Cape Peninsula
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FACTORS INFLUENCING EFFECTIVENESS OF CHANGE MANAGEMENT INTERVENTIONS IN A SELECTED PETROCHEMICAL COMPANY IN THE WESTERN CAPE, SOUTH AFRICA

by

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DECLARATION

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

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Signed   **Date**

ABSTRACT

Change in today's business situation may be seen as unavoidable; however, the absence of standard change interventions within an organisation can cause an impact on the functioning of the business and its survival in the long run. Thus, it is ideal for the South African petrochemical industry to find a suitable intervention for change models that will assist them in navigating its effectiveness. This study has used an investigative approach to understand the effectiveness of interventions of change management in petrochemical organisations in the Western Cape, South Africa.

A qualitative case study was used in this research, as data was collected directly from interviews by fieldworkers, while written documents were also consulted. It was found that a number of factors influence effective change management in the SA petrochemical industry. Some of the factors that were elicited for this study include: organisational structure and size and administrative methods; the introduction of new technology; processing and communication; changes in employee demographics; government regulations; and economic competition. Furthermore, the study also provides a framework that can be used to guide and assess effective changes within the SA petrochemical industry.

Keywords: *Change management interventions; Factors of change management; Change management models; Strategic Change*

ACKNOWLEDGEMENTS

DEDICATION

This thesis is dedicated to my late parents, Themba Elliot Mgquba and Nofirst Rosebella Mgquba. May their soul Rest in Peace.

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ABBREVIATIONS

CEO	Chief Executive Officer
CFO	Chief Financial Officer
COO	Chief Operations Officer
CSD	Corporate Services Department
EC	Ethics Committee
ECC	Ethics Clearance Certificate
GM	General Manager
HR	Human Resources
HRD	Human Resources Development
IDI	In-Depth-Interview
NKP	National Key Point
OD	Operations Department
PD	Procurement Department
PDP	Personal Development Programme
PSPD	Planning and Special Projects Department
SA	South Africa
SOE	State Owned Enterprise
TDO	Training and Development Officer
WC	Western Cape

CHAPTER ONE: INTRODUCTION

1.1   Introduction

The main focus of this study is the factors that influence the effectiveness of change management interventions at a selected petrochemical company in the Western Cape, South Africa. Change in today's business situations may be seen as unavoidable; however, the absence of standard change interventions in an organisation can impact on the functioning of the business, as well as its survival. Thus, the South African petrochemical industry needs to find a suitable intervention in the form of change models that will assist them to navigate its effectiveness.

This study used an investigative approach to understand the effectiveness of the interventions of change management in petrochemical organisations in the Western Cape, South Africa.

This study provides a conceptual design that can help petrochemical organisations with the effectiveness of change management. In addition, the study also offers a framework to assess this effectiveness and the impact of the change intervention that is implemented.

A transitory overview to the study is specified in this chapter. The inclusive contextual of the study is covered in component 1.2; component 1.3 presents a statement of the research problem, which is by explanations of the research questions and sub-questions in component 1.4; the research objectives are defined in component 1.5; component 1.6 comprises of the research methodology; component 1.7 summaries the limitations of the study; the contribution of the study is described in component 1.8; the complete chapter outlines are specified in component 1.9; finally, component 1.10 summarizes this chapter.

1.2 Background of the study

South African petrochemical organisations are experiencing fundamental change: new production is resulting from unconventional sources, and predictable oil fields quickly depleted. To succeed in a volatile business world and to maintain or gain a competitive advantage, organisations have to embrace change, whether these are optional or imposed by circumstances.

The welcoming of South Africa into the global community in 1994, following the demise of Apartheid, has met with affiliated challenges and opportunities for the country to gain access to previously inaccessible markets. This also introduced various challenges from organisations that also viewed South Africa as a potential market that needs to be serviced.

In this regard, Ncala (2001:5) argues that *"this means that every industry in South Africa faces innumerable challenges in a form of competition, declining markets, new products that are churned out faster than before replacing older products, the speed at which technology advances environmental legislation".*

In relation to the above, Burke (2014:15) contends that current and future trends in the external environment in which organisations function necessitate an understanding that requires that the industry should continuously change in order to meet with external markets, whilst remaining competitive. Burke (2014:16) and Ncala (2001:5) have similar views regarding an organisation's internal and external environment. Hence, the researcher argues that it is vital that every organisation should do its best to align its strategy with the current business trends, as technology and the environment are continuously changing.

Furthermore, the South African (SA) oil industry had also not been exempt from challenging markets as the margins declined.

By embracing change, it is assumed that an organisation would prevent stagnation or being extinct. The need to prolong their existence has led both profit and governmental organisations to enlist various forms for change. Hence, the field of organisational development is filled with various forms of change interventions/ programmes. Effective change interventions/programmes can be achieved if these are well thought out and resourced.

Kilpimaa (2012:6) argues that the implementation of change has become one of the most critical factors for the successful management of an organisation. Kumar (2015:12) extends this view by stating that change is widely considered as one of the most important aspects of effective management. In this regard, change is regarded as a process of transitioning from the current to the desired state. This response is linked to dynamic internal and external factors that can influence current realities (Kumar, 2013:10). The question that, however, arises is how South African organisations that are undergoing change can ensure that these changes are effective.

Therefore, this study investigates factors that influence the effectiveness of change management interventions at a selected petrochemical company in the Western Cape (WC). Hence, the researcher has systematically observed the change management process within this petrochemical organisation in order to obtain scientific knowledge.

1.3   Statement of the research problem

The influence of these changes has resulted in sensitive challenges for internal stakeholders, which have caused interruptions in most organisational operations.
Hence, Adeniji, Osibanjo and Abiodun (2013:13) maintain that the term organisational change means effecting momentous change within the organisation, associated with restructuring, eliminating or adding a new product(s).

At present, it is not clear what change management factors can influence effective change management, fundamentals of change management or strategic change

management in SA petrochemical organisations. The change process can negatively influence the affiliation between the management and employees.

Hence, the management and board papers available within the organisation showed that change was "momentous" or that "communication" was lacking.

In order to introduce and effectively manage change (whether willing or imposed) in petrochemical organisations in SA, more research is required.

1.4 Research objectives

In accordance with the identified research problem, the study's research objectives were established, and these are outlined below.

1.4.1 Primary objective

The main objective of this study was to investigate factors that influence the effectiveness of change management in SA petrochemical organisations and to propose a conceptual model to optimize these factors.

1.4.2 Specific objectives

- To investigate the effectiveness of management interventions in a selected petrochemical organisation.
- To identify factors that influence change management.
- To design a framework that can be implemented to effect strategic change management.

1.5 Research questions of the study

In accordance with the acknowledged research matter, the main research question is stated below and sub-questions that the study anticipates answering, and on which the research focused.

The main research question in this study was established as:

What factors influence effective change management in SA petrochemical organisations, and how can these factors be optimized?

The research sub-questions comprise those that are presented below.

- What is the effectiveness of change management interventions at petrochemical organisations?
- What factors influence change management at petrochemical organisations in South Africa?
- What framework can be implemented for strategic change management?

1.6   Literature review

The literature review provides a background and major specifics about a study within a broad-spectrum. This section is designed to help with the understanding of the topic and assists in acquisition ideas to articulate the view.

Factors and models of change management have been researched on various phases; hence, findings were cited in support of the researcher's judgement regarding the study. Furthermore, organisations have a distinct challenge based on its new strategy with regard to the communication of change.

1.7   Research methodology

The primary purpose of this study was to use the qualitative research method, which comprises the revising of literature and conducting empirical research. Hence, the researcher conducted interviews with four divisions within the selected organisation, analysing the results of the questionnaires and comparing these with the interviews that were conducted.

Qualitative research analyses data comprised direct fieldwork observations, in-depth, open-ended interviews, and written documents (Patton, 2005:30). Given that the identified research problem was of a qualitative nature, the qualitative research method

was proposed in the form of a single case study that was conducted at a selected petrochemical organisation in the Western Cape.

The Content Analysis technique was used for identifying occurring patters by sequencing of words and counting and describing occurrences of keywords.(Johnson, 2013:15).

1.8   Ethical considerations

For safety and security purposes, the researcher took the following actions to ensure that the process remained ethical throughout.

- Participation was voluntary and no person was obliged to participate. Each participant had the right to join and/or remove themselves from the research at any time.

- As a result, participants were given an informed consent for to read and sign before they took part in the research.

- Concealment and also important issues to uphold; therefore, the names of the participants were not disclosed in any part of the research.

- Negative words were avoided in the questionnaires, because negative words may cause psychological harm to participants. Bryman (2004:35) argues that ethical research should not harm participants psychologically and/or physically.

1.9   Limitations of the study

This study was executed at a single petrochemical organisation in South Africa, which inevitably limited generalisation of this study. This limitation, however, should not influence the validity of the findings of the study.

1.10 Research contribution

The primary academic contribution of this study is a model, based on the suggestions from non-empirical research and the findings from empirical research. It is envisaged that this proposed study will make two kinds of contributions. Firstly, this study sought to add to the theoretical body of knowledge by investigating factors that contribute to an

effective change management intervention, specifically in the context of South African petrochemical organisations.

Secondly, this study sought to produce guidelines that would help managers in petrochemical organisations to understand factors that influence change management, as well as how to optimise these factors.

1.11 Chapter outline

This study covers five chapters. A summary is provided below, together with a brief outline of each chapter so that the reader understands the structure and content of each chapter.

Chapter 1: This chapter offers a contextual of the research topic and introduced the research study. This chapter comprises of the problem statement, research objectives, research questions and literature review. Subsequently, it also covers the research methodology, ethical considerations, limitations to the study, research contribution and accomplishes with the study layout.

Chapter 2: This chapter explains the literature review of the study and discusses factors that influence the effectiveness of change management interventions and explains the change models within the studied petrochemical organisation. The main emphasis is on discussing factors that influence effective change management in SA petrochemical organisations and how to optimize these factors.

Chapter 3: This chapter presents the research methodology and the research design that was followed during the research. The validation for choosing the selected methodology is discussed. This methodology delivers full details of the data collection process, which was conducted by way of thorough in-depth interviews, observations and revising internal processes.

Chapter 4: This chapter is the most important one in this study as it interprets the detailed findings of the structured in-depth interviews. This chapter compares the actual experiences of the industry and the relevant literature. The chapter concludes with answers to the research questions.

Chapter 5: This is the final chapter of the study, which concludes the entire study. It measures the extent to which the objectives and goals of the study were met. Therefore, the researcher concluded the findings with relevant recommendations. Finally, recommendations for future research are provided in this final chapter.

1.12 Chapter summary

This chapter presented a summary of the background of the study, the research problem, research objectives, research questions, as well as a general introduction to the study. This was followed by a literature review, research methodology and limitations to the study.

In the next chapter, an in-depth literature review is presented on factors that influence the effectiveness of change management interventions, as well as models of change management within the chosen petrochemical organisation.

CHAPTER TWO: LITERATURE REVIEW

2.1   Introduction

The topic of change management interventions has a wide range of models and factors that have been identified on how organisations should perform. Therefore, the literature review for this study is presented according to the research questions, which were presented in Chapter One. The chapter includes a combination of existing literature and a presentation of change models, which are assessed for their uniqueness.

The purpose of a literature review is to provide the reader with insight into the research questions and research objectives. The scope of this theory review was investigated mostly by using journals, university study material and research websites.

2.2   The concept of change management

The researcher commenced by defining change, which is the critical aspect for all organisations in order to function to its ability and reach the desired goals. In this regard, change is regarded as a process of transitioning from the current to the desired state. This response is linked to dynamic internal and external factors that can influence current realities (Kumar, 2013:10).

Smollan (2009:14) holds a similar view to Kumar (2013:9) when it comes to change, and defines change as being profoundly the feelings that companies want their personnel to contribute to the organisation. Smollan (2009:14) further says that the most effective change programs display that huge organisations communicate with their people directly through values and that eventually, it is about feelings and beliefs.

Kumar (2013:9) and Smollan (2009:14) have similar views when defining change, as they contend that change is regarded as a process of transitioning from the current to the desired state, and this usually impacts structure, processes, organisations and people. Hence, the researcher argues that when organisations embark on change, regardless of the kind of change that should be implemented, it requires a commitment

to all, as it is not an easy process to manage. Ongoing change is required in South Africa's petrochemical organisations, as they have to compete with international oil and gas organisations in order to attract oil markets to South Africa.

Adeniji, Osibanjo and Abiodum (2013:20) argue that organisational change is a necessary concept for organisations to allow them to compete in an ever-changing and competitive business environment. The prompt development of organisations, when it comes to technology, products and processes, has encouraged many organisations to actively search for new ways in which to improve their current processes, products and structures in order to compete in the market (Adeniji, Osibanjo and Abiodum, 2013:20). However; Schmidt (2010:22) defines change management as a "process of guidance and adjustment aimed at achieving the goals for change".

Hence, the researcher argues that there are similarities in the definitions of Adeniji *et al.* and Schmidt above. Thus, the researcher further says that change management has shifted from being the responsibility of an external or internal change agent, devoted to its execution. Most organisational leaders have identified change management as being a core competency. Therefore, the researcher defines organisational change management as a continuous improvement within the organisation to keep abreast of current trends within the petrochemical industry.

Above all, the involvement of employees is highly required as most of the changes have a direct impact on them. The researcher adopted Kumar's definition of change as regarded as a process of transitioning from the current to the desired state, and this usually impacts structure, processes, organisations and people. Finally, the researcher defines change management as an ongoing task that the petrochemical organisation should always value, and involve all stakeholders in it that form part of the organisation.

2.3 Effectiveness of change management models
The researcher argues that the effectiveness of change management depends entirely on how change is executed. The researcher further says that when change is

communicated and planned properly in advance, it then becomes effective. Hence, the selected petrochemical organisation should adopt the skill of planning and communicating with all the stakeholders that are involved in change.

However, historical leadership views are being challenged for evaluating the organisational effectiveness and are being reassessed (Brandson, 2007:42). Branson (2007:42) continues by indicating that in the past, the factors of production and profit were those who worked in the organisation. This change management model was first presented in 1947 by a psychologist, Kurt Lewin (Burnes, 2004:15). Lewin realised that many people prefer to operate within certain zones of safety, documented three stages of change: unfreezing, changing, and refreezing.

Burnes (2004:15) continues to say that this model maintained its integrity through several restatements with each "ability" change the model and over the years managed to assign a different name to the three steps. Kotter (2014:40) originated his Eight-Step Model which is based on the fact that the rate at which our world is changing is increasing, but our ability to keep up with it is not.

Kotter (2014:40) invented the Eight-Step Model as follows: Establishing the sense of urgency, creating the Guiding Coalition, Developing a Vision and Strategy, Communicating that Change Vision, Empowering Broad-Based Action, Generating Short-Term Wins, Consolidating Gains and Producing More Change and, finally, Anchoring New Approaches in the culture.

The researcher agrees with the fact that Kotter originated his Eight-Step model to align with the change of time. Hence, the following section covers a number of change management models.

2.3.1. Kurt Lewin's Three Step Model

Kurt Lewin's model and his philosophies about structural change are well known, and managers of today frequently quote them (Cameroon and Green, 2004:96). The understanding of groups, as well as the understanding of action research, changes,

experiential learning, was developed by the first philosophers called Lewin. He realised that many people prefer to operate within certain zones of safety; hence, he documented three stages of change: unfreezing, changing, and refreezing.(Schmidt, 2010:7).
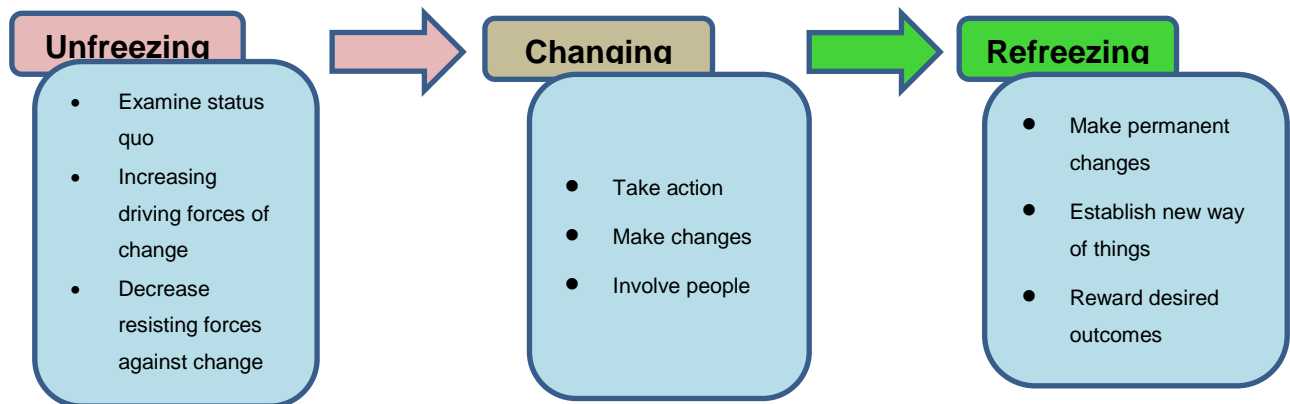
Figure 1: Lewin's three-step model (Source: Schmidt, 2010:7)

The unfreezing phase

Lewin explains why change happens in the first phase and further defines the unfreezing phase as the process by which people realised of the purpose for change (Schmidt, 2010:7). In support of the above philosophy, Kumar (2013:7) states that "*if people are satisfied with the current practices and procedures, they may have little or no interest in making employees understand the importance of a change and how their jobs will be affected by it*".

