) views face validity as the "realistic outlook of the instrument and it makes the results credible to the common audience". This was considered when designing the questionnaire.

ii. Construct validity

Construct validity refers to establishing whether a scale or test measures the construct adequately (Govender, 2010:163). In constructing the research instrument the theoretical framework informed the questions asked.

iii. Content validity

According to Govender (2010:163) "content validity refers to the extent to which the measure assesses the broad characteristics of the study". The questionnaire was valid in content as it measured learning organisation, resistance to change and knowledge on the NEC, which were the constructs under study.

iv. Criterion validity

To measure criterion validity, researchers must calibrate it against a known standard. This is subject to pre-test and it is used as a standard for judgement. The measuring instrument chosen for this study was subject to pre-test and the resultant adjustments were made.

4.7 Sampling procedure

Sampling is the process used to select a sufficient number of the right elements drawn from the population, so that the study of the sample as well as the understanding of its properties make it possible for the researcher to generalize to the population elements (Sekaran and Bougie, 2009). This means, the first stage is to identify the said population from which the right elements can be drawn.

4.7.1 Target population

A target population is the "entire group of people, events, or things of interest that the researcher wishes to investigate" (Sekaran and Bougie, 2009:262). The target population for this study was made up of all the skilled employees who are part of the cross-

functional teams responsible for purchasing goods and services in the various operational departments of TNPA.

The following departments were identified and the total number of employees is shown in brackets.

i. Planning, Infrastructure and Engineering (140 employees);
ii. Marine Engineering (55 employees);
iii. Finance (58 employees);
iv. Legal and Compliance (35 employees);
v. Lighthouses Technical (20 employees);
vi. Workshop 24 Technical (25 employees);
vii. Dredging Services ,Engineering (20 employees);
viii. Properties (7 employees);
ix. Operations department (10 employees) and
x. Procurement (30 employees)

Thus the target population came to 400.

4.7.2 Access to sample

To access the sample for this study the following procedure was undertaken:

i. Permission to conduct a survey in the organisation was requested from TNPA and was granted by the Training Manager of Transnet National Ports Authority, Durban. (Annexure 3)
ii. A list of target employees was requested and obtained from all Business Unit Managers. The lists were in order of superiority, starting with Senior Managers, Middle Managers, Supervisors and Junior Employees.

4.7.3 Sampling technique

Saunders *et al.* (2009) suggest two types of sampling techniques, these being probability or representative sampling and non-probability or judgmental sampling.

Probability sampling is associated with survey and experimental research. With probability sampling the probability of each case being selected from the population is equal. Saunders *et al.* (2009) suggest stages to be followed in the process of probability

sampling which involve the decision on the sample size of the study, representation of the population, selection of the appropriate sampling technique as well as the identification of the suitable sampling frame in line with the research question or the objectives of the study.

There are various kinds of probability sampling that Saunders *et al.* (2009) have identified, which are:

i. Simple random sampling

This is used when the researcher has an accurate and easily accessible sampling frame where the entire population is listed. Every selected person or element has an equal chance being selected in a sample.

ii. Systematic sampling

This involves the selecting of the sample at regular intervals form the sampling frame, for example the sample will consist of every fourth person and the list is called a sampling frame.

iii. Stratified sampling

The researcher compares different populations in each group chosen for the sample. It is an accurate and easily accessible technique.

iv. Cluster sampling

This refers to the technique of focusing on physical areas within different geographical areas. The focus is on clusters not on individuals.

Non-probability, on the other hand, is based on the assumption that the sample will be chosen statistically at random (Saunders *et al*., 2009), thus making it to be subjective. Various kinds of non-probability sampling as suggested by Saunders *et al*. (2009) are discussed below:

i. Convenience or haphazard sampling

Here the researcher selects people who are the easiest to access for the sample. This technique is convenient and widely used.

ii. Judgemental or purposive sampling

Judgemental sampling occurs when the researcher uses his own judgement in choosing who to approach. This sampling technique is normally used when working with small samples.

iii. Quota sampling

This type of sampling is normally used for a large population to make sure that certain subgroups of units are represented in the sample in approximately the same proportions as they are represented in the population.

iv. Snowball sampling

Snowball sampling is used when it is not easy to identify members of the desired population.

v. Self- selection sampling

According to Saunders *et al.* (2009:241) self-selection sampling "occurs when you allow each case, usually individuals, to identify their desire to take part in the research".

For this research the chosen technique was non-probability sampling, in particular, convenience sampling. Sekaran and Bougie (2009) describe convenience sampling as the technique for collecting information from the population group who are conveniently available to provide it. The group of employees from all the operational departments of TNPA, who always take part and form the cross-functional team when goods and services are purchased, was approached for this study.

4.7.4 Sample size

Of the 400 questionnaires that were distributed only 200 were completed and returned and this made the sample size of this study. The response rate of 50% was deemed sufficient for the purpose of this study.

4.7.5 Characteristics of the sample

The sample was made up of:

i. Male and female employees.
ii. Employees who were permanently employed at TNPA.
iii. Employees who were 22 years old and above.
iv. Senior Managers, Middle Managers, Supervisors and Junior staff.

4.8 Data analysis

The questionnaires were codified and captured on the Statistical Package for the Social Science (SPSS19). Before starting the analysis, the data was screened and cleaned.

The main analytical tools that were used were descriptive statistics, correlation tests, where Pearson and partial correlation were used to test linear relationships between variables. Furthermore, to identify the departments most affected by certain factors, cross tabulation was used. The multiple regression test was also done in order to ascertain how well a set of variables was able to predict a particular outcome which is, in this case, the NEC favourable attitude.

The various questions were aggregated into five constructs, these being the organisational factors, NEC knowledge, the role of the managers, favourable attitude towards the NEC and unfavourable attitude towards the NEC. Each construct was made up by computing the referring questions in total of score with SPSS 19.

The details of all the tests made and the results thereof are presented in the next chapter.

4.9 Ethical considerations

According to Sekeran and Bougie (2009) ethical issues should be adhered to by all the parties involved while collecting data and confidentiality should be respected. For this research the following ethical issues were taken into consideration:

4.9.1 Ensuring participants have given informed consent

The letter of consent attached to the questionnaire explained to the respondents that participation was voluntary and confidentiality was maintained at all the times. They were

advised that they had an option to withdraw from participating in the exercise at any time if they wished to do so.

4.9.2 Ensuring no harm is caused to participants

The questionnaire was screened by the University's Ethics Committee to ensure that no harm was caused to participants.

4.9.3 Ensuring confidentiality and anonymity

An undertaking was made to the respondents that information provided through completing the questionnaire would be treated with confidentiality and anonymity at all times. It was important to ensure that the respondents were comfortable to answer the questions for the study, and that was done.

4.9.4 Ensuring that permission is obtained

Permission to conduct this study was granted by the Training Manager of Transnet National Ports Authority, Durban.

4.10 Limitation of study

As indicated in the previous chapter, TPNA has eight ports scattered all over South Africa. Due to time, geographical and financial constraints, the study could not be conducted at all the ports. Therefore conducting the study only at the Port of Durban, posed a limitation to this study. The results obtained here thus, cannot be generalised to all ports.

4.11 Concluding summary

The discussion above has explained the research design and methodology that were used in this study. It also described how the sample was accessed and the way in which the research instrument was administered to capture meaningful responses from the respondents. This chapter also outlined the statistical tools used to analyse the data.

The next chapter presents, discusses and interprets the results of the study.

CHAPTER FIVE

PRESENTATION AND DISCUSSION OF RESULTS

5.1 Introduction

This chapter presents and discusses the results of the research that was conducted, using a sample of 200 employees of TNPA. The respondents answered a total of 29 questions, which were aggregated in line with the five constructs under study. This aggregation was done in order to make correlations easy.

- Organisational factors were dealt with in questions 8, 9, 10 and 12 of the questionnaire
- The role of managers was dealt with in questions11, 13, 14, and 15
- NEC knowledge was dealt with in questions 16, 17 and 18
- Favourable attitudes to NEC were dealt with in questions 19, 20, 27, 28
- Unfavourable attitudes to NEC were dealt with in questions 21, 22, 23, 24, 25, 26, 29

5.2 Results and discussion

The figures, tables and the discussion thereof that follow are a presentation of the results obtained from the respondents referred to above.

Figure 5.1: Gender

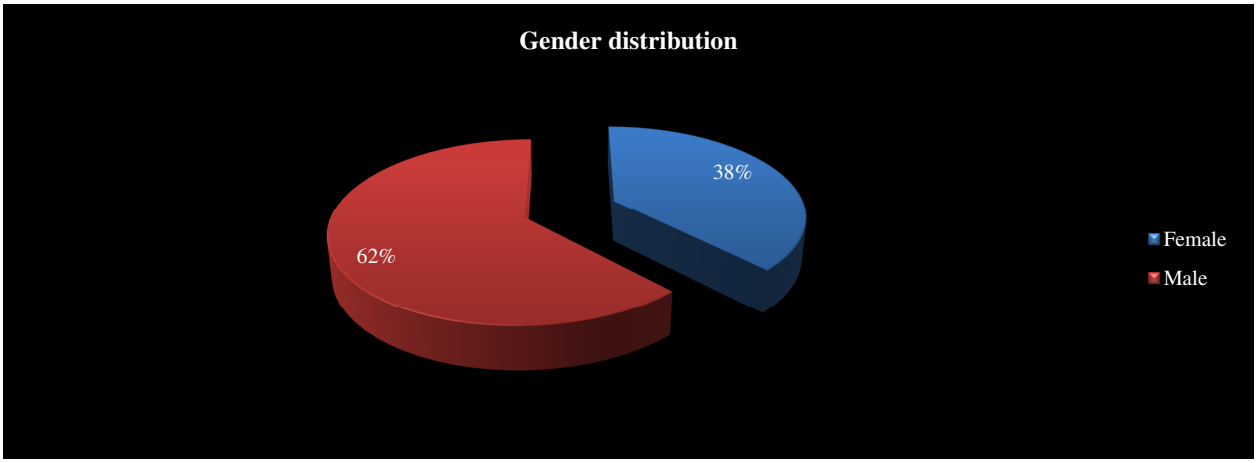


Figure 5.1 illustrates the proportion of males and females who participated in the survey. As shown in the figure, the sample comprised mostly males (62%). It is useful to mention that gender was the one missing value and that this distribution does not reflect the gender distribution of TNPA population.

The aforementioned results indicate that TNPA employs a much greater number of males than females. It is evident that the TNPA is male-dominated, in spite of the fact that the South African population consists of a larger number of females than males (Statistics South Africa, 2011).

Table 5.1: Gender/ favourable attitudes to NEC

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Total of favourable attitude towards the NEC	Equal variances assumed	.126	.723	-.497	181	.620	-.209	.420	-1.037	.620
	Equal variances not assumed			-.501	128.558	.617	-.209	.417	-1.034	.616

An independent sample T test was conducted to explore the mean difference between genders (male and female) and favourable attitudes towards the NEC. The Sig. Value for the Levene's test is larger than .05 (sig =.723 > .05). The interpretation is that there is no statistically significant difference in the means of favourable attitude towards the NEC of males (M=14.05, SD=2.719) and that of females (M= 13.84, SD= 2.69). Gender has no effect on the favourability of attitudes towards the NEC. Details are contained in table above:

Table 5.2: Gender/ NEC - unfavourable attitude

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Total of Not favourable attitude towards the NEC	Equal variances assumed	1.234	.268	.563	183	.574	.360	.638	-.900	1.619
	Equal variances not assumed			.578	141.181	.564	.360	.622	-.871	1.590

An independent sample T test was conducted to explore the mean difference between gender and unfavourable attitude towards the NEC. The Sig. Value for the Levene's test (one tail) is larger than .05 (sig =.268 > .05). The interpretation is that there is no statistically significant difference in the means of favourable attitude towards the NEC of males (M=17.83, SD=4.26) and that of females (M= 18.18, SD= 3.91). Therefore, gender has no effect on an unfavourable attitude towards the NEC.

Figure 5.2: Age Distribution of Respondents

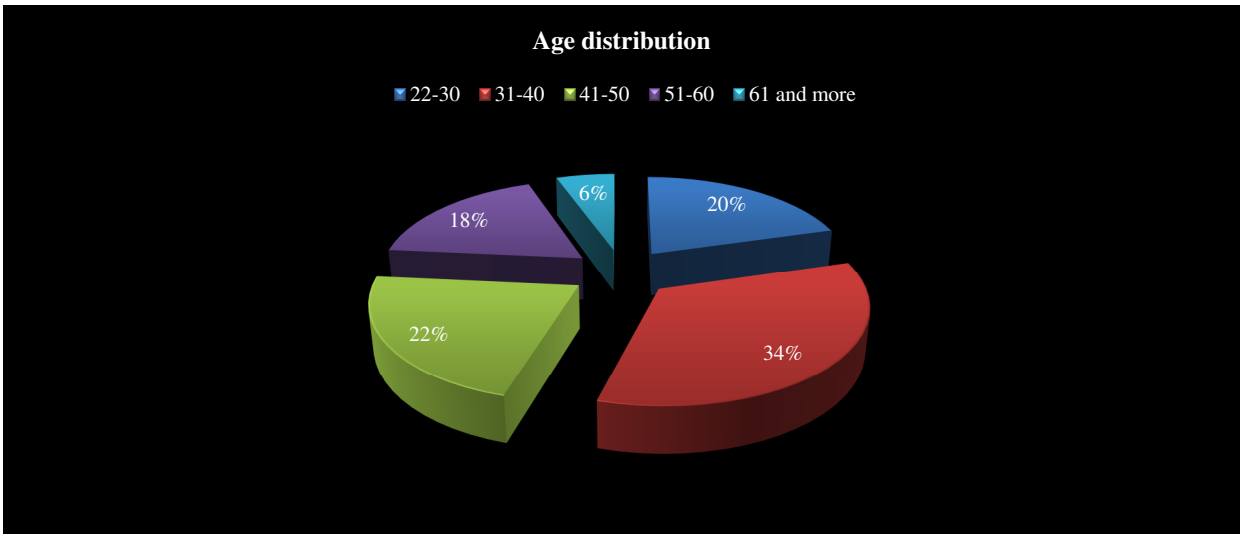


Figure 5.2 shows that almost 54% of the sample was comprised of young employees who were less than 40 years old, with 46% being older than 40. It is encouraging to note that TNPA's staff establishment has a greater percentage of youth than mature employees.

