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FACTORS INFLUENCING EMPLOYEE SAFETY IN THE WORKPLACE

by

URESEN NAIDOO

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Supervisor: DR RICA VILJOEN

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- The participants of this research study
ABSTRACT

Keywords: employee safety, safety culture, safety leadership

Leaders within organisations need to cope with a constantly changing business environment and increased competition for resources. In addition to this, organisations need to provide employees with a safety working environment to ensure zero harm to their employees and other stakeholders. There are various strategies that are implemented to prevent injuries to employees in the workplace, however there are numerous employees who are injured frequently across the world.

The purpose of this research study was to investigate the factors that influence employee safety in the workplace. A qualitative study was conducted at Company A, a South African petrochemical organisation. The research data was gathered for the study through the methodology of a case study, solicited documents from the organisation, and unstructured interviews. Content analysis was utilised by the researcher to analyse the data and identify themes that emerged from the unstructured interviews and solicited documents. The researcher also used descriptive statistics in the research study to highlight summaries of the key observations made and the data collected.

The following were identified as factors that influence employee safety in the workplace: a) Leadership b) Supervisor support c) Behaviour based safety d) Complacency e) Remuneration f) Job security g) Job attitude and satisfaction h) Hazards and risks i) Work pressure j) Planning k) Training and competency l) Respect m) External/Personal Factors and n) Communication. A conceptual model for workplace safety was developed from the identified themes and compared with the integrative model of workplace safety developed by Christian, Bradley, Wallace and Burke (2009). Limitations within the study were identified and recommendations were made for the organisation and for further research.
DECLARATION

I certify that the minor dissertation submitted by me for the degree Master’s of Commerce (Business Management) at the University of Johannesburg is my independent work and has not been submitted by me for a degree at another university.

Uresen Naidoo
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List of Abbreviations and Acronyms

BBS: Behaviour-Based Safety

IAEA: International Atomic Energy Agency

ICAO: International Civil Aviation Organisation

ILO: International Labour Organisation

JSE: Johannesburg Stock Exchange

OHSA: Occupational Health and Safety Act, no. 85 of 1996

STI: Short Term Incentive
Chapter 1: Introduction and Background to the Study

An organisation’s main objective is the creation of shareholder wealth. Leaders of organisations need to cope with an ever-changing business environment and increased competition for resources and market share. In addition to this, organisations need to provide employees with a safe working environment to ensure zero harm. Occupational health and safety are governed by the relevant regulations and acts pertaining to a specific country. In South Africa, the Department of Labour regulates safety in the workplace by virtue of the Occupational Health and Safety Act, no. 85 of 1996 (OHSA) and its applicable regulations. The duties of the employer include the provision of a safe working environment to employees without risk to their health (OSHA, 1996). This study focuses on exploring the factors that influence employee safety in the workplace at a South African petrochemical organisation.

According to Aksorn and Hadikusumo (2008), organisations can gain competitive advantage by having an improved image and reputation, and by preventing occupational injuries to employees. In addition to this, occupational injuries are a costly expense for organisations with the average cost being approximately R500 000 per case (Lebeau, Duguay & Boucher, 2014). Both direct and indirect costs are associated with accidents in the workplace (De Koster, Stam & Balk, 2011). Direct costs include medical costs, the costs associated with the loss of labour and other damage-related costs. The indirect costs include the damage to the company’s reputation and productivity costs. The South African Department of Labour administers a compensation fund that provides for compensation to employees who experience some form of disablement or disease while employed. According to Ramutloa (2016) a total of almost 900 000 compensation claims amounting to approximately R2.7 billion was paid out to injured and diseased workers during the 2011 financial year.

An operational unit within a South African petrochemical organisation has a multitude of safety measures and procedures in place to prevent injuries from occurring in the interest of personnel safety. During the 2017 financial year various incidents resulted in occupational injuries sustained by employees in the operational unit under research. The injured employees consisted of both company employees and service provider employees. Although various preventative measures are in place, the high incident rate points to a gap between the initiatives implemented by the organisation and the
requirements of employees to ensure that no injuries occur. In this study the researcher sought to investigate and analyse the factors which influence safety of employees in the South African petrochemical organisations’ business unit. Furthermore, the researcher explores the factors that influence employee safety in the workplace.

The following chapter provides a brief background to the study and key concepts regarding the theories associated with the research problem. The researcher then discusses the research problem, the aims and the research philosophy. This chapter concludes with the chapter outline that provides an overview of each chapter of the dissertation.

1.1 Background

The organisation where the research was conducted is a leading player in the petrochemical industry in South Africa, and is one of the top 40 companies listed on the Johannesburg Stock Exchange (JSE). In the organisation’s 2016 financial year, it paid R36.8 billion in direct and indirect taxes to the South African government (Company A, 2016). It is South Africa’s largest tax payer, and is an important role player for both the South African and African economies at large (Stevis, 2016).

The current poor performance of global economic growth affects the organisation negatively due to the lack of demand for commodities. This results in lower prices, and affects the organisation’s revenues and margins. The lower crude oil prices resulted in the organisation needing to sell its liquid fuels at lower prices as determined by South Africa’s basic fuel price. The volatile economic environment affected the organisation due to the declining demand for some products, and hence resulted in a lower return for shareholders (Company A, 2016). Response plans were implemented to reduce costs, and to enter a cost-conserving mode for improving the resilience of the company in the short term.

Safety is central to this petrochemical organisation as it is one of their core values. In addition, one of the immediate priorities of the organisation’s strategy for its 2017 financial year is: “To pursue zero harm to all Company A employees and service providers” (Company A, 2016:27). As part of the drive towards zero harm, supervisory and management personnel in the operations environment have safety listed as a key
performance indicator for their performance contracts. It is thus important to understand the factors that influence employee safety in the workplace and identify opportunities that can aid the organisation in its pursuit of zero harm to employees and service providers.

