EMPLOYEES' PERCEPTION OF SAFETY MANAGEMENT PRACTICE FOR ESKOM IN PIETERMARITZBURG

Sekelo Boxing-Day Nhlumayo

214582507

Supervisor: Mr. Alec Bozas

Submitted in partial fulfilment of the requirements for the degree of Master of Commerce in the College of Law and Management Studies School of Management, Information Technology and Governance, Pietermaritzburg, December 2019

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DECLARATION

I, Sekelo Boxing-day Nhlumayo hereby declare that Employees perception of safety management practice for Eskom at Pietermaritzburg is my own personal work. I acknowledge that the secondary data used in this research came from databases such as the internet and other printed sources.

I am aware that it is plagiarism to used work, information, ideas, or words from other persons with no acknowledgement of that specific person. I confirm that for all material that has been used, the relevant sources have been recognized and referenced using Harvard referencing method and they are available in my references list.

Name: Sekelo Boxing-Day Nhlumayo

Student Number: 214582507

Signature…………………………………..   **Date: 2 December 2019**

ACKNOWLEDGEMENTS

ABSTRACT

Eskom KwaZulu-Natal Operating Unit (KZN-OU) has experienced an increase in work related accidents as a result, this research was conducted in an attempt to determine staff perceptions of the safety programme and how it could be improved. In the period 2006-2011 the KZN-OU reported a total number of 128 of incidents, which made Eskom in the annual report 2014 to openly declare that safety of workers was the foundation of its operations.

This small-scale research aimed at gaining insight into the employee's perceptions of the safety management practices of Eskom KwaZulu-Natal Operating Unit in Pietermaritzburg. The objective of the study was to explore the factors that contribute to the perception of employees about safety management practice which include management commitment, enforcement of practices or codes, equipment compliance with safe working practice, and safety training and communication about the safety programme. This research focused on Eskom, specifically the KwaZulu-Natal Operating Unit (KZN-OU) in Pietermaritzburg, and aimed at exploring the safety management programme.

This study has used qualitative content analysis approach to assist in reducing a broad spectrum of findings towards determining patterns and certain themes that has emerged. Data were analysed using narrative thematic analysis. The results of this study are meaningful and make recommendations that will assist Eskom, specifically the KZN-OU in Pietermaritzburg, in their review of changing safety management practice in areas concern such as work pressure which affects the state of safe working condition for employees. The management commitment and enforcement of codes were negative contributors when linked to work pressure and safe working conditions of employees. These factors have been perceived negatively as contributors to the increase in the number of accidents. This undermines the safety management practice of the organization in lowering the number of accidents and fatalities. The study provided useful data to improve on the existing safety management practices.

Key words: safety management, safety environment, safety codes and practice

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CHAPTER ONE: INTRODUCTION TO THE RESEARCH

1.1. Introduction

This small-scale research study looked at Eskom employee's perception of safety management practices in the electricity industry at Eskom KwaZulu-Natal Operating Unit (KZN-OU) from South Africa. This study used a qualitative content analysis approach to identify patterns and themes that emerged (Sekaran and Bougie, 2016).

In today's organizational environment, safety management practice is of vital importance (Choudhry, Fang and Ahmed, 2008). Many companies in different industries have emphasised safety management practice as playing a central role in their long-term strategy to improve health at work and alleviate the costs of work accidents (Abad, Lafuente and Vilajosana, 2013). Some companies have moved from a compliance-oriented narrow view about safety management practice towards a holistic approach of taking safety to the strategic framework of the organisation (Frick, 2011).

Despite the significance of safety management practice Choudhry et al., (2008) also argued that many organisations continue to experience serious accidents, incidents and fatalities. Robson and Bigelow (2010) stated that the problem has constantly posed a threat and affected resources such as human capital, equipment, public, finance, and the view of organisation stakeholders about the safety management practice.

Previous studies have put much effort into issues such as the diverse safety culture of the organisation (Choudhry and Fang, 2006). Other investigators have looked at human error as the cause of accidents at workplace and factors that contribute to attitudes of workers and their safety performance (Hinze, Pederson and Fredley, 1998; Suraji, Duff and Peckitt, 2001; Mohamed, 2002). Dekker, (2016) suggested that pointing at human error as a cause is like choosing a broken component for a complex system. However, there has been less effort put into studying perception of employees about safety management practice in the electricity industry and what factors contribute to the accidents, incidents and fatalities. This is identified and considered as a gap in the body of knowledge (Dekker, 2016), hence this research.

1.2. Background of the Study

Eskom is structured into three core functions, namely, Line, Service and Strategic, as shown in figure 1.1 below. Line functions are categorized as generation, transmission, distribution and group customer services (Eskom, 2014). The study site was based in Eskom Distribution (Dx) in the KZN-OU.

The Distribution line function arrangement is comprised of nine operating units (OU), which are geographical, divided according to the nine South African Provinces (Eskom, 2014). These OUs are: KwaZulu-Natal (KZN), Mpumalanga (MP), Gauteng (GP), Limpopo (LP), North West (NW), Northern Cape (NC), Western Cape (WC), Free State (FS) and Eastern Cape (EC).
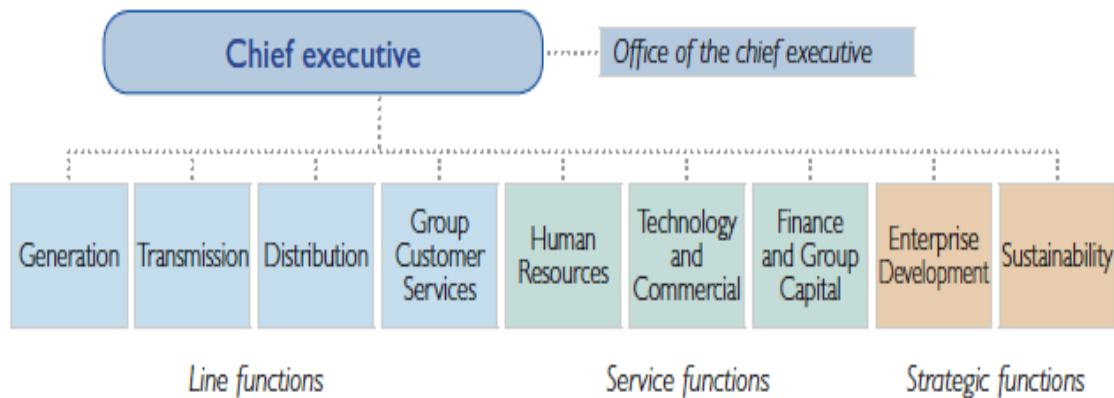
Figure 1. 1: The Structure of Eskom

Source: Eskom integrated report 2013

Eskom has striven to ensure zero harm to its employees, contractors, the public and the natural environment based on its values (Eskom integrated report 2012), as shown in Table1.1 overleaf.

Table 1. 1: Eskom Values

Value	Meaning	Value	Meaning
Zero harm	Eskom had committed to strive to ensure that zero harm befalls its employees, contractors, the public and the natural environment	**Sinobuntu**	Caring.
Integrity	Honesty of purpose, conduct and discipline in actions, and respect for people.	**Customer satisfaction**	A commitment to meet and strive to exceed the needs of the receivers of products and services.
Innovation	Value-adding creativity and results oriented. Lead through excellence in innovation.	**Excellence**	Acknowledged by all for exceptional standards, performance and professionalism.

Source: Eskom integrated report (2014)

Eskom's chief executive officer ran a preliminary study in the Eastern Cape Operating Unit (EC-OU) that focused on clarifying responsibilities and roles for supervisors and managers in setting example and share lessons learnt from incidents (Eskom, 2014).

In the annual report of 2014, Eskom openly declared safety management practice as the foundation of its operations; however the safety management practice at Eskom continues to face challenges. The KZN-OU has been confronted by a number of challenges such as the lost time injuries and fatalities of employees on duty.

A report of Contractor Management Analysis (CMA) that come out in 2017 has also shown that the KZN-OU has had an increased in accidents, incidents and fatalities as compared to other OUs. This problem was evident over the period of 2006-2011 when Eskom reported a total number of 128 incidents. These incidents included 48 Eskom employees and 80 contractors as shown in Figure 1.2 overleaf. In the annual report of 2017. the KZN-OU in the year 2016-2017 experienced a high number of fatalities which are cause for concern when compared to the best practices of similar operations (Eskom annual report, 2017).
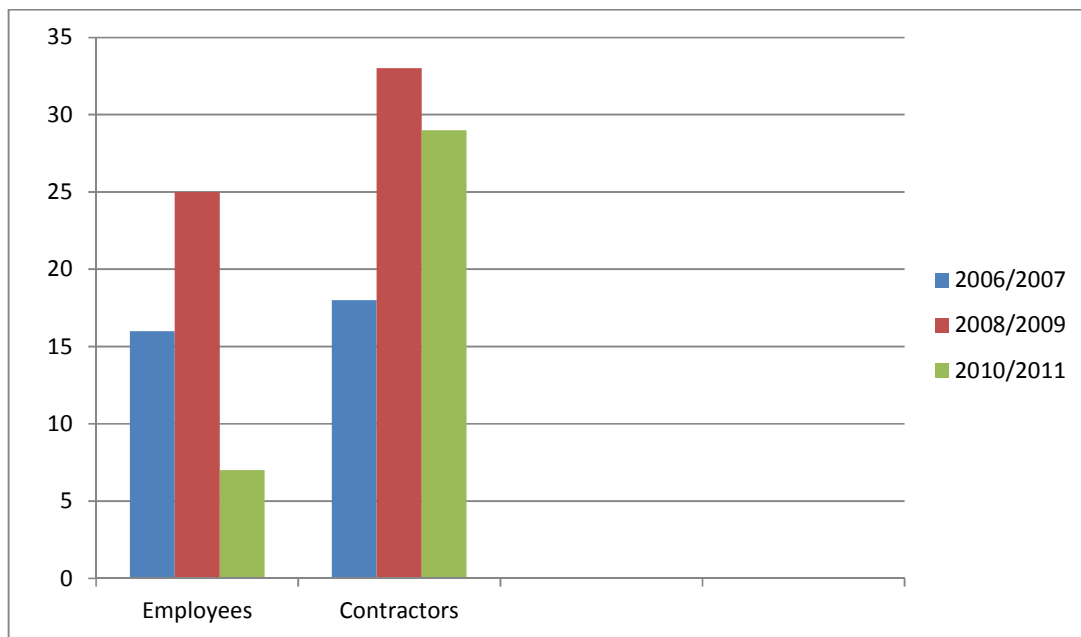
Figure 1. 2: Incidents and Fatality Summary Report of KZN-OU

In the annual report of 2014, the common causes of accidents, incidents and fatalities at Eskom nationally were due to bad driving, fatigue and electrical contact. Other accidents were being struck by equipment, falling from a height, burns, bee stings and gunshots. The report flagged vehicle and electrical contact as main causes of fatalities. Field-based employees are more highly exposed to danger and risk than are office-based staff.

1.3. Research Problem

The study was triggered by the failure of the safety management process to reduce accidents, incidents, lost time injuries and fatalities. Safety management, by its

nature, should be comprehensively and integrated in such way that it abled companies to manage safety and prevent major accidents from occurring (Lin & Mills, 2001). A study by Schröder-Hinrichs, Baldauf and Ghirxi, (2011) argued that accidents have a negative impact on resources such as human capital, reputation or brand image and finances, and create uncertainty concerning the safety management practices of the organization.

There was a necessity to look at the safety management practice of the operating unit as it has experienced a high number of accidents, incidents, lost-time injuries and fatalities. Although the statistics included the contractor's incidents, this research only focused in the Eskom employees' perceptions of this issue.

1.4. Research Objectives

The objectives were to determine employee's perceptions of safety management at Eskom concerning:

- Management commitment to safety management;

- Enforcement of safety practices and codes;

- Whether employees believed that equipment compliance with safe codes and safe working practices contribute to a safer environment; and

- Whether safety training and communication contributed to improved safety management at Eskom.

1.5. Research Questions

- How does management commitment contribute to the safety management?

- How do safety practices or codes enforcement contribute safety management?

- How do equipment compliance with safety codes and safe working practice contribute to a safer environment?

- How does safety training and communication contribute to improved safety management at Eskom?

1.6. Aim of the Research

The intent of this research focused on the perception of employees concerning safety management practice at KZN-OU in Pietermaritzburg. The objectives of the study were to explore the factors that might influence the perception of employees about safety management practice which included management commitment, enforcement of practices or codes, equipment compliance with safe working practice and safety training and communication for the safety programme.

1.7. Significance of the Study

There was a firm need to conduct a study that focused on employee perceptions of safety management practices of KZN-OU. This research should assist in improving safety practices and management and thus reduce lost time injuries and associated costs. A decrease in employee accidents and would enhance employee safety and improve the reputation of the KZN-OU. It would help the company to reduce financial losses and loss of human capital.

1.8. Justification and Rationale

The rationale was that by determining employee views, perceptions suggestions on how to improve the situation employees, Eskom and stakeholders would benefit. Safer environments will mean fewer accidents and less lost productivity and improved morale amongst staff.

The recurrence of accidents leads to higher staff turnover and creates uncertainty about the safety management practices of Eskom. Failure to engage in the study would mean that Eskom KZN-OU would continue to have safety-related incidents that affected the operation adversely, hence this research being undertaken.

1.9. Scope of the Research

This research was a small-scale, qualitative study conducted at KZN-OU in the Pietermaritzburg area. The research explored employees' perceptions of safety management and the knock-on effect of factors such as management commitment, enforcement of safety practice and codes, compliance with safe working practices

and safety training to the challenge facing organization currently and how they contributed to the safety management practice.

1.10. Chapter Outline

Chapter 1: Introduction

This introduces the topic with a background to issue, a statement of the problem, it describes the significance of the research and it outlines the research dissertation.

Chapter 2: Literature Review

The literature review identifies safety management practices within the broader context of the employee perspective. The review indicates the frailty of the safety management practice and shows the existing plan to give solutions to deal with the phenomenon. It highlights concepts that are comparable to safety management, for example, safety climate, is covered to heighten the understanding of safety management as a concept.

Chapter 3: Research Methodology

This research adopted a qualitative approach. The focus group interviews assisted the research effort to uncover the perception of employees about safety management practice when the organisation has been confronted by increased accidents, incidents and fatalities.

The methodology helped to guide, collect and analyse data (Saunders, Lewis and Thornhill, 2009). This study used a qualitative content analysis approach to assist in reducing a broad spectrum of findings towards determining patterns and certain themes that emerged (Sekaran and Bougie, 2016).

Chapter 4: Presentation and Discussion of Findings

The findings and discussion are characterized using thematic analysis which was derived and used to organize data analysis descriptively with respect to safety management practice. The description is given based on themes, information that was collected from the field and the relevant literature review analysis of the issue.

Chapter 5: Conclusions and Recommendations

This chapter lists the four objectives of the study, presents conclusions and recommendations to improve the safety effort at the operating unit and suggests areas for further study.

1.11. Conclusion

In view of the accidents, injuries and fatalities it was important to conduct this research on safety management practices of the KZN-OU based on employees' perceptions. This chapter has provided the rationale for the research; the objectives and it has indicated the methodology used. In terms of the significance of this study, the KZN-OU will benefit from this research and a safer working environment for employees should result from this study. Chapter two presents the literature review.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents literature that is relevant to the topic, aim, problem statement and objectives of the research (Bryman and Bell, 2011).