However, Pugh (2007:26) defines the unfreezing phase as a phase that will create a healthy organisation, being aware of the need of change, encouragement, the involvement of top management and communication. The researcher views this stage as awareness of change progression towards the new direction and venture. Hence, Schmidt (2010:7) argues that the investigation below enlightens that in any change cases both driving and resisting forces exist.
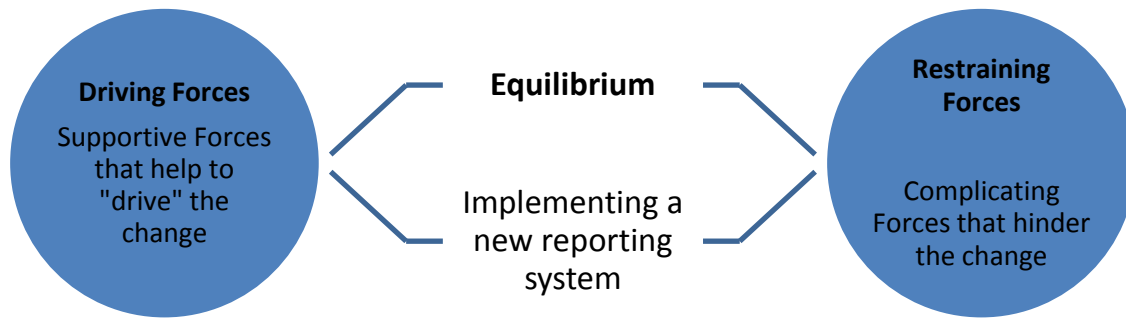
Figure 2: Lewin's force field analysis (Source: Schmidt, 2010:8)

According to Schmidt (201 0:7), the unfreezing phase of Lewin's theory argues that to activate change for the benefit of the driving forces, one has to break the equilibrium of a current situation. In support of what has been discussed by a number of authors in this regard (Lewin, 1947, Kumar 2013:9, Pugh, 2007:26 & Schmidt, 2010:7), it is, therefore, important to inform all employees that will be affected by the change why the change is needed, and how it will affect them.

At this stage information and awareness campaigns are vital to the rest of the organisation and should be transparent to all. Therefore, as soon as this phase is activated and all the stakeholders involved are aware of the changes that will take place, it becomes imperative to move to the next phase, which is the changing phase.

The moving / changing phase

The changing phase is also stated as a moving or transition phase by various authors (Pugh, 2007:26, Schmidt, 2010:8 & Kumar, 2013:9). Thus far, although terms vary, the contents remain the same. Kumar (2013:9) also argues that in this phase change itself is the transition from the previous way of doing things to an innovative way.

The researcher concurs with the above researchers that in this stage at the petrochemical company people are relaxed. They are changing towards something new or different, even though it is the hardest stage within the entire change process, as employees are uncertain about their future. Kostka, as cited by Schmidt (2010:8),

argues that the changing phase is largely categorised into seven minor phases that momentary show complications that are encountered in each phase.
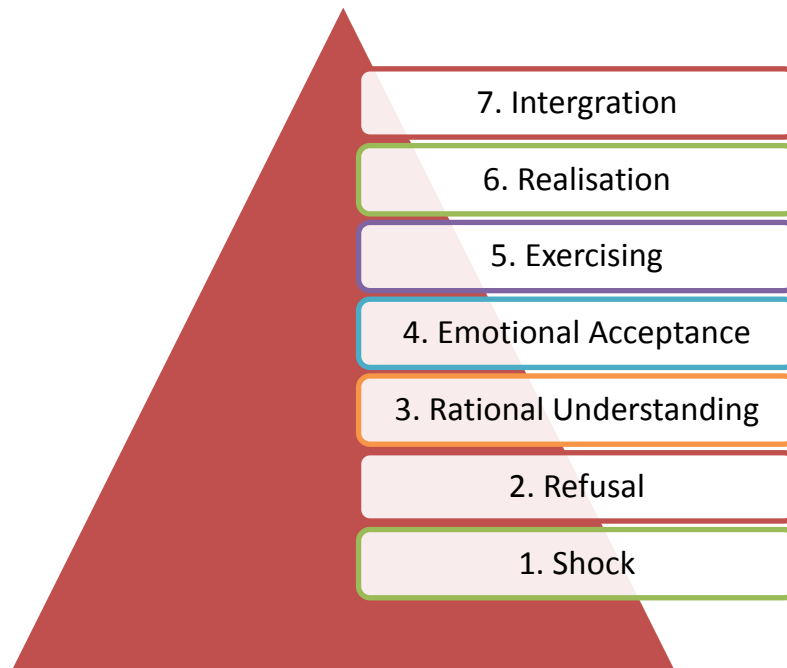
Figure 3: Seven phases of a change process (Source: Kostka, n.d.)

According to Kostka (n.d.), the first step of the changing phase is the feeling of **shock.** Employees are shocked and surprised because they need to confront unexpected situations and missing competence arises. Therefore, these situations render employees apprehensive of their own patterns of doing things, and they start to believe that these are no longer appropriate for the new environments.

In order to escape these feelings, they embark on a state of **refusal** and believe that change is not necessary. They believe that change is not needed and this increases their perceived competency again. However, Schmidt (2010:9) argues that although employees understand that change is something that has to happen, they continue to believe that the change will not personally affect them. Therefore, there is no willingness to change their ways of performance, and this step is known as **rational understanding.**

The next phase, which is known as **emotional acceptance / 'crisis',** is the most significant phase. This phase is where people have to decide whether they should maintain their denial attitude or whether they should accept being part of the change. The organisation will be able to realise their actual perspective, but only if the management succeeds in creating willingness amongst employees to change their values, beliefs and behaviours.

In the **exercising** phase, people begin to accept the new change and generate readiness for learning. People start to explore new processes and behaviours. Throughout this phase, they will experience success and failure. In this phase, people's perceived own competence leads to the **realisation** phase, where people gather more information by exercising and learning.

People become used to new structures and methods and recognize which behaviour is effective in which state. In this regard, the alleged competency has reached a higher level than previous to change. Finally, the last stage is discussed, which is **integration.** In this phase, people adopt new behaviours, which become routine and thoroughly incorporate their newly attained configurations of acting and rational.

The researcher argues that as soon as members and stakeholders open their minds to acceptance of the change, change can begin. Furthermore, in order for the change to be effective, it takes some time and involves a move period as the change process can be dynamic. It is suggested that people will be willing to take on new tasks and responsibilities in order to gain efficiency and be ready to learn. Finally, the researcher sees a change process as a venture, both in terms of time and the allocation of resources.

Pugh (2007:26) further postulates that the changing phase follows a comprehensive strategy, which sets definite objectives and perplexing targets that assist individuals to cultivate understanding while moving to the new level, namely the refreezing phase.

The refreezing phase

This phase makes the change permanent and resistant to further change (Schmidt, 2010:7). Güler (2010:48), in his view, argues that this phase ensures that change is now a part of the organisational culture whilst changing attitudes, the organisation's structure and information. However, Lewin argues that in the refreezing phase of his model, in order to avoid the system from going back to its original state, the new state of steadiness has to be strengthened.

Kumar (2013:9) agrees with Lewin that refreezing is essential, without it the old ways of performing things might soon reiterate themselves, while the new ways are disremembered. Schmidt (2010:10) argues that in the third phase of Lewin's model the new state of equilibrium has to be reinforced in order to avoid the system from reverting to its normal state.

There are similarities between the statements made by Kumar (2013:7) and Schmidt (2010:12) when it comes to the refreezing phase; however, it is vital to conduct continuous training and also to remind employees about the changes that took place in order for them to become accustomed to those changes.

The researcher argues that change will only reach its full outcome when it becomes permanent. Furthermore, when changes are made and the organisation has recovered its usefulness, the structure becomes standard. However, the re-freezing phase will provide stakeholders with an opportunity to increase the new organisation and to take full advantage of change once the structure improves the way that it conducts its operations.

2.3.2. Kotter's Eight-Step Model

In 1995, Kotter published the book "Leading Change", as well as an article in the *Harvard Business Review,* where he introduced his Eight-Step model of "transforming your organisation" (Schmidt, 2010:11). However, Kotter (2014:40) reviewed his Eight-Step model based on ever-increasing changes in the world and the ability to keep up.

According to Kotter (2014:40), organisations avoid to take the complete attitude that is necessary to effect change, hence all major change efforts in organisations fail.

However, Kotter's approach is much more practical when compared to Lewin's model. In understanding the context of this petrochemical company, the researcher reveals the choice of change approaches and strategies.

Ramakrishnan (2014:4) defines eight key steps of change management that were applied at the selected petrochemical company, which is necessary to successfully implement change, which is as follows: Establishing a sense of urgency; Creating the Guiding Coalition; Developing a Vision and Strategy; Communicating that Change Vision; Empowering Broad-Based Action; Generating Short-Term Wins; Consolidating Gains and Producing More Change; and, finally, Anchoring New Approaches in the culture (Ramakrishnan, 2014:4).

Figure 4: Kotter's 8-Step Model of change management (Source: Ramakrishnan, 2014:4)

Step 1: Establishing a sense of urgency

The researcher finds that it is important for the organisation to establish a sense of urgency when it comes to change, particularly in South Africa's petrochemical organisations, as they have to meet the market's needs and also be able to compete globally. Schmidt (2010:12) argues that if the entire company wants to change, comprehending it will be beneficial, which is the first step of Kotter's model.

Ramakrishnan (2014:4) further argues that it means trying to cultivate scenarios about what could happen in upcoming, and to examine possible opportunities and at that point encourage discussion about what is happening in the marketplace and amongst the competition. It is then incumbent to form urgent partnerships in order to fulfil the company's goal of obtaining instant change.

Step 2: Creating the guiding coalition

People should be convinced that change is necessary by emphasizing its importance and inevitability. Ramakrishnan (2014:4) is convinced that this needs strong leadership and support from strategic people within the organisation. According to Kotter (2014:26), one needs to bring together a combination of effective people, whose power comes from a diversity of sources, in order to lead effective change. To sum up, Schmidt (2010:12) argues that the powerful team will carry on building a sense of urgency, which will guide the change to accomplishment.

Hence, the researcher finds that there are similarities to the above arguments, as discussed by Ramakrishnan (2014:4) and Schmidt (2010:12), when elaborating on creating the guiding coalition within the petrochemical organisation. The researcher also finds that it is important to establish a group of people who have the required power to lead the change effort and to develop the group to work together as a team in order to reach the desired results that are needed within the petrochemical organisation. Hence, Kotter (2014:26) introduced the next step, which is developing a vision and strategy.

Step 3: Create a vision for change

A vision for change should be set up by the powerful association, which will assist everybody to understand the next steps and actions that are required. However, Ramakrishnan (2014:5) further argues that people need a clear vision to understand why they are being asked change. Hence, Ramakrishnan (2014:5) and Schmidt (2010:12) agree that once the communicated vision is understood, then a clear strategy should be created to accomplish that vision. In summary, it is important that the petrochemical organisation should make its vision known to its employees in order to work towards achieving it.

Step 4: Communicate the vision

The organisation should frequently communicate the vision to all. The leadership of the petrochemical organisation should establish the behaviour that they require from others and continue to lead by example. Kotter suggests that the vision can be communicated in a number of ways in order to reach everyone.

Step 5: Empower action

According to Ramakrishnan (2014:5), the structure for change needs to be established; and to frequently check for any obstructions to it. Therefore, systems or structures that demoralize the vision and structure for change should be transformed (Ramakrishnan, 2014:5). All obstacles should be removed and the people who execute the vision and help the change move forward should be empowered to do so. However, Kotter concurs that within this stage one should remove unhelpful structures and systems in order to empower as many people as possible to act according to the new vision.

Both Ramakrishnan (2014:5) and Kotter (2014:26) concur when it comes to this stage, hence they argue that one should remove obstacles that will prevent this vision in order for the vision to be successful and start creating quick wins so that the employees can be motivated and be able to perform at their best ability.

Step 6: Create quick wins

To attain some quick wins is critical. According to Ramakrishnan (2014:5), motivate employees who are in pursuit of the larger goal of change within the organisation, specifically in the petrochemical organisation. Without this, negative thinkers and critics can slow down and harm the change process. However, Schmidt (2010:13) further contends that throughout this step one should create short-term and visible improvements in order to promote them.

Step 7: Build in the change

Kotter suggests that numerous change initiatives become unsuccessful because victory is acknowledged premature. Hence, Ramakrishnan (2014:5) argues that one should change the systems, structures, and processes that do not fit into the complete new scheme, in order to construct on new initiatives. Cameroon and Green (2004:15) further argue that constant improvement must be the song, and each success or failure presents an opportunity to analyze what functioned, what did not function, and finally, improved. However, the idea of continuous improvement is needed because it will assist in getting the petrochemical organisation to the innovative levels.

Step 8: Anchor the changes in the corporate culture / Make it stick

According to Schmidt (2010:13), the change should form part of corporate culture, in order to get it stick. In addition, Ramakrishnan (2014:6) argues that for any change to be constant, it should be fixed to the organisation's culture. The leadership should clearly coherent the acquaintances between new behaviours and organisational success.

Both authors have similarities when it comes to anchoring change; they both have the same views. Finally, in this stage change should be communicated in a way that people will know exactly what is expected of them. The studied organisation was not effective enough; hence there was a need for change.

2.4   Factors that influence effective change management

According to Hersey, Blanchard, and Johnson (2012:10), the huge diversity of causes of organisational change forces verbalizing change, which can be organised into four major categories. By merging two key distinctions, the categories are formed, which are illustrated in the following diagram. Furthermore, Dwivedi (2010:25) used this classification to summarise the main factors of organisational change.
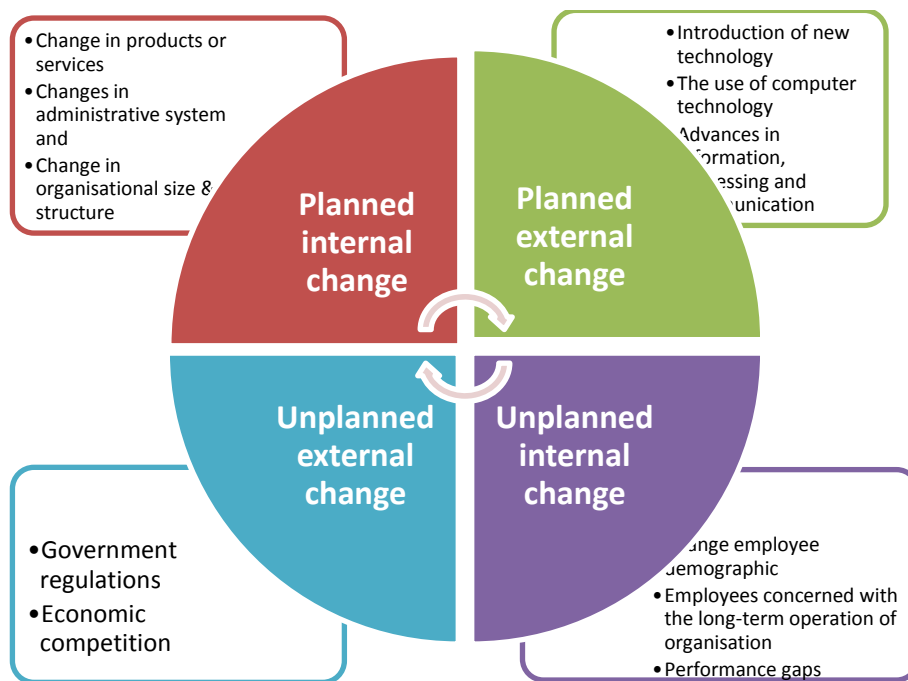
Figure 5: Major factors of change (Source: Dwivedi: 2010:25)

2.4.1 Planned internal change

According to Kumar (2013:7), planned internal change originates from the strategic decision to revise the technique in which a business operates. Hence, Dwivedi (2010:25) argues that the planned internal change comes from the strategic decision and leads the way on how the organisation will operate in future.