1.2 Key Concepts

Key concepts regarding safety in the workplace are discussed below.

1.2.1 Safety Culture

The term safety culture was initially used in the Chernobyl accident of 1986 and was defined as follows: “Safety culture is that assembly of characteristics and attitudes in organisations and individuals which establishes that, as an overriding priority, nuclear plant safety issues receive the attention warranted by their significance” (IAEA, 1991:1). Wiegmann, Zhang, Von Thaden, Sharma and Gibbons (2004) state that safety culture is a persistent trait of an organisation that is replicated in its stable way of addressing critical safety issues. This culture focuses on organisational support in terms of management commitment, the empowering of employees in terms of safety and recognition systems for safety behaviour. Patankar, Sabin, Salas and Maurino (2010:102) elaborated on this definition and generalised it by defining safety culture as: “A dynamically balanced, adaptable state resulting from the configuration of values, leadership strategies and attitudes that collectively impact safety performance at the individual, group and enterprise level.” A simpler definition of safety culture is: “Why we do what we do” (Patankar, 2012:5). This research utilises the definition by Patankar et al. (2010).

1.2.2 Safety Climate

A study by Zohar (1980) found that organisations with low levels of occupational accidents have senior management representatives who are involved in a routine way to enhance the safety climate in the organisations. Zohar (1980:96) defined safety climate as “a summary of molar perceptions that employees share about their work environment.” Research by Griffin and Neal (2000) elaborated on the definition, and stated that safety climate is the employees’ understanding of and reactions to the
procedures, practices and policies. This reaction is directly related to the importance and value of safety within the organisation. The safety climate of an organisation is a collective concept that is derived from employees’ shared views of the various ways that safety is valued in the organisation (Griffin & Curcuruto, 2016). Zohar’s definition is used in this research.

1.2.3 Safety in the workplace

The International Labour Organisation (ILO) (2015) estimated that there were approximately 358 000 occupational incidents worldwide in 2003 which resulted in deaths and 337 million injuries cases which did not result in deaths. Statistics from 2010 indicate that on average 22 days are lost per temporary incapacity occupational injury in South Africa (International Labour Organisation, 2015). In addition to this, in 2012 the Department of Labour stated that the Compensation Fund paid more than R2.7 billion in claims made for workplace injuries and diseases (The Danish Institute for Human Rights, 2015). In 2017 there were 155 427 claims by eligible employees who were injured in the workplace (Department of Labour, 2017). This information indicates that work-related injuries can have a significant business impact.

1.2.4 Safety Behaviour

The unsafe behaviour of workers has been recognised as the direct and common reason for construction accidents (Wang, Zou & Li, 2015). Wang et al. (2015) further elaborate that the reasons for unsafe behaviour are derived from internal aspects (risk perception, attitude and tolerance, stress and self-efficacy) and external aspects (environment, regulations and culture). Nahrgang, Morgeson and Hofmann (2011) state that safety can be improved by the reduction of risks and hazards in the workplace, and by creating a supportive environment. The authors further state that this supportive environment can be achieved by providing leadership coaching to supervisors focusing on teamwork and supporting subordinates. First-line supervisors have an influence on behaviour related to safety of their subordinates (Kapp, 2012). Kapp’s research found that subordinates who are led by leaders who place high value on safety are more safety compliant. Management commitment towards safety has a positive impact on the safety behaviour of workers translating into a lower occupational
incident rate (Boughaba, Hassane & Roukia, 2014). Nahrgang et al. (2011) further identified that engaged employees were motivated to work safely, and that burnout was detrimental to safe working behaviour. Markos and Sridevi (2010) stated that a positive relationship existed between employee engagement and safety performance.

Organisations perceive safety behaviour as adherence to behavioural safety practices in the workplace (Fugas, Silva & Meliá, 2012). Neal and Griffin (2006) expanded on the topic and identified two types of behaviour regarding safety. These are compliance and participation. Safety compliance is defined as the minimum that the employee needs to adhere to in order to maintain workplace safety, and includes aspects such as complying with safety procedures and wearing personal protective equipment when required (Neal & Griffin, 2006). Safety participation focuses on the behaviour of the individual that promotes the development of an environment that supports safety. This expanded definition is used in this research study.

### 1.2.5 Behaviour-Based Safety

Cox, Jones and Rycraft (2004) describe the behaviour-based safety process as a people-focused intervention that concentrates on one-on-one or group observations of employees carrying out routine tasks, and feedback to the observed employees on the task in terms of their safety-related behaviour, coaching and mentoring. Geller (2005:541) states that Behaviour-Based Safety (BBS) deals with what people do and studies why they do it. It then applies research-based intervention techniques to improve behavioural processes. BBS is defined as an approach that is associated with an organisation’s safety management system in order to improve safety and health performance (Galis, Hashim, Ismail & Yusuwan, 2018). The BBS process uses the ABC (A for Activator or Antecedent, B for Behaviour and C for Consequence) principle to develop interventions for improving behaviour from individual to organisational level. The fundamental outcome of the BBS process is; “to engage employees in meaningful behaviour-focused communication with each other about how to work more safely and achieve a vision of zero harm” (Geller, 2016:65).

It can be seen from the key concepts above that various factors contribute to employee safety in the workplace. These factors include safety culture, safety climate, safety
behaviour and behaviour-based safety. They need to be explored in the context of the business unit which forms part of the study.

1.3 Research Problem Statement

The organisation in which the study was conducted has experienced safety incidents whereby employees and service providers sustained injuries in the workplace. The injuries include first aid, medical treatment and lost workday cases. One of the key priorities of the organisation is to maintain zero harm to employees and service providers. These incidents occurred despite the fact that the organisation had safety management programmes and other safety initiatives in place. It is therefore implied that there is a gap with the initiatives of the organisation and safety behaviour depicted by employees and service providers. Literature states that a reduction in safety incidents has a positive impact on business performance. The reputation and image of an organisation can be detrimentally affected if there are injuries in the workplace. Further consequences include production losses, loss of revenue and possibly the loss of the organisation’s license to operate. The study of the human factors involved in workplace injuries is attracting attention due to the possible impact it can have on organisations. It is therefore important to explore the factors that influence employee safety in the workplace.