The literature review helps to demonstrate how this research was shaped and linked to the broader argument on the issue that is under exploration (Boote & Beile, 2005). The literature review comprises secondary data from databases such as journals, books, catalogues, newspapers and websites that explained the elements of the research topic to project the study clearly (Robson, Clarke, Cullen, Bielecky, Severin, Bigelow and Mahood, 2007).

The literature review indicates the agreement and disagreements on different views about the phenomenon (Stilwell, 2000). It also highlights how the context of the study fits into particular field and how it fills a gap (Bowers and Stevens, 2010).The gap is depth of literature on safety management in the electricity industry. Therefore this literature review deliberates about the perception of employees in safety management practices due to the number of accidents, incident and fatalities amongst workers in electricity industry.

This chapter is structured as follows: The study briefly introduces the concept of safety management practices and underlying research objectives factors for the logical flow of this study. Then the study details technicalities about accidents, incidents and fatalities and how these factors contribute to changes in the perceptions of employees about the safety management practices.

2.2 Explaining Concept Framework

The study concept presents an integrated way of exploring the perceptions of employees about safety management practices which are triggered by the number of accidents, incident and fatalities the organizations experiencing (Choudhry et al., 2008). The concept also gives a systematic plan. This study is intended to explain how this problem is approached (Liehr & Smith, 1999). The underlying factors are

defined as a combination of dynamic failures and failures in offences and defenses of the safety management practices of the organization (Engen, 2013).

2.3 Safety Management Practice

Many companies in different industries have emphasized safety management practice as central role and key long term strategy to assist in improving health at work and alleviate the varied costs of work accidents (Abad, Lafuente & Vilajosana, 2013). Some companies have shifted from a compliance oriented narrow view about the safety management practice towards an holistic approach of incorporating safety into the strategic framework of the organisation (Frick, 2011). Work accidents, incidents and fatalities have influenced companies to look at wide range of proactive mechanism to continuous improve their safety management practice (Robson, Clarke, Cullen, Bielecky, Severin, Bigelow & Mahood, 2007)

The British standard institute (BSI) (BS 8800, 1996) has referred to safety management practice as the combination of resources, procedures and policies in any level of the organization to guarantee a safety of the given task at specified results. However, the British Standard Institute model (BS 8800, 1996) did not detail the elements that contribute to and effect a decrease of accidents and fatalities in the organization (BSI, 1996).

The model focused specifically on introducing, developing and implementing good practice, which suggested compliance within the organization should reduce the risk to the employee, It suggests that organizations comply with occupational health and safety beyond the government minimum requirement for safety management practices (Bamber, Sharp and Castka, 2004).This guide is represented in Figure 2.1 below.
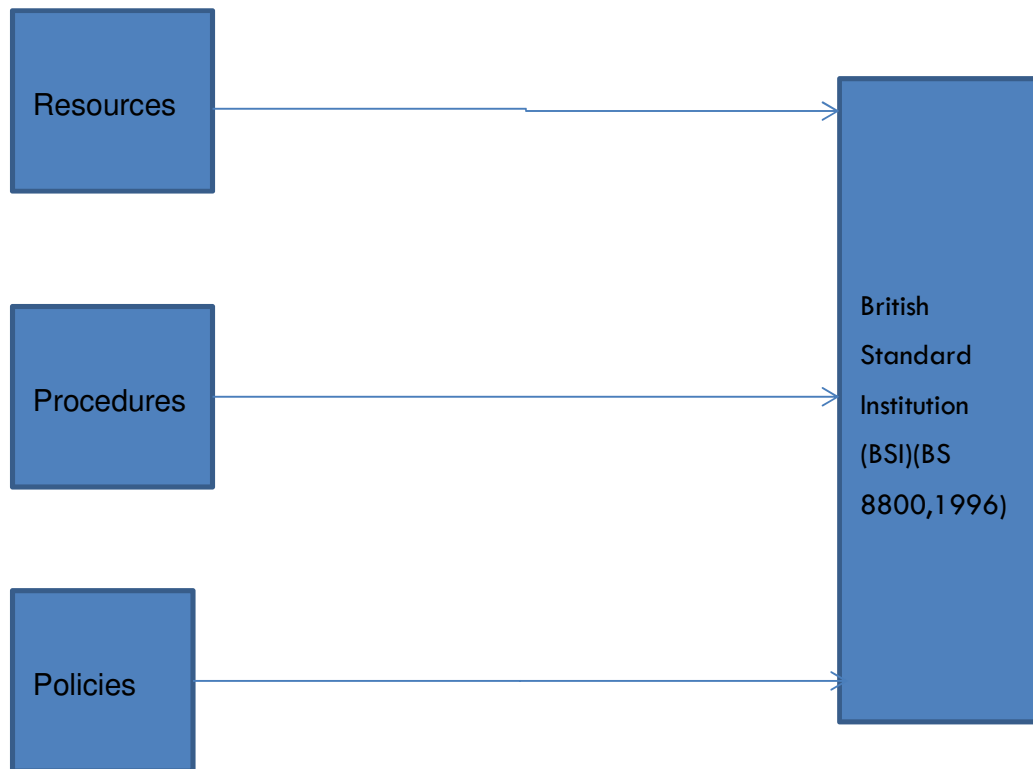
Figure 2. 1: British Standard Institution (BSI) 8800, 1996

Occupational health and safety (OHAS) regulations (1994) referred to it as a comprehensive and integrated practice for managing safety and preventing accidents from recurring. Both standards assert safety management as an objective procedure with performance principles which must be met and guarantee relevant people at a major danger facility a compliance with the performance regulations (BSI, 1998; OHSAS, 1994). Robson and Bigelow (2007) have extended the safety management practice to help to prevent accidents in recurring with the public and equipment.

A report by the International Labour Organization (ILO) (2001) stated that the working conditions in many industries for the majority of workers did not meet the minimum required standards and guidelines (Machida, 2001). The ILO (2001) suggested that the safety management practice of many companies is served by people, the majority of whom were not knowledgeable in occupational health safety. The World Health Organization has also argued that certain elements of the OHSAS

(1994) are perceived as significant weakest links in safety management and contributors to accidents and fatalities of employees in the organizations (ILO, 2001).

According to Dahl (2013), there is evidence of certain defining characteristics of safety management which are considered as very significant, such as having an adequate understanding of safety codes and practices. In addition, Huang et al. (2006) stated that the safety climate is regarded as a snapshot of management commitment, return to work policies, post-accident administration and safety training to persuade state of safety in the organization at a specific time. It is also perceived as a control of safety which enables employees to self-report injuries.

2.4 Safety Standards and Models

The safety standards and models have attempted to unpack how these accidents keep on occurring in the work place, how they change perception of employees about the safety management practice of the organization, and what the existing factors are that contribute to the change in employees' perceptions (Huang, 2009).

2.4.1 Occupational Health & Safety Management System (OHSMS).

OHSMS is referred to as a systematic mechanism and powerful tool which enables companies to manage their job-related risks and assist managers or supervisors to control health and safety problems in the workplace (Redinger & Levine, 1998).

The OHSMS is also a universal tool that has been used to assess, measure and evaluate the overall structure of safety management practice. The OHSMS has extensions which become more popular over the years such as the OHSAS 18001 British standards which are the most used in many companies all over the world (Lee, Kim & Kim, 2012) and the Occupational Safety and Health Administration Voluntary Protection Program, and International Labour organizational guidelines (ILO-OSH 2001; Henderson, 2009).

In spite of the attempted safety management practice aiming to prevent accidents, incidents and fatalities in the working environment, the problem has been observed to be persisting in many organizations. The challenges such as risks continue to endanger the workforce, equipment, working conditions and affect the competitive

position of many organizations (Häkkinen, 2015). However, the OHSMS as a comprehensive tool has played a fundamental role in addressing the problems by improving employee safety, reducing workplace risks, and having safer work conditions (Abad et al., 2013).

2.4.2 Occupational Health and Safety Administration System (OHSAS) 18001

OHSAS 18001 is referred as tool to accredit and recognize organizations internationally that comply with the minimum requirements of safety management practice. It certifies the organization that has safety management practices in place which minimize and controlled the risk for the employees. The OHSAS is compatible with the International Standard Organization (ISO) 9001 and 14001 which deal with quality and environmental management systems respectively (Abad et al., 2013). The OHSAS 18001 customary objective is to promote and back of good practices in the area of occupational health and safety through organized and structured safety management practices (Pheng and Kwang 2005).

The ILO had defined OHSAS 18001 as a group of correlated elements to establish an occupational health and safety (OHS) policy and steps and to achieve those goals (Niu 2010). Pheng and Kwang, (2005) also stated that all tasks, activities and facilities which an organization managed could result in health and safety management. The OHSAS was drawn to safeguard the health of the employee and it also laid down the guidelines such as delegating roles and assigning responsibilities to people that are related to OHS.

Robson (2007) stated that there were 16 elements that primarily construct a detailed integrative and universal OHSAS. Some of the 16 elements (ILO, 2001) suggested that they have influence in the perception of employees when it comes to accidents happening in the work place. These elements included management commitment, safety training and communication programmes, safety codes and practices and equipment compliance with safe working practices. Robson (2010) argued that safety management practice has also developed a base on an occupational health and safety management system (OHSAS) to protect safety of employees, equipment and the public. Managers and supervisors have a role and responsibility in the safety

of the workers by establishing a means to monitor, review and improve the safety climate.

The first element of OHSAS is the occupational health and safety policy which includes the contents of the safety policy. The second element requires the safety policy to be in-line with or complying with the government Occupational Health and Safety Act (OHSACT) as a legal requirement. The third element suggests that the organization should set the objectives and targets of the policy (Camilleri, 2015).

Another OHSAS 18001 element requires organization objectives and targets to reflect how the organization is planning for emergency preparedness, documentation and data controls and hazard identification risk analysis. The model requires clear responsibilities at all levels of the structure of the organization and the roles the people would play in the occupational health and safety system. It requires employees to be safety trained and have an awareness of and competency in the safety policy, procedures and standards of the organization (Vidal-Gomel, (2017).

Although the OHSAS 18001 has a number of elements, this research selected only four elements to explore the problem. These included management commitment, enforcement of practices and codes, equipment compliances with safe working practices and safety training and communication programmes. Figure 2.2 shows all elements of OHSAS 18001 but only four formed part of the present study.
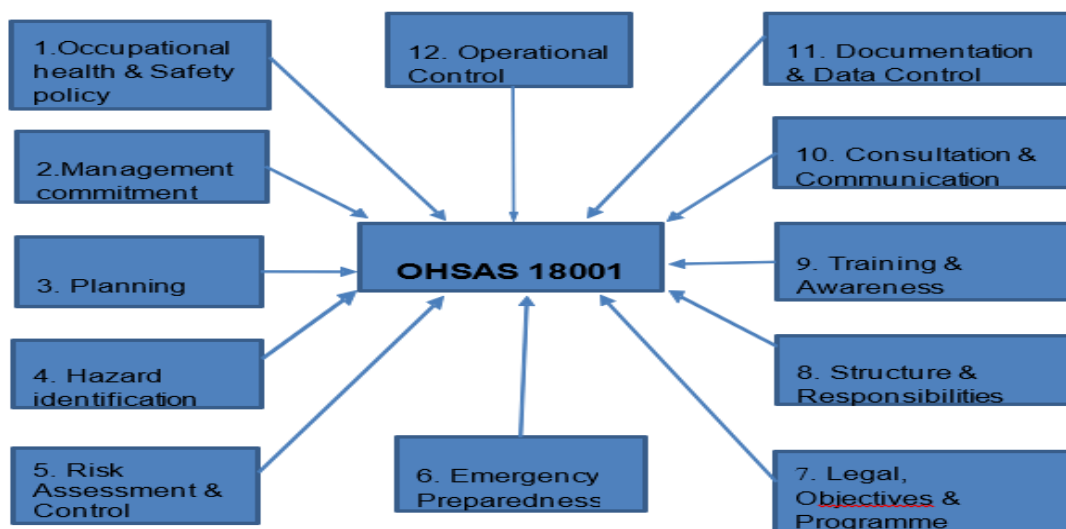
Figure 2. 2: Elements of OHSAS 18001

Source: *Camilleri, M. A. (2015). "Occupational Health and Safety Management System (OHSAS 18001)."*

OHSAS criticism of the 1989 guidelines as compared to new recommendations was that there were no elements such as programme evaluation and improvement which allowed the firm to follow up and tracks its long term and short goals. These new elements provided the organization with procedure to measure and communicate the progress of the firm safety management practice. Although Robson et al. (2007) have stated that the October 2016 guidelines are an extension of those of 1989, there is still no clear indication about how the OHSAS 18001 influences other dimensions of organization performance.

A second critique of the model is that top management use the OHSAS 18001 standard as a commercial tool, meaning the safety certification of the organization improves the corporate image rather than preventing or reducing the recurrence of accidents in the organization (Hohnen, Hasle, Jespersen and Madsen, 2014). In spite of the time that has elapsed since Hohnen et al's research, this situation has not improved (Hohnen et al., 2014).

2.4.3 Safety and Health Environment and Quality (SHEQ) policy

The SHEQ policy is referred as integration of several management standards such as the International Standard Organization (ISO) 9001, 14001 and OHSAS 18001.The policy guarantees the commitment of an organization to its quality, environment, health and safety. It helps with the uniformity within the organization. Both ISO 9001 and 14001 are known as the voluntary standards which give guidelines for the instituting continuous improvements maintenance of quality and environment respectively in the organization (Hamid, Singh, Yusof & Yang, 2004).

The SHEQ policy also assists organizations to detail commitment operation conditions, for example, when there is no urgency for service, It does not justify exposing anyone to negative risks or danger arising out of business, causing an accident with health, safety, environment and quality consequences (Eskom SHEQ Policy, 2017). These are the main components of any auditing for safety

management, which looks at the management organization around the occupational safety of employees, and at how the organization identifies and implements the risk control measures and what the precautions and control measures of the workplace are (Hansen, 2006; Roodt, 2014). However, Hansen, (2006) stated that the gap in the policy is that there could still be significant accidents during the implementation, and it could not cover in detail, the risk associated with the task as well as the physical work environment.

2.5 Adopted Concept Framework

This research has outlined evidence that already exists in the discipline of the safety management by showing the connection between preceding studies (Peshkin, 1993). This research has been done by looking at the concept of safety management practice and causes of accidents, incidents and fatalities in the workplace. It explored different literature references to standards, models, theories and guidelines which have been designed to prevent accidents recurring whether the standards are known as voluntary or mandatory rules (Hohnen, Hasle, Jespersen & Madsen, 2014). Then the factors that are perceived as the weakest links in safety management practice such as commitment of management or safety climate, enforcement of codes and practice, equipment compliance, safety training and communication about safe of workers were explored (Huang, Ho, Smith and Chen, 2006).

2.6 Accidents, Incidents and Fatalities

Accidents are referred as workplace injuries which result in personal harm to employees. They might range from slips, trips, electrical contact, being struck by lightning, and vehicle accidents (Evans, Michael, Wiedenbeck and Ray, 2004). In the weigh-up of accidents in different industries, a shared trend throughout has been the inadequacy of safety management practice to prevent recurrence of accidents. The issues that have been identified as contributors to accidents are deficiencies in implementing codes and practice effectively, inadequate training of employees, lack of follow up in the previous incidents, insufficient hazard review which predicts and prevents incidents and failure to prepare for emergencies (Dahl, 2013).