However, Batillana and Casciana (2015:10) hold a similar view to that of both Kumar (2013:7) and Dwivedi (2010:25) when it comes to planned internal change. The former authors further state that the planned internal change comprises of organisational

structure, design, and control, and to create sequences to accomplish organisational goals and objectives.

Thus, all the authors above agree on how planned internal change comes about, and, in addition, in order for the planned internal change to work out perfectly, it should involve stakeholders from the initial planning phase so that it can be successful. The selected petrochemical organisation has changed its structure and design, which has forced the internal controls to change.

2.4.2 Planned external change

Planned external change arises when the technology changes, which allows the organisation to change its technology in order to fit in the market. Kumar (2013:8) argues that presently the world is considered as affected technological shifts; therefore, technological improvements, predominantly in computer technology and communication, have assisted in creating a whole new variety of products/services.

In this sense, Kavanagh and Ashkanasy (2006:15), as well as Shurbagi and Zahari (2012:28), argue that change should be treated as a continuous task because of innovations in technology, the environment and where things are developed on a day-to-day basis.

In support of Kavanagh and Ashkanasy (2006:15) and Shurbagi and Zahari's (2012:28) discussions, the researcher argues that the selected petrochemical organisation embarked on introducing new technology to transfer oil from the vessels to the tanks and from the tanks back to the vessel by using the new metering system to monitor movement of the oil.

In the past physical personnel had to literally go out to the pipeline to see if the oil was moving in the right direction and also to check if there were no spills coming outing through the valves.

2.4.3 Unplanned internal change

According to Kumar (2013:12), unplanned internal change can be caused by changes that are connected to the system dynamics, internal processes, and expectations from the individual or group, and can be caused by numerous forces inside the organisation. However, Dwivedi (2010:25) holds similar views when it comes to unplanned internal change, and argues that change in employee demographics and performance gaps can force the organisation to embark on a swift internal change.

Furthermore, Dwivedi (2010:25) says that another major point can lead to unplanned internal change when a major unexpected astonishment happens in the organisation, which can lead its executive to act in a responsive way.

The researcher concurs with Kumar (2013:12) and Dwivedi (2010:25) that change happens several times, particularly in reference to the selected petrochemical organisation owing to the sudden resignation of the Chairperson of the Board and Executive Committee Members. Therefore, the sudden change forced the organisation to take immediate decisions on appointments, as the mentioned positions were all key positions within the organisation.

2.4.4 Unplanned external change

The researcher perceives that unplanned external change happens when one least expects it and it becomes out of control. Hence, the researcher further contends that unplanned external change is forced by the external environment, for example, a sudden change of laws and regulations, as well as political factors. In addition, Dwivedi (2010:25) postulates that forces of unplanned external change include government regulation changes and economic competition affect the country. Therefore, the swift unplanned external change should meet market trends and also comply with government laws and regulations (Dwivedi, 2010:25).

The selected petrochemical organisation is governed by government rules; it is, therefore, part of its mandate to be flexible in order to accommodate changes that can

occur at any time and require urgent implementation. Hence, the petrochemical organisation buys oil in order to maintain its strategic reserves at a maximum.

2.5 Other list of factors that influence organisational changes

As the global economy continues to change, the need for new products and services has also increased, which often forces the business to make changes in order to remain competitive. Therefore, Melnik (2017:2) argues that in order for businesses to continue to thrive and even endure competition, it should be ready to accustom to change. Furthermore, the variety of influences can cause a business to reconsider its ways of operation (Melnik, 2017:2).
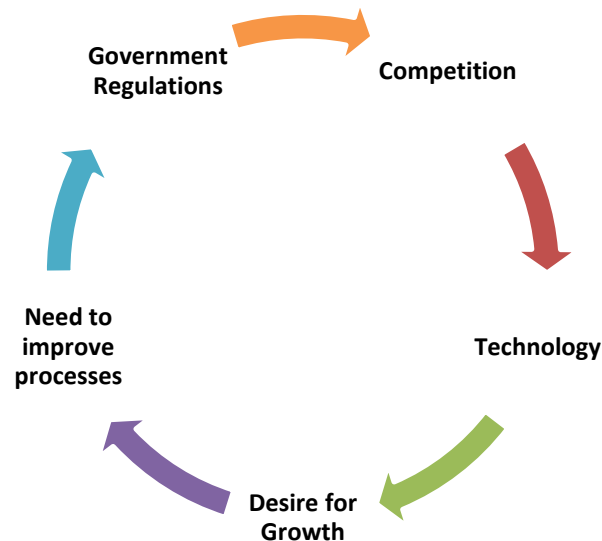
Figure 6: Other factors that influence organisational changes (Source: Melnik, 2017:2)

Competition

The marketing strategy of a business can be forced to change when the new competitor enters the market. For example, a selected crude oil storage company in the Western Cape was the only oil storage facility in town, which might have to change or increase its products as more oil storage facilities are being built nearby, and will offer the same services to the current market.

Technology

Innovations in technology can force a business to change merely to keep abreast. The organisation is, therefore, forced to train employees who never used the system before to operate the new system. By implementing a technological change a business can benefit. The selected petrochemical organisation in the Western Cape has implemented an electronic system to monitor all oil movements in the terminal, which resulted in increased efficiency and better customer service.

Desire for Growth

The method of business operations has to change in order to attain growth. Hence, the selected petrochemical company in the Western Cape has increased its products in order to attract more clients and has built more storage facilities to accommodate these new products.

Need to Improve Processes

New production processes may need to be implemented in a business so that it may become more efficient and eliminate waste. In 2012 the selected petrochemical company implemented a metering system to improve its services and to reduce operating costs. Hence, the company is now recognised globally for its high level of service and quality. Above all, the petrochemical company is meeting international standards, as it acquired ISO 14 000 for environmental management in 2015, ISO 9000 for quality management in 2014 and OHSAS 18000 for occupational health and safety management in 2016.

Government Regulations

The political environment within and outside of the country has a significant impact on business, especially in state-owned companies. Therefore, the corporate sector is controlled by numerous laws and regulations. The changes in government regulations have a huge impact on how a company conducts its business. Hence, the organisation does not have any control over political and lawful powers.

The company can be compulsory to change its production procedure to create a nontoxic working environment owing to newly mandated safety procedures. It is the reason why the company managed to acquire the international standards to ensure that product quality meets its standards, the environment is safe and above all, ensuring the health and safety of the stakeholders.

2.6 Proposed change management model for South African petrochemical organisations

Based on the reviewed and presented literature, the researcher has adopted a change management model for the SA petrochemical organisation (Figure 7) that was subsequently tested in the empirical setting of one of SA's petrochemical organisations.
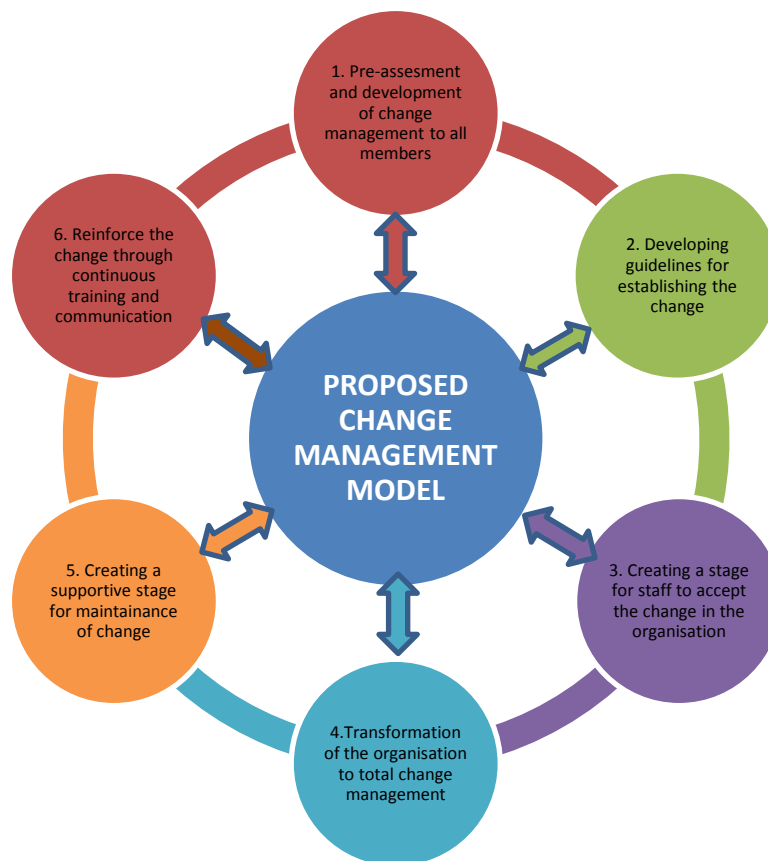
Figure 7: Proposed SA Petrochemical Change Model (Source: Author, based on Anderson, 2011:51)

Step 1: Pre-assessment and development of change management for all members

This step proposes needs for pre-assessment at all levels of the organisation, where the change is planned to take place before the actual change process initiates. Furthermore, it is needed to explore all levels of the organisation in order to ascertain whether the change will be accepted. This can be done through one-on-one consultation to gain an understanding of the extent to which members understand the change that is about to happen. Therefore, selected personnel, especially the general workers, will be asked if they understand the change that is about to take place and how they feel about it.

Therefore, the key step in the change management process is change management assessments that are conducted by the change agent or the person that is responsible for change within the organisation. Two critical assessments are needed when managing change from the commencement stage of the change.

The first assessment, which is required when managing change in the selected petrochemical organisation is to examine the scope, complete size, depth, and type of the change that needs to be addressed. When planning the strategy of change, a considerate review of the nature of change is crucial.

Developing guidelines to establish the change

The second evaluation is an assessment of the organisation to develop clear guidelines to establish the change. Hence, every organisation has exceptional characteristics that make change management either informal or interesting. However, it is important to educate the team and sponsors about potential obstacles that can emerge. This valuation would cover areas such as:

- Value system and culture within the organisation;
- Volume for change
- Power distribution and style of leadership
- Remaining effects of historical changes;
- Middle management's development towards the change; and

- Readiness of employees to embrace change.

The value system and culture play a major role in how an organisation responds to change. In order to consider this factor, one can envisage certain reactions in the group and plan accordingly.

If the organisation has an inadequate capacity for change, change can then be unsuccessful. Moreover, when the organisation is already experiencing a large degree of change, then implementing yet another change can prove to be more difficult.

In change management planning leadership styles play a vital role. Hence, it is important that one takes time to assess the power distribution and the styles of leadership within the organisation. Historical changes may have left a residual effect that could work in one's favour, or make change management more perplexing. The antiquity of this organisation forms part of one's starting point when managing change, as there is no intention of repeating what should be done.

Middle managers have a full authority over their employees and peers; hence, they can play an important role in the change process. The readiness of employees for change is an instrument of how organised and capable employees are for change, and whether one can assume the high or low resistance of employee, and why.

The completion of the assessments depends on the make-up of one's project team and the role that external stakeholders play in the process. If the change management consultants are used, then they have no/little choice other than using standard data collection methods to complete these assessments. These data collection methods include manager and employee interviews and surveys.

Creating a stage for staff to accept the change in the organisation
At this stage the change agent ensures that the employees understand the purpose of change and why the organisation has embarked on the change process. Once people

realise that fighting the change will not make it vanish, they move into a stage of recognition even though it is a happy space.

Transformation of the organisation to total change management

The researcher believes that in order for an organisation to be completely transformed, people should first be transformed. Therefore, without personal transformation there will be no change and when the mentality change, then the personal transformation begins. During the transformation phase one has to see the reality in a different manner, and if employees do not see it, the transformation will not be possible.

Furthermore, the profound transformation begins at the top and not with the whole organisation. Hence, the change plan is first vented to the top management and immediately rolled out in the organisation in order to be effective. Total transformation is accepting the need for personal transformation, which begins with top management.

Creating a supportive stage for maintenance of change

In the Maintenance stage employees would have managed to stay in action mode for a while; they overcome the complications that could have caused them to slip back into old actions. In this stage, employees attain a greater level of confidence and capacity. The maintenance stage is employed if employees have been consistent and diligent in performing the actions that they had committed to do as part of the change. Therefore, the change can proceed to the re-enforcement stage.

Reinforce the change through continuous training and communication

Supporting this stage is important as the behaviour change is completely integrated and the former behaviour disappears. It would appear that continuous training is needed in order to make the change permanent. Hence, management has a responsibility to continuously communicate with employees and provide training that is needed in order to increase employee performance.

2.8 Summary

This chapter presented literature that was reviewed as means to understand the important factors of change management in the selected petrochemical industry, how change has been effective, among them internal and external planned change, and internal and external unplanned change. This chapter also discussed the most effective models that could be used when implementing change. Furthermore, the researcher proposed the change management model that can be used at the researched South African petrochemical organisation.

Table 1: Research conceptual models and factors that influence effective change management and proposed SA petrochemical change model (Source: Author)

Major factors of change	Lewin's change model	Kotter's change model	References	Proposed change management model	Sub-factors of proposed change management model
Planned internal change	Unfreezing phase	Establish a sense of urgency Create a coalition	Ashkanasy and Kavanagh, 2006; Batillana and Casciana, 2015; Cameroon and Green, 2004; Dwivedi, 2010; Hall, 2012; Hersey *et al.,* 2012; Kotter, 2014; Kumar, 2013; Melnik, 2017; Pugh, 2007; Ramakrishnan, 2014; Shurbagi and Zahari, 2012	Pre-assessment and development of change management for all members	• Organisation to examine the scope of the change • Number of employees impacted • Type of change • Depth and overall of the change
Planned external change		Develop a clear vision Share the vision		Developing guidelines for establishing the change	• Value system and culture within the organisation • Capacity for change
Unplanned internal		Empower people to clear			

change		obstacle			• Power distribution and leadership styles
		Anchor the change			• Residual effects of past changes
					• Middle management's trend towards the change
					• Readiness of employees for change
Unplanned external change	Moving phase	Consolidate and keep moving	Dwivedi, 2010; Guler, 2010; Hall, 2012; Melnik, 2017	Creating a stage for staff to accept the change in the organisation	• Employees understand the purpose of change • Reasons for change • Acceptance of change
				Transformation of the organisation to total change management	• Transformation phase • Selling change plan from top to bottom in order to be effective
	Refreezing phase	Secure short-term wins		Creating a supportive stage for maintenance of change	• Maintenance of change • Overcoming obstacles • Employees gain confidence
				Reinforce the change through	• Supporting stage

				continuous training and communication	• Continuous training • Making change permanent and • Continuous communication of change

Table One above summarised the different factors and models of change management and also the proposed the researcher's South African petrochemical change model, as discussed in the literature review section. The next chapter presents the research methodology of the study.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the research process that was employed to explore and analyse factors, which influence the effectiveness of change management interventions in a selected petrochemical organisation in the Western Cape, South Africa. The research analysed data that was sought and obtained from direct fieldwork observations, in-depth, open-ended interviews, and written documents (Patton, 2005:25). Thus, the data was collected from both primary and secondary sources, which included interview questions and company documents.

The case study methodology was used in order to collect and analyse data from respondents within a rather limited timeframe for this research. The purpose of the proposed single case study (Yin, 2003:10) is investigative in nature of the identified research problem, with a strong focus on defining the 'what, why and how' of specific change management interventions. The research utilised various approaches and procedures as means to obtain scientific knowledge (Welman, Kruger, & Mitchell, 2011:3).

According to Henning, Van Rensburg and Smit (2004:36), research methodology is the pronouncements that the researcher has to embark on in order to execute the research project by focusing on the research process. Thus, Henning *et al.* state that a research methodology is a group of coherent processes that counter each other.