1.4 Research Aims

The following is the main aim of this study:

- To explore the factors that influence employees to work safely within the business unit

The objectives of the study are the following:

- To investigate the employees’ expectations from the organisation regarding safety

- To understand the perceptions of supervisory and management personnel in terms of ensuring safety in the workplace
• To derive insight into employee safety in the workplace

1.5 Research Questions

The main research question is:

• How is employee safety influenced in the workplace?

The research questions are:

• What are the employees’ expectations regarding safety?
• What perceptions exist among supervisory and management personnel regarding employee safety in the workplace?
• What insights can be gained regarding employee safety in the workplace?

1.6 Research Philosophy

Figure 1.1, adopted from Saunders, Lewis and Thornhill (2009:138) illustrates the research onion which is used to describe the research methodology followed in this research study. It provides the various layers of research that need to be considered when executing a research study.
From Figure 1.1 it is evident that there are various options a researcher can choose in terms of data collection and analysis. The research methodologies followed in this study are interpretivism, inductive, case study, mono method and cross-sectional. The sections below describe the aspects chosen, and provide reasoning for the design choices of the study. Saunders et al. (2009:600) define research philosophy as: “The overarching term relating to a system of beliefs and assumptions about the development of knowledge and the nature of that knowledge in relation to research”. It also provides information on the way in which the researcher perceives the world. The two main ways of dealing with the research philosophy are ontology and epistemology (Saunders et al., 2009:109).

### 1.6.1 Ontology

Ontology is defined as the researcher’s view of reality (Saunders et al., 2009:119). It raises questions regarding the assumptions of researchers about aspects of the way
in which the world operates, and the support towards specific views. According to Saunders et al. (2009:111) subjectivism is often associated with the terms constructionism or social constructionism. This is linked to the interpretivist philosophy that meaning must be derived from the actions of “social actors.” This study adopts a subjectivist stance.

1.6.2 Epistemology

According to Saunders et al. (2009:112), “epistemology concerns what constitutes acceptable knowledge in a field of study”. A more simplistic meaning is that it is the philosophy of knowledge or how we know what we know (Krauss, 2005). The two main sub-sections of epistemology are positivism and interpretivism. According to Saunders et al. (2009: 598), positivism is defined as follows: “The epistemological position that advocates working with an observable social reality. The emphasis is on highly structured methodology to facilitate replication, and the end product can be law-like generalisations similar to those produced by the physical and natural scientists.” The factors that influence employee’s safety in Company A cannot not be generalised for other companies due to variables such as sector, size of the organisation, key performance indicators, type of work, and so forth. Thus, positivism cannot be adopted for this research strategy. Saunders et al. (2009:593) define interpretivism as: “The epistemological position that advocates the necessity to understand differences between humans and their role as social actors.” According to Welman, Kruger and Mitchell (2005), interpretivists may also be referred to as “anti-positivists” or phenomenologists. These researchers focus their efforts on experiencing human behaviour as the research subjects experience certain phenomena. The philosophical paradigm of the researcher is interpretive in nature as the employees need to be studied for understanding the factors that influence them to work safely.

1.6.3 Methodological Assumptions

According to Figure 1.1, there are two different approaches for research, namely, inductive and deductive. Saunders et al. (2009:593) define the inductive approach as a research approach that involves the development of a theory as a result of the observation of empirical data. Inductive research can be defined as: “Research in
which theory is developed from the observation of empirical reality; thus general inferences are induced from particular instances” (Welman et al., 2005:34). The inductive approach is regarded as a systematic procedure that can be utilised for analysing qualitative data based on specific evaluation objectives (Thomas, 2006). Thomas (2006:238) further states that; “inductive analysis refers to approaches that primarily use detailed readings of raw data to derive concepts, themes or a model through interpretations made from the raw data by an evaluator or researcher.”

This research design seeks understanding and subjective assessment of reality from the perspective of the identified sample population (Creswell, 1994). It may be regarded as an inquiry process of understanding that is based on sound methodology that explores a human problem (Creswell, 1998:15). Qualitative research studies enable one to describe and understand groups, communities and organisations, and build a holistic, complex picture. (Creswell, 1998; Welman et al., 2005). The research choice is mono-method qualitative (Saunders et al., 2009:151-152) as solicited data and unstructured interviews are used for gathering primary research data to investigate the contemporary topic of employee safety in the workplace.

1.6.4 Sampling Design

Blumberg, Cooper and Schindler (2008:235) state that non-probability sampling is arbitrary and subjective. This technique provides the researcher with a sample that is rich in information, and can provide theoretical insight (Saunders et al., 2009:233; 237). The sampling method for research is non-probability purposive sampling as the researcher is using his own judgement for selecting the individuals who allow for the research aims to be attained. The individuals include process and maintenance artisans from the organisation and service-provider employees conducting hands-on work activities in the operational unit. The primary focus of the study is to determine factors that influence safety in Company A. This necessitated the need for obtaining the perspectives of various stakeholders who had an influence in preventing injuries in the workplace. The stakeholders were divided into four main groups: Company A Employees, Company A Managers, Service Provider Employees and Service Provider Managers. Figure 1.2 illustrates the participants who were interviewed for this research study. The groups were chosen to triangulate the view of safety in the workplace.
**Figure 1.2** Research process flow and target sample

![Research process flow and target sample diagram](image)

**Source:** Researcher's own construct

Figure 1.2 illustrates the sequence in which the data is collected in order to explore the factors that influence employee safety in the workplace. Interviews were conducted with employees of Company A and management representatives from Company A. These interviews were followed by interviews with employees of Company A and management representatives from service providers’ employees. Two participants from each of the four groups were interviewed.