Safety management practice has been justifiably a serious concerned amongst industries such as the electricity, railway, construction, marine, mining and tourism sectors due to the number of accidents, incidents and fatalities with which these industries are confronted (Cawley and Brenner, 2013; Redinger and Levine, 1998). Work accidents, incidents and fatalities have swayed companies to look at a wide range of proactive mechanisms to improve their safety management practice continuously (Robson, Clarke, Cullen, Bielecky, Severin, Bigelow & Mahood, 2007).

An organization such as the Electrical Safety Foundation International (ESFI), which is a non-profit organization from the United States of America (USA), and which was founded on 1994, has been involved in collecting and analysing data on electrical injuries to assist companies to make informed decisions about employees' electrical safety (Cawley and Brenner, 2013). The electrocution in US construction has been rated fourth among highest fatalities and the causes of these accidents were: a lack of effectiveness of safety training and sociotechnical system breakdowns (Zhao, Thabet, McCoy & Kleiner (2014).

Salmon, Cornelissen and Trotter (2012) suggested that accidents and fatalities have been a challenge in industry. Huang at al., (2006) stated the phenomenon in the different industries has made companies shift their focus to organizational factors which contribute to the safety in the workplace. The common organizational factor that has been referred as the predictor of recurrence of injuries is acknowledged as safety climate. This factor has been outlined by the shared perception of employees.

In the context of this research, underlying factors have been referred to as a combination of dynamic failures and failures in offences and defenses of safety management practice of the organization (Engen, 2013). This research has used these factors to form a structure to discuss the perception of employees concerning safety at Eskom KZN-OU Pietermaritzburg.

2.7 Objectives

2.7.1 Objective 1: Management Commitment Contributes to Safety Management.

Management commitment has been referred to as the management attitude in which the attitude is a construct that symbolizes an individual's degree of like or dislike of a thing (Ackland, 2010). Management commitment could be explored by focusing on the safety priority, company interest in the safety of employees, evaluating importance of safety as compared to production, and, finally, how long it takes a company to act in a reported near-miss. This is a snapshot of an organization's safety management practice (Zohar, 2010).

Management commitment has been acknowledged as a significant measure for the safety climate and employee perception of the manager's behaviour and attitude towards safety (Pinion, Brewer, Douphrate, Whitehead, Dellifraine, Taylor & Klyza, 2017). The perception of employees is formed from management commitment to the safety management practice of the organisation. These aspects include actions, behaviour and communication (Flin, Mearns, O'connor & Bryden, 2000). Employees take a negative position about the significance of company safety management practice (Zohar, 2010).

2.7.1.1 Safety as a Priority

Ackland (2010) argued that safety management commitment is far more than a checklist, forcing employees into compliance. It is the state of mind of the organization and how it prioritises its safety management practice. The shift of companies from compliance to legislative requirements towards taking safety as their norms, beliefs and values has suggested effective commitment.

The organization's participation in the management standards such as ISO 19001 for quality, ISO 14001 for environment and OHSAS 18001 for safety and health have a positive impact on perception. It suggests continuous improvement in the safety management practice and overall operation of the organization. However, quality is referred to as simply the perception of employee satisfaction (Hopkins, 2016; Roodt, 2014). Therefore, safety priority has been related to the number of accidents

recurring in the organizations and incidents and fatalities occurring in the companies. If accidents decreased the commitment has been perceived positive (Chmiel et al., 2017).

2.7.1.2   Managers Show Interest in the Safety of Workers

An employee's feelings and beliefs could be aligned with the safety management practice, but without commitment from the top-level management, the safety management is meant to fail at some point. When the top management say the safety is their priority, there must be tracks of evidence that agree with the position of management (Chmiel et al., 2017).

Ackland (2010) has argued that there is a difference between the safety compliance and the safety environment that promotes the safety conditions of the workers. This study suggests every organization must be in the position of safety citizenship, meaning every individual within the organization should be responsible for safety management, the safety of others and the equipment they are working with. Safety citizenship focuses in the involvement of all stakeholders to develop, implement and evaluate the safety management practice of the organization. The equipment safety guarantees an uninterrupted of supply to consumers. The safety of employee guarantees preservation of human capital within the organization.

The employee's safety participation has been identified as positive factor in enhancing the safety in workplace and contributing to the reduction of accidents. It also suggests manager's interest in the safety of their own employees (Griffin and Neal, 2000). Chmiel, Laurent & Hansez (2017) stated that employees perceived the management as committed to safety when they have more control in the input process and output of their work and are able to control safety aspects of their job. Management then empowers employees tforo a safety assessment of the task and to make decisions as to whether the work is safe or unsafe.

Research by Mayze and Bradley (2008) focused on the safety culture, safety performance and safety climate. This study explored human behaviour health and safety in construction. There was less done to observe the organizational behaviour when it came to the health and safety of the employee. The study also highlighted

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the fact that most safety investigations ignore the complex relationship factors that affect individuals in the workplace (Mayze & Bradley, 2008). Their study emphasized components that are normally brushed aside when accidents happen in the organization such as supervisor or management factors when it comes to employees working in a safe manner. Mayze & Bradley (2008) defined the safety culture as the values and behaviour of the individuals regarding organization safety rules and policies across all levels of that particular organization. However, Mayze and Bradley, (2008) looked at behaviour in a reverse manner, focusing on the safety behaviour of the individual, where the research determined the environment or climate and the relationship between all levels within the organization.

2.7.1.3 Safety is Equally Important as Production

Zhang, Shi and Wu (2017) stated that the management attitude towards safety management is defined by the number of accidents, incidents and fatalities recurring within the company. Safety performance indicates whether the safety is equally important as production. It also contributes in employee perception about the safety management practice of the organization.

Zhang et al., (2017) suggested that there was lack of commitment of government to enforcing regulations in mining companies that were not complying has increased the accidents in the whole industry. According to Zhang, there have been a number of reasons contributing to an increase in accidents. These include the use of technology that was not approved by government, neglecting the safety training of employees, elimination of a safety management process to increase the volume of production and failing to provide basic safety requirements such as first-aid procedures.

Guo, Yiu and González (2016) suggested that socioeconomic development was an external factor which contributed to the behaviour of mining industry management due to fact that the local government had emphasized the growth of the local economy as the first priority. The attitude of management to safety was related to social and production pressure. Safety laws and regulations are critically important factors that contribute to management behaviour.

Social supervision has been referred to as another significant external factor that influences leadership behaviour. It involves the pressure exacted by the community where mines are located to comply with safety regulations. However proper investigations have become a challenge in many companies and this behaviour has perpetuated weak management of safety in the industry. The industry was set for failure when it came to safety management performance by the leadership of the industry (Guo et al., 2016).

Ajzen and Fishbein (1977) showed that the behaviour of employees was influenced by internal and external factors. The external factors that contributed to the management safety behaviour were obtained from interviews during the study. The limitation of the study was the lack of a literature review that related the impact of external factors to management safety behaviour.

Bronkhorst, (2015) suggested that there were other challenges that contributed to the risky behaviour of employees when they were supposed to work in a safe manner. The challenges included job demands, safety climate and resources. The employee effect was included physically and psychologically. This study by Bronkhorst, sought to understand how job demands, job resources, job autonomy and supporting environments influence the safety behaviour of employees. Job autonomy means give the employee full control of the task should be done. This means decisions based on safety and technical requirements for the job need to be decided by the employees responsible for the task.

Bronkhorst, (2015) also argued that the research had to considered different approach to evaluate the issue. The first approach was based on job demand. It looked at whether job demands contribute positively or negatively to the safety of the employee. It had clear findings that job demands focused more on performance pressure than on safety. Bronkhorst, (2015) suggested that performance stress was one of the big contributors to a lack of safety behaviour. It therefore affected both the physical and psychological safety behaviour of workers negatively.

A second approach of the study was based on influence of job resources. The researcher believed that job resources had allowed employees to do their work willingly and in a safe manner. It also gave the employee the ability to work safety,

Therefore job resources is one factor that contributes to the safety behaviour of employee positively, whether it is physical or psychological.

A third approach of this study concerned safety climate, where the researcher suggested that the organization should make employees aware that the organization considered safety to be its first priority. Safety was more important than production. A safe environment was increased to improve the safety attitudes among employee and affected safety behaviour positively. A safe working environment does not only focus on the safety behaviour of the organization. It also concerns employee's job demands and the job resources of the organization. It was not possible for an organization to have a safe climate while job pressure was high and in return reduced the safety behaviour of employees. Bronkhorst, (2015) suggested that a safe working environment was dependent on job demand resources.

In comparing the energy sector to the medical sector, the environmental factors may differ in terms of findings. The findings may also not generalize to other countries for the same departments. This study gave the researcher an issue to explore and understand their environment concerning the behaviour of workers towards the safety policies of the organization (Bronkhorst, 2015).

2.7.1.4   Act Quickly When Reporting a Near-Miss

Sekaran & Bougie's (2016) study suggested that management action or response in the case of a near-miss with employees would result in negative or positive behaviour of workers towards the safety management practice of the organization. A quick response management would send a message to workers concerning the seriousness of a management about a safe working environment. It would also change how employees perceive safety practice, level of communication between employees and management of the organization. The study also suggested that management commitment to reporting near misses created a sense of belonging for employees. It contributed positively into the work commitment and the enthusiasm of employees. It says management were able to provide a supportive environment with associated safety (Sekaran & Bougie, 2016).

2.7.2 Objective 2: Safety Practices and Codes are Enforced

Dahl, (2013) suggested that companies should commit to tacklong challenges such as implementing codes and practice, following up the previous incidents, reviewing predicts of hazards and preventing recurrence of accidents, and putting in place a clear emergency plan. Robson (2010) stated the safety management practice was developed on an Occupational health and safety management system (OHSAS) to protect safety of employees, equipment and public. However, managers and supervisors have a role and responsibility in the safety of the workers to establishing means to monitor, review and improve safety climate or management commitment in a continuous basis.

Choudhry, Fang and Ahmed, (2008) stated that many companies around the world have created or put in place a safety management practice in order to reduce the accidents, incidents and fatalities of employees and public. It also helps organization to eliminate illness and provide a safe work climate (Choudhry et al., 2008).

Mayze and Bradley, (2008) suggested that the common practice of many companies in the construction industry was to blame a specific level or audience in their structure for all incidents and accidents that occurred in the organization. The research was conducted to look at the issue holistically at all levels of the organization to understand how the industry can approach the health and safety of the employee. One dimension that contributed to the lower performance of safety management was the lack of safety codes and practice. The problem was not entirely because of a lack of safety training and safety complacency, other factors contributed.

Isiadinso (2015) said that the statistics of 90 percent of incidents that occurred in the industry were mainly caused by not following the proper codes and poor implementation of the safety management practices the organization had established. The main reason was been pin-pointed in this study was the lack of commitment of the management to enforce its own safety codes (Bhattacherjee, 2012).

A fitting example for the energy sector was the BP Deep Water Horizon explosion incident that left coastal residents such as Louisiana, Mississippi, Alabama and Florida apprehensive about their safety health due to the oil spillage (Abramson, Redlener, stehling-Ariza, Banister & Park, 2010). In addition, it caused 11 fatalities, injuries and a massive environmental disaster.

2.7.2.1 Safety Rules and Procedures Strictly Followed

Cox and Flin (1998) and Zohar (2014) investigated the subject of safety culture by comparing the culture of an organization that was crisis-prone, meaning it suffered major accidents, with an organization that was experiencing change. Factors that influenced the perception of an excellent safety culture were the commitment and action of management, communication and involvement of employees and a prioritizing of safety where safety rules and procedure were followed and when they were not strictly followed more accidents occurred (Cox and Flin, 1998; Zohar 2014).

2.7.2.2 Carrying Out Safety Codes and Practices

Isiadinso (2015) said the statistics of 90 percent of incidents that occurreed in the industry were caused by not following the proper procedure and poor implementation of the safety management practice the organization had established. As already mentioned, the main reason for poor safety is the lack of the commitment by the management to enforce the safety practices and codes.

Isiadinso, (2015) studied the BP incident at Texas City refinery in the USA that resulted in 15 fatalities and 150 injuries. The incident was the result of the failure of mechanical, processes and human factors. The biggest factors contributing to the incident were attributed to poor positioning of the control room, thus neglecting a key safety requirement; poor communication and an inability to do a proper hazard risk assessment. It was management's role to guarantee their workers a safe working environment.

Isiadinso (2015) said the disaster was the result of a growing unsafe culture within the organization and no one could prevent it. There were many of near misses that were left not investigated and ignored. BP was let down by its own management, by failure to confront recurring unsafe practices such as incomplete pre-start-up checks,

hazard assessment and prevention and safeguarding of equipment and personnel. According to BP safety procedures, operators were supposed to work in pairs, but the control room had one operator available so when the problem occurred he or she failed to deal with it. The reason for failure was operator error and bad design in that there was no automatic shut off.

Isiadinso (2015) suggested that the incident could have been avoided if safety management was enforced by either the supervisor or the technical staff in all shifts. If the unsupervised valve status had been designed in suitable way it would have been easy to monitor every three hours during the process. It was also necessary to inspect and repair equipment on a regular basis. The researcher also suggested that BP was supposed to enforce the sign-over protocol, monitor the fall arrest system (FAS) for the operators that worked two meters above ground level, and promote safety culture of the pre-start system process, making sure it was completed.

Saleh, Haga, Favaro and Bakolas (2014) suggested that in a hazardous industry it is essential to have a good safety culture to minimize poor safety practices and improve the shortcomings of procedures or codes. This applies to Eskom. Safety culture creates good attitudes, behaviour and patterns. It allows an organization to be proficient with respect to health and safety. The researchers also argued that a poor system design was contributing factor to the human error where the operators were prohibited to see through or monitor the valve and be able to identify the hazard and respond to that risk quickly to minimize the incident (Saleh et al., 2014).

A safety management practice is destabilized by poor organizational safety culture. Bhattacherjee (2012) referred culture as behaviour or conduct, norms, beliefs, perception, values and compliance of the employees to the systems of the organization including safety management system. There was clearly an interlink between the organizational culture and safety management practice as well as the compliance of the employees.

Accidents in the construction industry have caused the Dutch Ministry of Social affairs and Employment to take the initiative to evaluate the safety management practice and safety performance of different companies in the Netherlands for a period of eight years. The ministry has made a commitment to cover 50 percent of all

costs during this initiative in all companies that participated in the evaluation (Hale, Jacobs & Oor, 2010).

Hale et al. (2010) said the conditions for companies that participated to the initiative were to allow the ministry to assess and approved all record and statistics for accidents, to do interviews with employees and managers, to report arising dangerous conditions, to have employees to attend training workshops, to commit in reducing lost time injuries by 15 percent as compared to previous years, and to achieve safety management practice improvement. Hale et al., (2010) also said the results were based on two companies that participated in the evaluation. Both companies have shown a significant reduction in accidents. Hale et al., (2010) said that the outcome for the initiative safety evaluation was a rise in reported dangerous situations concrete construction company. These reports have led to changes in the working environment and control measures have been put in place. The other positive indicator was encouragement of whistle-blowers for dangerous conditions and near misses by the employees. Third was the training programme for safety management. The practical outcome was support or commitment of the directors to better safety management (Hale, et al., 2010).