The fact that more employees are younger than 40 years old means that TNPA staff is generally capable of embracing new changes, including the NEC, whereas the older employees might prefer to hold on to old ways of doing things, thus requiring more training and workshops before changing than younger employees. This will therefore lead to cost-effectiveness of training in the future at TNPA because most of their young employees are already exposed to technological advancement.

Table 5.3: Age / NEC - unfavourable attitude:

ANOVA					
Total of unfavourable attitude towards the NEC					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	104.882	4	26.220	1.557	**.188**
Within Groups	3047.855	181	16.839		
Total	3152.737	185			

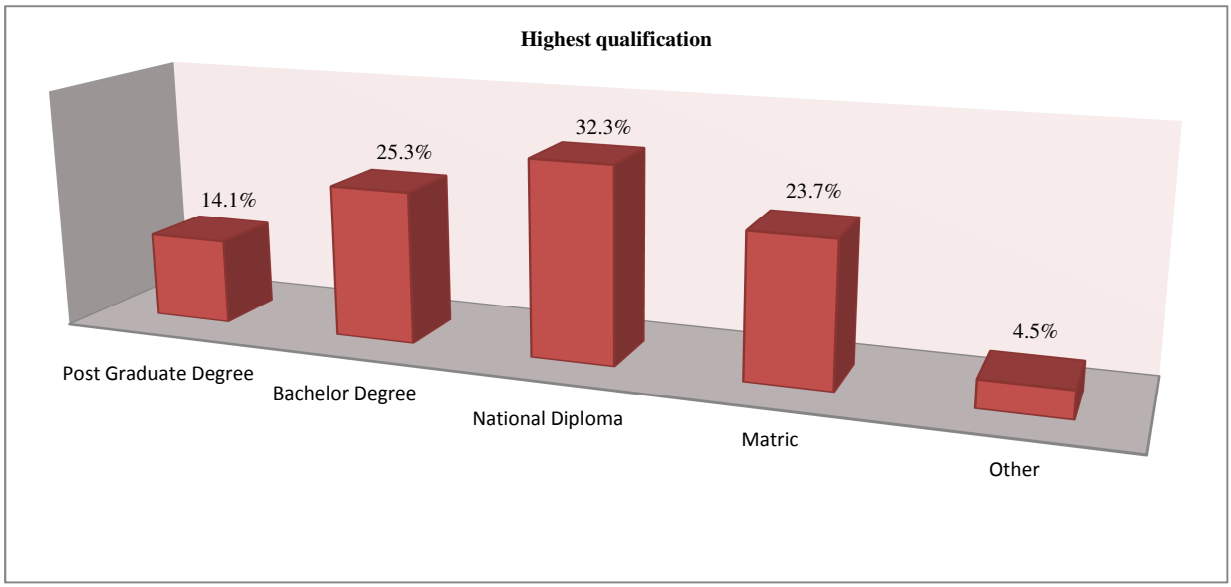
Table 5.4 ANOVA, Age/NEC favourable attitude towards the NEC

ANOVA					
Total of favourable attitude towards the NEC					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	54.972	4	13.743	1.943	**.105**
Within Groups	1265.892	179	7.072		
Total	1320.864	183			

Before addressing the factors that explain the attitude towards NEC (favourable or unfavourable), it was important to assess the scores and establish any difference in scores across the groups (age groups, qualification groups, number of years at TNPA). This fundamental step will help to establish whether the levels of favourability differed across the sample.

An ANOVA test was conducted to explore the mean difference between age groups and favourable or unfavourable attitudes towards the NEC. The results indicate a p value = 0.188 for the NEC - unfavourable attitude, and p value= 0.105 for the NEC - favourable attitude; both values are above 0.05. The interpretation of this is that there is no statistically significant difference in the means of favourable or unfavourable attitudes towards the NEC across the age groups. The level of favourability of attitude to NEC is almost the same across the age groups as the level of unfavourability, meaning that age has no effect on attitude favourability or unfavourability to NEC. Details are displayed in two tables above:

Figure 5.3: Qualifications



According to the results in Figure 5.3, 71% of the sample has at least a national diploma. This level of qualification can be an asset for change in TNPA with regards to training faculty and intellectual abilities. At least 29% have a matric qualification or some kind of diploma, which bodes well for change. Two respondents did not specify their highest qualification.

The largest percentage of employees have a National Diploma qualification, which is encouraging. It will be interesting to see many of these employees pursue further studies in the near future. The expected increase in higher qualifications will enhance the effectiveness and efficiency of TNPA.

Table 5.5: Qualification/ NEC unfavourable attitude

ANOVA

Total of unfavourable attitude towards the NEC

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	343.567	4	85.892	5.522	.000
Within Groups	2784.237	179	15.554		
Total	3127.804	183			

A one-way, between-groups analysis of variance (ANOVA) was conducted to explore the impact of qualification on unfavourable attitude towards the NEC. The participants were

divided into five groups (post-graduate degree, Bachelor degree, national diploma, Matric and other diploma). There is a statistically significant difference at the ($p < .05$) in the NEC unfavourability scores across the five groups: $F = 5.52$, $p=.000> .05$. Details are provided in the table above:

Table 5.6 Multiple comparisons.

Multiple Comparisons						
Dependent Variable: Total of unfavourable attitude towards the NEC						
Tukey HSD						
(I) Highest Qualification	(J) Highest Qualification	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Post Graduate Degree	Bachelor Degree	-.978	.949	.841	-3.59	1.64
	National Diploma	-2.410	.900	.061	-4.89	.07
	Matric	-2.930*	.958	.021	-5.57	-.29
	Other	-6.429*	1.667	.001	-11.02	-1.84
Bachelor Degree	Post Graduate Degree	.978	.949	.841	-1.64	3.59
	National Diploma	-1.432	.775	.350	-3.57	.70
	Matric	-1.952	.841	.143	-4.27	.37
	Other	-5.451*	1.602	.007	-9.87	-1.03
National Diploma	Post Graduate Degree	2.410	.900	.061	-.07	4.89
	Bachelor Degree	1.432	.775	.350	-.70	3.57
	Matric	-.520	.785	.964	-2.68	1.64
	Other	-4.019	1.574	.084	-8.36	.32
Matric	Post Graduate Degree	2.930*	.958	.021	.29	5.57
	Bachelor Degree	1.952	.841	.143	-.37	4.27
	National Diploma	.520	.785	.964	-1.64	2.68
	Other	-3.498	1.607	.193	-7.93	.93
Other	Post Graduate Degree	6.429*	1.667	.001	1.84	11.02
	Bachelor Degree	5.451*	1.602	.007	1.03	9.87
	National Diploma	4.019	1.574	.084	-.32	8.36
	Matric	3.498	1.607	.193	-.93	7.93

Multiple comparisons of levels of unfavourability towards qualifications were further done, yielding results that are shown in the table below. This table shows that the mean score for Postgraduate Degree is significantly different from Matric (Sig = .021; Mean difference = -2.930) and other (Sig = .001; Mean difference = - 6.429). The mean score for Bachelor Degree is significantly different from the others (sig =.007). The interpretation is that the more employees are educated, the less they have unfavourable attitudes toward NEC

implementation. In conclusion, there is a small effect (Eta Squared value is .01) of the highest qualification on the level of NEC unfavourability.

Table 5.7 ANOVA, favourable attitude towards the NEC

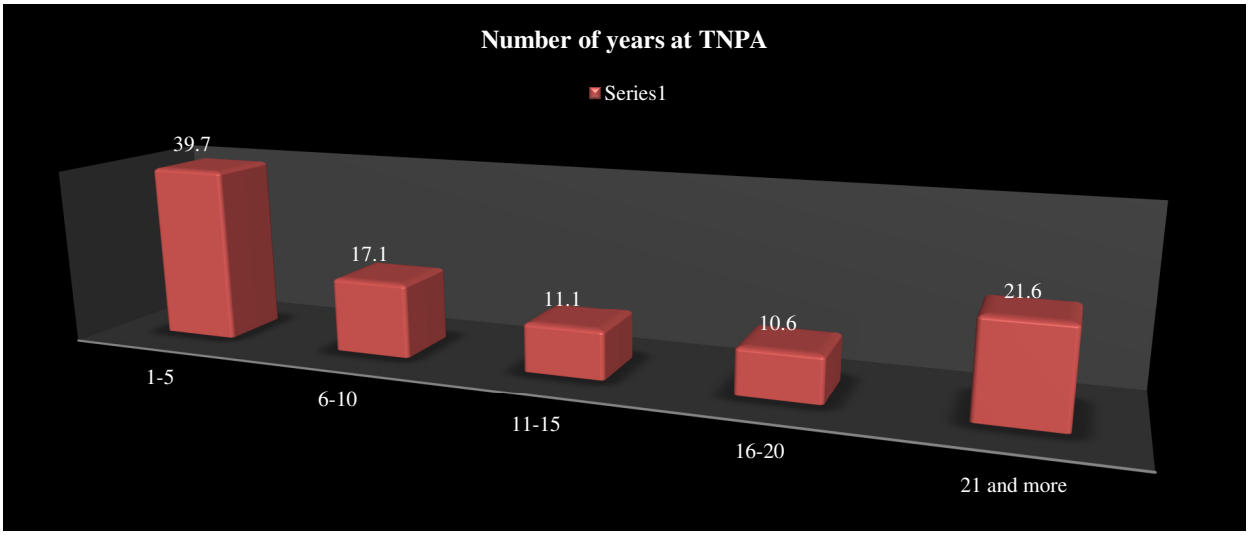
ANOVA					
Total of favourable attitude towards the NEC					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	70.237	4	17.559	2.545	.041
Within Groups	1221.411	177	6.901		
Total	1291.648	181			

The highest qualification has no effect on the level of favourability toward adaptation to NEC; the ANOVA test indicates a F= 2.545 and a p= 0.41>0.01. Details are displayed in the table above:

Figure 5.4: Race

Factoring out the two missing values in the sample, Africans lead with 46%, followed by Whites (28%), Indians (18%) and Coloureds (8%). This distribution corresponds with the racial distribution of South Africans. To bring about a more equitable racial distribution, there has been a drastic increase in the number of African employees at TNPA. It appears that TNPA is attempting to bridge the inequitable conditions and the imbalances that took place before 1994.

Figure 5.5: Number of years at TNPA



According to Figure 5.5, almost 60% of the sample has been with the company for more than 6 years. This could be a negative factor for change. It can generally be observed that the longer people spend time in the company, the less likely they will be to adapt to new ways, because of the effort required to do so. It is more likely that the lengthy experience of the majority of employees could pose a threat to the implementation of the NEC. Generally, mature employees who have spent a number of years in the same organisation, prefer to stick with the same old work procedures.

Carlstroom & Ekman (2012) contend that employees will always be reluctant to give up old habits and change to new methods and approaches of doing things (Hon, Bloom & Crant, 2011). This is further witnessed by Rick (2011) who emphasizes that those employees who are used to certain ways of doing things according to an old school of thought, or who use traditional approaches, create comfort zones for themselves.

Table 5.8: Number of years at TNPA/ favourable and unfavourable attitude

ANOVA					
Total of Not favorable attitude towards the NEC					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	140.867	4	35.217	2.116	.081
Within Groups	2996.085	180	16.645		
Total	3136.951	184			

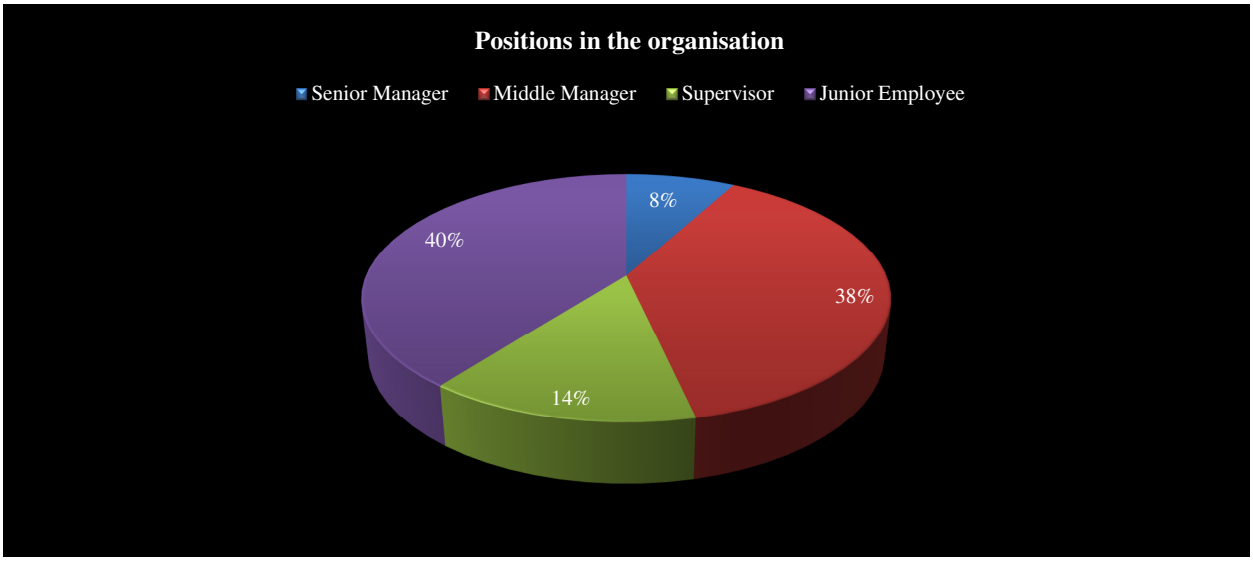
Table 5.9 ANOVA table – favourable towards the NEC

ANOVA					
Total of favourable attitude towards the NEC					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	44.213	4	11.053	1.572	.184
Within Groups	1251.241	178	7.029		
Total	1295.454	182			

An ANOVA test was conducted to explore the mean difference between years of experience and favourable as well as the unfavourable attitudes toward the NEC. The results indicate a p value = 0.081 for the NEC unfavourable attitude and p value= 0.184 for the NEC favourable attitude; both values are superior to 0.05. The interpretation is that there is no statistically significant difference in the means of the favourable or unfavourable attitudes toward the NEC between the years of experience groups.

The level of NEC favourability is almost the same across the categories of years of experience groups; the same conclusion can be drawn for NEC unfavourability. The years of experience have no effect on NEC favourability and unfavourability among employees.