1.6.5 Data-gathering

1.6.5.1 Case Study

Blumberg et al. (2008:375) state that case study research is widely used and very effective in management research. The case study method allows researchers to retain the holistic and meaningful features of real-life events (Yin, 2009). Hartley (2004:323) defined a case study as; “a detailed investigation, often with data collected over a period of time, of phenomena, within their context. The aim is to provide an analysis of the context and processes which illuminate the theoretical issues being studied.” A case study involves an empirical investigation of a certain current topic within a real-life context using more than one source of evidence (Saunders et al., 2009:558). Yin (2009:18) provides a two-fold definition for case study, stating firstly that a case study
is “an empirical inquiry that investigates a contemporary phenomenon in depth and within its real life context, especially when the boundaries between phenomenon and context are not clearly evident.” Yin (2009) further states that case studies are able to deal with research initiatives where there are more variables of interest than data points, and thus rely on multiple sources of evidence. A case is presented in chapter 4 of this research study.

1.6.5.2 Solicited Documents

As part of the data-gathering for the research study, solicited data was collected and analysed. Previous annual reports of Company A were obtained from the organisation’s website. These reports provide information in a holistic view on the organisation’s performance in terms of safety as well as other business metrics. Company documents illustrating the safety strategy of the organisation, were also sourced and analysed in order to determine the organisation’s strategic intent in terms of employee safety. The researcher also obtained specific safety-related statistics for the various sub-hubs. These statistics provide information-related classification of the various safety incidents for Company A employees and service provider employees. Investigation reports and BBS statistics include safe and at-risk behaviour. Flash notifications that are sent out via email to all personnel in the business unit were also used as a source of data. Policies and procedures that govern individual performance rating, as well as short-term incentives were obtained for understanding ways in which employee safety has an impact on these factors.

1.6.5.3 Unstructured Interviews

The interview technique is the most common method of data-gathering in qualitative research (Darke, Shanks & Broadbent, 1998). An interview can be defined as a meeting between two parties in which opinions and information is exchanged by asking questions and providing responses (Esterberg, 2002). Thus, it allows for joint construction of meaning for a particular topic. Choosing interviews as a data-gathering method allows for the collection of data through various ways of posing questions. To guarantee that there is a diverse and well-represented idea on a particular topic the researcher needs to ensure that the most appropriate sample of interviewees is chosen.
(Boyce & Neale, 2006). Unstructured interviews, or open-ended interviews, are normally used for observational studies. As a result of their qualitative nature, unstructured interviews provide a larger wealth of information than any other data-gathering method (Welman et al., 2005). Utilising the unstructured interview method allows the researcher to gain insight into the aspects which interviewees consider to be relevant, and the way in which they interpret the specific situation (Blumberg et al., 2008). The researcher utilised unstructured interviews to gather information from the population identified in this research study.

1.6.6 Data Analysis

1.6.6.1 Content Analysis

Content analysis involves the coding of data sources where the assumption is that words or phrases that appear more frequently than others, indicate a concern (Blumberg et al., 2008:361). The technique is used to allow the researcher to analyse substantial amounts of qualitative data (Creswell, 2014). The data obtained from the interviews is analysed and classified using the content analysis technique. The researcher needs to generate and categorise the data, and analyse and rearrange it in order to identify key themes and relationships. The researcher applied the fundamentals of content analysis to analyse the data and describe the themes that emerge from the unstructured interviews and solicited data.

1.6.6.2 Descriptive Statistics

Descriptive statistics aid in identifying of prominent aspects of the research. Mann (2010:3), states that “descriptive statistics consist of methods for organising, displaying, and describing data by using tables, graphs, and summary measures”. The researcher utilised descriptive statistics in the research study to highlight the key observations made from the data collected. In paragraph 3.3.4.1 more details follow regarding descriptive statistics, and ways in which these are utilised in this research study.
1.6.7 Ensuring Quality Data

It is imperative that researchers produce results that are reliable, and that can contribute to the field of study. According to Creswell (2014) the validity of qualitative data must ensure its accuracy by implementing procedures such as triangulation, member-checking and clarifying the bias of the researcher. Qualitative reliability implies that the researcher’s method is consistent with those of other researchers (Creswell, 2014). Notes and voice recordings were used during the interviews. The recordings were then transcribed. To ensure reliability of data, the transcriptions obtained from the interviews were sent to the participants for confirmation. The aspects of authenticity, transferability, and triangulation are discussed in the paragraphs below.

1.6.7.1 Authenticity

Authenticity in qualitative research is concerned with research that is worthwhile and focussing on the impact of research on the members of the community being researched (Given, 2008). The researcher aims at presenting the research participants’ views and insights without any discrimination of participants to ensure authenticity. The researcher seeks to ensure that there is a reasonable range of viewpoints on the research topic. It is also important for the researcher to determine whether the findings are useful and have meaning (Treharne & Riggs, 2015). The researcher plans to share the findings of the study with the participants in ensuring authenticity.

1.6.7.2 Transferability

Babbie and Mouton (2001:277) state that transferability is the extent to which research findings can be applicable to other contexts or participants. Yin (2003) defines transferability as the extent to which the findings of one research study can be applied to a wider population. The findings of this research study can possibly be applied to another organisation with similar operations and risks within the South African context.

1.6.7.3 Triangulation

Triangulation is defined as the procedure used for ensuring correctness and alternative explanations (Stake, 1995). Yin (2003), states that triangulation is a research
 technique that assists in validating data by cross-verifying with two or more sources. The researcher uses the case study, in-depth interviews and solicited data as data-gathering methods. These various data gathering methods were used for triangulating the data and providing increased data quality. This is addressed in Chapter 6 of the research study.