2.7.2.3   Ensuring Safety Highest Levels in the Company

Hale and Borys, (2013) looked at the perception and management of how the rules had been developed, used and worked since 1986, focusing on understanding how to manage safety compliance rules and procedures which are related to a specific level in the firm.

They compared two common methods adopted most by different companies, one being the top-down approach which is known as imposing safety rules on workers, which limits the freedom to choose by the employees and it is also referred to as static. The second approach is the bottom-up approach which emphasizes the expertise and competence of employees in their ability to comply with safety rules and be able to adapt to various tasks.

Both approaches had strengths and weakness according to Hale and Borys (2013).The top-down approach was found to be effective with cardinal rules or

golden rules which were known as safety centred on behaviour. It had been known as the engineering approach because of its rationality due to its logical reasoning. The weakness of this approach was that the process of modification was only triggered by accidents because it was static. This approach creates employees that lack competence and treats them as robotic. It promotes a culture of blame.

The bottom-up approach is known as a continuous process to develop practices by the organization. Its strengths are to recognize workers as competent, expert and having the experience to deal with diverse of hazards related to their job. The weakness of the approach is the lack of transparency when it comes to auditing and transfer of skill (Hale and Borys 2013).

Wachter and Yorio, (2014) conducted a study to test the relationship between accident rating of employees at work and accident prevention based on the safety management system. They used the safety statistics of the organization to determine the phenomenon. The study objective was to come up with ideas on how to develop the safety management practices and evaluate how these practices relate to the safety accident rates and how firms can use these practices to achieve accident prevention. Their study survey focused on the perception of managers, supervisors and employees to assess and link safety management system and employee performance.

The results showed that practice ideas that were developed during the study, included employee involvement or influence, meaning how much influence the employees have in crafting safe working practice. A substantial undesirable connection existed between the applications of ten distinct safety organization practices, as well as the compound effect of linking these, with accident frequency. There was also a substantially bad association between the level of safety-focused employee responses and perceived commitment with accident rates (Wachter and Yorio, 2014).

Safety management systems (SMS) and worker involvement levels can be used individually to calculate accident rates. Safety management systems can be used to foresee worker commitment levels and worker commitment levels act as go-betweens for the safety management system and accident rates. The findings

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emphasized that employees were more likely to adopt and become part of implementation process of safety practices when there was highly involvement in creating them. It was also necessary to consider pre and post task safety reviews. The study suggested that routine tasks are likely to have a negative effect on the safety of employees due to a tendency relate to this type of task by underestimating, overlooking, or being overconfident and relying on previous outcomes. These tendencies force an organization to review pre and post task to conduct and evaluate it for future reference (Wachter and Yorio, 2014). The challenge with the non-routine task was no-one was familiar with the risk involved.

Finally, with safety procedures, one need to consider hiring for safety, cooperation facilitation, safety training, communication and information sharing, accident investigation, detection and monitoring and safety task assignment or task employee matching (Wachter and Yorio 2014).

2.7.2.4 Lack of Time Deviates from Safe Work Practices

In any safety management system underlying weaknesses arising within a safety management practice for different situations will always be expected. Due to discrepancies in procedures, work that needs to be performed may be unworkable, and procedures may be time consuming and very expensive to institutionalize the safety management system with the policies and procedure makes it difficult for a system to be adaptable to the changing working environment and hazards encountered (Wachter and Yorio, 2014).

2.7.3 Objective 3: Safety Compliance of Equipment with Safe Working Practice

Hopkins, (2016) stated safety management practice must be approached as an holistic programme to educate, train, motivate and support compliance aided by provision of personnel protective equipment and safety working environment or at least where risk are known and understood. The company attitudes, behaviour and culture have to substantiate the commitment of the organization to the safety of employees.

Turner, Stride, Carter, McCaughey and Carroll (2012) studied employee perspectives of the violation of safety and whether they consider safety elements to be part of their own job role. According to the research, safety citizenship is a critical part when assuming the different types of violation of safety. The first common type of violation is routine violation.

Reason, Parker and Lawton (1998) stated that routine violations normally taking the path of least effort which is also known as corner-cutting and suggested that these short cuts might become habitual or situational violation seen as essential to get the job done

Routine violations are hypothesized to be effort-related, and so are connected with a reduction of cognitive energy. Turner et al., (2012) investigated job demand, safety participation, and routine violation. The study showed that there was a relationship between the job demand and routine violation but not safety participation.

The second type of safety violation is situational. Turner et al., (2012) defined the routine violation as an act of the individual within the organization, while safety situational violation is a violation caused by the organization.

Turner, Stride, Carter, McCaughey and Carroll, (2012) explored the relationship between job control, management commitment and work engagement and where safe working practice were violated.

The management commitment in motivating the employees reflects in the job performance and challenge employees to engage in learning, continuous growth, and development. Work engagement includes the acquiring of a new method to deal with organizational safety practices and put more effort into reaching the safety objective (Hansez and Chmiel, 2010).

Hansez and Chmiel (2010) put forward an argument that the job loads of employees affect the outcomes through work strain and the job engagement processes. This argument has extended to safety violations based on routine and safety violations based on situations. According to Hansez and Chmiel (2010), safety violations can follow a sequence of actions on a regular basis, and that type falls under a routine violation of safety. The study also suggested that some of the safety violations were

related to a set of circumstances or situations and those would be called situational violations of safety.

This study showed that the safety behaviour of employees was related to the demands of the job and management commitment to safety. The findings have shown that if the job strain is high, the violation of safety, whether it is situational or routine, is high as well. They also showed that the higher the work engagement between the employees and management, the lower the violation of safety, whether situational or routine. The limitation on the study was using self-reports of employees of the safety violations which help to implicate self-negligence instead of management commitment and job demands (Abad, Lafuente & Vilajosana, 2013).

Safe work practices were developed to lay down steps required to finish tasks safely, free of accidents. The safety practices provided significant and steady information to employees about what minimum obligations were expected from them with respect to safety. Safe work practices helped to develop the routine to execute complex tasks and ensure those tasks are executed safely (Wachter and Yorio, 2014)

2.7.3.1   Safety Equipment for Employees to Perform Duties

Kamardeen, (2009) said the Australian construction industry was confronted by an increased rate of employee fatalities despite numerous laws, standards and codes of practices insuring occupational health and safety (OHS) within the industry. The direct costs to the industry were the compensation for workers, families from insurance and repairing of equipment. The indirect cost included the downtime or interruption and impact it had in the image of the company.

Kamardeen, (2009) conducted a study of web-based safety knowledge which focused on the construction industry safety management in Australia and suggested that many accidents occurred due to poor attitudes and unsafe working behaviours which were very hard to monitor and control. There was a positive relationship between employee attitudes and safety performance.

Another study showed that a difficult part was managing the dynamic process of construction. There were a number of factors that contributed to a poor safe working practice such as working environment, continuous change of activities; constant

workforce mix; site layout changing quickly; equipment and tools how they are used, and safety knowledge. Safety knowledge or safe working practice advanced overtime, and it required a workforce that was up to date with content and modifications (Choudhry, Fang & Ahmed, 2008). Choudhry et al.(2008) suggested that the industry should change how it approaches its safety knowledge base in order to overcome the issue. It should improve the safety database, capture safety documents, secure expertise and a skilled workforce, and instil a culture and ability to learn. The industry has its own external factors like construction technology that continuously changes, therefore the ability to adapt by the industry is fundamental.

The other essential elements with which the employee should be equipped were the capability to identify hazards for an activity, the ability to implement controls for the project team such as compliance with construction practices, the use of personal protective equipment, systems of permit-to-work, and systems of housekeeping. Organizations in the construction industry should enforce a safety code prior to the execution of any activity, according to Choudhry et al., (2008).

Choudhry et al., (2008) suggested that team talk meetings were very important to identify factors that could impact execution negatively from a safety point of view. These practices create a culture of safety conscious and environment where managers, supervisors and employee continuously talk about risk associated with work and the workplace.

Despite the effort of introducing technological systems to improve safety management in the UK and decrease the number of major injuries, the national statistical report has shown that there was an increase in major injuries within the country from the period 2005 to 2007, compared to the small decline in accidents according to the United Kingdom health and safety Executive from 2000 to 2005. The report had created a need to look at the human factor contributing to the accidents (Mearns, et al., 2003).

According to Reason, (1997) the human factor not only depends on the employees that are directly involved with actual work, but also includes the organization and managerial factors as well. That is why human factors focus the study on the safety climate of the organization (Reason 1997). The safety climate is defined as the

employees perspective of the safety compliance environment of the organization (Clarke, 2010).

Reason's (2008) research looked at human error which included things like moral weakness and absentmindedness whereas the system focuses more on employee working conditions and attempts to act decently to avoid errors. The findings were that the organization was successful in preventing human error focused on the systems approach, and that the system that was proactive could anticipate the future and was capable of dealing with it at all levels of the business (Reason, 2008).

Turner, Stride, Carter, McCaughey and Carrol, (2012) found that there were positive contributors to the compliance of employee with safety such as job control. The greater employee autonomy is, the better the decision made on when and how the job should be carried out (Turner et al., 2012).

Bieider and Bourrier, (2013) suggested that safety management practices were crucial features for a modern firm to function. Safety management practices were meant to decrease the nervousness of newness and uncertainty. The study believed that fatigue and exhaustion were created by constantly facing unexpected events. Therefore safety management practices have been designed to provide progress in preventing mistakes from recurring. However, Bieider and Bourrier (2013) were critical of the intensive use of procedures nowadays due to fact that it has created a threat to new improvement in safety management practices.

Bieider and Bourrier (2013) said that there was a need to reconsider the path that hazardous industries have chosen regarding their safety management compliance. This consideration was based on the effectiveness of the safety practice compared to the safety level that has been achieved by the organization today. According to them it has been observed that when it comes to safety there is a resistance or incompliance with the range of norms, procedures and processes.

Bieider and Bourrier (2013) encouraged organizations not to be against these norms, but re-evaluate how far these procedures could go and to what outcome. Bieider and Bourrier (2013) believed that the mistake that was commonly made by organizations was to setup safety management practices within rules.

Bieider and Bourrier (2013) have also challenged safety myths to provide organizations with an alternative view when it comes to safety management compliance. Safety myths were developed based on the perceived frequency of and possible impact on safety. The first common safety myth was the assumption that the biggest single root cause of accidents and incidents was human error, despite the fact that the number accidents has been reduced by improving the equipment and method for the particular task. Physical accidents have decreased, but the assumption that human error was the main cause still exists.

The second safety myth researched by Bieider and Bourrier, (2013) was where workers complied with the procedures that were taught to them, the system would be safe. The study agreed that procedures were important references on how to undertake a given task. They are effective where workers have less experience and are not familiar with task, but the challenge with the procedures is that the nature, magnitude and complexity vary as the task becomes more complicated, hence compliance with safety procedure is important but fatigue can contribute to accidents.

The study introduced a different view when it came to procedure compliance. It suggested that since actual working conditions fluctuate from what procedures were assumed, to enforce employee compliance would have a negative impact on safety and efficiency. These contributors must be taken into consideration carefully in the development and implementation of the procedure.

Bieider and Bourrier (2013) assumed that organizations that increase in the barriers and protection would lead to advanced safety or improvement in safety. The relationship between the exposure to the risk and protection was more complicated according the Bieider and Bourrier (2013).

The Fourth myth was that the logical and rational facts of the causes of accidents were identified in the investigation of accidents. Research suggests that the investigation should be a tool to construct causes of an accident than found the cause (Bieider and Bourrier, 2013).

2.7.3.2   Employees Work in a Safe Manner

Risk has been referred to as any doubt about an event that lessens the organizations capability to achieve its vision. According to Curtis (2007) hazard risk in early models such as the dynamics of accidents model and Accident Matrix model had their focus on negative causative factors and showed how to react to the accidents after they had happened, but failed to provide solutions to be proactive. Aebi (2011) suggested that a holistic model would be a risk assessment and risk management model that can provide programme to management and employees which covers both the positive and negative needs (Aebi, 2011).

According to Aven (2016), risk can be studied in two ways, when the researcher looks at risk assessment and risk management in the operation of any business. The first is focusing on a specific task and the second concerns whether the researcher wants to develop risk based on concepts, principles, framework for understanding, assessments, and communication, in a bigger sense. The situation may arise where, instead of risk assessment and risk management, the focus is on the current operation of the business and is relevant to that operation, thus giving a sense of a wider framework for the concept where it appears that employee actions are not related to the current situation.

Aven (2016) also suggested that hazard risk assessment that is associated with task performance contributes an important part in developing the safety management system. However the author also suggested that the hazard risk assessment theoreitically and in practice relies on the pespectives and basic principles that are developing which may mislead the people who make decisions. There are a number of contributors to the complexity of risk assessment such as society, technology, and emerging risks.

Santos (2002) argued that most of the studies of the firefighting department focused more on technical aspects and on the immediate cause of the accident. Creswell (2013) suggested that the focus should be on the safety management system and should measure the effectiveness of the existing SMS and look at a model for maintaining the fire risks within an acceptable range.

What these researchers have shown in their studies is that any conducted task has risks that are associated with it which may affect the performance of the individual or group. Since the tasks change and the risk changes with specific tasks, it is therefore essential that the safety management system should be adaptable to that environment if it is institutionalize programmes, processes and procedure, and it might not be relevant as the time changes, or as technology and the societal environment changes.

2.7.4 Objective 4: Safety Training programme and Communication

2.7.4.1 Safety Training Programme

Kamardeen, (2009) stated that an example of not wearing personal protective equipment on site may be triggered by negative behaviour and attitudes of employees. Therefore it is critical to have formal training and on job training for workers to address issues such as safe working behaviour and practices, correct ability to check tools and equipment and how to used them safely, thus creating a culture of good housekeeping, emergency preparedness and ability to communicate hazards that relate to work with co-workers.

Berghaus (2010) suggested that there was a difference between standard safety training and instructional type of training and training that is based on safety behaviour or on- the-job training. Safety training is especial beneficial to inexperienced young employees.

This type of training uses an approach to instil correct safety behaviour, encourage safety practices, promote an active knowledge approach and give feedback about incorrect behaviour and attitudes at same time something happened. The standard training presents occupational safety basic knowledge in the classroom with printed materials, videos and discussions to identify and correct the attitude of learners towards safety. It is a formal set up of occupational safety training (Berghaus, 2010).

Degas (2010) suggested that safety training nourishes the knowledge and capability to adapt rules in diverse situations. Safety training has been designed to provide knowledge of the safety management practices of the organization and stay reliant on written safety rules. It is a tool to balance the normal operations within the

organization. It creates a platform to demonstrate or simulate how accidents occur and how people tend to violations safety rules.

Degas (2010) also suggested that every operator comes across situation where he or she face unpredicted multiple failures, but training helps operator to adapt in emergence situations. The training could be structured in two categories: formal and refresher. The formal focused on all employees to make them familiar with safety management practices of the organization whereas the refresher was meant for experience employees to continue to improve their knowledge and understanding.