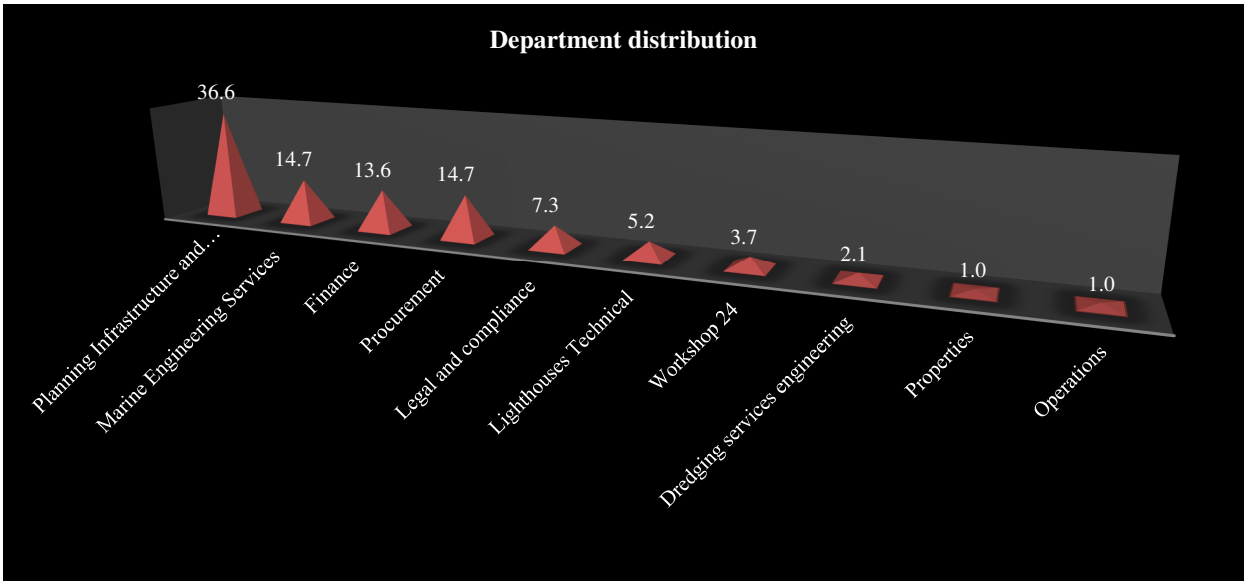
Figure 5.6: Positions in the organisation



According to the results shown in Figure 5.6, almost 40% in the sample are middle managers and junior employees, 14% are supervisors and 8% are senior managers. There was one missing response for this question.

There appears to be a very high percentage of middle managers, which is an indication that TNPA has invested more in middle management resulting in a shortage of senior managers. This needs to be addressed as a matter of urgency if the organisation is to become globally competitive.

Figure 5.7: Departments



After readjustments to correct the flaws, the results are as follows: 1% for the Properties, 1% for Operations, 3.1% for Dredging Services, 3.7% for Workshop 24. The department of Planning, Infrastructure and Engineering holds the highest percentage at 36.6%, followed by Marine Engineering Services and lastly, Procurement, which had respectively the same percentages (14%). Finance has 13.6%, Legal and Compliance 7.3% and Lighthouses Technical 5.2%.

There appears to be a very small percentage of employees allocated to Procurement, which plays a major role in the value chain at TNPA. Infrastructure and Engineering show the highest percentage, which is a healthy state of affairs for TNPA as the organisation is embarking on a number of projects in a five-year programme.

Baird (2011: 14) advises that "the NEC system is the only system of standard form of contracts in the world to cover the full procurement spectrum of works, services and supply, whilst also offering a range of pricing strategies, sub-contracts and short versions for less complex procurement". Therefore, procurement should play a vital role as it is the custodian of all the policies and procedures followed when goods and services are procured.

The tables presented hereunder are results of Section B of the questionnaire, which sought to establish the organisational climate at TNPA.

Table 5.10: Frequencies - Implementing new tools helps this organisation to work towards the organisational vision and operational objectives.

Implementing new tools helps this organisation to work towards the organisational vision and operational objectives					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	1.0	1.0	1.0
	Unsure	21	10.5	10.6	11.6
	Agree	129	64.5	64.8	76.4
	Strongly Agree	47	23.5	23.6	100.0
	Total	199	99.5	100.0	
Missing	System	1	.5		
Total		200	100.0		

According to Table 5.10, more than 74% of the respondents agreed that implementing new tools will benefit TNPA. The mean for that question was 4.11 and the standard deviation was low (.598). These two indices confirm that the majority of people agreed with that statement, fewer of them were unsure (10%) and very few disagreed (1%).

However, this question was too general to conclude that people are in favour of adapting to NEC as a new tool. Akhatar and Khan (2011) contend that leaders and managers should provide support and resources for the learning and development designed for the employees, in order to ensure that commitment leads to achieving organisational objectives, new learning and dissemination of knowledge. It is encouraging to note that the majority of respondents are confident that the NEC will be successfully implemented after its introduction.

Table 5.11: Frequencies - Employees are eager to share information about what does or does not work in our organisation.

Employees are eager to share information about what does or does not work in our organization					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	1.5	1.5	1.5
	Disagree	26	13.0	13.1	14.6
	Unsure	59	29.5	29.6	44.2
	Agree	99	49.5	49.7	94.0
	Strongly Agree	12	6.0	6.0	100.0
	Total	199	99.5	100.0	
Missing	System	1	.5		
Total		200	100.0		

This question aimed to find out whether management's approach is participatory or not. The frequency table (Table 5.11) shows that more than half of the studied sample (55.7%) agreed that information at TNPA is shared among employees. However, a large number of people (almost 45%) were either unsure or disagreed. The mean here was 3.46, which implies that the general opinion is closer to "unsure"; the standard deviation (.859) implies that the opinions of people about the question were quite varied.

According to Xu and Yang (2010), team work is usually required for information-sharing and problem-solving because of its complexity and simulation. Literature also revealed that cross-functional teams are usually formed by experts from different disciplines who are working towards one goal, and there is more creativity involved compared with tasks that are performed by individuals. The views of respondents on sharing information are that bottlenecks in the initiation phase of the implementation of the NEC could result.

Table 5.12: Frequencies - Newly hired and experienced employees always receive training when new initiatives are launched.

Newly hired and experienced employees always receive training when new initiatives are launched					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	.5	.5	.5
	Disagree	35	17.5	17.7	18.2
	Unsure	57	28.5	28.8	47.0
	Agree	91	45.5	46.0	92.9
	Strongly Agree	14	7.0	7.1	100.0
	Total	198	99.0	100.0	
Missing	System	2	1.0		
Total		200	100.0		

SPSS.19 indicated that two respondents failed to answer this question. More than 53% agreed that training is always provided when new initiatives are launched; the mean (3.39) shows that the general opinion was closer to "unsure". This slight contradiction was justified by the high standard deviation (.886). Therefore, it would be difficult to consider the statement to be true for the majority of employees.

Bellanca (2010) states that for organisations to ensure that people adapt to new policies, proper training should be conducted; one-on-one training is recommended for those who absorb change better in a smaller setting which allows them to ask questions and get responses at their own pace.

Table 5.13: Frequencies - Working in Teams is supported in our organisation through training.

Working in teams is supported in our organisation through training					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	1.0	1.0	1.0
	Disagree	28	14.0	14.1	15.1
	Unsure	73	36.5	36.7	51.8
	Agree	83	41.5	41.7	93.5
	Strongly Agree	13	6.5	6.5	100.0
	Total	199	99.5	100.0	
Missing	System	1	.5		
Total		200	100.0		

The statement "working in teams was supported in our organisation through training" yielded the results presented in Table 5.13.

According to the table below, when the missing value was excluded, there were almost 52% of people who were either not sure or disagreed. About 48% considered the statement true. The mean for this question is closer to "unsure" (3.38) and the standard deviation is high (.811) meaning that the opinions are quite varied across the sample. The views among the employees relating to training support indicate the lack of adequate training at TNPA. Training is an essential component of skills development and is imperative for the successful implementation of the NEC.

According to Aslam, Javid, Tanveer, Khan and Shabbier (2011) teams are viewed as the building blocks of any organisation. These are made up of different individuals all accelerating and supporting the organisational growth through training and development. Team learning should be more encouraged in organisations as this will enable the employees to work more closely together for the benefit of the organisation.

Table 5.14: Frequencies - I am in favour of the NEC because it encourages collaboration.

I am in favour of the NEC because it encourages collaboration					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	2.5	2.6	2.6
	Disagree	21	10.5	11.1	13.8
	Unsure	104	52.0	55.0	68.8
	Agree	37	18.5	19.6	88.4
	Strongly Agree	22	11.0	11.6	100.0
	Total	189	94.5	100.0	
Missing	System	11	5.5		
Total		200	100.0		

According to Table 5.14, only 31% are in favour of the NEC because it encourages collaboration. Of those, only 19% can be taken seriously, given that it was the proportion of the sample who was trained and thereby understood the NEC contract.

Also, the high missing values can indicate ignorance regarding the NEC contract. It appears that the communications section of the TNPA was not very forceful in its campaign to indicate the positive correlation between the introduction of the NEC and collaboration among employees. Good collaboration between the project team members will result in a seamless flow of activities and processes in executing project-specific goals within an agreed set of parameters (Sun and Oza, 2008).

Table 5.15: Frequencies - I am in favour of the NEC because it facilitates communication in the organisation.

I am in favour of the NEC because it facilitates communication in the organisation					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	2.0	2.1	2.1
	Disagree	25	12.5	13.3	15.4
	Unsure	108	54.0	57.4	72.9
	Agree	32	16.0	17.0	89.9
	Strongly Agree	19	9.5	10.1	100.0
	Total	188	94.0	100.0	
Missing	System	12	6.0		
Total		200	100.0		

According to Table 5.15, only 27% of employees were in favour of the NEC because it facilitates communication. A higher percentage of employees were unsure (57%). This was consistent with the fact that a large number of people did not know about the NEC.
The findings below confirm that the communications section of the TNPA could have been much more proactive in its information campaign.

Bouckenooghe (2008) states that the quality of communication justifies the reasons why change is necessary, and helps in the reduction of change uncertainty, which is essential to shaping employees' 'readiness for change'.

Table 5.16: Frequencies- I try not to think about NEC because when I do, I get stressed out.

I try not to think about the NEC because when I do, I get stressed out					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	22	11.0	11.6	11.6
	Disagree	63	31.5	33.3	45.0
	Unsure	99	49.5	52.4	97.4
	Agree	4	2.0	2.1	99.5
	Strongly Agree	1	.5	.5	100.0
	Total	189	94.5	100.0	
Missing	System	11	5.5		
Total		200	100.0		

For people to think about the NEC, they first need to understand what it is about. According to Table 5.16, only 2.6% agreed that they were stressed by thinking about NEC.
The researcher presumes, once more, that the large number of unsure (52.4) respondents is due to their ignorance of NEC.

This view is supported by Maurer (2011) who states that, in the stressed group, stress can result in resistance and physical reactions such as absenteeism, headache, high blood pressure, depression and so on. These can affect employees' productivity. Management should intervene by clarifying the reasons for change taking place within the organisation in order to relieve the stress of those who view change negatively (Mariana and Viloleta, 2011).

TNPA has not been forceful enough in its drive to disseminate information relating to the NEC.

According to the reviewed literature, organisational factors and NEC knowledge should be affecting NEC attitude. It was therefore necessary to first check if there were relationships between these independent variables and the dependent variable (NEC attitude)., because if there was no relationship it would have been pointless to look at the impact of these independent variables on the dependent variable.

Table 5.17: Correlation test: Organisational factors and attitude towards NEC.

Correlations			
		Organisational factors	Favorable attitude towards the NEC
Organisational factors	Pearson Correlation	1	.168*
	Sig. (2-tailed)		.024
	N	198	182
Favorable attitude towards the NEC	Pearson Correlation	.168*	1
	Sig. (2-tailed)	.024	
	N	182	184
***. Correlation is significant at the 0.05 level (2-tailed).**			

Table 5.17 indicates that the correlation test is significant (r= .168 and p=0.024 < 0.05). The interpretation was that there was a positive relationship between the organisational factors and the favourable attitude towards the NEC.

These results were consistent with the findings reviewed in the literature. This also means that the greater the effects of organisational factors, the more likely that employees will be in favour of changing to the NEC.

Table 5.18: Correlation test: NEC favourable attitude and NEC knowledge

Correlations			
		NEC favourable attitude	NEC knowledge
The NEC favourable attitude	Pearson Correlation	1	.589**
	Sig. (2-tailed)		.000
	N	184	183
The NEC knowledge	Pearson Correlation	.589**	1
	Sig. (2-tailed)	.000	
	N	183	193
**. Correlation is significant at the 0.01 level (2-tailed).			

Table 5.18 indicates that the correlation test between the two variables is significant (r= .589 and p=0.000 < 0.01).

The interpretation is that there is a strong positive relationship between knowledge about NEC and favourable attitude toward NEC. These results also mean that the more the employees know about the NEC, the greater the likelihood that they will be in favour of adapting to it.

Table 5.19: Cross tabulation: Position NEC awareness * I do know that there is a new form of contract, the NEC

Position in the organisation and the level of the NEC awareness								
			I do know that there is a new form of contract, the NEC					Total
			Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree	
Position in the Organisation	Senior Manager	Count	2	0	0	4	9	15
		% within Position in the Organisation	13.3%	.0%	.0%	26.7%	60.0%	100.0%
	Middle Manager	Count	8	26	10	22	11	77
		% within Position in the Organisation	10.4%	33.8%	13.0%	28.6%	14.3%	100.0%
	Supervisor	Count	1	15	8	3	1	28
		% within Position in the Organisation	3.6%	53.6%	28.6%	10.7%	3.6%	100.0%
	Junior Employee	Count	10	17	12	32	8	79
		% within Position in the Organisation	12.7%	21.5%	15.2%	40.5%	10.1%	100.0%
Total		Count	21	58	30	61	29	199
		% within Position in the Organisation	10.6%	29.1%	15.1%	30.7%	14.6%	100.0%

Table 5.19 presents the percentages of employees who were aware of the NEC forms' existence and those who were not. According to this table, the greatest rate of awareness is among senior managers, with 86.7%, followed by junior employees (50.51%), then middle managers (42.9%) and only 14.3% of supervisors are aware of the NEC form. Beyond these numbers, this table demonstrates an awareness imbalance among the positions.

The results indicate that the majority of all levels of management are aware of the NEC. Managers who are equipped with the knowledge, will be influential in fast-tracking employees' awareness of the NEC.