1.6.8 Ethical Considerations

Permission was requested from the business unit of the organisation to conduct the research. The researcher ensured that he abides by the code of academic and research ethics of the University of Johannesburg. All participants of the interviews were informed about the research details and that their contributions are regarded as confidential, and that participation is voluntary. The researcher ensured that the research participants’ rights to freedom, dignity, privacy and bodily and psychological integrity were respected at all times. The researcher only used the data gathered from participants if they gave their consent for it. The participants of the research study will receive feedback once the study is concluded. This research dissertation is funded by the employer of the researcher. It will be made available electronically to other interested parties on the University’s database.

1.7 Limitations

This research study is primarily about Company A as an organisation and the limitations of this study are firmly set around it. Safety is a high priority of the organisation, and thus has appropriate consequences for any transgression of the rules. The study focuses on employee safety in Company A. It is not about other petrochemical organisations in South Africa, although reference was made to them in comparison to Company A. The study is also not about human resource practices or skill development initiatives, although some relationships to these areas may be referred to. Finally, this research study does not consider the implications and detailed execution regarding the recommendations in this research study.

1.8 Chapter Outline
The literature review, in terms of safety culture, factors influencing safety behaviour and factors influencing the organisation’s safety performance is discussed in Chapter 2. This chapter also focuses on analysing findings and discussions of works from other researchers on the topics of safety culture, behaviour and climate.

Chapter 3 includes aspects such as the site of the research, the number of employees who participated in the research, and how they were selected. Data-gathering methods are also discussed.

Chapter 4 provides a case study of Company A which provides details of the organisation’s historic safety performance, systems, procedures, recognition, strategies and initiatives in terms of safety.

The data analysis and the data from the interviews and focus groups are presented in Chapter 5. Relevant factors and themes from the interviews with employees, service providers and management representatives are identified.

Chapter 6 concludes the research study and discusses whether the objectives of the research were met and whether the questions identified in the research were answered. The recommendations and next steps are also presented in this chapter.
Chapter 2: Literature Review

2.1 Introduction

This chapter focuses on discussing key concepts, which provide context to the research problem through existing literature. Firstly, safety and risk in the workplace are defined, while the second section discusses the value that safety can have for organisations. This is then followed by the conceptualisation of culture, more specifically organisational culture. The concept of culture is further expanded by introducing and discussing the topic of safety culture. This is then followed by the description of safety climate in an organisation. Leadership and its impact on safety are then discussed. Safety behaviour is defined and followed by the definition and elaboration of behaviour-based safety. The chapter finally culminates with an integrated model for workplace safety which is based on both person and situation factors.

2.2 Safety and risk in the workplace

Safety can be described as a state where nothing goes wrong (in terms of accidents, incidents, injuries and near misses) or as a state where the quantity of events which go wrong is passably minor. There are various examples of this statement in literature. The Collins Dictionary for instance, states that “safety is the state of being safe from harm or danger.” The International Civil Aviation Organisation (International Civil Aviation Organisation (ICAO), (2013:2-1), defines safety as “the state in which harm to persons or of property damage is reduced to, and maintained at or below, an acceptable level through a continuing process of hazard identification and risk management” while Emanuel, Berwick, Conway, Combes, Hatlie, Leape, Reason, Schyve, Vincent and Walton (2008:6) define safety as the “freedom from accidental injury.” More indirect definitions can also be found. As an example, Hollnagel (2014:22) defines a major incident as an incident or natural event that poses a serious and immediate risk to safety and includes a derailment of rolling stock, a collision, a fire or explosion. The Occupational Health and Safety Act 85 of 1993 (OHAS) states that safe means “free from any hazard.” From this one may conclude that if hazards, accidents and incidents are a risk to safety, then safety is marked by the absence of accidents and incidents.
The OHAS (1993:5) defines the term “reasonably practicable” as meaning having regard to; the severity and scope of the hazard or risk concerned; the state of knowledge reasonably available concerning that hazard or risk and or any means of removing or mitigating that hazard or risk; the availability and suitability of means to remove or mitigate that hazard or risk; or the cost of removing or mitigating that hazard or risk in relation to the benefits deriving therefrom. From the definition of reasonably practicable, according to OHAS (1993:5) above, it is evident that safety in the workplace, in the South African context, should be viewed as the management of risks to acceptable levels. In many cases it may be impossible to have a complete absence of hazards. Reason (2008:265) defines safety as being in control of the identified hazards in order to obtain risks that are at an acceptable level. Safety within the context of the workplace needs to be viewed from the perspectives from different stakeholders. Shareholders and the general public would want to have zero incidents in the organisations in which they have a vested interest. Employers need to ensure that they are able to demonstrate that they have complied with the requirements of the OHAS, and employees need to ensure that they are also compliant with all rules and procedures set out by the employer in terms of health and safety. Section 8(1) of the OHAS (1993:8) states that: “Every employer shall provide and maintain, as far as reasonably practicable, a working environment that is safe and without risk to the health of his employees.” Similarly, section 14 of the OHAS (1993:10) provides the general duties of the employees at work in terms of health and safety in the workplace. It is thus evident that both employers and employees have an active role to ensure that there are no incidents or accidents in the workplace.

### 2.3 The value of safety in the workplace

There are 270 million occupational accidents which occur across the world each year (Huna, 2015). According to the International Labour Organisation (ILO) it is estimated that 2.3 million people die every year from injuries and diseases related to their occupations injuries (International Labour Organisation, 2015). The cost of occupational injuries and illness is estimated to be 3.94% of the global gross domestic product per year (Nogueria, 2018). More than 350 000 of these deaths are due to fatal accidents which occur in the workplace. Added to this, more than 313 million
employees experience non-fatal injuries (International Labour Organisation, 2015). Statistics from 2010 indicate that on average 22 days are lost per temporary incapacity occupational injury in South Africa (International Labour Organisation, 2016). This information indicates that work-related injuries can have a significant business impact.