According to Hale and Borys (2013), there are key elements in any safety training to consider for training to be efficient. 1) Observe and analyse violations to understand view of the operators. 2) Examine or scrutinize violation potential. 3) Review equipment that is meant to support the safety practices and to eliminate violation. 4) Revise the criteria to design procedure and processes. 5) Engage the workforce in the revision of safety procedures. 6) Retraining of the workforce must commence since procedure has been revised and new risk perception have been adopted. 7) Encourage learning and promoting a culture of compliance, and 8) Procedures should be enforced where appropriate.

Hale and Borys, (2013), also suggested that communication was one of the ways used to increase awareness and emphasize the importance of working safely, and to share the information about the safety training presented by the organization. The trends of accidents and near misses can also be communicated to establish an immediate solution.

Any changes in the safety rules or any revised safety practices and potential hazards such as red area if any, can be shared with employees used credible communication tools(emails, printed media and new digital media such as social media for example blogs, Facebook, Twitter and SAP (Hale and Borys, 2013).

Auyong, Zailani and Surienty, (2016) conducted a study for the Malaysian logistic sector that was confronted by the problem of accident and illness of the workers. This problem had opened a gap to investigate the safety management practices and force the government to intervene in the Occupational Safety and Health (OSH) of

the sector. The study was aimed at the perception of employees of safety management practices. The objective of the study was to determine the influence of training and communication on safety management.

Auyong et al. (2016) stated that their findings showed that the management of the organizations in the logistic sectors made the safety the first priority and the fire apparatus was rated high in the industry as a whole. The employees also strongly agreed to the occupation safety and health policy of the logistic sector. The challenge that was found common in the industry was the training. The workers that were high in the accident statistics were untrained compare to trained workers. It was the found that training provided employees with competence and the ability to assess the risks related to the task.

The study emphasized that a clear safety policy and more training for the workers created a sense of control in employees for their own safety. The limitation of the study was that the response rate was low and results may not be generalizable (Auyong, et al., 2016).

Vidal-Gomel (2017) carried out a study that was explored role training could contribute in prevention of the occupational risk in the organization. The study compared training that was based on safety regulations or recommended by the safety rulebooks and procedures and training that was based on safety management knowledge and experiences of the operators. According to the study training was noticeable as an important issue in the prevention of occupational risk and it was an essential factor in improving workplace health and safety.

Vidal-Gomel, (2017) also found that training that was based on experience was more effective in helping to prevent risks. This type of approach helps organizations to shift from a technical and behavioural approach to an activity analysis approach. The gap in this approach was that not every skilled operator understood every diverse risk of the job whereas the implementation of safety rules in a task depended on the operator's analysis, decisions and identifying constraints.

Isiadinso (2015) suggested that the BP incident in the City refinery in the USA that resulted in 15 fatalities and 150 injuries was the result of poor communication and a

lack of training as well as factors such as mechanical, processes and human error. Poor communication and training contributed to this incident; as much as other factors.

Poor communication could cause the operator to leave a valve closed while it was pumping liquid from the other side for three hours. There was no outflow which built up liquid in the tower. This led to the disaster. Isiadinso, (2015) found out that the workers were not adequately trained. The workers did not know the evacuation procedure in case of emergency and how they should protect themselves in case of fire (Isiadinso, 2015).Since lost time injuries and fatalities exist in the workplace there is still an opportunity for an organization to communicate more and train workers

2.7.4.2   Safety Communication

Beider and Bourrier (2013) suggested that safety management practices are crucial features for a modern firm to function. According to Brown and Harvey (2011), in the modern organization development the essential unwritten agreement between the employees and organization is an open-door policy. This means communication within the organization is not only a top down but also bottom-up, a two-way communications. Vinodkumar (2011) carried out a study in hazardous chemical firm to investigate the interrelationship of safety management practices and safety performance. The study was based on the management system certification of employees.

According to Vinodkumar (2011) there was a significant difference between employees that were trained on OHSAS 18001 and ISO 9001 but not certified compared to the employees that were trained and certified. The study showed that the safety behaviour was better in employees that were certified, who understood the safety practice or code and were highly compliant with the safe working procedures of the organization (Wachter and Yorio, 2014).

2.8 Conclusion

2.8.1 Management Commitment (MC)

The lack of management commitment to make safety a priority is being a common cause of accidents and fatality of workers. Managers and supervisors have been criticized for not making safety equally important as production and acting quickly when reporting near miss. A management show of interest in the safety of workers and safety meetings attendance had been a common pattern for management commitment to safety (Ackland, 2010).

2.8.2 Enforcement of Safety Practices and Codes

Isiadinso (2015) said that nine percent of incidents which occurred in the industry were caused mainly by not following the proper procedure and poor implementation of the safety management system the organization had established. The main reason that was pin-pointed came down to safety conduct or the lack of enforcement of safe practices and codes.

Previous studies suggested that safety knowledge had become better over a period of time. Organizations had improved safety database, capture of safety documents, secure expertise and skilled workforce, and instil the culture and ability to learn. Choudhry et al., (2008) suggested that a team-talk meeting was a very important tool to identify factors that could impact execution negatively from a safety point of view.

2.8.3 Equipment Complies with Safe Working Practice

The study suggested that equipment compliance with safe working practice was not the only factor employees should consider. The essential elements with which the employee should be equipped included capability to identify hazards for an activity, ability to implement controls for the project team such as compliance with construction practices, the use of personal protective equipment, systems of permit-to-work, and systems of housekeeping.

2.8.4 Safety Training and Communication

Kamardeen (2009) suggested that accidents occurred due to poor attitudes and unsafe working behaviour which was very hard to monitor and control. There was a critical need to have formal training and on-the-job training for workers to address issues like safe working behaviour and practices. Safety training had been taken as an approach to correct safety behaviour, encourage safety practices, and communicate active knowledge and feedback concerning incorrect behaviour and attitude at the same time.

The literature review indicated and described in detail the frailty and core sense of safety management practices and showed the existing plan based on the research objective to provide solutions to deal with the phenomenon. It highlighted the comparable framework research objectives of the safety management practices such as management commitment, safety practice and codes, equipment compliance with safe working practice and safety training and communication. Chapter three presents the research methodology.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methodology adopted to investigate the perceptions or insights of employees concerning safety management practices in the electricity industry at Eskom in KwaZulu-Natal's Pietermaritzburg Operating Unit as case study. The study contributes to Eskom as an organization to address the issue. Data was analysed using thematic analysis to build a logical understanding.

3.2 Research Objectives – The aims of this study were:

- To investigate management commitment to safety management;

- To assess whether safety practices or codes were enforced;

- To find out whether employees believed that equipment compliance with safety codes and safe working practices contributed to a safer environment; and

- To look at whether safety training and communication contribute to improved safety management at Eskom.

3.3 Study Site

This research was conducted with both office and field based employees of diverse distribution structures in the Pietermaritzburg area in KwaZulu-Natal (KZN-OU) (Mkondeni, Howick, Cato Ridge, Edendale, Inchanga and Richmond) operations and maintenance and asset creation departments of Eskom. Asset Creation is the department which focuses on the expansion of the organizations resources whereas Operations and Maintenance looks on the daily basis work operation of the organization. These sites were chosen because they fell within cluster six of KZN-OU. This selection was done purposely to find the views of employees that had directly or indirectly been exposed to accidents and incidents occurring at Eskom.

3.4 Research Approach

According to Kalof, Dan and Dietz (2008) research has two approaches, namely qualitative and quantitative. The combination of both approaches is recognised as mixed methodology research, its function is to respond to the research enquiries that cannot be answered by qualitative or quantitative approaches alone. It focuses on collecting, analysing and combining both quantitative and qualitative data (Creswell, 2013).

A quantitative approach is established on the usage of numerical or statistical data whereas qualitative approach is not principally based on numerical data (Babbie, 2013; Creswell, Plano-Clark, Gutmann and Hanson, 2003; Kalof et al., 2008; King, Keohane and Verba, 1994). A quantitative approach is an objective method of investigating via the exploration of the relationship between measurable variables (Creswell, 2013).

Creswell, (2013) also suggested that the qualitative approach observes the perceptions of an individual or group of individuals attach to a certain issue and the process of qualitative research is usually interactive, using interviews to collect data from participant's in a normal working situation.

Tewksbury, (2009) suggested that qualitative research attempts to find in-depth, detailed information which, although not widely generalizable, explores phenomenon and its context, clarifying what, how, when, where and by and among whom behaviours and processes operate while unfolding in explicit detail the contours and changing aspects of people, places, actions and interactions.

Creswell (2013) says that the distinction between qualitative research and quantitative research is outlined in terms of using words for qualitative rather than numbers and for quantitative using closed-ended questions or quantitative hypotheses rather than open-ended questions or qualitative interview questions.

The image shows the Research Onion with concentric circles labeled from outside in: Postivism, Deductive, Experiment, Survey, Cross Sectional, Case study, Sampling, Secondary data, Observation, Interviews, Questionnaires, Grounded Theory, Longitidunal, Ethnography, Action research, Inductive, Interpretivism, Realism. The right-side labels point to: Research philosophy, Research approaches, Research strategies, Time horizons, Data collection methods.

Figure 3. 1: The Research Onion

Source: Saunders et al., 2009

The research onion has been used to explain and illustrate the research methodology for this study and how the framework is adopted. Qualitative research is an inductive process, this research was an action research to investigate employee views on safety management at Eskom (KZN-OU) and as such no new model was developed. Instead recommendations were made to improve the Eskom safety management practice specific to the KZN-OU.

3.5 Theoretical and Empirical Research

Bhattacherjee (2012) calls scientific research a generalized or widespread body of laws and theories that explore the issue or behaviour of interest which is attained or assimilated using the scientific approach. Research that does not contribute to the scientific fraternity and does not follow the scientific approach to examine the phenomenon is not recognized as research (Bhattacherjee, 2012).

According to Creswell (2013) science is a systematic and ordered frame of knowledge in any area of investigation which is an acquired using the scientific approach. There are three types of scientific method the investigator is guided by. First is exploratory research, meaning the inquiry is aimed at exploring the magnitude of the issue in order to lay the foundation of extensive research about the problem. The second type of scientific research is descriptive, meaning it is based on comprehensive documentation and cautious observation of the issue. The third type of scientific research is explanatory meaning the research is trying to connect the dots of the issue (Bryman and Bell, 2015).

The inquiries of science may take different forms such as inductive research where the aim of the investigator is to infer theoretical perceptions and model from observed data and deductive research where the aim of the investigator is to test concepts and model known from theory using new empirical data (Hair, Celsi, Money, Samouel and Page, 2015).

The research technique is the tool that allows the investigator to test the existing theories before the study is subject to discussion, findings and modifications. The qualitative study was intended to meet these following characteristics:

- Replicability, meaning the perspective of KZN-OU employees about safety management must be able to be repeated in a scientific study or be able to obtain undistinguishable or the same results.

- Precision, meaning other research must be able to use the same measurements for safety management practices as Eskom and concepts to test same theory.

- Falsifiability, meaning the knowledge must be tested and,

- Parsimony, meaning the multiple explanations must be logical and simple (Yin, 2014).

This may be seen in Figure 3.1. This chapter presents the understanding why the research used a particular method to collect data (Bichler, 2006). Bhattacherjee, (2012) provided clarification as to why this methodology was chosen to gather the primary data.
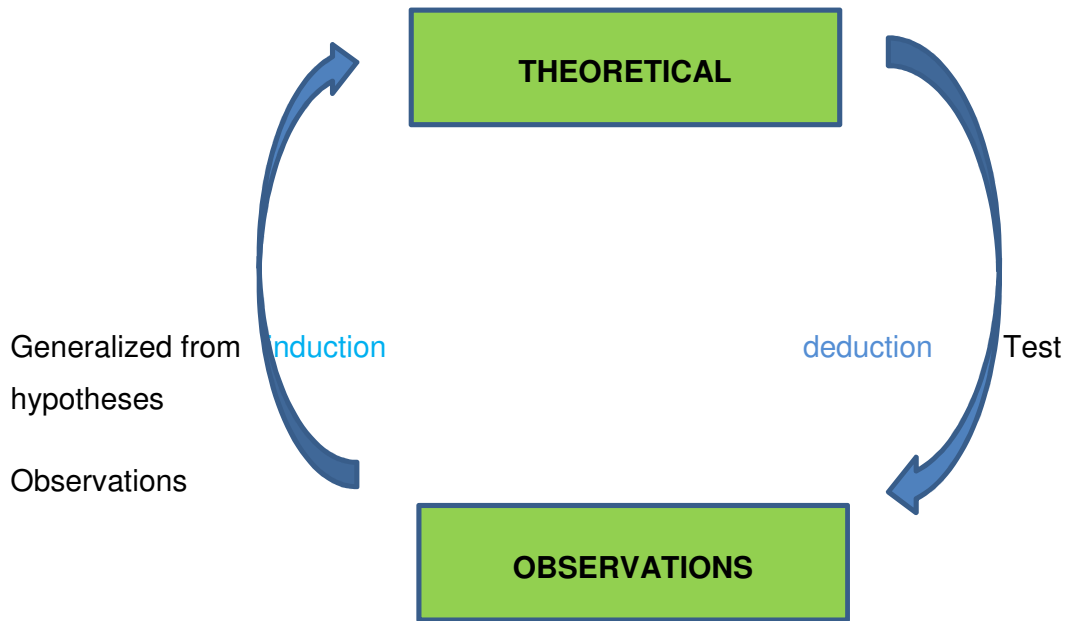
Figure 3. 2: The Research Cycle

Source: *Bichler (2006).*

3.6 Adopted Research

The exploratory and the nature of the study required information from individuals in order to understand the context of the problem, causes of the accidents, incidents and fatalities at Eskom. Therefore this research adopted a qualitative approach since the nature of the investigation defined which approach was appropriate to the issues confronting the business (Edmonds and Kennedy, 2017).

3.7 Research Paradigm

The research paradigm is the scientist's philosophy or agreements that were used to understand or addressed the issue. The paradigm says the group has different views about the cause of the issue and whether the factors related to a particular problem could face a business or the community. A research paradigm is referred to as a particular mind-set concerning how the research organized and perceived using references to shape a certain belief system or model. The research paradigm includes functionalism, interpretivism, radical humanism and radical structuralism (Bertram and Christiansen, 2014).

The functionalist paradigm is an objective approach. It means the study is independent from the researcher who is conducting the survey, whereas an interpretivist approach is a qualitative research, aimed at eliciting in-depth responses. Radical structuralism is an objective approach to understanding and enacting change, whereas radical humanism is referred to as a subjective perspective of the participants of a social issue (Bhattahcerjee, 2012). The paradigm is vital in making logical sense and integrating differences in employee perceptions and understanding the problem facing the organization.

Reeves and Hedberg (2003) suggested that the interpretivist paradigm emphasized the analysis within a setting in order to understand the problem as it was from subjective experience of the employees in the context. The paradigm is meaning-oriented rather than a measurement-oriented worldview. It uses interviews, with interaction between the researcher and participants. It focuses on human reasoning and aims at giving explanation to their subjective underlying reasons and the meanings behind their social action rather than pre-empting the variables (Kaplan and Maxwell, 1994).

This research adopted an interpretivist paradigm. The reason for adopting this paradigm was that it helps to understand the phenomenon in context by getting information from the relevant people (Reeves and Hedberg, 2003).