Table 5.20: Cross-tabulation: Position, training and understanding of the NEC * I have been trained on and I understand the NEC form of contract

Position in the Organisation * training and understanding of the NEC								
			I have been trained on and I understand the NEC form of contract					Total
			Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree	
Position in the Organisation	Senior Managers	Count	0	3	2	5	5	15
		% within Position in the Organisation	.0%	20.0%	13.3%	33.3%	33.3%	100.0%
	Middle Managers	Count	13	37	7	14	3	74
		% within Position in the Organisation	17.6%	50.0%	9.5%	18.9%	4.1%	100.0%
	Supervisors	Count	1	15	8	2	1	27
		% within Position in the Organisation	3.7%	55.6%	29.6%	7.4%	3.7%	100.0%
	Junior Employee	Count	24	34	13	6	1	78
		% within Position in the Organisation	30.8%	43.6%	16.7%	7.7%	1.3%	100.0%
Total		Count	38	89	30	27	10	194
		% within Position in the Organisation	19.6%	45.9%	15.5%	13.9%	5.2%	100.0%

According to the cross-table (Table 5.20), the indicators for senior managers are quite good, but TNPA still has a lot to do among junior employees (only 9% were trained), supervisors (only 11.1%) and middle managers (23%).

The results indicate that TNPA did not target managers and employees equitably in its NEC information campaign. This backlog could lengthen the time before TNPA achieve maximization of profit.

Table 5.21: Cross-tabulation: Position in the Organisation * Usage of the NEC * Our department is using the NEC form of contract

Position in the Organisation * The usage of the NEC								
			Our department is using the NEC form of contract					Total
			Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree	
Position in the Organisation	Senior Manager	Count	1	2	5	4	3	15
		% within Position in the Organisation	6.7%	13.3%	33.3%	26.7%	20.0%	100.0%
	Middle Manager	Count	8	28	16	17	4	73
		% within Position in the Organisation	11.0%	38.4%	21.9%	23.3%	5.5%	100.0%
	Supervisor	Count	0	9	14	4	0	27
		% within Position in the Organisation	.0%	33.3%	51.9%	14.8%	.0%	100.0%
	Junior Employee	Count	13	20	28	14	2	77
		% within Position in the Organisation	16.9%	26.0%	36.4%	18.2%	2.6%	100.0%
Total		Count	22	59	63	39	9	192
		% within Position in the Organisation	11.5%	30.7%	32.8%	20.3%	4.7%	100.0%

According to Table 5.21, the general level of the NEC's usage in TNPA was still very low. Senior managers still recorded a better percentage than the other positions. However, there was still a lot to do in the other positions, especially among the supervisors.

The quick implementation of hands-on experience is essential for the successful implementation of the NEC at TNPA. Unfortunately, the supervisors appear to have been neglected in this exercise.

Table 5.22: Partial correlations: NEC knowledge and the NEC favourable attitude when organisational factors are controlled

Partial Correlations between NEC Knowledge and the NEC favourable attitude when the organisational factors are controlled				
Control Variables			Favorable attitude towards the NEC	NEC knowledge
Organisational factors	Favorable attitude towards the NEC	Correlation	1.000	.586
		Significance (2-tailed)	.	.000
		Df	0	178
	NEC knowledge	Correlation	.586	1.000
		Significance (2-tailed)	.000	.
		Df	178	0

According to the results presented in the Table 5.22, there is still a significant correlation between the two variables when the variable 'organisational factors' is controlled. The correlation between the variable 'employees' NEC knowledge' and the variable 'employees' NEC favourable attitude' was not caused by organisational factors.

The training & learning, the openness to change and the easy circulation of information are suitable for improving adaptation to the NEC at TNPA because there was a positive correlation between these organisational factors and the favourable attitude of employees towards the NEC form. However, favourable attitude was also correlated with NEC knowledge, although this second correlation was not caused by organisational factors.

This was consistent with the theory that there cannot be change (implementation of the new tool) without an improvement of information circulation, learning and training and an openness of employees' minds.

Table 5.23: Cross-Tabulation: Position in the Organisation * In our organisation, managers establish forums and provide time and resources for identifying and solving problems and organisational challenges.

Cross tabulation (Position in the Organisation * In our organisation, managers establish forums and provide time and resources for identifying and solving problems and organisational challenges								
			In our organisation, managers establish forums and provide time and resources for identifying and solving problems and organisational challenges					Total
			Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree	
Position in the Organisation	Junior Employee	Count	0	12	31	30	4	77
		% within Position in the Organisation	0.0%	15.6%	40.3%	39.0%	5.2%	100.0%
	Supervisor	Count	0	11	9	6	2	28
		% within Position in the Organisation	0.0%	39.3%	32.1%	21.4%	7.1%	100.0%
	Middle Manager	Count	1	20	21	31	4	77
		% within Position in the Organisation	1.3%	26.0%	27.3%	40.3%	5.2%	100.0%
	Senior Manager	Count	1	5	2	5	2	15
		% within Position in the Organisation	6.7%	33.3%	13.3%	33.3%	13.3%	100.0%
Total		Count	2	48	63	72	12	197
		% within Position in the Organisation	1.0%	24.4%	32.0%	36.5%	6.1%	100.0%

According to Table 5.23, managers have a very positive evaluation of themselves concerning the statement. More than 46% of the senior managers think that, in TNPA, managers are so concerned by the problems of the organisation that they provide enough forums, time and resources to solve those problems. Among the middle managers, almost 45% have the same opinion.

Comparing these frequencies with those of the other positions, it was noted that, among the supervisors, only 28% agreed with the statement versus 44.2% of junior employees. Despite this difference in scores, the study could generalise by saying that only 40% of the staff agreed that managers are concerned about TNPA problems and are providing the necessary resources to solve these problems. However there are still 60% remaining, which is significant.

Concerning the second role, managers were to encourage employees to try new things to improve their performances. It would be interesting to examine staff opinion on that issue.

Table 5.24: Cross-Tabulation: Position in the Organisation*In our organisation Managers encourage employees to try new and effective ways to perform their duties

Cross-tabulation: Position in the Organisation * In our organisation Managers encourage employees to try new and effective ways to perform their duties							
			In our organisation Managers encourage employees to try new and effective ways to perform their duties				
			Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
Position in the Organisation	Junior Employee	Count	0	12	27	35	3
		% within Position in the Organisation	0.0%	15.6%	35.1%	45.5%	3.9%
	Supervisor	Count	0	4	10	14	0
		% within Position in the Organisation	0.0%	14.3%	35.7%	50.0%	0.0%
	Middle Manager	Count	3	13	21	35	5
		% within Position in the Organisation	3.9%	16.9%	27.3%	45.5%	6.5%
	Senior Manager	Count	0	2	3	9	1
		% within Position in the Organisation	0.0%	13.3%	20.0%	60.0%	6.7%
Total		Count	3	31	61	93	9
		% within Position in the Organisation	1.5%	15.7%	31.0%	47.2%	4.6%

According to Table 5.24, more than 66% of senior managers and 51% of middle managers agreed that, at TNPA, managers encourage employees to try new things. On the other hand, about 49% of the junior employees and 50% of the supervisors agreed with statement.

These results show that at least half of the sample thinks that the managers encourage the employees to try new things. If managers encourage the staff without assistance or coaching, this can result in a poor outcome, so it is also important to evaluate the managers' coaching.

Table 5.25: Cross-Tabulation: Position in the Organisation * Managers and leaders do coach and mentor their subordinates

Cross-tabulation Position in the Organisation * Managers and leaders do coach and mentor their subordinates								
			Managers and leaders do coach and mentor their subordinates					Total
			Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree	
Position in the organisation	Junior Employee	Count	2	13	28	32	4	79
		% within Position in the Organisation	2.5%	16.5%	35.4%	40.5%	5.1%	100.0
	Supervisor	Count	0	5	5	18	0	28
		% within Position in the Organisation	0.0%	17.9%	17.9%	64.3%	0.0%	100.0
	Middle Manager	Count	1	20	19	34	3	77
		% within Position in the Organisation	1.3%	26.0%	24.7%	44.2%	3.9%	100.0
	Senior Manager	Count	0	6	1	8	0	15
		% within Position in the Organisation	0.0%	40.0%	6.7%	53.3%	0.0%	100.0
Total		Count	3	44	53	92	7	199
		% within Position in the Organisation	1.5%	22.1%	26.6%	46.2%	3.5%	100.0

Table 5.25 shows that 53% of senior managers and 49% of middle managers agreed that, at TNPA, managers assist the employees during the implementation of a new tool. Concerning the other employees, more than 64% among the supervisors and more than 45% of the junior employees agreed with the statement.

Though these results are not perfect, they affirm that there was an effort by the managers to assist the employees during the implementation of new tools in the organisation. Managers

must also use any suitable opportunity to promote training and learning in the organisation. The table below presents the employees' opinions about this matter.

Lee (2012) suggests that training and development, mentoring and coaching should be conducted through formal training, team-building, workshops and seminars.

Table 5.26: Cross-tabulation: Position in the Organisation - Managers are continually looking for opportunities to train and develop subordinates.

Cross-tabulation (Position in the Organisation * Managers are continually looking for opportunities to train and develop subordinates)

			Managers are continually looking for opportunities to train and develop subordinates					Total
			Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree	
Position in the Organisation	Junior Employees	Count	1	16	34	24	4	79
		% within Position in the Organisation	1.3%	20.3%	43.0%	30.4%	5.1%	100.0%
	Supervisors	Count	0	4	11	11	1	27
		% within Position in the Organisation	0.0%	14.8%	40.7%	40.7%	3.7%	100.0%
	Middle Managers	Count	2	19	27	23	6	77
		% within Position in the Organisation	2.6%	24.7%	35.1%	29.9%	7.8%	100.0%
	Senior Managers	Count	1	3	5	5	0	14
		% within Position in the Organisation	7.1%	21.4%	35.7%	35.7%	0.0%	100.0%
Total		Count	4	42	77	63	11	197
		% within Position in the Organisation	2.0%	21.3%	39.1%	32.0%	5.6%	100.0%

According to Table 5.26, only about 35% of senior managers and 36% of middle managers agreed that learning and training is promoted at TPNA. About 44% of the supervisors and 40% of the junior employees agreed with the statement.

The general performance of the managers in this aspect was quite low. This was definitely the weakest point of the construct 'role of managers'. Now that the cross-tabulations between the positions and the different aspects of the role of the managers have been analysed, some inferential tests will be conducted to achieve the second objective of the research.

Inferential statistical tests

This section explored the relationships between the role of managers and the other constructs. It began with exploring the relations between the role of managers and favourable attitude towards the NEC. The correlation test is presented in Table 5.27 below:

Table 5.27: Correlations test: Role of managers and NEC favourable attitude

Correlations role of managers and NEC favourable attitude			
		role of the managers	NEC favourable attitude
role of the managers	Pearson Correlation	1	.145*
	Sig. (2-tailed)		.027
	N	178	178
NEC favourable attitude	Pearson Correlation	.145*	1
	Sig. (2-tailed)	.027	
	N	178	178
**. Correlation is significant at the 0.01 level (2-tailed).			

Table 5.27 reveals that there is no relationship between the role played by TNPA managers and a favorable attitude of employees towards the NEC (because of r= .145; p=.027>.01).
In other words, any improvement in the role of the managers will not directly lead to an increase in favourable attitude to the NEC among employees.

The relationship between the role of managers and organisational factors was also checked. The correlation results are presented in the table.

Table 5.28: Correlations test: Role of managers and organisational factors

Correlation between the role of the managers and the organisational factors			
		Total role of the managers	T. organisational factors
Total role of the manager	Pearson Correlation	1	.617**
	Sig. (2-tailed)		.000
	N	194	194
T. organisational factors	Pearson Correlation	.617**	1
	Sig. (2-tailed)	.000	
	N	194	198
**. Correlation is significant at the 0.01 level (2-tailed).			

Table 5.28 indicates a strong relationship between the role of managers and organisational factors (because of r=.617; p=.000< .01). This means that there is a 99% chance that any improvement in the role of managers will lead to an improvement of the organisational factors.

It would also be interesting to check whether organisational factors have a cause effect in the relationship between the role of managers and favourable attitudes to the NEC tested previously.

Table 5.29: Partial correlation: Role of manager and the NEC favourable attitude

Partial correlation between the role of manager and the NEC favourable attitude				
Control Variables			role of the managers	favourable attitude towards the NEC
Organisational factors	role of the manager	Correlation	1.000	.080
		Significance (2-tailed)	.	.292
		df	0	175
	favourable attitude towards the NEC	Correlation	.080	1.000
		Significance (2-tailed)	.292	.
		df	175	0

Table 5.29 indicates that, when the effect of organisational factors is controlled, there is still no relationship between the role of managers and the NEC's favourable attitude (because r=.080; p=.292>.05). The conclusion to be drawn is that the organisational factors have no effect on the relationship between the role of managers and favourable attitudes to the NEC.

Any improvement in organisational factors will not affect the relationship status between the role of managers and favourable attitudes to the NEC among TNPA employees.
With regard to the relationship between the role of managers and NEC knowledge, the results are presented in the table above.

Table 5.30: Correlations test: Role of the managers and the NEC knowledge

Correlations between the role of the managers and the NEC knowledge			
		role of the managers	NEC knowledge
role of the managers	Pearson Correlation	1	.125
	Sig. (2-tailed)		.088
	N	194	188
NEC knowledge	Pearson Correlation	.125	1
	Sig. (2-tailed)	.088	
	N	188	193

Table 5.30 indicates that there is no relationship between the role played by the managers and knowledge of the NEC among the TNPA employees. In other words, any improvement in the role played by the managers will not lead to an improvement in the level of knowledge among the employees (because $r = .125$; $p = .088 > .05$).

This section discussed the role of the managers. Some cross-tabulations were explored and the study found that the weakest aspect in the role of the managers at TNPA was in the promotion of learning and training among the employees. However, the study also revealed that there was no relationship between the role of managers and favourable attitudes to the NEC among TNPA employees. Rather, the role of managers had a strong relationship with the organisational factors, which have a relationship with NEC favourable attitude.

This finding is discouraging to the TNPA. Normally, skills from senior members would be transferred to junior members, thereby resulting in an accumulation of skills in an organisation.