3.2   Research assumptions

The most critical decisions of the research design involve classifying an actual research paradigm, which best addresses the research questions, and achieving the research aims (Xi, 2014:51). The paradigm defines certain questions, which explore and identify the correct approaches to address them, while it functions as a blueprint that makes expectations about a phenomenon. Three underlying philosophies are surrounded in this research study, namely ontology, epistemology, and methodology (Glesne, 2016:5). "The term ontology is often used to refer to beliefs regarding reality or what kinds of things make up the world" (Glesne, 2016:5). According to Xi (2014:52), ontology is an understanding of the nature of being, reality and existence. In turn, what one believes about the nature of reality affects the kinds of questions that one asks of it, and what one considers knowledge to be.

Epistemology considers what things have to be; hence, it is called a theory of knowledge and enquiries about what knowledge is, and how it can be attained (Xi, 2014:52). Furthermore, Glesne, (2016:5) says that epistemology is the word that is used to refer to the study of the nature of knowledge. However, Padgett (2017:6) argues that epistemology is referred to as philosophical discussions of how we know and what we know. The significant factors that contribute to the definition of epistemology are the instruments that are chosen, together with the design that is used to collect data and for analysis.

The methodology can be established based on these two fundamentals of acquaintance (ontology and epistemology), which can be from the actuality of the research, for example, knowledge subjective perception.

The methodology is the order in which the study conducts the data collection process (Jowah, 2011:111). Hence, Xi (2014:52) argues that methodology is the method that is used to attain knowledge through the whole research process.

In this study, the ontological questions refer to factors of change management through planned and unplanned change within the petrochemical organisation in SA. In view of the nature of the research assumptions and questions, a case-study method was chosen to acquire an understanding of the studied subject, which assists to answer the epistemological question of how and what the change models can be effective in the petrochemical organisation.

3.3 Research paradigms

The cornerstone of quantitative and qualitative research methods are philosophical assumptions (Xi, 2014:53). Therefore, it is extremely prerequisite to understand various research paradigms, in order to select an appropriate methodology. In this regard, Glesne (2016:6) classifies the philosophical frameworks that direct the work of social scientists into four models: Positivism, Interpretivism, Critical theory, and Poststructuralism.

In the section to follow, various paradigms are described, which illustrate the purposes and methodologies or analyses, which are associated with various paradigms.

Table 2: Paradigms, Purposes, and Methodologies or Analyses
(Source: Glesne: 2016: 7)

Paradigm*	Other Terms or Labels	Associated Theorists or Philosophers	Central Research Purpose	Associated Research Methodologies or Analyses
Positivism	Logical empiricism Postpositivism** Postempiricism	August Comte	Predict	Experimental Quasi-experimental Causal

				comparative
Interpretivism	Constructivism Naturalism Phenomenological Hermeneutical	Clifford Geertz Jurgen Habermas Edmund Husserl Immanuel Kant George Herbert Mead	Understand	Ethnography Phenomenology Symbolic interactionism Narrative analysis Grounded theory
Critical theory	Feminist theory Critical race theory	Karl Marx Antonio Gramsci Max Weber Herbert Marcuse Luce Irigaray	Emancipate	Critical ethnography Feminist research Participatory action research (Freire) Critical discourse analysis
Poststructura lism	Postmodernism Postcolonialism Post-Fordist	Michel Foucault Jacques Derrida Jean F. Lyotard Gayatri Spivak Edward Said Arjun Appadurai Homi K. Bhabha	Deconstruct	Deconstruction (Derrida) Genealogy (Nietzsche, Foucault) Rhizoanalysis (Deleuze, Guattari) Paralogic legitimation (Lyotard)

3.3.1 Positivism

The term positivism attempts to achieve reliable, tangible information that could transform the social world for the better (Glesne, 2016:7). However, Xi (2014:53) argues that positivist perspective refers to the isolation of the actuality from the observer. This

modification of positivism is sometimes referred to as postpositivism. In order to avoid the confusion, Glesne (2016:8) uses post empiricism to refer to the modified way of viewing science and inquiry that came after "the demise of the strict empiricism of logical positivism".

The collected data is then reduced to numerical quantifiable bits of information and is analysed statistically. These procedures tend to be called quantitative methods (Glesne, 2016:8). Leedy and Ormrod (2013:15) concur with Glesne that quantitative research methods mostly use positivist researchers' work such as ground studies, surveys and trials.

In this instance, case-study research can be conducted in an orderly environment to offer an effective dimension of the outcome, in concurrence with the positivist perspective. Hence, in this study, the post empiricism paradigm did not suit the research problem, as this research did not seek to identify any form of quantitative data nor test any variables.

3.3.2 Interpretivism

Unlike the positivist paradigm, the interpretive theory of human understanding is sometimes referred to as hermeneutics (Glesne, 2016:8). Furthermore, it accepts that clarification is essential to human interactions and knowing; hence, it rejects the idea of universal laws (Leedy & Ormrod, 2013:16). Therefore, "the role of the social scientist then becomes accessing others' interpretations of some social phenomenon and of interpreting, themselves, other's actions and intentions" (Glesne, 2016:9).

The main focus of interpretivism theory is on understanding human variables and complex social facets within the location of the studied phenomenon. Furthermore, the researcher continues with an intense inquiry process of understanding and analysing, subsequently, these variables are difficult to quantify. Hence, the researchers' values, knowledge and beliefs may impact on the final thoughtful of the participant. Therefore, the researcher should interpret the results that are acquired from the collection of data and the inquiry.

3.3.3 Critical theory

According to Glesne (2016:10), critical theory research takes one beyond describing "what is", which is the intention of interpretivists, and towards describing "what could be". Hence, "critical theory research critiques historical and structural conditions of oppression and seeks the transformation of those conditions" (Glesne, 2016:10). However, Xi (2014:54) argues that critical theory involves the existence of numerous social realisms and influences.

In particular, "they work to locate the experiences and perspectives of the oppressed group in a historical and context, revealing how conditions serve certain groups and not others". Subsequently, this research is not looking for numerous realities; therefore, critical research was not suitable for this study.

3.3.4 Post-structuralism

Post-structuralism refers to reacting to the socio-linguistic work of structuralists who seek out linguistic codes or grammar as means to understand social interactions and cultures, while post-structuralists are more interested in how texts resist (Glesne, 2016:11). Hence, this paradigm does not only focus on written words, but also on speech and human behaviour, and poststructuralists tend to focus on analyzing versions, showing how they include and exclude people systematically.

Since this paradigm excludes people and their ideas and focuses mainly on deconstructing texts, this paradigm was also not deemed suitable for this study.

Having probed the above four paradigms, the researcher found that the interpretivism research paradigm would be most suitable for this study.

3.3.5 Discovering the study within the interpretivism paradigm

Each research study has its own way of reinforcement and can employ multiple or single paradigms. This particular study was, therefore, suitable for the interpretivism paradigm. The factors that influence the effectiveness of change management

interventions within the selected petrochemical organisation were sought in the context of the organisation's employees and written documents.

Thus, the interpretivism paradigm is designated as the best suited for stimulating the meaning of qualitative in-depth studies. A sequence of issues and concerns around the current change management models and factors were uncovered through the interactive participation of the petrochemical employees in the research study. By analysing the apprehensions and reflecting on the relevant attitudes associated with change management factors, the researcher sought to understand the fundamental problem. Hence, the researchers' process was guided by the interpretive approach towards understanding such influence.

3.4   Research design and approach

In this study the research method that was used to collect both primary and secondary data required to understand and investigate information that relates to factors around the effectiveness of change management. Hence, Johnson (2013:51) argues that research design involves the expansion and adjustment of the theory by classifying legitimacy extortions and addressing them, the collection and analysis of data from the research questions.

According to Nieuwenhuis (2010:70), "research design is a strategy or plan that moves from the underlying philosophical assumptions to stipulate the selection of respondents, the data gathering techniques that are used, and the data analysis that was done. The research design is important; therefore, it is important that the researcher should have a complete understanding in order to guide him/her in the right study direction, with the view of accomplishing the research goals, as set to be achieved by the study objectives. Johnson (2013:52) argues that the classification of research designs are done differently, which is determined by what the researcher aims to achieve.

Lee and Lings (2008:247) postulate that respondents relate to the major stories and incidents that in turn relate to the research topic, and their familiarities provide insight for

the researcher. Thus, one finds many respondents reluctant to honestly answer the questions, as some afraid that their names will be disclosed even though all questionnaires and answers are strictly confidential.

By adopting expressive research the researcher was able to listen, identify and observe engagements, behaviours, attitudes and the attitudes of all stakeholders. After the data had been collected and analysed in order to advance significant insight into the problem and to try to find a solution, the exploratory study assisted the researcher to draw significant conclusions, with extreme caution. Therefore, two types of research methods were examined in order to decide on the most appropriate method for this study, namely qualitative research and quantitative research methods.

According to Jowah (2011:42), even though the two forms of research have fundamental differences, they are largely dependent on who or what one is investigating. There has been an ongoing shift from thinking that quantitative research is the best form of research, though the two are completely different.

Furthermore, Jowah (2011:42) argues that qualitative research has become more regular, even though in many instances these two forms of research supplement each other. Hence, the researcher concurs with Jowah (2011:42) that these two research methods should be distinguished in order to ascertain the difference between the two.

3.4.1 Qualitative and quantitative research

As indicated above, the major differences between the methodologies reside in the differences between natural science and social science. The nature of social science is that it deals with human beings who can think and even change their minds about certain questions.

3.4.1.1 Quantitative research

"Quantitative research methods emphasize objective measurements and the statistical, mathematical, or numerical analysis of data that is collected by way of polls,

questionnaires and surveys, or by manipulating pre-existing statistical data using computational techniques (Babbie, 2010:6)". However, Jowah (2011:43) argues that quantitative research has an outsider's perspective on quantitative objective data, and is generally based on a hypothesis to be approved.

Furthermore, Muijs (2010:9) contends that quantitative research focuses on collecting numerical data and generalizes it across groups of people or to clarify a specific phenomenon. The researcher concurs with Babbie, (2010:6), Jowah, (2011:43) and Muijs (2010:9) who all state that quantitative research is based on numerical samples.

Large numbers are used in samples; hence, the research is actually intensive and there is considerable emphasis on the reliability of the results. Brians, Manhein, Rich and Willnat (2011:10) argue that "quantitative research focuses on numeric and unchanging data and detailed, convergent reasoning, rather than on divergent reasoning".

3.4.1.2 Qualitative research

Jowah (2011:42) argues that qualitative research focuses mostly on human behaviour, which is not predictable and subject to change. Furthermore, if the data is composed in the form of recorded words and is sent for analysis, the likelihood is that it will render different interpretations from different analysts (Jowah, 2011:43).

Qualitative research is essentially explorative, subjective and is an internal view of the human behaviour understudy. The researcher argues that qualitative research has no stability nor can controls be put in place as the population can be dynamic and changes with time.

Therefore, Roller and Lavrakas (2015:16) mention that "the unique nature of the qualitative inquiry is characterized by a distinctive set of attributes, all of which impact the design of qualitative research in one way or another". Finally, Jowah (2011:43) argues that qualitative research is, therefore, referred to as being unscientific.

Given that the identified research problem is of a qualitative nature, the qualitative research method is proposed in the form of a single case study, as was selected for the research study in the form of conducting it at a selected petrochemical organisation in the Western Cape.

Therefore, a qualitative method was adopted to conduct this research in order to achieve the set goals and to analyse data from respondents within a reasonably limited timeframe for this research.

3.4.2 Adoption of a qualitative research methodology

Cochran and Patton (2002:2) argue that qualitative research is considered by its purposes, relating to understanding certain aspects of social life and its methods, which create words rather than numbers as data for analysis.

According to Nieuwenhuis (2010:50), qualitative research endeavours to gather comfortable descriptive data concerning a particular phenomenon in order to understand what has been studied and observed.

Corbin and Strauss (2008:302) postulate that qualitative research is creative in conceptualisation and in unique, however, it provides understanding, show sensitivity, has substance and is grounded in data.

Authors Cochran and Patton, Couch and Housden, Peter and Donnely, Welman *et al.,* Nieuwenhuis, and Corbin and Strauss all have similar views when it comes to qualitative research; hence, the researcher decided to use qualitative research as the research problem is of a qualitative nature and, therefore, a single case study was conducted at a selected petrochemical organisation.

3.4.3 Qualitative research method

The researcher should find ways to select the most appropriate qualitative research approach when exploring individuals, groups and organisations in order to conduct both an exploratory and a descriptive study.

Welman *et al.* (2011:193-206) define various methods of qualitative research, and these are presented below.

3.4.3.1 *Case study research*

Case study research is the severe study of a limited number of units of analysis, which are directed towards understanding the exceptionality and the features of a particular case in all its intricacy. Leedy and Ormrod (2013:17) define a case study method (CSM) as an idiographic research project. However, Jowah (2011:101) argues that case studies are contextualised analysis of events and emphasise interrelationships and, therefore, are not perfect for hypothesis testing as they rely on qualitative data. Furthermore, they can be supplementary in formulating a new hypothesis but are considered to be scientifically worthless because of their incomparability (Jowah, 2011:101).

3.4.3.2 *Participant observation*

This research method allows the researcher to become part of the group or event that is studied and also enables the researcher to experience the daily activities direct as an insider.

3.4.3.3 *In-depth or unstructured interviews*

The purpose of using in-depth or unstructured interviews is to guard against asking questions that will prevent individuals from revealing their feelings and beliefs. In-depth or unstructured interviews have been established to formulate solid questions in order to generate hypotheses and to try and identify important variables in a particular area.

3.4.3.4   Focus groups

According to Welman *et al.* (2011:205), focus groups are described as in-depth group interviews. However, focus groups are essential qualitative tools that are used to gather information through drawing groups together for the purpose of expressing their opinions on a specific set of open questions, whereas with unstructured in-depth interviews, one could focus more on interviewing individuals.

3.4.3.5   Participatory research

The researcher is dependent on the participation of all important stakeholders to bring about community change by involving and integrating elements such as educational work, actions in an interrelated process, and social investigation. Hence, the purpose of participatory research is the combined involvement of all participants in the planning and implementation of the research outcomes (Welman *et al.,* 2011:193-206).

Therefore, the researcher will decide as to which of the above method/s to use based on the in-depth requirements of the study. However, in-depth or unstructured interviews seemed to be the best tool for this research.

3.5   Case study design in this research

The purpose of adopting a case-study method is to comprehend the uniqueness of the studied case in–depth. The case study has two types of designs: a single case design and multiple case designs (Xi, 2014:59). Therefore, the researcher has to adopt one of these designs based on the research question to be addressed. This study sought to explore factors that influence the effectiveness of change management in a selected petrochemical organisation in SA. Therefore, the single case study was suitable for this research.

In order to study the phenomenon in some depth, a single case study permits the researcher to understand a case within a unique environment (selected petrochemical organisation). Conversely, when the researcher decides to use more than one case, it becomes suitable to use a multiple case study.

Hence, the researcher adopted a single case study for this research, as the study focused on one petrochemical organisation.

3.6   The sampling design

Sampling is the process of choosing a sample from the sampling population to develop the basis for predicting the prevalence of an unknown portion of information, outcomes and situation regarding the bigger group (Tamen, 2013:80). In the same way, Kuye and Sulaimon (2011:7) argue that a sample is a part of the entire population, which is prudently selected to represent that population. However, Leedy and Ormrod (2013:18) define a sample as the collection of numerous selected entities for the purpose of analysing their potential relevance to the research problem.

Jowah (2011:125) concurs with Tamen (2013:80) and Kuye and Sulaimon (2011:7) when defining a sample as that, which is simply a part or a portion of a population. Hence, the researcher argues that the procedure of sample selection is referred to as the sampling process.

There are two categories of sampling: probability sampling and non-probability sampling. "It is assumed that the characteristics of the selected sample are approximately equal to the characteristics of the total population in the probability sampling". Whereas, in non-probability sampling, there can be no agreement that each criterion of the selected sample in the population will be sampled (Leedy & Ormrod, 2013:18).

This study employed non-probability sampling; the purposive sampling approach was adopted in order to select a representative sample of the total population in a single organisation. By applying this method, the researcher selected potential participants from the four departments within the organisation and included top level to lower level employees. It was assumed that the participants that were selected within these four departments would be able to provide an expressive input into this study.

3.7   Research participants

Informants are chosen in accordance with their knowledge of the specific issues that are studied (Kumar, Stern, & Anderson, 1993:30). The researcher targeted 30 participants in four departments within the selected petrochemical organisation. Below is an illustration of the targeted population for the questionnaires within the selected petrochemical organisation in the Western Cape.