According to Aksorn and Hadikusumo (2008), organisations can gain competitive advantage by having an improved image and reputation by preventing occupational injuries to employees. In addition to this, occupational injuries are also a costly expense for organisations with the average cost being approximately R500 000 per case (Lebeau, Duguay & Boucher, 2014). Both direct and indirect costs are associated with accidents in the workplace (De Koster, Stam & Balk, 2011). Direct costs include medical costs, costs associated with the loss of labour and other damage-related costs. The indirect costs include the damage to the company’s reputation and productivity costs. The South African Department of Labour administers a compensation fund which provides for compensation to employees who experience some form of disablement or disease while employed. According to Ramutloa (2016) during the 2011 financial year, a total of almost 900 000 compensation claims totalling approximately R2.7 billion was paid out to injured and diseased workers.

2.4 Organisational Culture

Culture was defined by Geertz (1973:145) as “the fabric of meaning in terms of which human beings interpret their experience and guide their action.” Culture is continuously evolving and hence is dynamic in nature (Tharaldsen & Haukelid, 2009). During the course of an organisation’s existence, employees learn from each other how to respond to situations in the workplace based on the organisation’s standards and values (Jones & George, 2009:371). Each organisation has a specific way in which they execute their business, this is referred to the organisation’s culture. Jones and George (2009:370) defined organisational culture as “the shared set of beliefs, expectations, values, norms, and work routines that influence the ways in which individuals, groups, and teams interact with one another and cooperate to achieve organisational goals.” Jones and George (2009) go on to state that an organisation which has a strong and interconnected set of values and norms will ensure that employees will constantly focus on decisions and actions which are best for the long-
term sustainability of the organisation. Robbins, Judge, Odendaal and Roodt (2009:424) defined organisation culture in terms of its specifics for a particular organisation by stating that “organisational culture refers to a system of shared meaning held by members, distinguishing the organisation from other organisations.” Kokt and Ramarumo (2015:1199) expanded on this definition and stated that organisational culture is “the distinctive pattern of shared assumptions, values and norms that shape the socialisation activities, language, symbols, rites and ceremonies of a group of people.”

Chatman and Jehn (1994) found that there were several characteristics that could be utilised to depict an organisation’s culture. These include innovation, stability, orientation towards people, result-orientation, easy-goingness and attention to detail. Robbins et al. (2009) expanded on these elements and stated that there were seven main characteristics which defined the core of the culture in an organisation. These are illustrated in Table 2.1.

Table 2.1 Characteristics of organisational culture

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation and risk-taking</td>
<td>The extent to which employees of an organisation are encouraged to take risks and be innovative</td>
</tr>
<tr>
<td>Attention to detail</td>
<td>The amount of attention to detail, analysis and precision which the employees are expected to demonstrate</td>
</tr>
<tr>
<td>Outcome orientation</td>
<td>The amount of emphasis an organisation places on outcomes or results as opposed to the techniques utilised to achieve these results</td>
</tr>
<tr>
<td>People orientation</td>
<td>The degree to which decisions taken by the organisation’s management, takes into account the effect that it may have on its employees</td>
</tr>
<tr>
<td>Characteristic</td>
<td>Definition</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Team orientation</td>
<td>The emphasis placed by the organisation on working in teams as opposed to working as individuals</td>
</tr>
<tr>
<td>Aggressiveness</td>
<td>The extent of people being competitive and aggressive as opposed to being easy-going</td>
</tr>
<tr>
<td>Stability</td>
<td>The support by management to maintain the status quo rather than focus on growth</td>
</tr>
</tbody>
</table>

Source: Robbins et al. (2009:424)

From Table 2.1, adapted from Robbins (2009:424), it is evident that there are numerous characteristics that encapsulate an organisation’s culture. The characteristics of the organisation are based on the individual characteristics of the members of the organisation. These individual characteristics in turn has an impact on the culture of the organisation.

In Figure 2.1, adapted from Jones and George (2009:372), the four sources of an organisation’s culture are presented.

Figure 2.1 Sources of an Organisation’s culture

Source: Jones and George (2009:372)
According to Figure 2.1, organisations obtain their culture through the interfacing of the following four major factors: characteristics of organisational members, organisational ethics, the employment relationship and organisational structure. Each of these aspects are described below.

The characteristics of organisational members is the definitive source of the organisation’s culture and is made up by the employees of the organisation (Jones & George, 2009). It is a mutual scenario where job seekers are attracted to organisations which share their values, and organisations select employees who share its values (Starmarski & Son Hing, 2015). When there is a mismatch in this regard, employees will leave the organisation (Porter, 2013). As a result, employees become more similar over time, and thus the organisation’s values become more defined and the culture stands out from other similar organisations.

Organisations develop their value systems by the way their employees behave (Jones & George, 2009). This is regarded as organisational ethics. A critical aspect of values is that of organisational ethics, which are the honourable values, rules and beliefs that institute the way in which an organisation and its employees deal and interact with each other and with those individuals and entities outside the organisation (Svensson, Wood & Callaghan, 2015). Employees are constantly making decisions to ensure that the right thing is always done. Hence, senior executives of organisations deliberately entrench ethical values in an organisation’s culture (Graham, 2013). Doing so enables the ethical values to be an integral part of the organisation, and determines how employees will handle situations and make decisions in the organisation.

The employment relationship refers to the relationship an organisation creates with its employees through its human resource policies and procedures (Jones & George, 2009). The organisation’s human resource policies, together with its remuneration benefits, may influence the effort that employees will put into helping the organisation achieve its goals, how devoted they are to the organisation, and how easily employees accept the organisation’s norms and values (Vardarlier, 2016). The promotion of employees from within the organisation tends to build loyalty, and motivate employees to perform at their best in order to climb the corporate ladder within the organisation.
(Manroop, 2015). If employees believe that there are no opportunities for a promotion, they will likely leave for better opportunities, thus resulting in poor cooperation and cohesiveness within the organisation (Jones & George, 2009).