Table 5.31: Model Summary- favourable attitude towards the NEC

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.599[a]	.359	.348	2.170

a. Predictors: (Constant), Total of the NEC knowledge, Total of organisational factors, Total role of the managers

b. Dependent Variable: Total of favourable attitude towards the NEC

Table 5.31 indicates that 35.9% of the variance in the total favourable attitudes towards implementation of the NEC is explained by the model. The researcher decided not to consider the Adjusted R Square because of the size of the sample. The statistical significance of this model is presented in the table above:

The regression model below was constructed around one dependent variable, which was the NEC favourable attitude for changing, and three independent variables, which were NEC knowledge, organisational factors and the role of managers. The table below gives some information concerning the quantity of variance in the variable 'NEC favourable attitude' explained by the three selected independent variables.

Table 5.32: ANOVA –favourable attitude towards the NEC

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	458.580	3	152.860	32.477	.000[a]
	Residual	818.977	174	4.707		
	Total	1277.557	177			

a. Predictors: (Constant), Total of NEC knowledge, Total of organisational factors, Total role of the managers

b. Dependent Variable: Total of favourable attitude towards the NEC

According to Table 5.32, the regression model is significant because F= 32.477; p= 000 < 0.05; with three degrees of freedom. It will be interesting to evaluate the contribution of each independent variable in this model.

Table 5.33: Coefficients

Coefficients													
Model		Unstandardized Coefficients		Standard-ized Coeffi-cients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tole-rance	VIF
1	(Constant)	7.292	1.224		5.958	.000	4.876	9.707					
	the NEC knowledge	.553	.059	.578	9.437	.000	.438	.669	.589	.582	.573	.983	1.017
	role of the managers	.009	.073	.009	.123	.902	-.136	.154	.145	.009	.007	.615	1.625
	organisational factors	.136	.102	.103	1.334	.184	-.065	.338	.168	.101	.081	.619	1.617

a. Dependent Variable: favourable attitude towards the NEC

Table 5.33 gives a lot of information about each independent variable of the model. Looking at the beta column under standardized coefficients, it is noticeable that the largest value is .578, which is for NEC knowledge. This means that this variable makes the strongest unique contribution to explaining the favourable attitude towards NEC, when the variance explained by all other variables in the model is controlled. The role of the managers has the lowest value, meaning that this variable made less of a unique variance contribution.

The Sig column indicated that only the variable 'NEC knowledge' made a significant unique contribution to the regression equation of the NEC favourable attitude. It also means that the independent variable 'NEC knowledge' was the best predictor of the NEC favourable attitude. Other useful information in the table is the part correlations; its column shows that NEC knowledge uniquely explains 32.8% (0.582x 0.582) of the variance in the total NEC favourable attitude. Therefore the role of managers is 0.0049% and organisational factors is 0.65%. The previous section examined the factors that predict a favourable attitude towards

NEC among TNPA employees. It would be interesting to determine the factors that contribute to the unfavourable attitude towards NEC. This step of analysis will surely be useful to comprehend the delays in implementing to NEC at TNPA. This same model will be tested but, this time, having 'unfavourable attitude towards the NEC 'as a dependent variable. It must be borne in mind that the variable 'unfavourable attitude towards the NEC' is derived from the computation of all the answers related to a negative perception of changing to the NEC. The components of the other three independent variables remain as previously explained.

Table 5.34: Model Summary- unfavourable attitude towards the NEC

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.389[a]	.151	.137	3.835

a. Predictors: (Constant), NEC knowledge , Total organisational factors , role of the managers

b. Dependent Variable: Un favourable attitude towards the NEC

Table 5.34 indicates an R square = .151 and an adjusted R square = .137. Between the two values, the R square will be considered because of the size of the sample. This R square value means that 15.1% of the variance of the variable total of the unfavourable attitude towards NEC is explained by the model. The ANOVA table below gives the level of significance of this regression model.

Table 5.35: ANOVA- unfavourable attitude towards the NEC

ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	461.829	3	153.943	10.466	.000[a]
	Residual	2588.656	176	14.708		
	Total	3050.486	179			

a. Predictors: (Constant), NEC knowledge , organisational factors , role of the manager

b. Dependent Variable: Un favourable attitude towards the NEC

Table 5.35 indicates that F= 10.466; p= .000 <0.05; at 3 degrees of freedom. This means that the regression model is significant for the dependent variable that it is used to predict. The contribution of each independent variable in predicting the unfavourable attitude towards NEC among employees was also examined. The results are presented in the table above.

Table 5.36: Coefficients

Coefficients of the regression model of the NEC unfavourable attitude

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	23.457	2.151		10.903	.000	19.212	27.703					
	Organisa-tional factors	-.014	.180	-.007	-.077	.939	-.369	.341	-.066	-.006	-.005	.619	1.617
	Role of the manager	-.047	.129	-.032	-.363	.717	-.301	.207	-.084	-.027	-.025	.615	1.625
	NEC knowledge	-.563	.103	-.383	-5.465	.000	-.767	-.360	-.387	-.381	-.380	.983	1.017

a. Dependent Variable: Total of Not favourable attitude towards the NEC

The first implication from Table: 5.36 is the assumption of multicollinearity in the model. Examining the column tolerance, it can be noticed that all the values were superior to 0.10 and all the VIF values were far lower than 10. These two indicators show that the assumption of multicollinearity is not violated. The other assumptions, such as normality, linearity, homoscedasticity and independence of residual, were also verified before running the regression test.

The second piece of information that can be derived from table 5.36 is the factor that predicts the highest score towards the NEC. Table 5.36 indicates that NEC knowledge once again is the best predictor of the model because it has the highest beta value (-.383, the sign does not matter). In other words, this independent variable makes a strong unique contribution to the variance of the dependent variable. It is followed by the role of the managers and then the organisational factors.

Concerning the significance of the various contributions, the column 'Sig' shows that only the variable 'NEC knowledge' makes a significant, unique contribution to the prediction of unfavourable attitude towards the NEC (because Sig = .000 <. 05).

Another piece of useful information is the Part correlations. This column gives the unique variance contribution of each independent variable in the total R square. This variance contribution is calculated by multiplying each value by itself, then calculating the percentage of the unique contribution of that specific variable. In this case, 0.0025% of the variance of the 'NEC unfavourable attitude' is uniquely explained by the 'organisational factors'; 0.06% of the variance of 'the NEC unfavourable attitude' is uniquely explained by the factor 'the role of the managers'. If the unique contribution of the factor 'NEC knowledge' is removed, the total variance of the 'NEC unfavourable attitude' will decrease by 14.44%.

In short, the predictions for the factors 'NEC favourable attitude 'and 'NEC unfavourable attitude' by the two regression models infer that the factor 'NEC knowledge' is the best predictor in both cases. This is consistent with the findings discussed in the literature review in chapter two. The components of the factor 'NEC knowledge' are 'NEC awareness', 'NEC training' and 'NEC usage' in the department. According to the results, these three aspects are the best predictors of the favourable attitude or unfavourable attitude toward NEC.

Since 'NEC knowledge' is the most strategic variable among the three, it is important to explore the correlations between 'NEC knowledge' and 'unfavourable attitude towards the NEC'. The results are presented in table 5.37 overleaf:

Table 5.37: Correlations test: NEC knowledge and unfavourable attitude toward NEC

Correlations NEC knowledge and unfavourable attitude toward NEC			
		NEC knowledge	unfavourable attitude towards the NEC
NEC knowledge	Pearson Correlation	1	-.387**
	Sig. (2-tailed)		.000
	N	193	185
Not favourable attitude towards the NEC	Pearson Correlation	-.387**	1
	Sig. (2-tailed)	.000	
	N	185	186
**. Correlation is significant at the 0.01 level (2-tailed).			

Table 5.37 indicates that there is a significant negative relationship between 'NEC knowledge' and the 'unfavourable attitude toward NEC', for r= -.387; p= .000 < .01.
This means that every time the factor 'NEC knowledge' increases, there is a 99% chance that 'unfavourable attitude toward NEC' will decrease among TNPA employees.

These results explain that adaptation to the NEC is not effective, not because of the reasons mentioned from questions 21 to 26 in the questionnaire, but because the management is failing to promote NEC knowledge in the organisation. All the indicators show that NEC knowledge is the starting point to solve the issue of implementing the NEC at TNPA.

The table overleaf gives more information about the level of awareness within the departments.

Table 5.38: Cross-tabulation of Departments- I do know that there is a new form of contract, the NEC

Department * I do know that there is a new form of contract, the NEC								
			16 I do know that there is a new form of contract, the NEC					Total
			Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree	
Department	Planning Infrastructure and Engineering	Count	4	16	13	20	17	70
		% within Department	5.7%	22.9%	18.6%	28.6%	24.3%	100.0%
	Marine Engineering Services	Count	2	21	4	1	0	28
		% within Department	7.1%	75.0%	14.3%	3.6%	.0%	100.0%
	Finance	Count	9	9	3	4	1	26
		% within Department	34.6%	34.6%	11.5%	15.4%	3.8%	100.0%
	Procurement	Count	3	1	1	15	8	28
		% within Department	10.7%	3.6%	3.6%	53.6%	28.6%	100.0%
	Legal and compliance	Count	2	2	3	5	2	14
		% within Department	14.3%	14.3%	21.4%	35.7%	14.3%	100.0%
	Lighthouses Technical	Count	0	4	2	3	1	10
		% within Department	.0%	40.0%	20.0%	30.0%	10.0%	100.0%
	Workshop 24	Count	0	3	3	1	0	7
		% within Department	.0%	42.9%	42.9%	14.3%	.0%	100.0%
	Dredging services engineering	Count	0	0	0	4	0	4
		% within Department	.0%	.0%	.0%	100.0%	.0%	100.0%
	Properties	Count	0	0	0	2	0	2
		% within Department	.0%	.0%	.0%	100.0%	.0%	100.0%
	Operations	Count	0	0	0	2	0	2
		% within Department	.0%	.0%	.0%	100.0%	.0%	100.0%
Total		Count	20	56	29	57	29	191
		% within Department	10.5%	29.3%	15.2%	29.8%	15.2%	100.0%

If TNPA wants to improve awareness of the NEC among the employees, it must start with those departments in the below table 5.38 that disagree. According to that table, some of the weaker departments, in terms of NEC awareness, are Marine Engineering services (3.6%); Workshop 24 (14.3%) and the finance department (19.2%).

Top management must improve the awareness level of these departments while reinforcing awareness in other departments.

To facilitate implementation of the NEC, top management must also promote training in the organisation. However, before reaching that point, management must have a picture of their performance per department in terms of NEC training. Moerschell (2009) confirms the finding of this study by stating that knowledge and skills transfer should benefit the employees during the implementation of the change.

The results are cross-tabulated in the table overleaf.

Table 5.39: I have been trained and I understand the NEC form of contract

Cross-tabulation department * I have been trained on and I understand the NEC form of **contract**								
			I have been trained on and I understand the NEC form of contract					Total
			Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree	
Department	Planning Infrastructure and Engineering	Count	10	26	11	16	7	70
		% within Department	14.3%	37.1%	15.7%	22.9%	10.0%	100.0%
	Marine Engineering Services	Count	0	22	4	0	0	26
		% within Department	.0%	84.6%	15.4%	.0%	.0%	100.0%
	Finance	Count	11	10	1	1	0	23
		% within Department	47.8%	43.5%	4.3%	4.3%	.0%	100.0%
	Procurement	Count	8	5	4	9	2	28
		% within Department	28.6%	17.9%	14.3%	32.1%	7.1%	100.0%
	Legal and compliance	Count	3	8	2	0	1	14
		% within Department	21.4%	57.1%	14.3%	.0%	7.1%	100.0%
	Lighthouses Technical	Count	3	6	1	0	0	10
		% within Department	30.0%	60.0%	10.0%	.0%	.0%	100.0%
	Workshop 24	Count	0	4	3	0	0	7
		% within Department	.0%	57.1%	42.9%	.0%	.0%	100.0%
	Dredging services engineering	Count	0	1	3	0	0	4
		% within Department	.0%	25.0%	75.0%	.0%	.0%	100.0%
	Properties	Count	1	1	0	0	0	2
		% within Department	50.0%	50.0%	.0%	.0%	.0%	100.0%
	Operations	Count	0	1	1	0	0	2
		% within Department	.0%	50.0%	50.0%	.0%	.0%	100.0%
Total		Count	36	84	30	26	10	186
		% within Department	19.4%	45.2%	16.1%	14.0%	5.4%	100.0%

Finally an examination of the scores per department was made. On this issue, there is a lot to do in all the departments, except in Procurement and Planning, Infrastructure & Engineering, where few people affirmed that they were trained and understood the tool. If people are aware of the NEC and are trained but do not use the tool, then the training skill will be lost. The only way to make sure

that employees understand is to evaluate their ability to use NEC in their daily duties. Therefore, the organisation must develop a strategy to promote NEC usage in each department.

The extent to which each department uses the NEC form of contract is tabulated in table 5.40 overleaf.

Table 5.40: Cross-tabulation: Department X - Our department is using the NEC form of contract

Department * Our department is using the NEC form of contract								
			Our department is using the NEC form of contract					Total
			Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree	
Department	Planning Infrastructure and Engineering	Count	8	14	21	19	8	70
		% within Department	11.4%	20.0%	30.0%	27.1%	11.4%	100.0%
	Marine Engineering Services	Count	0	18	7	1	0	26
		% within Department	.0%	69.2%	26.9%	3.8%	.0%	100.0%
	Finance	Count	7	8	6	1	0	22
		% within Department	31.8%	36.4%	27.3%	4.5%	.0%	100.0%
	Procurement	Count	4	6	8	9	0	27
		% within Department	14.8%	22.2%	29.6%	33.3%	.0%	100.0%
	Legal and compliance	Count	1	6	4	2	1	14
		% within Department	7.1%	42.9%	28.6%	14.3%	7.1%	100.0%
	Lighthouses Technical	Count	1	4	4	1	0	10
		% within Department	10.0%	40.0%	40.0%	10.0%	.0%	100.0%
	Workshop 24	Count	0	1	6	0	0	7
		% within Department	.0%	14.3%	85.7%	.0%	.0%	100.0%
	Dredging services engineering	Count	0	0	2	2	0	4
		% within Department	.0%	.0%	50.0%	50.0%	.0%	100.0%
	Properties	Count	1	0	0	1	0	2
		% within Department	50.0%	.0%	.0%	50.0%	.0%	100.0%
	Operations	Count	0	0	1	1	0	2
		% within Department	.0%	.0%	50.0%	50.0%	.0%	100.0%
Total		Count	22	57	59	37	9	184
		% within Department	12.0%	31.0%	32.1%	20.1%	4.9%	100.0%

From the table, it was noted that the company needs to promote NEC usage in the organisation, starting with the weakest departments such as: Workshop 24 (0%), Marine

Engineering services (3.8%) and Finance (4.5%). The organisation must work on the most affected departments while reinforcing the departments where the tool is already being used.