3.8 Research Design

Eriksson and Kovalainen (2015) referred research design as plan of the activities or the blueprint of gaining knowledge by answering questions that are specific to the investigation. The research design is a detailed plan that indicates the methods for the collection, analysis and interpretation of data (Sekaran and Bougie, 2016).

The research design sets the ethical considerations to minimize the interference in the study. The design evaluates whether the interference was minimal, moderate or excessive (Creswell, 2013). McMillan and Schumacher (2014) also stated research design is a framework that guides the selection of the study sites, the participants and the data collection processes (McMillan and Schumacher, 2014).

The research design for this research was a case study. This approach allows in-depth and multifaceted explorations of complex problem in their real-life backgrounds (Crowe, Creswell, Robertson, Huby, Avery and Sheikh, 2011). However Fraenkel, Wallen and Hyun (2011) stated that case studies vary follows:

- An intrinsic case study which entails the study of a single, specific individual or situation most often in an exploratory study that seeks to have an in-depth understanding of a little known phenomenon

- An instrumental case study in which the researcher seeks to learn more than the particular case in order to gain broader understanding and to draw conclusions that are not narrowed to the case being studied.

- A multiple-case study in which more than one cases are studied as part of the same research project.

An exploratory design is used when not much is known about a situation or problem and the study seeks to understand the perception of safety management practice in a particular situation (Zikmund, Babin, Carr and Griffin, 2013). This research adopted the intrinsic case study research design, due to the fact that the study was exploratory and there is less known about the problem. This design assisted in finding the patterns and relationships influencing the safety management practice of Eskom in KwaZulu-Natal Operating Unit (KZN-OU).

The exploratory research design has helped to understand the problem of accident, incidents and fatalities better and how they affected the employee perception of the safety management practice in an electricity sector (Hair et al., 2015).

The selection of this research design was appropriate and significant (Yin, 2014). The study sought to identify safety related weaknesses at Eskom KZN-OU in order to make recommendations on how to resolve them and create a safer environment, (Bryman and Bell, 2015).

3.9 Research Population

The population has been referred as the entire group of people, events or things of interest that the researcher desires to investigate. It is the collection of units or people in a given area, at a given time, where a study is conducted (Trochim, 2006; Sekaran and Bougie, 2016).

This research was conducted at Eskom, KwaZulu-Natal Operating Unit which is a unit of analysis (Yin, 2014). The population was selected from among the Eskom employees who included field and office base employees from the departments of asset creation, operations and maintenance in the Pietermaritzburg Area.

The research explored the views of employees about the safety management practices at the KZN-OU. The accidents, incidents and fatalities at Eskom have defined the population departments to focus on as much as the study did not exclude office-based employees. According to Eskom accident's report (2017) and Eskom Contractor Management Analysis YTD FY2017, vehicle incidents and falling from the same level have been highlighted as high causes of accidents at Eskom.

3.10 Sampling

The sample is the subset of the whole population that is investigated. Sampling is also referred to as a method of picking out a small percentage of the population to denote the target population. In quantitative research such sample needs to be representative of the population whereas in qualitative research that is not the case (Sekaran and Bougie, 2016).

In quantitative research features that are identified from the research may be generalisable to the entire population of interest; that is not so in qualitative research (Sekaran and Bougie 2016). The case study findings of this research are not generalizable to the entire population (Sekaran and Bougie, 2016).

Patton and Cochran (2002) suggested that the samples used in qualitative studies are generally purposive. This suggests that the participants are chosen based on their knowledge, exposure and experience of the particular data which is required to achieve the study objectives.

3.10.1 Sampling Method

The sampling method is referred as technique in which the investigator selects the right elements from the population in satisfactory numbers to allow a researcher to study their properties. The sample must be chosen in such way that properties can be generalized from the sample to the population (Sekaran and Bougie, 2016).

Non-probability sampling has different types of sampling such as snowball sampling, self-sampling, purposive sampling, convenience sampling and quota sampling. Purposive sampling is referred as the sampling that depends on the researcher's judgement to understand the depth of the issue within the organization.

It enables the researcher to apply judgment to select a sample that could answer the research questions and objectives satisfactorily (Saunders, Lewis and Thornhill, 2009). The sampling process may be seen in Figure 3.2.
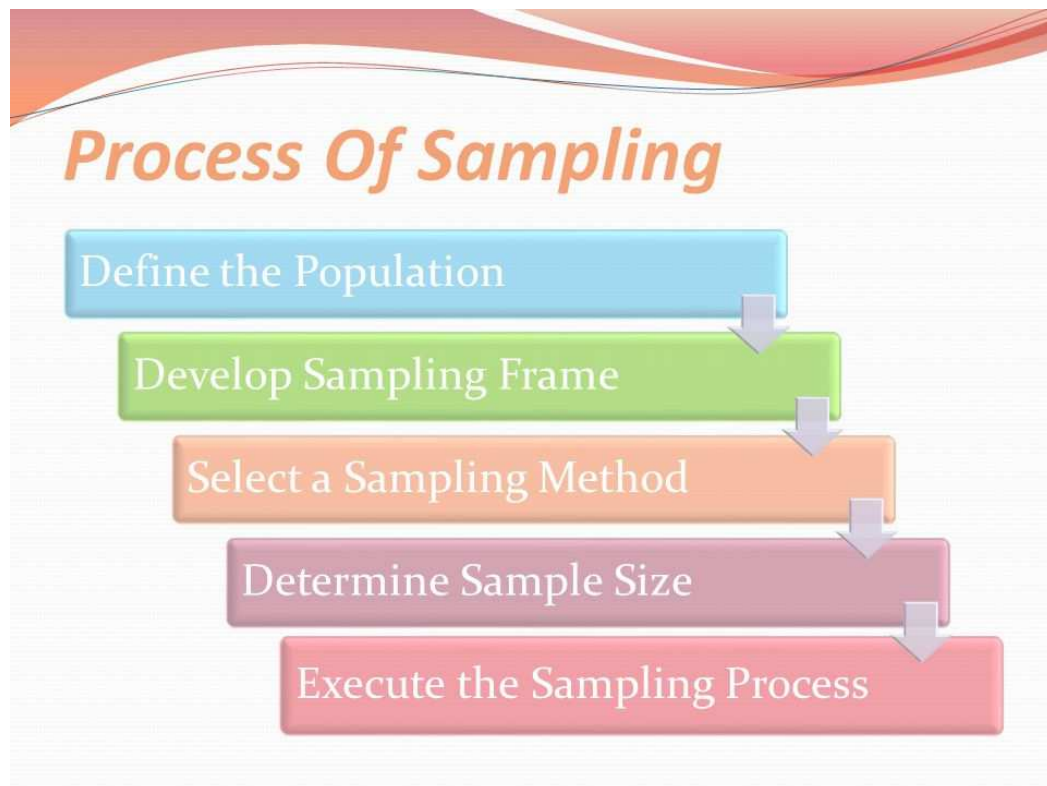
Figure 3. 3: Sampling Process the Research Adopted

Source: Saunders et al. (2009)

For this research, the non-probability sampling method using purposive sampling was used. This means that members of the population did not have an equal chance of being selected since the selection was based on the judgement of the investigator. The people were selected based on their know-how to provide the information that was needed to gain insight into the problem (Saunders et al., 2009).

3.10.2 Sample Size

Qualitative research generally uses a small sample size. The researcher can continue with interviewing people to ensure the sample is large enough until there is no new information that can be provided (Patton and Cochran, 2002). The sample size for this study was chosen based on these reasons, to make sure that sample was large enough and selected so that findings could be generalised, at the same time the sample was not too big to make data analysis too complex (Saunders et al., 2009).

Though it is common to have a sample of 16 or fewer in qualitative research, the sample size for this research was chosen believing that interviewing a larger sample had merit given that two separate sections were assessed. Unlike qualitative research, if this had been a quantitative study the sample would have had to be larger to ensure generalisation was possible (Sekaran and Bougie, 2016). A formal application was made to departments that are knowledgeable about the causes of accidents, incidents and fatalities.

The sample classified employees across the range of Pietermaritzburg area. Table 3.1 shows the population and sample size of thirty-five. However, only twenty eighty of the targeted thirty-five participated.

Table 3. 1: Actual Sample Departments and Participants

Departments at Pietermaritzburg Interviewed	Population	Sample
Protection Revenue (DP1)	10	3
Primary Plant Maintenance (DP2)	16	7
Control Plant Maintenance (DP3)	10	4
Cato ridge CNC (DP4)	11	3
Workshop and Test & Cables (DP5)	25	6
Edendale CNC (DP6)	14	2
Howick CNC DP7	8	3

3.11   Construction of Interview Schedule

The interview schedule was constructed to elicit data concerning the objectives of the study. Questions were developed for each objective and were modified once the literature review had been undertaken.

The interviews with open-ended questions were constructed linked to the objectives of the research (Gupta, 1981). Semi-structured in-depth interviews were used to collect the required data. An interview guide consisting of questions based on a list of themes that the research required to explore was used to direct the discussion. A qualitative study needs to consider these four criteria of credibility, trustworthiness, transferability, dependability and conformability, according to Gupta, (1981) which is cited in Nieuwenhuis, (2016).

3.12   Pilot Study

A pilot study was undertaken in order to determine face validity and thus whether questions were relevant (Sekaran and Bougie, 2016). The pilot study was conducted on three individuals. It helped to time-manage the interview process and to establish face validity, which is a weak form of validity, but it confirmed that the questions were related to the objectives.   The pilot study also checked to determine if questions were vague or unclear. This process also provided a learning experience in terms of

how to interview effectively (Patton and Cochran, 2002). The interviews schedule was found to be appropriate and no changes were made.

3.13   Data Collection

The initial data were gathered from studying documents that explained the safety management practice of Eskom such as safety, health, environment and quality (Eskom SHEQ) policy (2017). The data were also collected from the sources such internet, academic papers that talk about the subject and look also specifically at the legislative and requirements that Eskom subscribes to when it comes to safety of employees from accidents, incidents and fatalities. This study used interviews (Appendix 5) for collecting primary data which was the main source of the information from the targeted population. The participants were directly involved in safety management practices and affected by accidents, incidents and fatalities directly or indirectly. The interviews were noted down and electronically recorded as a backup.

3.13.1 One on One Interviews

The interview schedule was designed to elicit responses for each objective. It consisted of organized questions and respondents were asked to elaborate on each response (Nieuwenhuis, 2016). The one on one interviews were conducted during the safety non-statutory meetings and morning safety talks and by individual appointment.

The interviews were done with the respect to their locations, meaning three participants in Protection Revenue were interviewed on 17th August 2018 individually, while primary plant maintenance staff were interviewed on the 12th and 13th August 2018. The control plant maintenance respondents were interviewed on the 28th of August 2018. Cato Ridge CNC staff were interviewed on 20th of August 2018 and workshop and Howick staff were interviewed 28th July 2018 and 3rd of August 2018 respectively. The average time taken for interviews was approximately 35 minutes per participant.

3.13.2 Focus Groups

Other data were collected from the focus group sessions which were conducted at Eskom sites (Saunders et al., 2009). The interviews were conducted one on one and focus groups from seven locations, namely protection revenue, primary plant maintenance, control plant maintenance, Cato Ridge customer network centre (CNC) workshop, test, cables, Edendale CNC and Howick CNC.

3.14   Data Analysis

Data analysis is referred as the process of looking over and interpreting the data that are collected with the aim of determining fitting information (Saunders et al., 2009). A content analysis was used to summarise the data collected from secondary data such as books, internet and articles. This qualitative content analysis approach assisted to reduce a broad spectrum of findings towards determining patterns and certain themes emerging (Sekaran and Bougie, 2016).

In this study, the primary data that were collected from interviewing of participants were analysed by using thematic analysis. Therefore the research adopted a thematic analysis technique to group themes strategically for the qualitative data (Saunders et al., 2009).

3.14.1 Phase 1: Familiarization with the Data

The initial phase is the phase of transcribing the data. This stage helped to made familiar with the data by reading and noting potential codes and ideas (Sekaran and Bougie, 2016).

3.14.2 Phase 2: Coding

In this phase has assisted on identifying essential items from the data to generate codes in a systematic fashion for re-curing patterns throughout the whole data set. These codes assisted in analysing data and to answering the research questions (Sekaran and Bougie, 2016).

3.14.3 Phase 3: Searching of Themes

This phase was interested in examining codes to ascertain themes or potential themes that were common in data collected from one participant to another (Sekaran and Bougie, 2016).

3.14.4 Phase 4: Reviewing Themes

The review themes process looked over, paired, checked, revised and expanded themes from the data set to decide whether they were substantial and related information to answer the research questions. This approach is consistent with the inductive approach (Sekaran and Bougie, 2016).

3.15   Limitations of the Study

A bigger scope for the study by undertaking this research at other units, may have yielded further information and would have been more scientific in that respect. The data attained were beneficial. The findings are not generalizable as it was a small scale qualitative study. However the findings have provided insights into how Eskom KZN-OU safety management practice has been perceived with respect to the number of accidents, incidents and fatalities (Mark, Phillip and Thornhill, 2009).

3.16   Ethical Considerations

The ethical considerations are concerns and risks in the study that were divulged to the participants before interviews commenced to ensure participants acknowledged their consent when the data were collected, captured, analysed and interpreted to identify the perceptions of the employees (Zikmund et al., 2013).

Ethical clearance was obtained from the University of KwaZulu-Natal Research Ethics Committee. The rights and freedom of those who participated in this study were protected (Appendix 1). The other significant part of ethical requirements was a gatekeeper letter (Appendix 3) which was obtained from Eskom who permitted the study to be conducted in the organization. The informed consent letter (Appendix 2) was also provided to participants prior to the interviews.

3.17   Conclusion

This chapter has described the research methodology that the study adopted. The interpretivist research paradigm was explained and chosen as a fundamental approach of the research. The research paradigm has shed light on and justified the adoption of the qualitative approach in this case study.

The research design guided the selection of the study sites, population and the process of collecting data. This chapter has shown how the research was planned and executed and what was done to ensure reliability and validity of data and ethical considerations. Chapter 4 presents and discusses the findings using narrative thematic analysis.

CHAPTER 4: PRESENTATION AND DISCUSSION OF FINDINGS

4.1 Introduction

This chapter comprises the presentation and discussion of data collected from interviews. The qualitative data have been organized, presented and discussed using figures and tables. The figures and table made ease to interpret data. This study has used qualitative content analysis approach to assist in reducing a broad spectrum of findings towards determining patterns and certain themes emerging (Sekaran and Bougie, 2016). The qualitative approach that was described in Chapter 3 guided data collection, interpretation and presentation in this Chapter. Qualitative results are presented by means of word clouds.

4.2 Recap of Research Aim and Objectives

The intent of this research focused especially to the perception of employees about the safety management practice at KZN-OU in Pietermaritzburg. The study aimed at gaining insight on how accidents, incidents and fatalities change perception of employees about the safety management practice of Eskom.

The research explored the perception of Eskom employees concerning safety management by looking at the knock-on effect of management commitment, enforcement of safety practice and codes, compliance with safe working practices and safety training to the challenge facing organization currently and how they contribute to the safety management practice. These objectives helped to guide the development of the research questions and how data were collected.

The four research questions were:

- How management commitments contribute to the safety management?

- How the safety practices or codes enforcement contribute safety management?