Table 3: Targeted participants in the research (Source: Author)

Department	Designation	No of participants
Operations Department (OD) **-** 20	Terminal managers	3
	Operations supervisors	5
	Technicians	3
	Operations administrator	1
	Storeman	1
	Handymen	7
Planning and Special Projects Department (PSPD) - 2	Planning & Special Projects manager	1
	Planning & Special Projects administrator	1
Corporate Services Department (CSD) - 4	Human resources practitioner	1
	Recruitment and selection officer	1
	Information technology officer	1
	Receptionist	1
Procurement Department (PD) - 4	Procurement manager	1
	Procurement officers	2
	Procurement administrator	1
Total target population		**30**

3.8   Data collection

The study applied the interview method as the main instrument to collect empirical data for the study, apart from utilizing secondary sources such as books, research articles, internet-based documents and journals to obtain theoretical knowledge of the research objectives. One of the leading methods in qualitative research is interviews (Tamen, 2013:82). There are various methods to conduct interviews, depending on the research objectives and question/s; hence an appropriate interviewing technique must be used.

This study made use of semi-structured interviews and documentary analysis data collection methods. The relevant change management connected documents were collected and studied in order to gain an in-depth understanding of the main concepts, theories and influencing factors of change management effectiveness. Hence, the development of a future interview guide extracted findings from such documents.

The interview approach was used for this research; hence, this approach is neither too unstructured nor structured. Since this approach permits the researcher to probe and look for facts, motives, feelings and behaviours, it is understood that it provides better-off information than questionnaire techniques (Xi, 2014:64).

The list of semi-structured questions was applied to guide the interview process, which permitted for an open-structured argument. Thereafter, some of the interview data were recorded by using a mobile recorder; however, owing to mobile storage that was limited, the rest of the interview data was written.

Since the participants were colleagues of the researcher, they felt uncomfortable to freely answer all the questions as they kept saying that the organisation is a National Key Point (NKP) petrochemical organisation. Nonetheless, the researcher continued with the interview process and reminded the respondents that the research is for study purposes and would be confidential.

3.9   Interview design

As mentioned in the previous section, semi-structured interviews were used to obtain the information from the targeted population. Respondents for the interviews were contacted face-to-face and others contacted via email since the operations are not at the same premises as the offices, and consent letter was hand out also emailed to respondents which spells out the purpose of the study.

The main aim of the interviews was to obtain empirical data around the influence of change management factors within the selected petrochemical organisation. The interviews were recorded and in some instances notes were taken for the purpose of this study. Everything was done with the respondents' consent. The researcher perceives this recording as being the most effective and efficient method, as it allows the researcher to focus her/his attention on the participants rather than by note taking, which can be distracting.

Nevertheless, recording the interview could make participants reluctant to divulge contentious issues. Hence, the researcher mostly decided to take notes in cases where a participant was not comfortable with the recording.

3.10   Procedures

A request to conduct this study at this selected petrochemical organisation was granted by the Chief Executive Officer (CEO) of the organisation and the researcher forwarded this to the Ethics Committee (EC). The EC authorised the researcher to conduct the study by granting the researcher an Ethics Clearance Certificate (ECC). Some interviews were conducted in the boardroom of the organisation, while others were conducted at the office of the respondents.

An informed consent letter prior to the interview was given to each respondent (Appendix A). The interviews were conducted for a period of 20-25 minutes, interview questionnaire (Appendix B). No respondent signed the informed consent letter;

however, the respondent accepted the informed letter and merely read it. Hence, the acceptance to participate in the study was done verbally.

3.11 Data analysis

A qualitative technique was used to analyse data. The purpose for using qualitative data analysis is to discover themes, designs and meanings in the methodical content. The facts that were obtained from the research instruments were analysed by using themes. Data analysis allows a researcher to acquire valuable information from raw data. Hence, Glesne (2016:15) argues that data analysis involves sequencing that the researcher has read, heard and seen in order to make sense of the data, and answer the research question.

The data that was collected from the interviews were reviewed immediately after collection to ensure that important interpretations were remembered easily. Hence, Leedy and Ormrod (2013:19) state that the data analysis process is a time-consuming and complex process. The researcher used the two steps, which are outlined below, to analyse and understand the massive amount data that was collected.

The first stage involved data reviewing, which meant re-playing the recorded interviews and making notes at the same time. The researcher read and re-read the notes in order to ascertain themes and to gain a broad understanding of the content. Therefore, comprehensive notes were made in the course of reviewing. As most of the respondents were not comfortable with recording, the researcher had more written notes, hence the researcher spent more time reading those written notes to gain a proper understanding of the content.

The second stage contained organising data so that the researcher can be familiar with the content, and also to make the data more controllable and easy to recover. The consequent phase of the data analysis involved discovery of emerging patterns that helped the researcher to answer the research question by answering the established research sub-questions.

3.12 Ethical considerations

According to the Cape Peninsula University of Technology's (CPUT's) higher degrees policy, it is a pre-requisite for the researcher to apply for the ethical clearance agreement before commencement of the data collection process. The researcher's main request to participants was to ask for permission to conduct the interviews with them. Before conducting an interview, the researcher provided comprehensive details of the research.

The researcher further informed participants that their personal details (for example, names, surnames and contact details), as well as the company's name, would be kept confidential and would not form any part of the study. Hence, an interview guide was sent to participants to give them an opportunity to withdraw from the research if they felt uncomfortable with the questions. Therefore, participation in this study was completely voluntary.

The researcher guaranteed participants that the information that would be provided would be used for the purpose of this study, and that the final results would be available at the Cape Peninsula University of Technology's library.

3.13 Summary

This research methodology chapter defined the research process, which was undertaken to discuss the methodology that was utilised in the study in order to acquire results from the empirical study. The qualitative method was used for this study and semi-structured interviews were conducted. The case study methodology was selected and used for data collection. This chapter also presented the scope of the study. The following chapter presents an interpretation and analysis of the data that was collected for this study and also identifies the study's findings and conclusions.

CHAPTER FOUR: FINDINGS

4.1 Introduction

This chapter provides a thorough qualitative analysis of the collected data. Through the use of interviews and company documents that were compiled as instruments, the qualitative research method was employed. The documents were analysed and semi-structured interviews were conducted for data collection purposes. An interview guide containing sixteen questions was used to collect data from the various participants who were from four departments within the studied petrochemical organisation.

All interview questions were resultant from theoretical studies on the topic. The main aim of this chapter is to present data that was collected from the personal in-depth semi-structured interviews, and an enormous amount of data was obtained from the research participants.

4.1.1 Organisational characteristics

This study focused on exploring factors that influence the effectiveness of change management intervention in a selected petrochemical organisation in the Western Cape, South Africa. The company is a State Owned Enterprise (SOE) and its mandate is to store the strategic crude oil reserves for the state.

The following four relevant departments were chosen for this study: Operations Department, Planning and Special Projects Department, Corporate Services Department and the Procurement Department as the investigated departments. These departments were selected randomly, as organisational change affects the entire company.

4.1.2 Background of the participants

A total of twelve individual interviews were conducted for this study. The participants all identified the organisation as being in the Oil and Gas sector from the demographic information section. The participants currently hold positions in their departments, and

there is an equitably good mix of managers, supervisors, officers, technicians, administrators and general workers.

However, only four departments formed part of this study. Each participant was allocated a code in order to maintain confidentiality. The total population of the organisation comprises 201, and these are employed on a permanent basis by the organisation. This allowed for a diverse representation of employees across the organisation. The researcher has targeted thirty participants, while only twelve responded. The following table illustrates a breakdown of all participants, according to their positions, and a number of years of experience within the organisation.

Table 4: Background information of participants (Source: Author)

Interviewee Codes	Department/Division	Designation	Years of experience within the organisation
A	Operations Department (OD)	Terminal manager	10
B	OD	Terminal manager	5
C	OD	Operations supervisor	15
D	OD	Mechanical supervisor	1
E	OD	Technician	15
F	OD	Handyman	15 years & above
G	Planning and Special Projects Department (PSPD)	Planning & Special Projects manager	3
H	PSPD	PSP administrator	6
I	Corporate Service Department (CSD)	Information technology officer	2

J	CSD	Receptionist	4
K	Procurement Department (PD)	Procurement manager	2
L	PD	PD administrator	2

The participants that were chosen hold different positions within the organisation, ranging from managers to general workers, as the change affected all stakeholders. The number of years of experience amongst participants within the organisation varies as some have been with the organisation for more than three years, and others a year or two. This is important as they are able to contribute to current and historical changes that took place.

The information that was gathered from participants from various departments and positions permitted the researcher to gain insight into change factors. However, at times the participants were reluctant to share and discuss their opinions with the researcher, as they said that the organisation is a National Key Point (NKP), and they had signed a secrecy agreement with the employer to not disclose any internal information.

It was revealed that organisational culture was also the main issue in this studied petrochemical organisation; furthermore, this was not part of the research. Hence, their contributions to this study were not valuable and, therefore, the findings were generalised. The researcher also analysed company documents, which helped to obtain a more substantial picture of the research phenomenon.

4.1.3 Nature of organisational change

In the demographic information of this study, the researcher probed the nature of organisational change that the participants experienced within the company. A majority of the participants said that the structure had changed; however two participants could not answer and the researcher assumed that perhaps the question was not clear enough, or the language that was used was not accommodating to all participants, as some participants who had been with the company for a long time mostly communicate

using their mother tongue. The last two participants said that the organisational change that they experienced was de-merger, while the other said merger and technology.

Furthermore, the literature supports structure change, as this formed part of the planned internal change (Batillana and Casciana, 2015, Dwivedi, 2010 & Kumar, 2013).

4.2 Effectiveness of change in the organisation

The literature that was reviewed in Chapter Two states that the effectiveness of change is when the organisation requires shifting from a familiar situation to the desired state in order to achieve the desired goals.

4.2.1 Advantages of change

The following research question wanted to ascertain from participants if the change was advantageous to them and the organisation**.** How was the change advantageous to you and the organisation? Four participants indicated that change was advantageous to them and also for the organisation, hence Interviewee C indicated that: "*yes. I'm sure it was advantageous. Reporting Structures etc. definitely caused better communication*" The reporting lines were now clear and communication channels were also streamlined "*Yes. Things seem more streamlined",* Interviewee F added.

However, seven participants specified that the change was not advantageous to them and neither to the organisation, as it brought a number of uncertainties and instigations and still they did not understand the purpose of change, said participant Interviewee E. "*Personally no, change was not advantageous to me or for the organisation, only brought instigations. A different strategy of the organisation, no one completes their strategy because they leave too soon, constant change Management caused an imbalance to the structure and employees"* (Interviewee E).

However, one participant (Interviewee A) added: "*still can't understand why the company has to create more departments with little or no effect on the business".* The participants were clear about the fact that change introduced many problems for them,

as well as for the organisation. Interviewee G stated that: "*no, very disruptive. As the reporting lines are not cleared and also many projects are on hold, that has impacted heavily on my work as I find myself sitting with no work".*

The participants held different views on the advantages of change as the majority of the participants indicated that change was not useful at all; however, some viewed change as being important and that it added value to them.

4.2.2 Change process

With this question the researcher intended to find out from participants if the change was done by her/him, and what he/she would have done differently in order to make sure that all involved stakeholders understood the change process. In this instance, nine of the twelve participants that were interviewed emphasized constant communication with all the stakeholders involved in order to ascertain whether everybody understood the purpose of change.

Thus, a participant (Interviewee A) stated: "*would have communicated the proposed changes to the workers and lay out the intended goals/targets for those departments",* and Interviewee C added: "*Although there was communication beforehand, communication in a more understanding way would make things better. I would ensure better communication".* Therefore, constant communication is vital when implementing a change process, as Interviewee G indicated: *"communication at every level on a regular basis".*

However, two participants (Interviewees K and L) indicated that they will focus on organisational structure: "*I will first structure the departments (lower level) and make sure that there are enough human resources personnel to perform the duties",* in order to make sure that there are enough workers to do the work and to prevent problems by permanently employing outsourced employees; while Interviewee L concluded*: "To make the securities from the beginning permanent because the securities are the ones*

how know every in and out about the Organisation, and to change every time contractors can cause lots of problems".

One of the participants (Interviewee B) said: "*nothing",* as it was difficult to voice his/her opinion since he/she has never been involved with implementing change.

It is evident from the above responses that most of the participants believe that communication is the main tool when change is implemented, and to also get people trained in order for them to understand what is expected of them during the change process.

4.2.3 Effects of change

The participants were asked about the effects that change has brought them. The aim of this question was to ascertain from participants if the change brought about any effects for them. Participants had different views when it came to the effects of change.

However, from the twelve participants, eight participants indicated that the change brought about a number of disadvantages, which among the communication breakdown and managers, became inaccessible *"This has caused a lot of red tape in the daily running of the company, managers have become inaccessible to the workforce with a definite breakdown in communication",* as indicated by Interviewee A. In this case participants emphasized communication at all levels of change.

Furthermore, one participant (Interviewee D) stated that some employees lost benefits that they had previously received from the company: "*the change on some of the employment conditions and reduced employees benefit, act".*

However, four of the twelve participants stated that the change had a positive impact on reporting lines, attitudes and efficiency, which empowered the participants. The participant (Interviewee F) indicated: "*Work is now closer to my home. And, with the reporting lines, things seem more streamlined and make better sense".* Interviewee I

added: *"New place or office is more appreciable and it changes my attitude and makes me feel that we are at work, as compared to old offices".*

To conclude this section, eight of the twelve participants specified clearly that this change has negatively affected their lives, as they have found it difficult to access their managers since the change implementation, even though others were positive about the change.

In the literature that was reviewed, Schmidt (2010:7) states that people should be aware of the effectiveness of change. If people are pleased with the current procedures and practices, they may have little or no concern in making employees understand the significance of a change, and how it will affect their jobs (Kumar:2013:7). Pugh (2007:26) mentions that the involvement of top management and continuous communication can create a healthy organisation, and people will understand the need for change.

4.3 Factors that influence effective change management in the investigated province

This section of the study explores factors that influenced effective change management, as perceived by the participants. A number of change management models from numerous sources were studied, as discussed in Chapter Two. The literature review disclosed a number of factors that were consequently tested in the empirical setting of this research. Amongst the factors that were discussed in respect of this studied petrochemical organisation were the following:

- The change in products or services;
- Changes in administrative systems;
- Change in organisational size and structure (for example, Batillana and Casciana, 2015:10);
- Introduction of new technology;
- The use of computer technology;

- Advances in information;

- Processing and communication (for example, Dwivedi, 2010:25);

- Changes in employee demographics,

- Employees concerned with the long-term operation of organisation and performance gaps (for example, Ramakrishnan, 2014; & Shurbagi and Zahari, 2012); and

- Government regulations and economic competition (for example, 2010; Guler, 2010; Hall, 2012; & Melnik, 2017).

In order to more meaningfully test these factors of change management; they were grouped into four categories, which are outlined below:

- Planned internal change;

- Planned external change;

- Unplanned internal change; and

- Unplanned external change.

Hence, the findings are presented as per the four categories stated above, while the change models that emerged from the empirical study are also included.

4.3.1 Planned internal change

The literature argues that planned internal changes should be communicated at all times in order to familiarize stakeholders with them.

4.3.1.1 *Organisational change*

The first interview question sought to understand if participants had experienced any changes within the organisation for the past three years, and the type of change/s that took place. The intention was to find out if any change took place within the organisation. The importance of this research question cannot be undervalued, as change is increasing dramatically within the petrochemical organisation in order to comply with and compete in global markets.

In response to this question, most participants who participated in the interviews agreed that there were indeed a number of changes, which mostly occurred in the organisation's structure and size, while the organisation also physically moved offices, as indicated by a participant (Interviewee E*): "Yes there were organisational changes: Management has changed, Structure changed and also moving of offices".*

The organisational structure changed, as the company increased its workforce, employing more executives, which impacted on the size of the organisation, as indicated by two participants (Interviewee H): *"Structure change: Previously we did not have Chief Operations Officer (COO), Chief Financial Officer (CFO), General Manager (GM's) and other departmental managers".*

The participants argued that more departments were established, which lead to changes in the organogram. Two respondents mentioned this: Interviewee A: *"Yes, The Company has added more departments and therefore employed more people"* and the respondent (Interviewee C) further said*: "Organogram changes".*

One participant mentioned that the change was caused by the merger (Interviewee B): *"It was a merger between two companies whereby one company or division was dissolved and absorbed by another division",* whereas another participant said that the change was caused by the de-merger (Interviewee D): *"The change happens due to the organisation de-merger".*

Another participant (Interviewee L) mentioned that the security function was previously outsourced, and now the company employed them on a permanent basis*: "Yes, securities were previously outsourced and now the company has employed them permanent".*

The respondents gave diverse opinions based on their experiences of the organisational change that they experienced. Hence, it is evident that most of the participants have experienced changes within the organisation's structure and size. In

support of participants' comments in this regard, the literature argues that organisational structure, size and control formed part of the planned internal change in order to establish routines to attain organisational goals and objectives (Batillana and Casciana, 2015:10, Kumar, 2013:7, & Dwivedi, 2010;25).