5.3 Concluding summary

The study found that, among the three factors considered in the context of this study, the factor that best explains the delay of implementing the NEC is 'NEC knowledge'. The correlation test showed that, if this factor improves, there will be an improvement in the acceptability of the tool but, if the level of knowledge remains low, this will lead to an unfavourable attitude among TNPA employees. Therefore, developing and implementing an NEC knowledge plan is an emergency if the organisation wants to facilitate adaptation to this new tool.

The next chapter concludes this study and makes recommendation where applicable.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This study was conducted amongst different operational departments in TNPA. This choice was made because they were the specific target group for the study as they formed the cross-functional team when goods and services are procured. A literature review was also conducted on the issues that had an impact on this study in order to establish the theoretical framework of the study.

The main problem, as outlined in the first chapter of this report, which the study sought to address was that TNPA, an organisational division of Transnet SOC LTD, was not using the NEC as a procurement tool. This was still the case, despite the fact that moving to the NEC was a Transnet-wide decision that was taken as far back as 2006. Thus, the study sought to find out why there was this delayed implementation to the tool.

The chapter concludes the study by addressing the research objectives, with a summary of the research findings and recommendations for the study. At the end of the chapter, recommendations for future research are presented.

6.2 Addressing the research objectives

The following discussion shows how each of the study's objectives were established.

6.2.1 To establish the organisational factors that hinder the process of changing to the NEC form

The first objective was to establish whether the prevailing organisational factors enabled employees to change to the NEC. To establish this objective, organisational factors such as readiness to change, information sharing, and training and learning were used to determine how to improve the NEC's implementation at TNPA.

With regard to readiness to change, the study established that a majority of respondents agreed that implementing new tools would benefit TNPA in working towards

organisational vision and objectives. It was observed that the more time employees spent in the same company, the less likely they would be able to adjust to new ways as they become reluctant to change.

This is in line with scholarly work that was reviewed in the second chapter, where Hussain and Hafeez (2008) found that any change taking place in the organisation requires a shift in the mind-set of the employees. According to Bruckman (2008), before implementing change, it is necessary to clearly define the objectives and reasons for change and align them with the organisational mission and vision. New approaches and tools can be tailored to suit any application within the organisation. However, Laura-Georgeta (2008) warns that adopting new approaches to the way employees operate or view things is quite a challenge.

Further findings for this study indicated that there was a need for information sharing. The study revealed that most respondents were unsure whether the information was shared among the employees; this continues to be a challenge for TNPA. Not sharing information could result in bottlenecks in the initiation phase of the implementation of the NEC.

This aspect is noted in literature and is supported by Rigg (2010) who describes learning as a tool that focuses on bringing individuals together for the purpose of sharing knowledge, resulting in the improvement of relationships and understanding. According to Marquardt, Seng and Doodson (2010:242) teams can be formed by a "group of willing individuals who are united around a common goal, interdependent on each other, structured to work together, sharing responsibility for team tasks, and empowered to implement decisions". Xu and Yang (2010) advise that teamwork is usually required for information sharing and problem solving because of their complexity and stimulation.

With regard to training and learning, the results of the study demonstrated that there was a lack of adequate training on how to use NEC in TNPA. It was also discovered that training was an essential component of skills development and this was a requirement for the successful implementation of the NEC. It was further discovered that change or adaptation to the NEC was not possible without improvements in training and learning within the organisation. It was also discovered that employees should be sent for training before implementing new tools.

According to Moreman (2011:2) “a common cause of new procedures not being followed is that employees have not been adequately trained. The more effective and extensive the training, the higher the probability for success”. This is in line with Bellanca (2010) who states that knowledge management will ensure that those resisting change will be assisted through empowerment and capacity building.

Knowledge and skills transfer should benefit the employees during the implementation of the change. Bellanca (2010) further states that, for the organisation to ensure that people adjust to new policies, proper training should be conducted and that one – on – one training is recommended to cater for those who absorb change better in a smaller setting which allows them to ask questions and get responses, at their own pace.

6.2.2 To ascertain the role of managers in facilitating the change

The second objective was to ascertain the role of managers in facilitating change. To establish this objective, the role of managers was described as mentoring and coaching, training and developing subordinates, encouraging employees to try new and effective ways of performing their duties through organising forums and providing time and resources.

With regards to mentoring and coaching as well as training and development of subordinates, the study established that managers do assist the employees during the implementation of the new tools; however, this has not been the case with regards to the implementation of NEC.

This is in line with Lee’s (2012) view that training and development, mentoring and coaching should be conducted through formal training, team-building, workshops and seminars. The study also revealed that supervisors and junior employees appear to have been neglected in this exercise. As noted by Akhtar and Khan (2011), leaders and managers should provide support and resources to the learning and development designed for the employees, in order to ensure that commitment leads to achieving organisational objectives, new learning and dissemination of knowledge.

The study also found that the weakest aspect in the role of the managers in TNPA was in the promotion of learning and training among the employees. The majority of respondents’ answers showed that there was no initiative from managers to help

employees adjust to new change. Their responses showed lack of familiarisation of employees with NEC.

Taking these factors into account means that any improvement in the role played by the TNPA managers will lead to an improvement of the organisational factors which, in turn, will lead to an improvement in the favourability of the employees' attitudes towards NEC implementation. This indirect link between the role of the managers and positive attitude towards NEC implementation reflects the fact that it is vital role for managers to be facilitators of NEC implementation.

According to Bradley (2010) and Hunter (2011) a learning organisation is possible only if every individual within the organisation applies personal mastery over their respective tasks. Accordingly, the management of TNPA would do well to cultivate a culture of learning among TNPA's employees. Such an environment must be maintained so that the employees are able to adjust to new situations, including the NEC and the environment it seeks to create.

6.2.3 To establish the individual factors that hinder the process of changing to the NEC

The third objective of the study was to establish the individual factors that hinder the process of changing to the NEC. To establish this objective, individual factors were described as communication, improving of knowledge of the NEC and encouraging collaboration.

With regard to communication, the study established that less than 50% of the respondents were in favour of the NEC because it facilitates communication. A higher percentage was unsure, which was consistent with the fact that they did not know about the NEC, since it has been neither widely introduced nor correctly implemented within TNPA. It was discovered that top management should work closely with the communication department to determine how best TNPA can communicate the information about NEC across the organisation.

This is in line with the theoretical perspective that says application of sound contract management tools and techniques form a base for the use of the NEC agreements, due to their effective communication protocols and management techniques, which are clearly

explained in its guidelines, with notes being provided with each agreement (NEC 3 Engineering and construction contract (ECC)-Black Book, 2005).

Munac (2008) also stresses that, for the organisation to gain credibility from its employees, it is advisable to communicate change in advance as well as on a continuous basis, and that the methods used should be relevant and those preferred by the audience. Furthermore, Bouckenooghe (2008) concludes that the quality of communication justifies the reasons why change is necessary, and helps to reduce the change uncertainty that is essential in shaping employees' readiness for change. According to Scheid (2011) when employees do not understand the need for change, chances are very low that the organisation will get buy-in, whereas when the changes are communicated early and effectively, employees will buy into change.

Lee (2012) suggests that the need for the change should be clearly defined and that strategic decisions must be communicated through meetings, emails, the company website, intranet, notice boards, pamphlets and company magazines, to make sure that the message reaches the recipients across the organisation.

With regard to improvement of levels of knowledge of the NEC, the results indicate that NEC implementation is not effective because management is failing to promote NEC knowledge within the organisation, and employees are not trained. It was discovered that a few respondents had a negative and unfavourable attitude towards NEC. The study also indicates that every time that NEC knowledge increases, there is a 99% chance that unfavourable attitudes toward the NEC will decrease among employees. Knowledge from skilled and experienced employees, when transferred to those who are inexperienced, will have a great impact on the future of TNPA.

This is in line with Sebestsova and Rylkova (2011) who emphasize that organisations which implement strong transformational leadership have higher percentages of employees who are motivated for self-learning and would participate in creative activities that contribute to the creation of the learning organisation. Leadership at TNPA has a responsibility to transfer the necessary knowledge about the NEC among employees, as well as creating in-house mechanisms to ensure that utilization of the NEC is monitored and that employees get the necessary support.

With regard to the fact that NEC encourages collaboration, the study established that there were high missing values that indicated that most respondents were ignorant and were not made aware about NEC. They could not indicate whether this did encourage collaboration or not. Only a few respondents, who have been trained, indicated that they were in favour of NEC because it encourages collaboration. If managers encourage the staff, without giving assistance or coaching, this can result in a poor outcome, so it is also important to evaluate the manager's coaching.

Literature supported the fact that the NEC was published as a ground-breaking best-practice process and that it was developed to try and manage problems related to contracting and also promote collaboration between the contractor and the employer. Good collaboration between the project team members will result in a seamless flow of activities and processes in executing project specific goals within an agreed set of parameters (Sun and Oza, 2008).

A project's success requires, and to a large extent depends on, the collaboration of all stakeholders. In order for collaboration to exist within a project, there needs to be trust, common purpose and co-operation amongst the project team. The learning organisation philosophy, according to Antonio (2010), creates an environment where there is collaborative enquiry and sharing of expertise and knowledge.

6.3 Recommendations

In light of the research findings the following recommendations are proposed to TNPA:

6.3.1 Improve on training, learning and skills development

It is recommended that the top management of TNPA create a platform for on-going training, seminars and workshops for their employees. This will help employees to begin thinking together and building a commonality of directions (Senge, 2006). Paroby and White (2010) state that individuals usually confuse what is real with what is being perceived. This will take care of the need to turn TNPA into a learning organisation (Bradley, 2010). It is therefore important for TNPA to provide training for employees in use of new tools, in policies and in procedures introduced within the organisation.

6.3.2 Promote communication and information sharing

It is further recommended that top management communicate changes at all times to ensure that there is improvement in the level of NEC awareness across the organisation. The results indicated that the majority of all levels of management are aware of the NEC; all that is missing is the equipping of their subordinates with NEC knowledge. The quick implementation of hands-on experience is essential for the successful implementation of the NEC at TNPA. It is important for management to ascertain what the reasons for the resistance are. Bouckenooghe (2008) states that another factor to check is communication, in particular the quality thereof. Only good communication skills will assist in justifying to the employees the reasons why change is necessary.

Communication and information sharing should be maintained at all times. This will decrease the level of resistance to change when new tools are introduced within the organisation. Open channels of communication should be used to enhance the employee's sense of belonging (Petrescu, 2008). Petrescu (2008) further identifies communication as one of the relevant ways of reducing resistance to change. It is therefore important for management to ascertain what the reasons for the resistance are. Bouckenooghe (2008) states that another factor to check is communication, in particular the quality thereof. Only good communication skills will assist in justifying to the employees the reasons why change is necessary.

Mariana and Violeta (2011) emphasize that management should intervene by clarifying the reasons for change taking place within the organisation in order to relieve stress and uncertainty in those employees who view change negatively. Therefore, TNPA top management should improve in their communication of the new information so that employees do not rely on assumptions.

6.3.3 Top management to develop a strategy to promote NEC usage across the TNPA.

It is recommended that top management develop a strategy to promote NEC usage across TNPA, and that employees be encouraged to use the tool for all relevant contracts. If employees are aware of the NEC and are trained but are not using the tool, the skills training will be lost. Top management should make sure that the tool is utilised across TNPA to avoid penalties from the CIDB. Bradley (2010) states that, in order to allow real

learning to take place, personal mastery must focus on growth and development so that the person can see things more objectively, without being biased.

It is further recommended that top management at TNPA help employees to develop a positive attitude, individually and collectively, towards their workforce, work, new tools and new realities. According to Senge (2006:8) managers are required to instil a culture where mental models of individuals contribute to the organisation's objectives.

6.3.4 Mentoring and coaching extended to TNPA

It is recommended that managers attend the mentoring and coaching programmes and training. Mentoring and coaching programmes should be designed and aligned with the mission and objectives of the organisation. If managers encourage staff to always try new and effective ways to perform their duties, without providing support, mentoring or coaching, this can result in a poor outcome. According to Lee (2012 training and development, mentoring and coaching should be conducted through formal training, team-building, workshops and seminars.

6.4 Proposed future research

- This study was limited to TNPA, Port of Durban. It is suggested that a further study be conducted on the same topic that could include all other seven ports within TNPA across South Africa.
- It is proposed that a comparative study be conducted on the same topic with other Transnet Divisions. These include: Transnet Group, Transnet Pipelines (TPL), Transnet Capital Projects (TCP), Transnet Port Terminal (TPT) and Transnet Rail Engineering (TRE).

6.5 Concluding summary

The main aim of the research project was to find out which factors are causing the delay in the use of the NEC and to look at possible solutions thereto. The findings of this research project reveal that the NEC was indeed not utilised at TNPA and that employees lacked knowledge about the NEC. The findings also reveal that the conditions prevalent within TNPA are not those of a learning organisation which has been influential on the employees in the implementation of the NEC. In conclusion, the findings also reveal that, if employees are given enough knowledge about a new programme of change and their concerns are addressed, they are most likely embrace change and other new realities.

The research conducted for this study will be of value to TNPA management, as it highlights the factors that hinder the process of changing to the NEC. This study will also help other organisations or companies that are considering adapting to similar changes as those undertaken by TNPA.

ANNEXURE 1

RESEARCH QUESTIONNAIRE

Kindly complete the following questionnaire by putting a cross (X) in the applicable box to rate your level of agreement or disagreement. Your input will be greatly appreciated and confidentiality and anonymity are ensured.

Please note: the completed questionnaire must be placed in the sealed designated box.