- How equipment compliance with safety codes and safe working practice contribute to a safer environment?

- How safety training and communication contribute to improved safety management at Eskom?

4.3 Presentation and Discussion of findings

The research findings have been presented using tables and figures for demographic data. The findings are presented based on the relationship to the research questions and objectives. The figures and table have detailed the qualitative approach; shorten the length of interviews in order to identify themes and patterns which are developed. The qualitative subjects have been analysed thematically and Wardle was used where appropriate to generated patterns.

4.3.1 Demographic Participants

The purpose of demographic inclusion was to identify whether themes and patterns would be develop irrespective of gender or age of the respondents from the qualitative open ended questions.

4.3.2 Age of Participants

Below is the table that provided the actual participants who participated in the interviews of this case at Eskom in the area of Pietermaritzburg. The table shows an even representation of participants from different age.

Table 4. 1: Age Participants

18-24	25-35	36-45	45-55	56+
3	9	8	6	2

4.3.3 Race of Participants

Table 4.2 shows the race of the participants.

Table 4. 2: Race of Participants

Blacks	Coloured	Indians	White

17	2	4	5

4.3.4 Gender of Participants

Figure 4.1 shows the gender distribution of the participants.

Genders of Participants

■ Female
■ Male
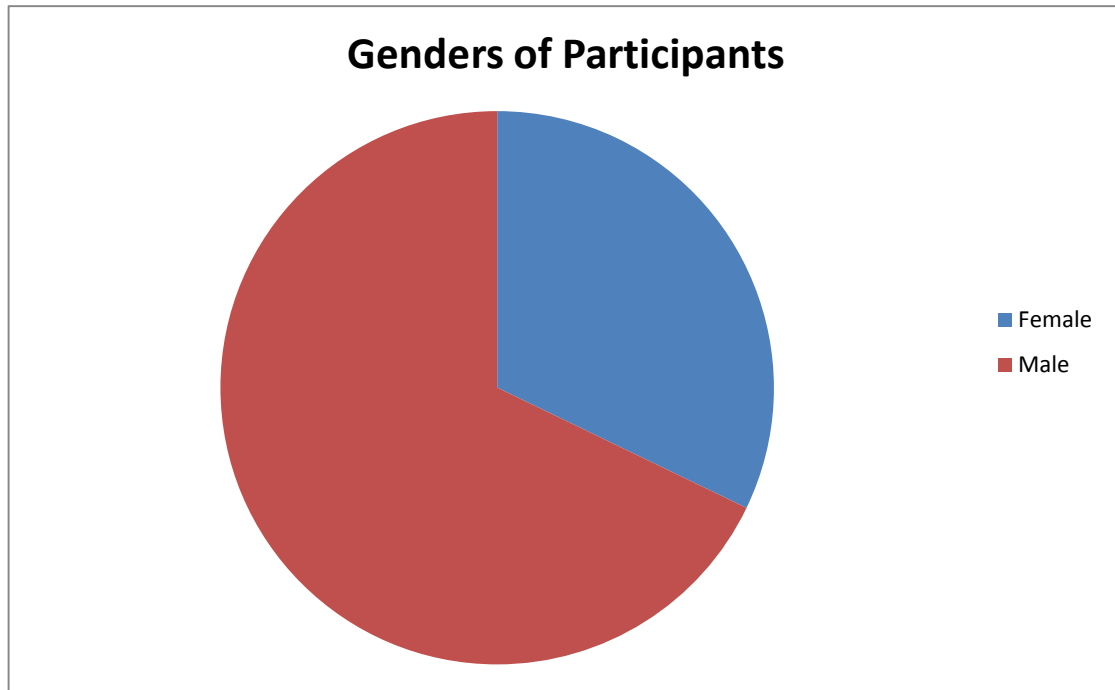
Figure 4. 1: Genders of Participants

4.3.5 Qualifications of Participants

Table 4.3 shows the qualifications of participants who participated in the study.

Table 4. 3: Qualifications of Participants

Certificates	Diploma	Degree	Honours/Master/PhD
8	10	8	2

4.4 Participants' Exposure to Field Work and Driving

Table 4.4 provided the hours worked per week and driving involvement of the participants who participated in this study.

Table 4. 4: Participants Exposure to Field Work and Driving

Departments at Pietermaritzburg	Average hours per week worked	Average hours of driving per week
Protection Revenue (DP1)	8	4
Primary Plant Maintenance(DP2)	25	10
Control Plant Maintenance (DP3)	35	15
HV Plant Department (DP4)	5	1
Workshop and Test & Cables (DP5)	35	13
Metering and Tele control (DP6)	25	11

The table above provides the detail of exposure of the participants in the field work and the experience they have in safety management practice of the organization. This has helped identify whether the participants can relate the accidents to the safety management practice of Eskom.

The Eskom accidents report (2017) suggested that accidents such as electrical contact and burns, falling objects, gunshot, exposure to bees, crushed and motor vehicle accidents were common accidents reoccurring at Eskom. The table assisted in ascertaining right technical field participants for this study. The majority of the participants were field based and there were highly exposed to 90 percent of accidents occurring within the organization.

4.5 Research Objective One: Management Commitment

Research question: Is the management make safety management practice priority, equal important as production and have interest at heart about the safe of Employees? Explain your answer.

Seventeen (17) participants disagreed with management commitment in the safety of employees and Eleven (11) agreed with making safety of the employees as first priority.

Figure 4. 2: Perception about Management Commitment

Figure 4.2 shows management commitment and the perception of employees about the safety management practice of Eskom. Wordle (2014) was used to generate the above word cloud which identified themes or patterns from the data.

The reasons that made employees feel the management was not committed to their safety:

▪ Employees felt that their safety was not taken to be equally important as restoration of supply in many cases. This trend has been observed more when the breakdown of electricity supply involved commercial customers.

▪ Management tended to focus more on the key performance index (KPI) than their safety.

▪ The response time to breakdown according to KPI is four hours irrespective of conditions on the road and electricity system route; this suggests that

management priority is their customers rather than safety conditions of the employees.

- The pressure employees experience to finish work during the breakdowns and maintenance even if they feel it not safe, gives impression to the employees that management have their interest at heart about their safety but not equally important as production.

- The near-miss reports had reduced since management suggests that all employees were in near-miss should be breathalysed for alcohol. They feel their colleagues were victimized by management.

The lack of commitment of management to the safety management practice has raised concern. The employee is second concern was the number of accidents at Eskom is still too far high. Employees felt lack of commitment contributed much more to the high number of accidents. Safety conditions have been highlighted as negative factor in the safety management practice of the organisation. Zhang et al., (2017) suggested that management attitude towards safety management practice could be reflected by the number of accidents, incidents and fatalities recurring within the company. Safety performance indicates whether the safety is equally important as production and contributes in the employee's perception about the safety management practice of the organization.

The third factor that the management commitment in terms or the perception of employees was negative, The work pressure employees experienced to finish work during breakdowns and maintenance, even if they felt it was not safe, gave the impression to the employees that their safety was not important as work.

Management commitment has been acknowledged as a significant measure for safety climate, employee's perception about the manager's behaviour and attitude towards safety (Pinion, Brewer, Douphrate, Whitehead, Dellifraine, Taylor and Klyza, 2017). The perception of employees was formed due certain aspects of management commitment to the safety management practice of the organization. These aspects include actions, behaviour and communication (Flin, Mearns, O'connor and Bryden, 2000).

The near-miss reports had reduced since management suggested that all employees who were involved near-miss should be breathalysed for alcohol. They felt their colleagues were victimized by management. This decision had paralysed the ability of the management to respond more quickly to the potential accident before it happened due to the decreased reports of a near-miss. This pronouncement had created a feeling that management had no interest in the safety of workers.

Ackland (2010) referred to management commitment as management attitude, behaviour and culture towards safety management practices of any organization including Eskom.

4.6 Research Objective Two: Enforcement of Safety Practices and Codes

Are the safety codes and practice enforced? Explain your answer. The state of safety condition of Eskom is subject to the enforcement of codes and practice. Twenty participants agreed and eight disagreed. The perceptions of this may be seen below in Figure 4.3

Figure 4. 3: Perceptions about Enforcement of Practice

Based on the number of participants that agreed with the question of enforcements may give impression that Eskom has not challenges with accidents, incidents and fatalities, however Eskom accidents report, (2017) tells a different story.

When participants expressed their views regarding enforcement they still felt reporting an unsafe act is like reporting misbehaviour because of the inquiries, hearing and disciplinary process the employee is subjected to after that report. This code or practice by Eskom employees has been perceived as a negative barrier to reporting unsafe acts and allows management to respond quicker to the safety management practice. The enforcement is based on creating an environment that allows unsafe acts to be reported and dealing with unsafe conduct effectively. According to the participants, the thin line between enforcement of codes and practice has not been effective due to the number of unsafe acts happening during work.

Ackland (2010) argued that enforcement of safety management practice is far more than a checklist, forcing employees to compliance, it is a state of mind of the organization and how it priorities its codes and practice. The shift of companies from compliance with legislative requirements towards taking safety as their norms, beliefs and values has suggested the effective enforcement of codes and practice.

Turner et al., (2012) argued that safety violation was based on two factors, situational and routine. The difference between the two is that routine is based on individual and hypothesized to be effort related, whereas situational is organizationally based. However, enforcement of codes and practice is a significant aspect to influence the different types of violations of safety management practice.

Participants suggested that the decision by Eskom to have morning safety talks and post-work evaluation allowed employees to share their take in their safety for outages. The concern has been that attention focuses more on major accidents and the technical side of work while during the monthly safety meeting has a tendency to be optional.

4.7 Research Objective Three: Equipment Compliance to Safe Working Practice

Is equipment complying with the safe working practice? Explain your answer. Twenty two participants agreed and six participants disagreed. The perception of equipment compliance and safe working practice may be seen in Figure 4.4

Figure 4. 4: Perceptions About Equipment Compliance with Safety Practice

Eskom provides insulated tools to ensure workers are safe. Test sets and equipment were always required to be calibrated and assessed prior to use or performance of a task. It was observed that employees did not follow safety procedures when time was limited. Procedures were too long and the company was against short cuts. Steps for safety procedure were sometimes omitted to save time.

Kamardeen, (2009) provided an example of not wearing personal protective equipment on site may be triggered by negative behaviour and attitudes of employees. Therefore it is critical to have formal training and on job training for workers to address issues such as safe working behaviour and practices, correct ability to check tools and equipment and how to used them safely, thus creating a culture of good housekeeping, emergency preparedness and ability to communicate hazards that relate to work with co-workers.

According to participants the practices are designed to provide progress in preventing mistakes from recurring. The scheduled work was observed as better work to plan for compared to fault breakdowns because it has a detailed scope of work and it was easy to prepare a safety procedure. Breakdowns by their nature were short in time to restore the supply or do work.

4.8 Research Objective Four: Safety Training and Communication

Does Eskom have a comprehensive safety training programme and how does Eskom communicate with employees? Explain your answer. Data showed all participants agreed that Eskom provides adequate training for new workers. Safety talks and safety meetings before work commence encouraged open communication about safe. Perceptions about the safety training programme and communication may be seen in Figure 4.5.

Figure 4. 5: Perceptions about Safety Training Programme and Communication

Eskom provides comprehensive safety training which includes medical fitness, and certifies employees who have been selected, trained, tested, and found competent

during training. The organization made it the responsibility of each employee to check the expiring date for his or her certificate. Retraining happens in every three years. The observation by the employees was that vehicle accidents were very high within the organization. It was noted that field employees spent approximately fifteen hours per week driving for Eskom. Bieider and Bourrier, (2013) suggested that safety management practices were meant to decrease the nervousness of newness, uncertainty and fatigue that was created by constant facing unexpected events.

4.9 Perception about Safety Management Practice

Figure 4.6 shows the patterns framework for safety management practice which included the factors that have effect such as management commitment, enforcement of practice or codes, equipment compliance with safe working practice, safety training programme and communication

Figure 4. 6: Perception about Safety Management Practice

Dahl, (2013) has stated that there is evidence in certain defining characteristics of the safety management which are considered as very significant such as having adequate understanding of safety codes and practices. Huang et al. (2006) argued safety climate is regarded as snapshot, management commitment, return to work

policies, post-accident administration and safety training to persuade state of safety in the organization at a specifically point in time. It also perceived as control of safety which enabled employees to self-report injuries.

4.10   Conclusion

The findings showed the employees' high negative perceptions of the factors such as management commitment to the safety of workers, and enforcement of practices and codes due to the approach the management has adopted when it came to safe conditions versa the restoration of supply. There was also a positive result in the equipment compliance, Safety training programme and communication Eskom provides for new recruits and current employees.

This research was aimed at understanding how accidents, incidents and fatalities influences the perception of employees about the safety management practice of Eskom, and the study offered the opportunity to looked closely at what Eskom had declared in public about their approach in the safety management practice in relation to what employees' views are in this matter. Eskom has openly declared its safety management as the foundation of its operations in its Annual report of 2014.

The KZN-OU according to accidents report, (2017) has continued to be confronted by the challenges of number of lost time injuries and fatalities in employees on duty. In the years 2016-2017 the KZN-OU has experienced an alarming increase of accidents which damaging to the perception of safety management practices. The study findings have suggested that the management commitment and enforcement of codes or practices have an impacted on the safety management practices of Eskom.

Chapter five presents the conclusion and recommendations in relation to each research objective.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the conclusions and recommendations in relation to each research objective based on the literature review and research findings.

5.2 Research Objective One:

Management commitment contributes to good safety management:

Literature Review Finding: Management commitment has been acknowledged as a significant measure for a good safety climate (Pinion et al., 2017). The perception of employees is formed due to management commitment to the safety management practice of the organization, these aspects includes actions, behaviour and communication (Flin et al., 2000).

An employee's feelings and beliefs could be aligned with the safety management practice but without commitment from the top-level management, the safety management practice is inevitable to failure at some point. When the top management committed that safety is their priorities, they must be trails of evidence that agrees with the position of the management (Chmiel et al., 2017).

Ackland, (2010) stated safety commitment could be easily be influence by production pressure which would affect the safety condition of the organization. The best safety practice for management to overcome the effect of production pressure would be designing schedules to optimize resources and implementation. It is necessary to act quickly when reporting a near miss and management should attend safety meetings to show an interest in the safety of workers.

Likewise, Hansez and Chmiel (2010) argued that empowered employees needed to make a safety assessment of the task and be able to make a decision about whether the work was safe or unsafe. This endorsement improved employee's confidence about the safety management practice of the organization.

Research Finding: The findings that make employees feel the management is not committed to their safety follow:

- Employees feel that their safety has not been deemed to be important; this trend has been observed more when the breakdown of electricity supply involved the commercial customers.

- Top-Management tends to focus more on the key performance index (KPI) than the safety programme.

- The pressure employees experience to finish work during breakdowns and maintenance work creates a situation where they feel it is not safe; it gives employees the impression that management has no interest in safety.

- The near-miss reports have reduced since management suggested that all employees in near-miss incidents should be breathalysed for alcohol. They feel their colleagues were victimized by management.

Conclusion: It was concluded that management need to show greater commitment to safety as it is an ever present issue in the minds of employees. This raised the question, of work control and work pressure impacting the perception of employees about management commitment to their safety as priority. Chmiel et al., (2017) suggested that the employee's perception about management commitment improves when the employees had more control in the input and output work and would be able to control safety aspects of the job. Employee opposition to breathalysers was noted and that runs contrary to their claiming that safety is important.