Furthermore, the above authors concur that the planned changes arose from strategic decisions and lead the way on how best to operate the organisation going forward. Moreover, Ramakrishnan argues that in order to build on new initiatives, one should change the systems, structures and processes that do not fit into the complete new scheme.

4.3.1.2   Communication

The second interview question sought to ascertain if the change within the organisation was communicated before it took place. If it was communicated, which method of communication was used to communicate? The question further sought to establish whether this communication took the form of emails from top management, line managers or perhaps even via peers.

Of the twelve participants, six participants said that the organisational changes that took place within the organisation had been communicated to them. Interviewee F*: "Yes change was communicated, mostly via quarterly engagement sessions conducted with staff by top management, but also through corridor-grapevine.* Interviewee D also indicated something similar: *"Yes all the employees were informed about the change that was about to happened and communication was sent via email".*

However, five participants disagreed and argued that the organisational changes were never communicated to them. One participant indicated that communication only took place once the changes had already been implemented; hence he/she will, therefore, consider that no communication took place.

The participants quoted below argued that no organisational change was communicated to them, except the minor changes, as indicated by one participant (Interviewee E): *"No changes were communication at all, only move of offices was communicated",* while another participant (Interviewee H) added that: "*no communication was made maybe due to my level in the organisation".*

However, one participant (Interviewee A) argued that changes were only communicated after the changes had been implemented: *"No – This was communicated to the workers after the changes were made".*

From the responses above, one can agree that there is a communication breakdown within this organisation, as the communication regarding the changes did not reach everybody. Ramakrishnan, (2014:5) emphasizes the importance of communicating the vision to the organisation. In addition, Kotter (2014:26) also argues that the vision should be communicated in many ways in order to reach everyone.

The researcher's proposed change management model concurs with Kotter (2014:26) and Ramakrishan, (2014:5), as it highlights that communication should reach all levels within the organisation, and not only certain levels or people.

4.3.1.3 Factors that caused the organisational change
The participants held different views about why the changes were made in the organisation; however, one participant (Interviewee A) indicated that *"I suppose a new proposed strategy or vision by the major role players in the company".* However, another participant added: "*It was a business decision because the services that were rendered by Spoornet Steam Locomotive Depot were not aligned with the vision and mission of Transnet Freight Rail and this division was given to Transnet Heritage Foundation"* (Interviewee B).

The participants identified many factors that caused the organisation to change; however, of the twelve participants that were interviewed, three participants said that

the change was caused by external factors owing to the directive that was received from the Minister of Energy in respect that the company should expand its work span, as one respondent (Interviewee G) stated: "*external factors; and directive from the minister of energy*".

Thus, another participant (Interviewee F) said that the strategy and vision directed the organisation to expand: "*Management issues, channelling reporting lines, and the need for appropriate office space – e.g. initially Human Resources (HR) reported to CFO and with the changed HR reports to Corporate Services. Also, with the changes came the establishment of the Human Resources Development (HRD) unit*".

In support of what the participants argued, it is important to make people understand the organisation's vision and strategy in order to achieve the organization's goals, particularly if something had to be done. Hence, Schmidt (2010:12) and Ramakrishnan (2014:4) agreed that once the formulated vision was understood, then a well-defined strategy should be created to accomplish the established vision. Thus, the participants identified many factors that caused the organisational change, which include both internal and external change factors.

4.3.2 Planned external change

During discussion of this topic in Chapter Two, the literature revealed that planned external change arises when the technology changes and this allows the organisation to change its technology in order for it to compete in the market (Dwivedi, 2010:25). Kumar (2013:8) argues that the world is currently characterised by dramatic technological shifts. Furthermore, technological improvements, predominantly in communication and computer technology, have revolutionised the workplace and have assisted to create a whole new range of products and services.

4.3.2.1 New technology

The majority of the participants demonstrated that new technologies had been introduced into the organisation, as Interviewee A, indicated: *"that metering system to calculate the flow of crude in and out of the tank farm was implemented".* One

participant (Interviewee E) said: "*Telephone system that was introduced",* and *"Scanning machine at the security entrance building",* as added by Interviewee L.

However, three of the twelve participants showed that they were not aware of any new technology that had been implemented, or they were not sure, as indicated by their responses.

Based on the participants' responses, it is evident that there were a number of technologies implemented in the organisation, which increased efficiency within the organisation. These findings are in line with the views of Hersey, Blanchard and Johnson (2012:10), as well as Dwivedi (2010:25) who concur that the introduction of new technology and the use of computer technology formed part of the planned internal change, and also improved efficiency within the organisation.

4.3.2.2 Communication

The participants all believed that communication is crucial; hence in the instance of the implementation of new technology, the participants emphasized that communication should be a priority. The researcher gathered from the participants' responses that communication was not a priority in respect of the implementation of new technology.

Thus, six of the twelve participants argued that no communication was made prior to implementation of the new technology, as Interviewee A said: "*Not prior to installation, but the change was expected and after installation there was a "crash-course" on how to use it".*

However, five of the twelve participants indicated that communication was made prior to the technology implementation. Interviewee E stated that "*yes, through emails and face to face, because they came to set up the phones".*

The participants' responses showed that the communication tool that this organisation used did not reach the stakeholders, which is indicative of a communication breakdown

in this organisation. In support of the empirical investigation, the literature review in Chapter Two indicated that communication is the main factor that should be considered in order to effectively manage and implement change.

4.3.2.3 Skills and training

The researcher wanted to find out from participants if there were any new skills that were required to operate the new technologies that had been implemented, and whether the organisation had those required skills. The participants indicated that there were no new skills that were required, except that they were shown how to use the technologies, and this was done internally. Interviewee C indicated*: "No new skills were needed; the operators were trained internally to operate the metering system",* and Interviewee I added*: "No new skills required except to know how to transfer a call, teleconference which was not on the old technology".*

Four of the twelve participants, however, said that training was needed in order to operate the metering system, as it was an advanced system compared to the previous system that was operated manually. Hence, one participant (Interviewee A) said: "*One definitely needs the special skills to maintain such a complex system. To operate the system is not very difficult".*

The participants identified the three systems that were implemented in the organisation within the past three years, which were the metering system, scanning machine and the new telephone system. The participants indicated that no special training was required to use the scanning machine and new telephone system.

However, use of the metering system required full training, as the system was quite complex compared to the previous system that they used to calculate crude oil stocks when these came in and out of the tanks and vessels.

These findings are in line with research, which was conducted by Melnik (2017:2). In his study, he found that innovations in technology can force the business to change in order

to keep up. Furthermore, the organisation was forced to train employees who had never used the system in order to efficiently operate the new system without any problems.

4.3.2.4   Challenges in using new technology

Three of the twelve participants specified that implementation of the new metering system was a waste of money, as had not functioned well since implementation, and that it was costing the company because the oil volumes and quantities were, as a result, always calculated incorrectly. This was supported by a participant (Interviewee A)*: "It does not work as was intended to. Waste of money".* Interviewee D added*: "It's not effective, the volumes and quantity differs a lot compared to old system".*

However, the rest of the participants indicated that they did not face any challenges with the installation of their systems as everything was simple, hence no training was needed. *"None, the new telephone system was very easy to use compared to the previous system, which we could not trace the caller nor even trace who was calling if one missed the call"* (Interviewee F)*.* One participant (Interviewee I) concluded: "*No challenges except that few person they still accidentally press a busy button and end up missing a call".*

These findings substantiate the views of Kavanagh and Ashkanasy (2006:15) and Shurbagi and Zahari (2012:28) who argue that change should be treated as a continuous task because of the innovations in technology and the environment, where things are developed on a day-to-day basis.

4.3.3 Unplanned internal change

As discussed in Chapter Two, the literature review discovered that unplanned internal change can be caused by changes that are connected to internal processes; expectations from the individual or group can be caused by the numerous forces inside the organisation.

4.3.3.1   Changes at executive level

The researcher needed to ascertain if there were any change/s at the executive level in the past six months. Ten of the twelve participants indicated that there were sudden changes at the executive level, which took place a few months ago, and among these executive changes were the Chairman of the Board, Chief Executive Officer (CEO), Chief Operating Officer (COO) and the General Manager (GM), who all resigned. The organisation has since appointed interim executive personnel.

Interviewee A said: *"Most of the executive members (CEO, COO and Chairperson) were fired in the last couple of months"* and the participant (Interviewee C) added: "*We got a new CEO's twice in a short space of time due sudden resignation of the CEO's. The organisation has been operating on acting CEO's all the time".*

Based on the above findings, it is clear that this organisation constantly changes executive members who do not complete their respective terms. Hence, the literature review discussed in Chapter Two concurs with these findings that the major point that can lead to unplanned internal change is when a major unexpected surprise occurs in the organisation, which can lead its executive to act in a reactive way (Dwivedi, 2010:25).

4.3.3.2   Impact came along with executive changes

The participants indicated that these executive changes brought about a number of changes, which impacted negatively on employees, the organisation and the broader public. One participant (Interviewee C) stated that people are confused: *"People feel they don't know where things are going. With the change of CEO's in such a short amount of time, things might seem laughable to the outside world".*

That has affected the organisation's image and attracted the attention of political parties since one participant (Interviewee A) said: *"The Company is scrutinized by the media and opposition parties for illegal crude oil trade deals".*

Participants identified different challenges that emerged as a result of these sudden executive changes, as indicated by a participant (Interviewee E)*: "The changes in the executive level have brought us lot uncertainties: "The strategic direction of the company was unclear" (Interviewee G).* Another participant (Interviewee H) indicated: "*Projects that were initiated by the previous executives were all put on hold, which has caused a lot of impact on my job and that left me with no work".* The participant (Interviewee I) added: *"It affected our IT projects and now things are taking too long to be approved".*

However, one of the twelve participants indicated that the executive changes impacted him/her positively because now the reporting structures were clear and everything was more streamlined. According to Interviewee F: *"squashing" of certain divisions to establish Corporate Services, Finance, and Trading Divisions. The impact was positive, in that sense there is more streamlining of issues and reporting lines are clearer".*

The findings that the participants revealed indicated that these changes brought about a number of problems with the organisation as a whole; hence, immediate intervention is required to rebuild the organisation's image in order to attract more clients and to make more money.

4.3.3.3   Communication of change

According to the respondents, communication in the organisation is problematic, as it does not reach everyone that it is supposed to. The question is: Were the changes communicated to you when they suddenly took place, and which form of communication tool was used to communicate these to you. In other words, does the management communicate with you?

In terms of this question, most respondents indicated that the communication tool that this organisation used was not sufficiently effective because most of the time it did not reach all the employees. Interviewee D said: *"Changes were not communicated at all"* and Interviewee F added*: "very poor communication channels".* Therefore,

communication did not reach all employees and other stakeholders, as indicated by a participant (Interviewee I): *"No communication was done to staff, only to the executive level".*

Other participants indicated that management did communicate changes to them, as well as the sudden changes that took place at executive level, as mentioned by a participant (Interviewee A): *"Yes – They were communicated after these members left the company",* and Interviewee F agreed that: *"Yes – Change were communicated via Divisional staff meetings and quarterly engagement sessions".*

This clearly shows that there is a communication breakdown in this state-owned petrochemical company in SA, which should be corrected, as communication is a major tool that keeps an organisation functioning effectively. Hence, the literature review emphasizes continuous communication within an organisation so that stakeholders can be kept abreast of everything that happens within the organisation.

4.3.3.4 Succession plan and Personal Development Programme (PDP)

As discussed in Chapter Two, the literature review discovered that change within employee demographics and performance gaps can force the organisation to embark on swift internal changes. Hence, succession planning should be the key in all strategic positions. However, all twelve participants indicated that the organisation has no succession plan in place, but that the organisation offers personal development training, which is in line with the current position of the employee, and not outside of his/her job areas.

One participant (Interviewee D) indicated*: "Yes, the organisation offers personal development programmes that are in line with your current work; however it does not have succession planning in place in any role";* and "*Yes the company offers PDP, therefore employees are afforded training (statutory) relevant to their jobs, but no succession planning"* added (Interviewee H)*.* Finally, one participant (Interviewee F) concluded: *"Yes and no, there are personal development programmes, and there are*

discussions taking place around succession plans, but the latter has not been tested yet".

One of the twelve participants (Interviewee A) indicated: *"No succession planning at all however, the company have recently employed a training and development officer to focus on this issue"* that this petrochemical organisation recently employed a Training and Development Officer (TDO) that will focus on training and develop programmes for succession planning.

As discussed in Chapter Two, the literature review indicated that continuous training is required in order to make the change permanent. Therefore, the management has a responsibility to continuously provide training that employees need in order to increase employee performance and also to develop the employees (Source, Author, proposed change model).

Hence, the overall impression of this researcher is that this studied petrochemical organisation does indeed not provide succession planning, based on the participants' responses. The findings from all the participants indicate that the petrochemical organisation has not deemed succession planning to be a priority within the organisation, even though the petrochemical organisation needs critical skills to perform most of its jobs.

4.3.3.5 Hiring of skilled employees

The participants revealed different views on hiring skilled workers, as some indicated that the organisation lacks skilled people, which is why they have to hire skilled employees. Others emphasized that the organisation should send people on training so that they may acquire the required skills instead of hiring new people.

The participants also the fact that hiring new staff is not always communicated properly, which causes confusion to employees' roles because of the changes in reporting lines. Hence, one participant (Interviewee A) stated: *"There is a lack of skilled people in the*

organisation especially those who have been working for the company for a long time". And *"There has been a change. Sometimes hiring of new staff doesn't get communicated properly. It confuses me in my position because it changes the structure of communication"* (Interviewee C).

One participant (Interviewee E) indicated: *"However contract employees were employed but not procedural employed and that has a big impact in my job because my duties and responsibilities were taken to them and end up having no work".* The organisation employed contract workers without following the correct procedures, which then impacted on the employee's role.

Another participant (Interviewee G) indicated: *"The organisation is employing people from external without giving the internal staff an opportunity for growth and that is de-motivating me".* The employee also mentioned the fact that he/she is de-motivated because internal staff members are not given opportunities for promotional growth.

However, another participant (Interviewee F) was positive about hiring new, skilled workers: *"There were changes in hiring the new skilled employees; it has improved the teamwork and performance of the Division".*

As the petrochemical organisation requires highl*y* skilled workers in order to operate efficiently, the participants believed that management should consult with employees in order to ascertain if they could first find employees internally that they can develop before sourcing from outside of the organisation.

The above findings are in line with the discussion in Chapter Two in relation to the unplanned internal change propounded by Dwivedi. He argues that changes in employee demographics and performance gaps can force the organisation to embark on swift changes (Dwivedi, 2010:25). Hence, the researcher has proposed a change model, which emphasizes the continuous development of employees so that they can grow within the organisation, while the model also proposes ongoing training.

4.3.4 Unplanned external change

Melnik (2017:2) argues that the political environment within and outside of the country have an important influence on the business, especially in state-owned petrochemical companies, which caused the unplanned external change. Thus, Hall (2012:6) concurs with Melnik that changes in government regulations and legislation have a huge impact on how the company conducts its business. Furthermore, when unpredictable oil and gas prices change, it also poses a huge impact on the organisation.

4.3.4.1 Changes in government regulations and legislation

The researcher wanted to find out from participants if the SA government has changed regulations and policies regarding purchasing crude oil. Ten of the twelve participants were not aware of changes in government regulations and policies in relation to purchasing crude oil; some indicated that they were not aware since this was not in-line with their roles within the organisation.

One of the participants could not answer, and the researcher assumed that the participant either did not understand the question or that the question was irrelevant to him/her. However, one of the twelve participants (Interviewee G) indicated that there were changes that were made to the strategic stock policy.

The study's literature review indicated that the political environment within and outside of the country have a significant impact on the business, especially in the state-owned petrochemical company. Hence, variations in government regulations have a huge impact on how a company conducts its business, and the organisation has no control over political and legal forces.

An overall impression of this researcher is that the topic of government regulations and policies is not within the expertise of the interviewees – hence, not much detail could be reported here. However, this does not render the findings in this section any less appropriate.