Section A: Biographical Information

1. Gender

Female	
Male	

2. Age

22-30	
31-40	
41-50	
51-60	
61 +	

3. **Highest qualification**

Post Graduate Degree	
Bachelor's Degree	
National Diploma	
Matric	
Other (Please specify)	

4. Racial Group

African	
Coloured	
Indian	
White	
Other (Please specify)	

5. Number of years at TNPA

1 - 5	
6 - 10	
11 - 15	
16 - 20	
21+	

6. Position in the organisation

Senior Manager	
Middle Manager	
Supervisor	
Junior Employee	

7. Which department do you work in? ----------

Section B: Enabling Organisational Factors

8. Implementing new tools helps this organisation to work towards the organisational vision and operational objectives.

Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	

9. Employees are eager to share information about what does or does not work in our organisation.

Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	

10. Newly hired and experienced employees always receive training when new initiatives are launched.

Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	

11. **In our organisation, managers establish forums and provide time and resources for identifying and solving problems and organisational challenges.**

Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	

12. **Working in teams is supported in our organisation through training.**

Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	

13. **.In our organisation managers encourage employees to try new and effective ways to perform their duties.**

Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	

14. **Managers and leaders do coach and mentor their subordinates.**

Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	

15. **Managers are continually looking for opportunities to train and develop subordinates**

Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	

Section C: Implementation of the NEC form

16. I do know that there is a new form of contract, the NEC

Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	

17. I have been trained on and I understand the NEC form of contract.

Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	

18. Our department is using the NEC form of contract

Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	

19. I am in favour of the NEC because it encourages collaboration

Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	

20. I am in favour of the NEC because it facilitates communication in the organisation.

Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	

21. I am not in favour of the NEC because it is difficult to understand.

Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	

22. Although changing to the NEC is important, I feel more comfortable with what I am used to than the unknown.

Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	

23. I don't feel comfortable with the new form of contract; it changes the systems we are used to.

Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	

24. I don't see the need for the change; things have been working pretty well without this new form of contract.

Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	

25. I try not to think about the NEC because when I do, I get stressed out.

Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	

26. I don't really think changing to the NEC was necessary.

Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	

27. Changing to the NEC will benefit the organisation in the long term.

Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	

28. I feel that as employees we need to embrace new ways of doing things.

Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	

29. The NEC is just another trick to take away people's jobs.

Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	

ANNEXURE 2

SCHOOL OF MANAGEMENT, IT AND GOVERNANCE

RESEARCH PROJECT

Researcher : Lindiwe Xaba (031 361 3795)
Supervisor : Dr. N. Potwana (031 260 8148)

Dear Respondent

I, **Lindiwe Xaba,** am a Master of Commerce student at the School of Management, IT and Governance, of the University of KwaZulu-Natal. I invite you to participate in a research project that I am conducting titled:

CHANGE MANAGEMENT CHALLENGES FACING TRANSNET NATIONAL PORTS AUTHORITY IN IMPLEMENTING THE NEW ENGINEERING CONTRACT (NEC) FORM.

Through your participation I hope to understand the reasons behind the delayed adaptation of this new form of contract in the company. The results of this survey are intended to contribute to a better understanding of the factors involved.

Your participation in this project is voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequences. 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 School of Management, IT and Governance, UKZN.

The interview should take you about 10 minutes to complete. I hope you will take the time to do so.

Sincerely,

_____ 17th September 2012

L. Xaba (Researcher) **Date**

SCHOOL OF MANAGEMENT, IT AND GOVERNANCE

RESEARCH PROJECT

Researcher : Lindiwe Xaba (031 361 3795)
Supervisor : Dr. N. Potwana (031 260 8148)

CONSENT

I_____ hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project. I understand that I am at liberty to withdraw from the project at any time, should I so desire.

_____ _____

Signature: Participant Date

ANNEXURE 3

To: Ms L Xaba
Tactical Sourcing Manager
Procurement
Port of Durban

From: S.E. Emmenis
Training Manager
Room 105C, Ocean Terminal Building
PORT OF DURBAN

Tel: (031) 361 8755 Fax: (031) 361 8618 Date: 09th June 2010

Dear Ms Xaba

Your application to include information pertaining to matters of Transnet National Ports Authority or its employees in your Research in order to successfully fulfill the requirements Masters of Commerce at the University of Kwa Zulu Natal, has been considered and approved.

You are reminded of the conditions contained in the Confidentiality Undertaking that you signed with Transnet National Ports Authority.

You are wished every success with your research project

Kind regards

S. Emmenis

S.E. EMMENIS
Training Manager
Transnet National Ports Authority

ANNEXURE 4

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

05 November 2013

Ms Lindiwe D Xaba (200100888)
School of Management, IT & Governance
Wesville Campus

Protocol reference number: HSS/1031/012M
New project title: Change Management challenges facing Transnet National Ports Authority in implementing the New Engineering Contract (NEC) Form

Dear Ms Xaba,

Approval - Change in Title

I wish to confirm that your application in connection with the above mentioned project has been approved.

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/Methods must be reviewed and approved through an 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.

Best wishes for the successful completion of your research protocol.

Yours faithfully

.....
Dr Shenuka Singh (Acting Chair)

/ms

cc Supervisor: Dr N Potwana
cc Academic leader Research: Professor Brian McArthur
cc School Administrator: Ms Angela Pearce

Humanities & Social Sciences Research Ethics Committee
Dr Shenuka Singh (Acting Chair)
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Website: www.ukzn.ac.za

REFERENCES

Abdollahi, A., Katuli, S.A. & Ma'atoofi, A.R. 2011. Learning Organization, an Inevitable in Organizations in the Age of Knowledge-Orientation: Evidence from University of Iran. *European Journal of Scientific Research*, 57 (2): 212-222.

Adenle, C. 2011. Reasons Why employees Resist Change in the workplace. Cathrine's Career Corner, *Energy and persistence conquer all things*.

Agboola, A.A. & Salawu, R.O. 2011. Managing deviant behaviour and resistance to change. *International journal of business and management*, 6 (1): 235-242.

Akhtar, N. & Khan, R. A. 2011. Exploring the Paradox of Organizational and Learning Organization. *Interdisciplinary Journal of Contemporary Research in Business*, 2 (9): 257-270.

Al-Qutop, M.A.Y., Futa, S.M & Ma'ani, A.I. 2011. The Relationship between Learning Facilitors and Transforming into a Learning Organization: An Empirical Study of the Insurance Sector in Jordan. *International Business Research*, 4 (3): 211-220).

Anderson, D.L. 2012. *Cases and exercise in organizational development & change*. Los Angeles: Sage.

Aslam, H.D., Javaid, T., Tanveer, A., Khan, M. & Shabbir, F. (2011). A journey from individual to organizational learning. (Exploring the linking bridge: Team Learning) Pakistan. *International Journal of Academic Research*, 3(3): 738-745.

Badke-Schaub, P., Lauche. K. & Neumann, A. 2007. *Team models in design*. CoDesign, [Online] http://www.tandfonline.com, 3(1): 1-3, [Accessed 20 June].

Baird, A. 2006.Applying the NEC3 Family and the NEC Engineering & Construction Contract (ECC). South Africa.

Baird, A. 2011.Introduction to the NEC3 Family. NEC Engineering & Construction Contract (ECC). South Africa.

Barcan, L. M. 2012. The change management in the national security institutions, Faculty of Economics and Business Administration. Doctoral School of Economics. University of Craiova.

Bellanca, R. 2010. Managing six sigma change resistance. Six Sigma, online http//www.isixma.com/implementation/change-management.1-3 [Accessed 27 May 2012)].

Beddoe, L. 2009. Creating Continuous Conversation: Social Workers and Learning Organization. Social Work Education: *The International Journal*, [Online] http.//www.tandfonline .com. 28 (7): 722-736 [Accessed 25 June 2012].

Besaiso, H. 2012. Comparing the suitability and NEC conditions of contract in Palestine. M.Sc. Management of projects (Engineering), Faculty of Engineering and Physical Sciences. University of Manchester.

Bhengu, D.S. 2007. The impact of organisational change: A case study of Aventis pharma, Tshwane University of Technology, Pretoria.

Biggam, J. 2011. Succeeding with your master's dissertation*: a step-by-step hand book*. 2nd ed. United Kingdom: McGraw Hill.

Bless, C. & Higson-Smith, C. 2009. Fundamentals of Social Research Methods 3rd ed. Lusaka: Juta.

Bouckenooghe, D. 2008. What is crucial in developing a positive attitude toward change? The role of content, context, process and individual variables in understanding readiness for change. Economics and Business Administration. Univesiteit Gent.

Bradley, G. 2010. Work-Induced Changes in Feelings of Mastery. *The Journal of psychology: Interdisciplinary and applied*, [Online] http.//www.tandfonline .com. 144 (2): 97-119 [Accessed 25 June 2012].

Braun, G. 2011. Psychological practice: individuals, groups and organizations [Online] http://www.sagepublications .com: 263-285. [Accessed 14 June 2012).

Bray, T.2012. Resistance to change. [Online] http://www.umich.edu/~itdtq/22.1.resistance.change.html. 1-2 [Accessed 16 May 2012].

Bregman, P. 2009. How to counter resistance to change. *Havard Business Review*, [Online] http://blogs.hbr.org/bregman, 1-2 [Accessed 16 May 2012].

Brooks, I., Weatherston, J. & Wilkinson, G. n.d. Globalisation, challenges and changes. [Online] http://catalogue.pearsoned.co.uk/assets/hip/gb/hip_gb_Pearsonhighered/samplechapter/Brooksch9 [Accessed 25 November 2013].

Bruckman, J. C. 2008. Overcoming resistance to change: Casual factors, interventions, and critical values. *The psychologist-Manager Journal*, 11:211-219.

Bui, H. T. M., Ituma, A. & Antonacopoulou. 2012. Antecedents and outcomes of personal mastery: cross-country evidence in higher education. *The International Journal of Human Resources Management*, [online] http.//www.tandfontline.com/loi/rijh20. 1-28. [Accessed 20 June 2012].

Burge, R. 2008. Reducing resistance to six sigma projects. *Industrial Engineer*, 35-39.

Burke. W.W. 2011. *A perspective on the field of organizational development and change*: The Zeigarnik effect. [Online] http.//www.tandfonline .com. 123-139. [Accessed 16 May 2012].

Carlstrom, E. D. & Ekman, I. 2012. Organisational culture and change: implementing person-centred care. *Journal health organization and management*, 26 (2): 175-191.

Conelly, M. 2014. The Kurt Lewin change management model. [http://www.copyscape.com/original-content. 1-6. [Accessed 14 March 2014]

Cooke, R. D. 2009. Deflating resistance to change: or a quick guide to understanding resistance and moving forwards. Human resource management international Digest, 17 (3): 3-4.

Davidz, H. L. 2006. Enabling systems thinking to accelerate the development of senior systems Engineers. Engineering Systems Division. Massachusetts Institute of Technology.

Davis, K. A. & Songer, A.D. 2009. Resistance to IT change in the AEC industry: are the stereotypes true? *Journal of construction engineering and management,* 135[12]:1324-1333.

Dhanaraj, C. & Khana, T. 2011. Transforming Mental Models on Emerging Markets. India. Academy of Management Learning & Education, 11 (4): 684-701.

Dickenson, M, Burgoyne, J. & Pedler, M. 2010. Virtual action learning: practices and challenges. *Action Learning: Research and Practice*, 7 (1): 59-72.

Dolah, M.Y.B. 2011. A study on the extent of resistance to change on business transformation initiatives in pos. Malaysia, University Utara Malaysia.

Duden, A. n.d. Trust and leadership – *Learning culture in organizations. International Journal of Management Cases.* Leeds Metropolitan University, UK. 218-223.

Elkin, G, Zhang, H. & Cone, M. 2011. The Acceptance of Senge's Learning Organization Model among Managers in China: An Interview Study. *International Journal of Management*, 28(4):354-364.

Erdon, B., Anumba, C.J., Bouchlaghem, D. & Nielsen, Y. 2008. Collaboration environments for construction: Implementation case Studies. *Journal of management in engineering*, 234-244.

Espevik, R., Johnsen, B. H. & Eid, J. 2011. Outcomes of shared mental models of team members in cross training and high-Intensity simulations. *Journal of cognitive Engineering and decision making*, 5 (4): 352-377.

Esterhyse, W.P. 2003. The challenge of transformation: Breaking the barriers, *South African Journal of Business*, 34(3):1-8.

Fofuri, A. & Ronde, T. 2009. Leveraging resistance to change and the skunk works model of innovation. *Economic Behavior & Organization*, 72: 274-289.

Foster, R.D. 2010. Resistance, justice, & commitment to change. Human resource development Quartely, 21 (1): 3-39.

Fullalove, S. (2010). NEC3 Supply contracts aim for wide application. *NEC Users' group*. [Online] http://www.neccontract.com. (49): 1-8. [Accessed 11 November 2013].

Garavan, T.N. & McCathy, A. 2008. Collective learning processes and Human resource development. W.W. 2011. [Online] http.//www.sagepublications .com. 451-471. [Accessed 14 June 2012).

Gerdsri, N., Assakul, P. & Vatananan, R. 2010. An activity guideline for technology road mapping implementation. *Technology analysis & strategic management*, 22 (2):229-242.

Gill, J. & Johnson, P. 2010. *Research methods for managers. 4th ed.* London: Sage.

Goel, L, Johnson, N. & Ives, B. 2010. Situated Learning. Conceptualization and Measurement. *Decision Sciences Journal of Innovative Education*, 8(1): 215-240.

Govender, L. N. 2010. Knowledge management as a strategic tool for human resource management: A study of selected higher education institutions, University of KwaZulu-Natal, Durban.

Gummings, T. G. and Worley, C. G. 2009. Organizational Development & Change. International student edition. 9th ed. USA. Nelson Education LTD.

Harich, J. 2010. Change resistance as the crux of the environmental sustainability problem. *System Dynamics Review*, 26 (1): 35-72.

Haymes, T. 2008. The three – E. Strategy for overcoming resistance to change technological change. *Edicause Quartely*, 4: 67-69.

Hendrickson, S. & Gray, E. J. 2012. Legitimizing Resistance to organizational change: A Social Work Social Justice Perspective. *International Journal of Humanities and social Science*, 2 (5): 50-59.

Hon, A.H.Y., Bloom, M. & Crant, J.M. 2011. *Overcoming resistance to change and enhancing creative performance*. [Online] http.//www.sagepublications .com. 1-23. [Accessed 12 June 2012).

Huang, C.H & Huang, I. C. 2009. Resistance to change: The effects of organizational intervention and characteristics. *Review of business research*, 9 (1): 110-114.

Hunter, M. 2011. Perpetual Self Conflict: Self Awareness as a key to our Ethical drive, Personal Mastery, and Perception of Entrepreneurial opportunities. *Contemporary Readings in Law and Social Justice*,3(2):96-137.

Hurn, B.J. 2012. Management of change in a multinational company. *Industrial and Commercial Training*, 44 (1): 41-46.

Hussain, Z. & Hafeez, K. 2008. *Changing attitudes and behaviour of stakeholders during an information systems-led organizational change*. [Online] http.//www.sagepublications .com: 490-513. [Accessed 13 June 2012).