Recommendation: It is therefore recommended that management should create a balance between job control/urgency and providing a secure supply to the customer on one hand and in ensuring a safe work environment on the other hand. Management need to reinforce and reaffirm their commitment to safety even if there is the pressure of a time limit or a breakdown issue. This will give a sense of belonging to the employees, together with enthusiasm and a strong understanding of the supportive environment

Literature Review Finding: Turner, Stride, Carter, McCaughey and Carroll (2012) argued that safety violations are based on two factors, situational and routine. The difference between the two was that, routine was individual based and hypothesized to be effort related, whereas situational was organizationally based. Management

commitment was a significant aspect to influence the different types of violations of safety management practice.

Research Finding: In this research, the results from survey showed reduction of near-miss reports in Pietermaritzburg since management suggested that all employees who were in involved in a near-miss should be breathalysed for alcohol. The decision to insinuate that employees involved in a near-miss; might be under influence of alcohol resulted in employee opposition however safety is paramount and breathalysers being used to determine the cause of the near miss, are an essential tool. Staff cannot forever want management to create a safe work environment and then complain if management insist on breath analysis being done.

Conclusion: It was therefore concluded, based on literature findings, that safety management practices could be affected by both routine and situational violations. The research findings showed that the employees believed that the organization had a decreased interest in their safety. The management actions to breathalyse employees had a negative impact on the reporting of near-miss incidents but are a necessary tool and employees cannot expect to be irresponsible yet want a safe environment.

Recommendation: It is recommended to separate accidents that are caused by the situation from the routine violation or human error. This helps organisational to put control measures in correct place. There is a clear interrelationship between individual effort and situational or organization support. Employees valued a sense of belonging and perceived safety citizenship as an imperative factor in reducing safety violations..

5.3 Research Objective Two:

Whether safety practices or codes are enforced:

Literature Review Finding: Dahl, (2013) suggested that companies should commit in tackled challenges such as implementing codes and practice, follow up the previous incidents, reviews that predicts of hazards and prevents recurrence of accidents and put in place clear emergency plan. Robson, (2010) stated the safety management practice has developed base on an Occupational Health and Safety

Management System (OHSAS) to protect safety of employees, equipment and public, however managers and supervisors have a role and responsibility in the safety of the workers to establishing means to monitor, review and improve safety climate or management commitment in a continuous basis. They should improve the safety database, capture of safety documents, secure expertise and skilled workforce and instil a culture to learn and work safely.

Research Finding: It was observed that Eskom has insisted that employees minimize the chances of accidents and fatalities in the work place. These activities included pre-planning, safety meetings before work commenced, risk analysis, following the steps in the task manual, good housekeeping, and the use of personal protective equipment. These were identified as good safety management practice for Eskom from the interviews. Eskom has five codes that are meant to save life. These include: a) Open, isolate, test, earth-bond and insulate before touching; b) hook up at heights; c) Buckle up; d) Be sober and e) Permit to work. Eskom had enforced the safety lifesavings codes (Eskom integrated report, 2012).

However participants still feel reporting an unsafe act is like reporting misbehaviour because of the inquiries; hearing and disciplinary process the employee is subjected to after that report. To this end Eskom management need to lay down the law and ensure that employees are not hypocritical in demanding a safe environment and then wanting people to escape punishment if they are not sober. This code or practice by Eskom employee believed the platform to report unsafe act contradicted enforcement of codes and practice and it deprived management to respond quicker to the near-miss. Creating an environment that allows employees to report unsafe act is been a challenge and has escalated the number of unsafe acts occurred in the course of work.

Conclusion: Enforcement of safety management practice is far more than a checklist, forcing employees to compliance but it is a state of mind of the organization and how it priorities its codes and practice. The shift of companies from compliance of legislative has been a requirement towards taking safety as their norms, beliefs and values. It is concluded that safety working practices or codes are

as good as the safety knowledge of the workforce. An organization that has a solid safety knowledge base had a chance to lower the number of accidents and fatalities.

Recommendation: It is recommended that Eskom, like all other organizations, should learn to adapt or to have the ability to change in quick changing environment. Good safety practice states that accidents are supposed to be reported to clear the reporting system or structure, recorded and monitored. Eskom should also review its decision to withdraw incentives which were used for promoting safety working practice and open competition for safety reporting and awareness.

5.4 Research Objective Three

Equipment compliance with safe working codes and practice contribute to safer environment:

Literature Review Finding: Kamardeen, (2009) gave an example of not wearing personal protective equipment on site may be triggered by negative behaviour and attitudes of employees. Therefore it is critical to have formal training and on job training for workers to address issues such as safe working behaviour and practices, correct ability to check tools and equipment and how to used them safely, thus creating a culture of good housekeeping, emergency preparedness and ability to communicate hazards that relate to work with co-workers. The study also suggests that compliance with safety working practice has been a continuous challenge. There are a number of factors that contribute to a poor safe working practice such as working environment, continuous change of activities, constant workforce mix, site layout quickly changes, equipment and tools how they are used and safety knowledge.

Research Finding: This research found that safety morning talks and safety meetings before work commenced had created an environment where employees reported unsafe conditions in the equipment and requested new tools. Eskom has an inspection sheet for equipment and tools that the supervisor and employees used three months to check the condition of the tools.

The calibration and maintenance of measurement instruments was done annually. Eskom had provided insulation tools, face shields, high voltage insulation gloves and

leather gloves to be used with live apparatus and in confined spaces. However, the employees felt some of this equipment was not user-friendly. The negative feelings towards safety equipment compromised the compliance of employees with safe working practice.

Conclusion: It was concluded that safety management practice at Eskom had definitely been influenced by how and when equipment is calibrated and maintained to ensure the safe of the user. However safe working practice was based on the worker and whether he or she complied with the safe used of the issued equipment. This had been observed as a challenge to the organization due to a lack of near-miss reporting and a resilience of employees to report a near-miss.

Recommendation: It is recommended that management observe colleagues in on-the-job safety, as an effective tool to correct the employee behaviour. This would help to identify the need for training, enforcement of compliance and safe working practices of employees.

5.5 Research Objective Four

Safety training and communication contribute to improved safety management at Eskom.

Literature Review Finding: In the literature review Auyong et al., (2016) observed the Malaysian logistics sector which was confronted by the problem of accident and illness of the workers. This phenomenon triggered the investigation of the safety management practices of the industry and forced the government to intervene in the Occupational Safety and Health (OSH) of the sector. Industry was confronted the lack of the safety training. The accident statistics showed a high accident rate amongst staff with no or limited safety training compared to trained employees.

There was no doubt from these numbers that safety training was a high contributing factor to the failure of the safety management practice of the industry. It was observed that safety training had provided employees with competence and the ability to assess the risks related to task. All workers that were trained had a sense of control in their own safety.

Research Finding: It was found that Eskom provide a comprehensive safety training which included medical fitness and certification of employees, who were selected, trained, tested and found competent during safety training programme. The supervisors seemed to have been responsible for checking the expiring date for safety certificates.

However, on-the-job safety training had been identified as not of the same quality as formal safety training since it depended on the field person to train new employees. The programme was not formally organized as classroom training. It was observed that Eskom's retraining was occurred every three years. Vehicle accidents were high since defensive driving training had been cancelled by the organization. It had been observed that driving for Eskom took a lot of hours during week.

Conclusion: It was concluded that the ability of employee to be able to assess the risks related to the tasks was dependent on confidence, efficiency, competence and knowledge that came from safety training. Based on the study conducted by the logistics sector in Malaysia, the lack of safety training programmes has been a huge contributing factor to the failure of safety management practices. Therefore comprehensive safety training of employees has been observed as a critical factor in an influencing of safety management practice of the organization and in the control of employees of their own safety.

Recommendation: It is recommended that on-job training be the first tool recommended to be reviewed and rearranged. This tool was identified as an effective and efficient way to instil good safety management practice, especially in new employees. Safety training has to be monitored to prevent incorrect behaviour where it was perpetuated or learned from experience field personal.

5.6 Suggestions for Further Research at Eskom in all Operating Units

Future research could tackle the following research questions

- How does the interrelation between work pressure and safety management practice impact the safety goals of Eskom?

- How do, safety conditions influence the safety management practices of the Eskom?

- Does the lack of safety management practice enforcement contribute to the unsafe conditions of employees?

- How could Eskom create a friendly environment for employees to report near-misses without fear of disciplinary?

- Research could explore the relationship between the knock-on-effect of factors such as management commitment, enforcement of safety practice and codes, compliance with safe working practices and safety training to the challenge facing the organization and how this influences the safety management practices.

5.7 Concluding Remarks

This research demonstrates that the safety management at Eskom in Pietermaritzburg has factors that undermine the process of creating safe conditions.The research has identified issues that contribute to the accidents, These includes deficiencies in implementing codes and practice effectively, lack of follow up in the previous incidents, insufficient hazard review which predicts and prevents incidents and failure to prepare for emergencies.

These challenges also include work load, time allocated for certain outages and the maximum time giving to restore supply during a break down. The KPI drive by management even if working conditions were not safe had created perception to the employees that management is not committed to their safety. It seems there was a challenge for management to balance KPIs and safety management practice from the perspective of the employees.

Eskom has safety practices which gave rights to employee to refuse when the work was unsafe. The reluctance of management to enforce these practices has contributed negatively to the perception of employees about the safety management practices of Eskom's OU in KZN.

There is a need for management to look for a solution to overcome the effects of work pressure on the safety management practices of the organization. The solution would include the creation of a schedule designed to optimized resources to implement during breakdowns.

Safety training programmes and equipment compliance depend purely on management's commitment to creating safe conditions for workers. Safety outcomes have been linked to safety tools, comprehensive training for employees to improve confidence, skills and the ability to analyse the safety risk associated with the task, and competence.

This research has identified failings concerning employee safety at Eskom and has presented sound recommendations to address the failings. If implemented Eskom is likely to see an improvement in its safety record.

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APPENDICES

Appendix 1: Ethical Clearance

UNIVERSITY OF ™
KWAZULU-NATAL

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03 August 2018

Mr Sekelo Boxing-Day Nhlumayo (214582507)
School of Management, IT & Governance
Pietermaritzburg Campus

Dear Mr Nhlumayo,

Protocol reference number: HSS/0013/018M
Project Title: Employee's perceptions of Safety Management at Eskom, Pietermaritzburg

Approval Notification – Expedited Application

In response to your application received 20 December 2017, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted **FULL APPROVAL.**

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

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

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

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

Yours faithfully

Professor Shenuka Singh (Chair)

/ms

Cc Supervisor: Mr Alex Bozas
Cc Academic Leader Research: Professor Isabel Martins
Cc School Administrator: Ms Jessica Chetty

Appendix 2: Informed Consent

UKZN HUMANITIES AND SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE (HSSREC)

APPLICATION FOR ETHICS APPROVAL
For research with human participants

Information Sheet and Consent to Participate in Research

Date: 2.02.2018

Greetings,

My name is (Sekelo Boxing-Day Nhlumayo) from (**University of KwaZulu-Natal-PMB campus, Masters of Commerce, cell no: 0746476106, 0814180493 and Work no. 0333953996 and Email address. nhlums@gmail.com**)

You are being invited to consider participating in a study that involves research (**employee's perception of a safety management for Eskom at Pietermaritzburg**). The aim and purpose of this research is to (**Explore or understand employee perspective about the safety management of Eskom in Pietermaritzburg**). The study is expected to include (**30 participants in total, Inchanga, Catoridge, Mkhondeni and Edendale, 4 sites, and Pietermaritzburg Area**). It will involve the following procedures (**qualitative approach but using quantitative questionnaire known as Servqual**). The duration of your participation if you choose to participate and remain in the study is expected to be (**10-15min**). The study is funded by (**none applicable**).

The study may involve the following risks and/or discomforts (**Employees may be reluctant to respond to questions or May not able to supply responses required by the researcher**). We hope that the study will create the following benefits (**understanding what the cause the accidents in a perspective of employee and to determine influence management commitments has to safety management, to determine enforcement of practice and codes influence safety management and to determine influence of training and communication to safety management. To give a logical explanation through literate review why the safety management does or does not address the issue of accidents in the organization**). The researcher must disclose in full any appropriate alternative procedures and treatment etc. that may serve as possible alternate options to study participation.

If the research could potentially involve risk, explain in full if compensation exists for this risk, what medical and/or psychosocial interventions are available as treatment, and where additional information can be obtained.

This study has been ethically reviewed and approved by the UKZN Humanities and Social Sciences Research Ethics Committee (approval number **HSS/0013/018M**).

In the event of any problems or concerns/questions you may contact the researcher at (**0746476106 ©, 0814180493© and 0333953996(w)**) or the UKZN Humanities & Social Sciences Research Ethics Committee, contact details as follows:

Mrs. Mariette Snyman
Humanities and Social Science Ethics (HSSREC) Research Office,
Govan Mbeki Building, Westville Campus, Private Bag X54001, DURBAN 4000
Tel: 031 260 8350 Snymanm@ukzn.ac.za
Researcher: Sekelo Boxing-Day Nhlumayo (0746476106)
Supervisor: Mr. Alez Bozas (0823344477)

Appendix 3: Gate Keeper's Letter

Ⓔ Eskom

COVERING NOTE

Mr Mongezi Ntsokolo
Group Executive

SUBJECT· PERMISSION TO CONDUCT RESEAERCH

Signature from GE

COMMENTS: The topic and Objective of the research is attached on the form for Permission to conduct the research which required the GCE signature and below:

TOPIC. Employees perception of safety management for Eskom at Pietermaritzburg.

OBJCTIVES:

- To determine whether the practices or codes are enforced to influence the safety management.

- To determine whether the equipment compiles with safe working practices to safety management

- To determine how the training and communication influence the safety management.

- To determine how does the management commitment influence the safety management

The student will be doing research for Masters in Commerce and name is Sekelo Boxing-Day Nhlumayo from University Of KwaZulu-Natal.

From. Mr Lwazi Nzama
Line Manager CPM (Signature) . . . .
Distribution (Dx) KZN-OU

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2017 -11- 2 9
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PRDP: 03/11/2017/2

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ESKOM
No.1 PORTLAND ROAD
MKONDENI
3201

Appendix 4: Turnitin Report

Turnitin run on 2nd December 2019

Appendix 5: Editing Letter

C.A.T. Centre
Computer Assisted Teaching

www.catcentre.yolasite.com

Dr Noleen D Loubser

52 Steele Road
Pelham
Pietermaritzburg
3201

☎ 033 386 5305
☏ 084 831 7479

✉ noleen.work@gmail.com
✉ noleen@satweb.co.za

02 December 2019

CONFIRMATION OF EDITING

This is to confirm that I have formatted carried out a quick proofread (six hours) of the revised Masters dissertation of Sekelo Boxing-Day Nhlumayo, 214582507, titled EMPLOYEES' PERCEPTION OF SAFETY MANAGEMENT PRACTICE FOR ESKOM IN PIETERMARITZBURG. A thorough edit was not possible given the deadline required by Mr Nhlumayo and my own availability. Most of the work has of necessity been language editing.

Dr Noleen D Loubser
PhD Psychology (Witwatersrand)