4.3.4.2 Influences of government regulations and legislation in relation to oil purchasing

One of the twelve participants (Interviewee L) indicated: *"By changing the legislation of procuring oil, the company will make more money as the new legislation allows easy access to the market"*, this was based on changes in government regulations and legislation around procuring oil. This petrochemical organisation was given the mandate to develop and build more infrastructures that would increase the storage facility, which would increase the company's revenue. A participant (Interviewee G) added: *"The organisation must prepare to develop and build more infrastructures"*.

Two of the participants could not answer, and the researcher assumed that the question was irrelevant to them and also not relevant to their line of work. However, eight of the twelve participants indicated that they were not aware of any changes in government regulations and legislation, as this was not relevant to their line of work.

According to Dwivedi (2010:25), the forces of unplanned external change occurs when government regulations change and economic competition affects the country. Hence, the organisation embarked on swift changes in order to meet market trends and also to comply with governmental laws and regulations.

4.3.4.3 Economic impact in relation to fluctuations of the oil price

The aim of this question was to examine the economic impact that the organisation had experienced because of fluctuations of the oil price. Three of the twelve participants indicated that fluctuations in oil prices have impacted positively on the organisation, as the price of oil was low, which attracted more commercial clients to store their crude oil with the studied petrochemical organisation. Here are the illustrations: "*Positive impact: It brought move clients and all the storage facility is occupied which means good revenue for the company",* said Interviewee D, while Interviewee G added: *"Contago (means when the price of oil barrel dropped) is good for the storage facility as more clients are hiring more the oil storage facility".*

However, one participant (Interviewee F) stated: "*The cheaper the price to purchase oil, the better the life of the company. The increase in oil price might, however, have an impact, even if in the distant future than immediately*". Hence, the participant specified both advantages and disadvantages when it comes to fluctuations in oil prices because when the price of oil drops, it is good for the organisation; however, when the price of oil is high, then it impacts negatively on the organisation, as well as on the country.

Two of the twelve participants said that when the price of oil is high, then clients do not buy oil in order to store it, which impacts negatively on the organisation as the revenue does not increase. One participant (Interviewee H) said: *"Negative impacts, as there were no companies that were using our Oil Storage", while* Interviewee K added that: *"having an old crude oil in the tanks because the clients do not buy the oil while the price is high".*

Furthermore, five of the twelve participants indicated that they were not aware of the impacts, as the question was irrelevant to them; however, one participant could not answer and the researcher assumed that the question was perhaps not clear to the participant, or not relevant.

Given the answers above, the researcher realised that a majority of the participants were not familiar with the question, and had perhaps not been informed by management about the effects of the oil price in the running of the organisation, and how it impacts the organisation. However, as discussed in the literature review, Hall (2012:6) indicates that volatile oil and gas prices can cause a company to be unstable; however, companies cannot control external factors.

4.3.4.4 Revenue
A majority of the participants specified that the organisation's revenue increased during the period of the oil price fluctuations since the economy was good. The question that was asked by the researcher was as follows: Was the organisation's revenue affected by fluctuations in the oil price, and what happened to the revenue during that period?

The responses were as follows: Interviewee A said: *"The revenue of the company increased dramatically as the organisation has received many clients to store crude oil";* Interviewee D added that*: "Good revenue for the company";* and Interviewee K mentioned that "*the revenue increased by selling oil at a lower price and that attracted many 3rd parties to buy".*

Four of the twelve participants indicated that they were not aware in this regard, as they were not informed about the revenue, and did not know of any changes in revenue since this knowledge was not applicable to his/her role. However, one of the participants decided not to answer.

The overall findings on this topic specified that the majority of the participants were aware that the company's revenue increased during the period when the price of oil was low. Hence, the participants understand the need to increase the infrastructure and the organisation's work span.

4.3.4.5 Changes in business strategy

During the investigation of this topic, the majority of the participants showed whether or not they were aware of changes in the organisation's business strategy. This shows that there is uncertainty around the existence of the business strategy within the organisation in relation to the oil price recession. The respondents could not confirm if there was a business strategy plan or not since there was no formal communication received from the top management in this regard.

One participant (Interviewee E) said*: "Not that I am aware of any business strategy".* However, one of the twelve participants indicated that there were changes in the business strategy and that these changes were reflected in the organisation's Corporate Plan. Interviewee F further explained: "*there is business strategy plan in the Corporate Plan of the organisation".*

Since the majority of the respondents mentioned that they were not aware of any business strategy plan within the organisation, it may be established that there is poor communication between the executive management and employees at operational levels. Therefore, the overall impression regarding the business strategy plan matter was that a change management strategy is absent at this petrochemical organisation.

In other words, the business strategy plan needed to be addressed first in order to embark on the change management process. This study's literature review indicated that the business strategy should be made known to all in order to be aligned with divisional plans. Nonetheless, that does not make the findings in this section less appropriate.

4.4   A proposed change management model

The researcher compiled a change management model for the studied petrochemical organisation that was subsequently tested in the empirical setting in one of SA's petrochemical organisations.

4.4.1 Pre-assessment and development of change management

During the interviews, it became clear that pre-assessment and development of change management had never been done before at this studied petrochemical organisation prior to changes that were implemented. As discussed in Chapter Two, pre-assessment is required to explore all levels of the organisation in order to ascertain whether the change would be accepted. The literature further says that this can be done through one-on-one consultations to gain insight into the extent of employees' understanding of changes that are about to happen.

However, throughout the empirical investigation of this topic, all the participants indicated that this studied petrochemical organisation had never considered the pre-assessment phase as a pre-requisite when embarking on structural change. Hence, a respondent (Interviewee B) said that *"pre-assessment was not done, structure change was just implanted without any communication neither the assessment",* while

Interviewee C added that *"no pre-assessment and it was not communicated. The Board Directors together with the executive members decided to implement change without consulting the employees who are going to be affected by the change".*

It is clear that the executive management members in this studied petrochemical organisation do not regard communicating to lower level employees as being important. Thus, the executives implement any changes without communicating with employees, even though the study's reviewed literature emphasizes the importance of informing employees of any changes, particularly those who will be impacted by the said changes, and that they understand the purpose of the changes.

Another participant (Interviewee A) added*: "I never been part of any pre-assessment, however as newly appointed Training Officer, I do my own assessments in my current position, no processes were in place and I came with the strategy in relation to company training needs. I rectified the training process and start from the basis. I have managed to get management buy-in and I believe my presence in the company brought some light within the organisation".*

The overall impression of the researcher is that this petrochemical organisation is still not doing well when it comes to managing change effectively; hence it continues to omit important steps that should be followed, as indicated by the participants.

4.4.2 Developing guidelines for establishing the change

The literature in Chapter Two indicated that the studied petrochemical organisation should develop clear guidelines as means to establish change; hence it is important to educate the team about potential obstacles that can arise. However, a participant (interviewee B) indicated that *"no guidelines were available to be used".* The majority of the participants also indicated that this petrochemical organisation has never developed any guidelines to establish change, even though each organisation should develop guidelines when establishing a change in order for employees to understand why the change is taking place.

4.4.3 Acceptance of change in the organisation

The study's literature review revealed that the change agent should create a stage whereby employees understand the purpose of change, and also why the organisation will be implementing change. In this section, the researcher wanted to ascertain if the employees were informed about the change that was about to happen and if they were aware of the purpose for the change.

However, the majority of the participants indicated that they were not aware of the change that was going to take place and neither of the purpose for the said change. Hence, a participant (Interviewee C) indicated: *"I was not informed about the change; therefore I don't know why they decided to embark on change".* One of the twelve participants (Interviewee B) indicated that: *"We were not informed about the purpose of change; the decision was made at a senior level without involving the employees".*

In this petrochemical organisation it is clear that the employees are not informed of the changes that will be taking place within the organisation, thus they argue that they were not informed about the changes and that the decision was made at a senior level without the involvement of the employees. Therefore, this petrochemical organisation does not involve employees in their decision-making, even though the literature makes it clear that employee involvement is vital in effective change management.

4.4.4 Transformation of the organisation to total change management

The transformation issue (discussed in Chapter Two) revealed that in order for the organisation to become completely transformed, people should be first become transformed.

However, during the empirical investigation of this topic, a number of discussions took place around transformation, in general, and also around transforming the minds of employees who were affected by the change. One participant (Interviewee B) stated: *"People were all negatively affected because they were not allowed an opportunity to*

align themselves with the new structure", while another participant (Interviewee C) added: *"No transformation at all in this organisation".*

It is evident that in this state-owned petrochemical organisation's transformation is treated as a minor issue, as shown by the participants' responses. However, the literature review indicated that there can be no change without personal transformation, and all personal transformation starts with a change in mindset. It is clear that there is no transformation in this state-owned petrochemical organisation.

4.4.5 Maintenance of change within the organisation

In this section, the researcher wanted to ascertain from participants if this petrochemical organisation created a supportive stage for employees in order to maintain the change. The participants all argued that this petrochemical organisation has never considered lower-level employees in anything and that only the executives are kept abreast of everything that takes place in the organisation.

In this regard, the participants (Interviewee B) remarked that *"this organisation has not created a supportive stage for the maintenance of change to us; it was only maintained at the senior level based on inadequate transparency from management".* Another participant (Interviewee C) added: *"No, they did not create the supportive stage at all".* Top management support is not present in this state-owned petrochemical organisation; hence, the communication is not expanded from top to bottom, so it remains at the top level without reaching lower level employees.

However, the non-empirical investigation in Chapter Two indicated that a supportive stage should be created for the employees in order to overcome obstacles that could have caused them to slip back into old acts. This stage is an important stage in the change management process because it is where the employees attain great confidence in the change. Therefore, top management's support, together with consistent communication, is vital.

4.4.6 Continuous training and communication

This study's literature review indicated that change should be reinforced through continuous training and communication in order to make the change permanent. Hence, it is the management's 'responsibility to continuously communicate the purpose of change with employees, and also to provide training so that employees can accept the change.

During the empirical investigation regarding the reinforcement of change through continuous training and communication, the majority of the participants indicated that communication and training were still focused on top level management. One participant (Interviewee B) pointed out that *"Strategic sessions were hosted by senior management with no goal orientation for staff input. It was always close ended objective discussions"*.

Another participant (Interviewee C) also mentioned that training and support were communicated to other departments: *"….There are support and training in other departments, where they communicated the reasons for change management and I do understand that we definitely need a change, but they did not implement it well"*.

The overall impression of this researcher is that the topic of communication is still the major issue in this studied state-owned petrochemical organisation, which needs to be addressed. In other words, the senior management should find ways to address the communication issue within the organisation. This, however, does not make the findings in this section any less relevant.

4.5   Conclusion: The answer to the research question

In this chapter clarification of the results of the study was presented and discussed by summarising answers to the main research question through the proven sub-questions.

Firstly, in order to answer the question regarding the effectiveness of change management in the organisation, the literature review was utilised and two models were found:

Lewin's Change Model:

- *Unfreezing phase:* This basically means examining the status quo by increasing driving forces of change and decreasing resisting forces against change.

- *Changing phase:* This essentially means taking action by making changes and involving people in the change process.

- *Refreezing Phase:* In this stage, the change is made permanent by establishing new ways of doing things and by rewarding desired outcomes.

However, Kotter invented his change management models to align with changes in time:

- *Establishing a sense of urgency:* Characterised by forming urgent partnerships in order to fulfil its goal of obtaining instant change.

- *Creating the guiding coalition:* This basically means in order to lead change one needs to bring together a coalition or team of influential people.

- *Developing a vision and strategy:* This means that people need a clear vision to understand why they are being asked to do something new.

- *Communicating that change vision:* Kotter suggested that the vision should be communicated in ways that would reach everyone.

- *Empowering Broad-Based Action:* This basically means removing obstacles and empowering people who execute the vision and the change as means to move forward.

- *Generating short-term wins:* Visible improvements in order to advertise them so that employees can be motivated.

- *Consolidating gains & producing more change:* This basically means that continuous improvement should be encouraged.

- *And attaching new approaches in the culture:* Finally, the change should form part of the organisational culture.

Moreover, it was established that many petrochemical organisations worldwide have successfully implemented change management models in their operations. Hence, the decision of the studied selected petrochemical company in South Africa to effectively implement these change management models is appropriate and potentially beneficial.

However, in order to fully apply the change management interventions in the researched petrochemical company, the following step was to explore factors that influence effective change management in a petrochemical organisation in the Western Cape. This was the second sub-question in this study. The number of factors in this concern was stimulated by the literature review.

Table 5: Proposed change management model (Source: Author)

Major factors of change	Other factors of change	Sub-factors of major factors of change	References
Planned internal change **Planned external change** **Unplanned internal change**	Need to improve processes Desire for growth Technology	• Changes in products or services • Changes in administrative system and • Changes in organisational size & structure	Ashkanasy and Kavanagh, 2006; Batillana and Casciana, 2015; Dwivedi, 2010; Hall, 2012; Hersey *et al.,* 2012; Kotter, 2014; Kumar, 2013; Melnik, 2017; Pugh, 2007; Ramakrishnan, 2014; Shurbagi and Zahari, 2012
		• Introduction of new technology • The use of computer technology • Advances in Information, Processing and Communication	
		• Changes in employee demographics • Employees concerned with long-term operations of organisation • Performance gaps	
Unplanned	Competition	• Government regulations	Dwivedi, 2010;

external change	and Government regulations	• Economic competition	Guler, 2010; Hall, 2012; Melnik, 2017
	Other factors of change		

These factors were organised into four consistent clusters:

- Planned internal change;
- Planned external change;
- Unplanned internal change; and
- Unplanned external change.

These factors were subsequently implemented in an empirical setting of the studied petrochemical company. The participants confirmed the relevance of the identified factors, as indicated in this part of this research. However, the empirical investigation elicited other important models that are needed before embarking on any change. These change models were realised during the interview sessions with the participants. Therefore, the last research question proposed to seek the framework that could be implemented in this studied petrochemical organisation for proper strategic change management. Hence, it was found that before embarking on planning the change management, these factors mentioned below should first be addressed:

- *Pre-assessment and development of change management to all members:* means pre-assessment is needed at all levels of the organisation where the change is planned to take place before the actual change process begins. Hence, the selected petrochemical organisation should examine the scope, depth and overall size of the change.
- *Developing guidelines to establish the change:* this basically means that the organisation should develop clear guidelines to establish the change.
- *Creating a stage for staff to accept the change in the organisation:* which essentially means that the employees understand the purpose of the change and why the organisation has embarked on the change process.

- *Transformation of the organisation to total change management:* means that people should be transformed first in respect of their mindsets.
- *Creating a supportive stage for maintenance of change:* basically, at this stage employees attain a greater level of confidence and capacity.
- *Reinforce the change through continuous training and communication:* which is characterised by total support from management, with a responsibility to continuously communicate with employees and provide training that is needed in order to increase employee performance.

The findings of this study indicate that the researched petrochemical organisation is not yet ready to embrace all the factors of change management, which was revealed by the study's respondents.

Apart from the change factors that were identified in the literature, which is also not being implemented fully in this petrochemical organisation, according to the study's respondents, the researcher has adopted six change factors that should be addressed before planned change is embarked upon. These factors were summarised above.

CHAPTER FIVE – CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The research objectives identified in Chapter One were revisited in order to conclude the entire research in this chapter. This is supplemented by offering ephemeral answers to the research answers, based on the findings and the results that were obtained in the previous chapter. The chapter also determines the contribution of this study and notes its limitations. The recommendations for the studied petrochemical organisation change factors are specified, and future research in the relevant field is explored.

5.2 Research objectives revisited

The main objective of this study was to investigate factors that influence the effectiveness of change management in the SA petrochemical organisation and to propose a conceptual model to optimize the factors. This main objective was reached by accomplishing the following sub-objectives:

- *To investigate the effectiveness of change management in a selected petrochemical organisation.* This was achieved by reviewing the current literature in order to advance detailed understanding of these interventions and to identify two change models;
- *To identify factors that influence significant change management:* This was reached by reviewing relevant literature by identifying a group of factors and also by designing a framework that could be used; and
- *To design a framework that could be implemented in strategic change management:* After designing this framework, it was evident that the studied petrochemical organisation was not yet fully utilising the change management process.

In order to be ready for the effectiveness of the change management process, the following are recommendations that are suggested for the purpose of this research study.

5.3   Recommendations

5.3.1   The effectiveness of change management in the organisation

5.3.1.1 Advantages of change

Change is designed to better the current process of the organisation's functionality. However, in this instance, it is evident that change was not advantageous to most participants, as a number of uncertainties emerged. Hence, the participants held different views on the advantages of change, while the majority of the participants indicated that change was not useful at all. However, some viewed change as being important, citing that it added value to them.