The next aspect of Figure 2.1 is Organisational Structure. According to Jones and George (2009:374), “Different kinds of structures give rise to different kinds of culture.” In order to create the desired culture, leaders of the organisation need to design a specific type of structure. There is a distinct difference in terms of cultures with tall, centralised cultures as compared to structures which are flat and decentralised. With tall structures, there is more emphasis on obeying the rules, being cautious and respecting the ways in which things are done (Wronka-Pośpiech & Frączkiewicz-Wronka, 2016). In flat structures, employees have more opportunities to pursue their own ideas and activities which allow them to be more creative and take more risks – enabling a culture of innovation and creativity (Keum & See, 2017).

Culture may also be viewed as having three distinct areas: national, professional and organisational cultures which result in the emergence of a unified culture (International Civil Aviation Organisation (ICAO), 2013). The ICAO (2013) further states that an organisational culture provides the basis for the way in which both management and employees of an organisation make decisions: “This is how we do things here, and this is the way we talk about the way we do things here” (ICAO, 2013:2-24). Susca (2018), supports this statement by saying that the culture of an organisation has a large influence on all aspects of the organisation, specifically decision-making. Deficiencies in terms of culture result in decisions being made which can create flaws in organisational systems, processes and procedures. As a result of poor decisions, these flaws often cause excessive risks, poorly balanced decisions and unwanted outcomes in the various areas of the business (Susca, 2018).

2.5 Safety Culture

The term safety culture was initially stated in the Chernobyl accident of 1986, and was defined as: “Safety culture is that assembly of characteristics and attitudes in organisations and individuals which establishes that, as an overriding priority, nuclear
plant safety issues receive the attention warranted by their significance” (International Atomic Energy Association (IAEA), (1991:1). Safety culture is defined as “the product of individual and group values, attitudes, competencies, and patterns of behaviour that determine the commitment to, and the style of proficiency of, an organisation’s health and safety programmes. Organisations with a positive safety culture are characterised by communications founded on mutual trust, by shared perceptions of the importance of safety and by confidence in the efficacy of preventative measures” (Health & Safety Executive, 2005). Wiegmann et al. (2004:124) defined safety culture as follows: “An enduring characteristic of an organisation that is reflected in its consistent way of dealing with critical safety issues.” This culture is focused on organisational support in terms of management commitment, the empowering of employees in terms of safety and recognition systems for safety behaviour. Patankar and Sabin (2010) elaborated on this definition and generalised it by defining safety culture as a dynamically composed, flexible state resulting from the arrangement of organisational values, leadership policies, and attitudes that jointly affect safety performance at all levels of an organisation. A simpler definition of safety culture is “Why we do what we do” (Patankar, 2012:5).

A simpler definition of safety culture is “Why we do what we do” (Patankar, 2012:5).

An organisation’s safety culture has different components which include behavioural, psychological and situational aspects. The behavioural component can be defined as the methods regarding safety within the workplace (Kim, Park, & Park, 2016). Psychological component aspects include perceptions, attitudes, shared values and beliefs which drive decisions and behaviours regarding safety, while the situational component includes aspects such as the procedures, policies, regulations, the organisation’s structures and systems related to safety (Kim et al., 2016). James Reason is regarded as an expert in the field of human error and organisational accidents (Texas Medical Institute of Technology, 2018). Explaining how to design a safety culture, Reason (1998:294) identified the main elements required for the “engine” that is needed to drive an organisation towards the objective of maximum operational safety. The engine is fuelled by the continued acknowledgement and respect for the hazards associated with the activities of the organisation, having a sense of “chronic unease.” To enable an organisation to have an effective safety
culture, Reason (1998:294) proposed that the organisation needs to have the following:

- An information system that registers, stores, analyses and publishes information from incidents and near misses, as well as information from frequent proactive reviews on the system.

- A reporting culture where employees in all levels of the organisation are prepared to report errors, mistakes and violations regarding safety.

- A culture of trust where employees are motivated and incentivised to provide crucial safety-related information, but also in which it is clear where the line between acceptable and unacceptable behaviour is clearly distinguished.

- A flexible organisational structure which can be reconfigured if required as a result of a demanding and dynamic environment.

- The preparedness and competency to make the right decisions according to its safety system, and willingness to implement improvements when these are required.

Petersen (2004:30) mentions that an organisation’s culture determines whether any aspect will be effective. Hence, in a positive safety culture, most elements in the interest of safety will work. The author goes on to state that “safety culture is positive when the workers honestly believe that safety is a key organisational value – high on the list of priorities” (Petersen, 2004:30). In order to attain a positive safety culture, Petersen (2004) mentions six criteria which need to be met. There must be a system which allows for daily activities that are proactive in nature for the team. The system needs to ensure that middle management activities and tasks are executed in the following three sections; ensuring subordinate regular performance; evaluating the quality of the performance; participating in activities which illustrate the importance of safety by having senior management participate in the activities. Senior management must visibly demonstrate that safety has a value in the organisation. This is also supported by the article published by Smith and Valentic (2017) which provided information on the safest companies in United States of America. Any employee who
wishes to do so may be able to actively engage in any activity which is related to safety. The safety system of the organisation needs allow for flexibility in different choices of activities at different organisational levels, enabling ownership. The final criterion is that the effort in terms of safety must be seen as a positive by the employees of the organisation.

Similarly, Kim et al. (2016:90) describe five characteristics of a safety culture. There needs to be commitment to safety by top management of the organisation, this is vital for a positive safety culture. Safety needs to be part of the values of the organisation and not as a key performance indicator that can be traded off against aspects such as profit or schedule (Dekker, 2015:95). Decision-making and accountability should be decentralised in order to create and maintain a positive safety culture. A positive safety culture is attained when employees acquire knowledge from intuition and understanding instead of accidents and incidents (Laberge, MacEachen, & Calvet, 2014). Thus employees need to learn about safety and participate in initiatives on how to improve safety in the organisation. This will allow employees to learn from others and change their thinking, as well as acting, in terms of safety. In order to have a positive culture, safety needs to be a top priority in the organisation and must be integrated into every function, process and system of the organisation (Institute for an industrial safety culture, 2017).