Hsu, J.S.C., Huang, H.H. & Linden, L.P. 2011. Computer-mediated Counter-Arguments and Individual Learning. *Journal of Educational Technology & Society*, 14(14): 111-123.

Ijaz, S. & Vitalis, A. 2011. Resistance to Organizational Change: Putting the Jigsaw together. *International Review of business research papers*, 7 (3): 112-121.

Jones, G. & Spammer, M. 2011. A leadership styles competency framework for governing bodies in sport. *African Journal for Physical, Health Education, Recreation and Dance*, 17(2): 340-356.

Knapp, R. 2010. Human resource development review. *Collective (Team) learning processmodels: a conceptual review*, 9 (3): 285-299.

Knutson, K. A. & Miranda, A.O. 2000. Leadership characteristics, social interest, and learning organizations. *The journal of individual psychology*, 56 (2): 206-213.

Kumar. S.S.2012. Challenges of managing organizational change. Advances in management. [Online] http://search.ebscohost.com. 5 (4): 13-15. [Accessed 29 October 2013].

Larsen, K., McInerney, C., Nyquist, C., Santos, A. & Silsbee, D. n.d. Learning Organizations. [Online] http://leeds.Faculty.Colorado.edu/Larsenk/Learningorg. [Accessed 05 December 2013].

Laura-Georgeta, T. 2008. Change management – Resistance to the change. *Economics Science series*, 17 (4): 622-624.

Lee, S. 2012. Managing resistance to change. Business improvement Architects, [Online] http:www.bia.ca/articles.change. 1 [Accessed 16 May 2012].

Li, J., D'Soudza, D. & Du, Y. 2011. W.W. 2011. *Exploring the contribution of virtual world to learning in organizations* [Online] http.//www.sagepublications .com: 263-285. [Accessed 14 June 2012].

Longo, R. 2011. Is Lewin's change management model still valid? HR Professionals. [Online] http-www.blogger.com. [Accessed 14 March 2014].

Maltz, M. 2008. Managing resistance to change. Portable conference on change management, TRIAD Consulting Group LCC.

Mariana, P. & Violeta, S. 2011. Opportunity to reduce resistance to change in a process of organizational change, West University, Faculty of Economics and Business Administration, 20 (2): 698-702.

Marquardt, M., Seng, N.C. & Godson, H. 2010. *Team development via action learning*. Advances in developing Human resources, [online] http.//www.sagepublications.com: 241-258. [Accessed 18 June 2012].

Maurer, R. 2011. Why most changes fail. *The journal for quality & participation*, 17-18.

McDonnel, A. Gunnigle, P. & Lavelle, J. 2010. Learning transfer in multinational companies: explaining inter-organisation variation. *Human Resource Management*, 20(1): 23-43.

McManus, K. 2012. Mastery math. *Industrial Engineer*, 44 (4):20-20.

Moerschell, L. 2009. Resistance to technological change in Academia. *Current Issues in education*, 11 (6): 1-12.

Moreman, F. 2010. *Overcoming resistance to change. Frank's management development forum*. [online] http://franksmanagementdevelopment.blogsspot.com. 1-5 [Accessed 27 May 2012].

Msweli-Mbanga, P. & Potwana, N. 2006. Modelling participation, resistance to change, and organisational citizenship behaviour: A South African case. *South African Journal of Business management*, 37 (1): 21-29.

Mutihac, R. 2010. Managing resistance and the use of internal communication in organizations undergoing change. Master of Arts in Corporate communication, Aarhus of School of Business, Department of Language and Business Communication.

Myers, S. 2012. Change management. *Five basic principles and how to apply them.* [Online] http:www.teamtechnology.co.uk/changemanagement.html. [Accessed 04 December 2013].

NEC. 2005. NEC3 *Engineering and Construction Contract (ECC).* Black Book. London: Thomas Telford.

NEC Contracts .2006. *Guidance Notes for NEC Engineering and Construction Contract 3rd ed*. London, NEC.

NEC3 Procurement and Contract Strategies .2009. London: Thomas Telford. [Online] http://www.neccontract.com. 1-23. [Accessed 26 June 2012].

Nguyen, S. 2010. Implementing change and overcoming resistance. [Online] http:workplacepsychology.net. 1-6. [Accessed 27 May 2012].

Nilniyon, P. & Ratchatawetchakul, Y. 2011. Cost Information Effectiveness of Thai Electronic Business: Effective on Decision Making Advantage. *International Journal of Business Strategy*, 11(2):111-122.

Normandin, B. 2012. Three types of change management models. The fast track. [Online] http://quickbase.intuit.com. 1-5 .[Accessed 14 March 2014].

Orlikoff, J.E. & Totte, M.K. 1999. *Systems thinking in governance*. Trustee workbook, 52 (1) [Online] http:search.proquest.com. [Accessed 26 April 2012].

Pallant, J. 2010. *SPSS survival manual: A step by step guide to data analysis using SPSS 4th ed*. Australia: Allen & Unwin.

Paroby, D. & White, D. 2010. The Role of Shared vision and Ethics in Building an Effective Learning Organization. *Southern Journal of business & Ethics*, U.S.A.

Patalano, R. 2011. Resistance to change: Historical excursus and contemporary interpretations. *Review of political of Economy*, 23 (2): 249-266.

Paton, A. & McCalman, J. 2008. *Change management: A guide to effective implementation. 3rd ed.* London: Sage publication Ltd.

Peacock, D. 2008. Making ways for change. Museums, disruptive technologies and organisational change. [Online] Available: http://www.tandfoneline.com. [Accessed 13 June 2012].

Peccei, R., Giangreco, A. & Sebestiano, A. 2011. The role of organizational commitment in the analysis of resistance to change: Co-predictor and moderator effects. *Personnel review*, 40 (2): 185-204.

Petrescu, R. 2008. The importance of communication in organizational change process. Faculty of Economics and Business Administration, University of Craiva. 81-84.

Ports SA, Summer. 2012. Quartely publication of Transnet National Ports Authority.

Quinn, B. 2010. Reducing psychological resistance to digital repositories. Information Technology and Libraries, Texas Tech University libraries, 67-75.

Rick, T. 2011. Reasons why people resist change. Change management. [Online] http:www.torbenrick.eu/blog/change.1-4 [Accessed 28 May 2012].

Rigg, C. 2011. Systemic action and learning in public services. Action Learning: research and Practice. Taylor & Francis Group.

Rooke, J., Altounyan, C., Young, A. and Young, S. (2007). Doers of the World? An enquiry into the nature of action in action learning. Action Learning: *Research and Practice*, 4 (2): 119-135.

Rowden, R.W. The learning organization and strategic change. 2001. *Sam advanced management journal, Stetson of business*, Mercer University-Atlanta, 12-24.
Rule, P. & Vaughn, J. 2011. *Your guide to case study research*. Pretoria: Van Schaik.

Saunders, M., Lewis, P. and Thornhill, A. 2009. Research methods for business students. 5th ed. Harlow: Prentice Hall.

Savelsbergh, C.J.H., Van der Heijden, B.I.J. & Poell, R.F. 2009. *The development and empirical validation of a multidimensional measurement instrument for team learning behaviors*. Small group research, [online] http.//www.sagepublications.com. 578-607. [Accessed 18 June 2012].

Sekeran, U. & Bougie, R. 2009. Research methods for business. *A skill building approach.*5th ed. United Kingdom. John Wiley & Sons LTD.

Scheid, J. 2011. Overcoming resistance, ignorance and denial in change management. [Online] http://www.brighthub.com/office/project-management/articles. 1-2. [Accessed 27 May 2012].

Scheng1. 2011. Overcoming resistance to change in the workplace. [Online] http://scheng1.expertscolumn.co/article/overcoming-resistance-change-workplace. [Accessed 28 May 2012].

Schneider, S. V. (2012). Overcoming barriers to understanding systems thinking. *Systems Thinking World Journal: Reflection in Action.* [Online] 1(2). [Accessed 25 November 2013].

Schiffer, E. F. 2011. Resistance to change: Implications individual differences in expression of resistance to change. Proquest Dissertation and Theses, Department of Psychology College of Arts and Sciences, University of South Africa.

Schmidt, A. 2012. Managing change and challenges of change management in a multi-cultural environment. Faculty of Business Administration and Engineering, University of Duale Hochshule, Bade-Wurtternberg & Stuttgart.

Sebestova, J. & Rylkova, Z. 2011. Competencies and Innovation within Learning Organization. *Economics and Management*, 16: 954-960.

Self, D.R. 2007. Overcoming resistance to change by managing readiness for change, Troy University, USA. [Online] http://business.troy.edu/Downloads/Publications/TSUSBS/2007SBS/2007overcoming resistance pdf. [Accessed 31 May 2012]

Self, D. R. & Schraeder, M. 2009. Enhancing the success of organizational change: Matching strategies with sources of resistance. *Leadership & Organization Development Journal*, 30 (2):167-182.

Senge, P. M. 2006. The Fifth Discipline. *The Art & Practice of The Learning Organization.* New York. Random House Business Books Publishers, II (3):24-28.

Sharma, R. 2008. Celebrating change: The new paradigm of organizational development. *The Icfai University journal of soft skills*, II (3): 23-28.

Sheaff, R. & Pilgrim, D. 2006. Can learning organizations survive in the newer NHS?. *Implement Science*. 1-11.

Sheffield, J., Sankaran, S. & Haslett, T. 2012. Systems thinking: taming complexity in project management. *On the horizon*, 20 (2): 126-136.

Shiryan. S., Shee. H. & Stewart. D. 2012. Employee Training Effectiveness in Saudi Arabian SME Performance*: International Journal of Business and social Science,*3 (14):46-52.

Siegel, D.M. 2008. Accepting technology and overcoming resistance to change using the motivation and acceptance model. Florida Atlantic University: Florida, Orlando.

Singh, K. 2008. Relationship between learning organization and transformational leadership: Banking organizations in India. Faculty of Management Studies, University of Delhi, India, 1 (1): 97-111.

Singh, K. 2010. *Resistance to change*. [Online] http.//www.thepresidentpost.com. [Accessed 16 May 2012].

Singh, K., Saeed, M. & Bersch, A. 2012. Key factors influencing employee response toward change: A test in the telecom industry in India. *Journal of management policy and practice*, 13 (3):1-17.

Singh, S. K. 2011. Leadership & Organizational Learning in Knowledge Management Practices in Global Organizations. *The Indian Journal of Industrial Relations*, 1(1):142-165.

Smith, I. 2010. Organisation quality and organisational change. Interconnecting paths to effectiveness. [Online] www.emeraldinsight.com./0143-5124.htm. 32 (1/2):112-128. [Accessed 30 November 2013].

Smollan, R. 2011. Engaging with resistance to change. Business review, University of Auckland Business Review, 13 (1) 13-15.

Soles, D. 2010. *The essential of academic writing. 2nd ed*. United Kingdom: Wadsworth Cengage learning.

Soliman, F. 2011. Could one transformational leader convert the organization from knowledge based into learning organization, then into innovation? *Journal of modern accounting and auditing,* 7 (12):1352-1361.

Statistics South Africa, 2011. Census statistical release – P301.4: http: www statssa.gov.za. [Accessed 26 June 2013].

South African National Standards (SANS) 294, 2004. Construction procurement processes, methods and procedures. 1st ed. South Africa.

Sujova, A. & Rajnoha, A. 2012. The management model of strategic change based on process principles. *Procedia- Social and behavioural sciences*, (62):1286-1291.

Sun, M. & Oza, T. 2008. *Improving NEC contract change management with CCM*. [Online]. University of West of England. Hhh://mpsprocess.com.[Accessed 20 January 2012].

Susanto, A. B. 2008. Organizational Readiness for Change: A Case Study on Change Readiness in a manufacturing Company in Indonesia. *International Journal of management perspectives*, 2 (1) 51-61.

Sutherland, K. 2013. Applying Lewin's change management theory to the implementation of bar-coded medication administration. *Canadian journal of nursing informatics*, 8(1&2) 1-6.

Tavakoli, H.T., Ebrahim, N.A. & Golnam. A. 2008. *Demystifying the legend of resistance to change*, Selected works, http://works.bespress.com. 41. [Accessed 18 June 2012]

Theron, F. & Wetmore, S. 2007. Research Innovation in Public and Development Management: Locating Participatory Learning and action (PLA) in the Participatory development Debate. *Journal of public Administration*, 42 (6) 472-489.

Tomozii, S. E., Usaci, D., Norel, M. & Vlad, C. 2013 Applied Managerial Strategies for Reducing Resistance to Change in Kidergartens. *Social and behavioural Sciences.* [Online] www.Sciencedirect.com: 81 (1) 650-654.

Trakselys, K. 2011. Adult learning organization (andragogical rating). Klaipeda University.1, 139-146.

Transnet Group Committee Presentation. 2009. Evolution of the NEC in Transnet.

Van den Heuvel, S. & Schalk, R. 2009. *The relationship between fulfilment of the psychological contract and resistance to change during organizational transformations.* [Online] http.//www.sagepublications .com: 283-313. [Accessed 12 June 2012).

Van Dijk, R. & Van Dick, R. 2009. Navigating organizational change: change leaders, employee resistance and work-based identities. *Journal of change Management*, 9 (2): 143-163.

Vantankhah, M.R., Pakdel., A. Noruzi., L. Mahmudi, A. & Vantankhah, G. (2011). Surveying of Learning Organization Indices and Academic Quality Improvement in Islamic Azad University. *Interdisciplinary Journal of Contemporary Research in Business.*

Van Woerkom, M. & Croom, M. 2009. The relationships between team learning and team performance. *Personnel review*, 38 (5): 560-577.

Visagie, C.M. 2010. The relationship between employee attitudes towards planned organisational change and organisational commitment: an investigation of a selected case within the South African telecommunications industry. Cape Peninsula University of Technology.

Wright, J. N. & Ferguson. W. (2008). Benefits of the NEC form of contract: A New Zealand case study. *International Journal of Project Management,* [Online] http://www.sciencedirect.com, 1-7. [Accessed 25 November 2013].

Xu, Y. & Yang, Y. 2010. Student Learning in Business Simulation: An Empirical Investigation. *Journal of education for business*, 85:223-228.

Zhang, W. & Xu, P. 2011. Do I have to learn something new? Mental models and the acceptance of replacement technologies. *Behaviour & information Technology*, [online] http://www.tandfonline.com, 30 (2):201-210. [Accessed 20 June 2012].