5.3.1.2 Change process and effects of change

Change process refers to the degree to which change can be effectively communicated in advance before it commences. Hence, the literature reveals that the change management process focuses on four stages, namely prepare, design, execute and sustain in order to reach the desired outcomes.

To draw conclusions from the findings, it is evident that the correct change process is not followed, as indicated by the participant that said that communication is not considered as the main tool. This could negatively affect future organisational change in the studied petrochemical organisation; hence, these issues should be appropriately resolved in order to effectively manage change.

5.3.2   Factors that caused the organisational change

In order to ascertain the factors that caused the organisational change within the studied petrochemical organisation, participants were asked about the reasons. Hence, the empirical findings indicated that change was caused by the new organisational strategy, which forces the organisation to expand its functional areas.

Moreover, it was found that there was no organisational strategy in place since the top level management changes constantly. Thus, it is recommended that the organisational

strategy should be established and made known to all the stakeholders in order to achieve the desired organisational goals.

5.3.2.1 Planned internal change

Planned change refers to any planned organisational change that the organisation embarks on or plans to embark on. However, while this change factor was discussed the respondents indicated that there are missing factors that should be in place before getting to the planned change. Hence, the researcher adopted the change framework that can be used by this studied petrochemical organisation. Before any organisational change begins, the following factors should first be implemented:

- *Pre-assessment and development of change management to all members;*
- *Developing guidelines to establish the change;*
- *Creating a stage for staff to accept the change in the organisation;*
- *Transformation of the organisation to total change management;*
- *Creating a supportive stage for maintenance of change; and*
- *Reinforcing the change through continuous training and communication:*

However, the studied petrochemical organisation omitted this change model, which was revealed by empirical findings, which will be concluded after these factors. This finding suggested that in order for the organisation to effectively implement change, the change agent should consider these models.

After implementation of these change models, the change agent can embark on planned internal change, which refers to internal organisational change. The factors of change management models were grouped into four categories; however, the study revealed that the communication factor appeared in all categories, and thus the researcher decided to discuss this factor first.

5.3.2.1.1 Communication

This study has shown that communication appeared in all four categories of the change management models. The literature review revealed that communication is the main

tool that an organisation should utilise when embarking on any changes. However, in these four categories of change communication was lacking.

This can cause communication breakdowns, as information does not reach all the stakeholders. Therefore, enforcing proper communication channels can assist the change process to be effectively implemented without any problems. Hence, communication is considered to be the highest priority in order to effectively manage and implement change within any organisation.

5.3.2.1.2 Organisational change

The respondents gave diverse opinions based on their experiences of organisational change. It was evident that most of the participants experienced changes in the organisation's structure and size. Since most of the respondents stated that they had experienced organisational changes, it is clear that this organisation is expanding, which positively impacts its productivity.

5.3.2.2 Planned external change

The literature review revealed that planned external change arises when the technology changes, which allows the organisation to change its technology in order to fit into the market and compete within it. Thus, the respondents stated that continuous training and skills development within this organisation should be implemented.

5.3.2.2.1 New technology

It is evident that almost all of the participants were aware of the number of technologies that were implemented in this studied petrochemical organisation, which increased efficiency within the organisation.

5.3.2.2.2 Skills and training

Training and skills are needed when technologies change or when new technologies are implemented in order to effectively operate it. Hence, the respondents stated that the organisation should consider training employees so that they can be more

productive and effective. Therefore, the organisation should make training employees a priority in order for them to reach desired goals.

5.3.2.3 Unplanned internal change

Unplanned internal change is caused by changes, which relate to internal processes. It requires the organisation to respond swiftly, as it mostly happens when least expected.

5.3.2.3.1 Changes in executive level

This study has revealed that there were many continuous executive management changes in this organisation. All the participants indicated that this organisation constantly changes its executive management without them completing their employment terms. This has a huge impact on the organisation's success and growth, as the business strategy continuously changes.

5.3.2.3.2 Impact of executive changes

The respondents indicated that these executive management changes brought about a number of changes and uncertainties within this studied petrochemical organisation, and negatively impacted employees and the broader public. It is evident that this organisation is not retaining their executive management; thus, is recommended that the organisation should establish a strategy that will retain their executive members. This continuous instability at leadership level will negatively affect the organisation's image, so it should be addressed urgently.

5.3.2.3.3   Succession plan, PDP and hiring skilled employees

The study has revealed that succession planning and personal development programmes are key in all strategic positions. The majority of the respondents indicated that there is no succession planning in this studied organisation; hence, it is recommended that this organisation should consider implementing succession planning in order for the organisation to be continuously effective.

This studied organisation requires highly skilled personnel; hence, the respondents suggested that the organisation should focus on developing potential employees instead of hiring skilled personnel from outside of the organisation.

5.3.2.4 Unplanned external change

Unplanned external change refers to changes in government regulations and legislation, which can have a huge impact on how the organisation conducts its business. This study revealed that the organisation has no control over external factors, as these are regulated by government bodies.

5.3.2.4.1 Government regulations and legislation

This study has revealed that there are complications in relation to government regulations within the petrochemical organisation when it comes to procuring and storing crude oil. However, the participants indicated that this is owing to the incapability of state-owned energy entities. The cause remains undisclosed owing to the confidentiality issue, as the studied organisation is a National Key Point (NKP) and the participants were reluctant to comment. Even though the respondents could not reveal much detail in relation to this topic, it is evident that the lack of universal standards to regulate the market, impact effective change management in the studied organisation.

5.3.2.4.2 Economic impact

The majority of respondents were not aware of the economic impact in relation to fluctuations in the oil price, while some were not informed by management about the effects of the oil price and how this affects the operations of the studied organisation. Hence, this study revealed that volatile oil and gas prices can cause the company to be unstable, as this also affects the company's revenue. However, the study also revealed that there is no control over this factor as it is an external factor.

5.3.2.4.3 Business strategy

The majority of respondents stated that they were not aware of any changes in the business strategy within the studied organisation. This is owing to a lack of

communication between the executive management and the operational staff, as the study revealed. Therefore, the overall impression regarding the business strategy plan matter is that the change management strategy is absent in this studied petrochemical organisation. Hence, it is necessary for this petrochemical organisation to address the business strategy plan in order to embark on an effective change management process.

5.3.3 A proposed change management model

The proposed change management model focuses on how the change management process should be conducted, hence below are the recommendations of the proposed change management model.

5.3.3.1 Pre-assessment and development of change management

This study has revealed that this studied SOE petrochemical organisation has never conducted pre-assessment and development change management prior to any changes that were implemented. This was revealed by the study's participants. Hence, the lack of appropriate change standards, including lack of communication and top management that is not visible causes of the unsuccessful change management within the SOE's.

Therefore, it is recommended that the executive management should be visible, communicate with lower level staff and also have the appropriate change standards in place for successful change management within the organisation.

5.3.3.2 Developing guidelines to establish the change

The studied petrochemical organisation has not yet considered developing clear guidelines to establish the change; hence, it is recommended that they should develop guidelines in this regard.

5.3.3.3 Acceptance of change in the organisation

Acceptance of change is considered to be the highest priority when the organisation embarks on change. Hence, the change agent should make sure that employees have accepted the change in order to be successful. Therefore, it is important for this studied

petrochemical organisation to involve employees in decision-making, as they form part of change management.

5.3.3.4 Transformation of the organisation to total change management

The total transformation of people is needed in order for the organisation to be completely transformed. The participants indicated that the studied petrochemical organisation does not perceive total transformation to be an important factor when the organisation introduces change. Hence, the studied SOE should consider transforming the minds of the people who are impacted by the said change.

5.3.3.5 Maintenance of change within the organisation

When introducing the change within the organisation, is it important to maintain the change. Hence, the studied petrochemical organisation should consider adopting supportive stage in order to maintain the change.

Therefore, the empirical findings regard this stage as an important stage in the change management process, because this is when the employees attain great confidence towards change. Thus, top management support, together with consistent communication, is vital.

5.3.3.6 Continuous training and communication

The empirical findings indicated that change should be reinforced through continuous training and communication in order to make the change permanent. Hence, it is the responsibility of management to continuously communicate the purpose of change with employees and to also provide training so that employees can accept the change.

The overall impression towards this topic of communication is still the major issue in this studied SOE petrochemical organisation, which should be addressed. Hence, the senior management should consider possible ways to address this issue in order to come up with solutions that will benefit employees and the organisation.

Furthermore, the detailed recommendations of this study would need to be addressed separately because most of the recommendations are out of the scope of this study.

5.4   Contribution of this study

This study's contribution is comprehended as a dual contribution since it is both practical and academic in nature.

The academic contribution of this study is exemplary, based on the recommendations acquired from non-empirical research and the findings from the empirical research in the field of effective change management interventions in the studied selected petrochemical company in South Africa. Academics and researchers could use this model to test and further develop it, which might contribute to the body of knowledge in this field.

The practical contribution of this study is seen in the application of the proposed change model of a selected petrochemical organisation by testing this model. Hence, the recommendations specified in this chapter could help the management of the studied petrochemical organisation to prepare this company for the effective change management process.

5.5   Limitations and challenges of this study

In Chapters One and Four of this study cited reasons for the site, choice and a limited number of participants. The study focused on various levels of employees within four departments, and 12 of the 30 participants in the departments were interviewed based on their availability.

This study intended to comprehend factors that influence effective change management interventions in a selected petrochemical company in the Western Cape. The study was limited to one petrochemical company in the Western Cape hence it assumed the form of a case study. Therefore, the research findings are limited to one company and

geographical region, and cannot be considered as illustrative of all petrochemical companies in South Africa.

The main challenge, which was experienced, was that the participants were sometimes reluctant to fully answer the interview questions, as they kept reminding the researcher that the company is a state-owned petrochemical company and a National Key Point. Therefore, they were not allowed to disclose any information regarding the company. However, the culture was not part of this research.

Another challenge was that the researcher's role also impacted obtaining data and information, as the participants reminded the researcher of his/her management role, even though the researcher presented her/himself as a CPUT Master's student.

The last challenge, which the researcher experienced, was that of time-frame. This was because most of the participants have a demanding work schedule and it was often difficult to find them in the plant. This made it difficult for some of them to make time to participate in this research. Hence, the researcher succeeded to interview those who were available and also willing to be interviewed.

5.6   Recommendations for future research

It is recommended that future research should be conducted on the impact of implementing the change management models in all the state-owned petrochemical organisations in South Africa, as they are all governed by the same government regulations and legislation.

Therefore, all departments and all personnel, from top management to operational level staff within the state-owned petrochemical organisations should be included in future studies.

It is also recommended that this study should be replicated in other private petrochemical organisations in all provinces within South Africa in order to expand the generalisation of the findings of this study.

5.7   Conclusion

The aim of the study was to investigate factors that influence the effectiveness of change management interventions in a selected petrochemical company in the Western Cape, South Africa. The empirical findings, together with the non-empirical data that was received from the literature, revealed that there is a wide variety of factors that impact on the effectiveness of change management in the studied petrochemical organisation.

Hence, petrochemical organisations should undertake a change in order to continue the business and survival of the organisation. Furthermore, good communication processes are vital for the smooth process of change, as is a continuous support to the stakeholders who are impacted by the change.

Therefore, it is recommended that petrochemical strategic decision-makers should take into consideration the proposed change management factors when planning any organisational change before implementing the following change factors, which are grouped into four contexts: planned internal change, planned external change, unplanned internal change and unplanned external change.

The guidelines, which are required for such matters were provided by this study.

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APPENDIX A: INTERVIEW COVERING LETTER

Date:
Dear Participant

I am a Master's student at the Cape Peninsula University of Technology conducting a research regarding the factors influencing effectiveness of change management interventions in a selected petrochemical company in the Western Cape, South Africa.

Reports shows that change in today's business situation may be seen as unavoidable, however in the absence of a standard Change interventions in the organisation can cause an impact on the functioning of the business and also to survive going forward. Thus, the South African petrochemical organisation is ideal for them to find a suitable intervention of change models that will assist them in navigating its effectiveness.

The study will explore the effectiveness of change management interventions. Hence, the main objective of this study is to investigate factors that influence effective change management in SA petrochemical organisation and to propose a conceptual model for optimizing these factors.

I have compiled interview questions that I would like you to answer, relating to this study. The interview will take 20-25 minutes of your time and the participation in this project is completely voluntary. All information provided through your participation in this study will be kept confidential. Furthermore, you will not be identified in any part of this thesis or in this research.

Should you require any further information or need clarity on this interview, please do not hesitate to contact me on 0733813879 or khanya76@gmail.com or my supervisor Dr Zoran Mitrovic at Mitrovicz@cput.ac.za

Your participation in this interview will be highly appreciated.

Yours faithfully,

Nolukhanyo Mgquba

APPENDIX B: INTERVIEW QUESTIONNAIRES

Section A: Demographic information

Please complete this survey by ticking your choice:

1. Kindly indicate the nature of organisational change/s you experienced within your company for the past three years.

Acquisition	1
Merger	2
Merger and Acquisition	3
De-merger	4
Technology Change	5
Structure change	6
Other	7

2. Please indicate your occupational level:

Executive Management	1
Senior Management	2
Middle Management	3
Qualified worker, Junior management	4
Supervisory	5
Semi-skilled / General worker	6

3. Length of service

Less than 1 year	1
1-2 years	2
2-5 years	3
5-10 years	4
10-15 years	5
15 years and above	6

4. Which of the following describes your organisation? Please tick.

Agriculture	1
Catering, and Hospitality	2
Community and Personal Services	3
Construction	4
Education Sector	5
Electricity and water	6
Finance and Professional Services	7
Manufacturing	8
Mining and Quarrying	9
Oil and Gas Sector	10
Retail an Motor Trade	11
Other:	12

Section B: factors influence effective change management

1. Have you experience any change to your organisation for the past three years? If any what type of change/s took place within your organisation?

2. Was the change to your organisation communicated to you before it took place? If it was communicated, which way of communication was used to communicate?

3. What factors caused the change that took place in your organisation?

4. Was the change advantageous to you and the organisation**?** How was the change advantageous to you and the organisation?

5. If the change in this organisation was done by you, what would you do different in order to make sure that each and every organisational stakeholder the process of change?

7. What effects the change has brought to u? new technology has been introduced to the organisation (if any)?,

8. What new skills needed in order to operate the new technology? Was the needed skills available within the organisation?

9. What form of training was required to operate the new technology, if any? Was the training offered on how to use the technology?

10. What current challenges (if any) are you facing regarding the use of the new technology?

11 What sudden changes took place the executive level (if any) of your organisation in the past six months? What impact came along with those changes?

12 Has the organisation have a personal development programme/s and succession planning in case of sudden resignation or emergency?

13 Has the change in employee demographic workforce been communicated to you and how will it affect you or your role?

14 Has there been any change regarding the hiring of new skilled people and if any, how that has impacted on you as employee who have been working for a long time in the company.

15 Has the government of South Africa changed any regulations and policies regarding purchasing oil from other countries in the past two years? If any, what were those changes?

16   What influence those changes has brought in the organisation?

17   What economic impact the organisation had experienced in the fluctuation of the oil price due to recession during the last three years?

18   Was the organisation revenue affected by the fluctuation of oil price? What happened to the revenue during that period?

19   Were there any changes in the organisation business strategy as a result of the recession? If any, what were those changes?

Section C: Proposed change management models for studied selected SA petrochemical company

1. Was pre-assessment done before the actual change took place within your organisation and which tool was used to do the pre-assessment?

2. Which guidelines were followed or used for establishing the change?

3. The Change Agent has informed you the purpose of change and why the organisation will be embarking on change?

4. Was the mind-set of people affected by the change transformed? How they were transformed?

5. Has this organisation created a supportive stage for you in order to maintain the change?

6. How was the change communicated to you, if it was? Was the training offered to you in order to understand why the organisation has to embark on change management?

APPENDIX C: GRAMMARIAN CERTIFICATE

GRAMMARIAN CERTIFICATE

SHAMILA SULAYMAN PROOF READING AND EDITING SERVICES

30 August 2017

Dear Sir / Madam

This confirms that I have proof read and edited the research dissertation entitled: **"*Factors influencing effectiveness of change management interventions in a selected petrochemical company in the Western Cape, South Africa*",** and that I have advised the candidate to make the required changes.

Thank you.

Yours faithfully

(Mrs) SHAMILA SULAYMAN

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