Every organisation has its unique organisational culture and thus safety culture (Kim et al., 2016). Safety cultures can be divided into five development levels: pathological, reactive, calculative, proactive, and finally generative (Parker, Lawrie, & Hudson, 2006). In a pathological safety culture, both employers and employees do not care if they violate any safety rules or procedures, hence being referred to the “no-care” safety culture (Hudson, 2001). The “blame” or reactive safety culture is one when safety only becomes important after an incident or accident occurs (Halligan, Zecevic, Kothari, Salmoni & Orchard, 2014). The calculative or “planned” safety culture has systems in place to manage all hazards that can be experienced during activities of the organisation. A proactive safety culture is one where employees try to anticipate safety issues and concerns before they actually happen. The generative safety culture is dynamic in nature which has safety built into the ways of working and thinking in the
organisation (Lamb, 2017). It is thus the objective of all organisations to move towards a safety culture which is generative in nature.

### 2.6 Safety Climate

Zohar (1980) defined safety climate as “a summary of molar perceptions that employees share about their work environment.” Research by Griffin and Neal (2000) elaborated on the definition by stating that safety climate was the employees’ perception and reactions to the procedures, practices and policies, this reaction is directly related to the importance and value of safety within the organisation. According to Zohar (2010, 2011) these perceptions reflect the employees’ view on the organisation’s priority on safety in relation to other organisational goals, the actual utilisation of the adopted safety policies in practice, how consistent safety practices are implemented and executed within the organisation and, the commitment to safety by management.

A study by Zohar (1980) found that organisations with low levels of occupational accidents have senior management representatives involved in a routine way to enhance the safety climate in the organisations. A strong relationship has been identified between the view of safety climate and forthcoming experience of occupational injuries (Huang, Verma, Chang, Courtney, Lombardi, Brennan & Perry, 2012). Research has also shown that leadership style influences the perceived notion of safety climate (Barling, Loughlin & Kelloway, 2002). Barling et al., (2002) found that transformational leadership was associated with a safety climate that was regarded as positive. Contrary to this leadership regarded as passive, was found to have a relationship with a poorer safety climate (Kelloway, Mullen, & Francis, 2006). When employees are encouraged in terms of their involvement and participation in safety aspects, they are more likely to believe that safety has a high priority in the organisation, resulting in a more positive perception of the organisation’s safety climate (Clarke, 2013).
2.7 Leadership

Leadership may be defined in terms of a person’s behaviour, traits, ability to influence others, and relationships (Petersen, 2004). Hemphill and Coon (1957:7), defined leadership as the behaviour of an individual which occurred when he or she was directing the activities of a group of people towards a common goal. Janda (1960:358) expanded on this definition stating that leadership was a particular form of power affiliation characterised by a group member’s perception that another member of the group has the right to propose behaviour patterns for the former regarding his or her duties as a group member.” Jacobs (1970:232) holds a similar view stating that leadership is the interaction between people in which one shares information in such a way that the other becomes influenced that his results will be improved if he acts in the manner suggested or desired. Leadership can also be seen as a process that influences an organised group’s activities towards the achievement of a common goal (Rauch & Behling, 1984:46). More recently, there has been a shift from defining leadership as a set of behaviours, actions and qualities to leadership being defined as a “social process that engages everyone in a community” (Leitch, McMullan, & Harrison, 2013:349).

According to Cohen (2002) there is a distinct difference between management and leadership. Management is about ensuring that the status quo is functioning in the best way possible, while leadership is about comprehending, motivating and initiating change in the organisation. Jones and George (2009:5) defines management as the planning, leading, organising and controlling of organisational resources to achieve the organisation’s goals. Cohen (2002) further states that leadership describes employees at all levels of an organisation who identify opportunities that contribute towards improving the performance of the organisation. Additionally, Petersen (2004) states that the crux of leadership, is not in terms of the structural position that one has in the organisation, but rather the influence of an employee on the organisation.

Leadership is responsible for the creation and maintenance of the organisation’s culture which can determine whether or not any safety-related efforts (or any other initiative) may be successful in the organisation (Petersen, 2004). While there are many factors which influence organisational culture, they mainly reflect strategies,
practices, leadership style and values of the leaders of the organisations (Steers & Shim, 2013). The impact of leaders on an organisation’s culture is principally influential at the highest level of the organisation (Warrick, 2017). Effective leaders are able to clearly share their desired results for the organisation and what needs to be done in order to achieve them.

**2.8 Leadership and Safety**

Safety leadership is defined as “the process of defining the desired state, setting up the team to succeed, and engaging in the discretionary efforts that drive the safety value” (Cooper, 2015:49). Daniel (2015:146) conducted a qualitative study to determine the definition for safety leadership in the Australian construction industry and defined it as “the demonstration of safety values through the creation of a vision and the promotion of wellbeing through the art of engagement, honesty and discipline”. Safety leadership in an organisation is widely recognized as critical, especially when the safety culture is poor (Cooper, 2015:49). An organisation’s safety culture is driven by its leaders through setting the organisation’s vision and strategic direction, providing the resources, and continuously re-emphasising the importance of safety in the organisation. Thus, leadership, which is ineffective in terms of safety, impedes the ability of many organisations from achieving success (Cooper & Finley, 2013).

In safety literature, some of the predominant leadership styles that have been associated with safety include the transformational, transactional and servant leadership styles. George and Jones (2009:513) define transformational leadership as “leadership that makes subordinates aware of their importance of their jobs and performance to the organisation and aware of their own needs for personal growth and that motivates subordinates to work for the good of the organisation.” Transactional leaders motivate their employees by ensuring they are rewarded for high performance and reprimand them for poor performance (George & Jones, 2009:515). Servant leaders ensure that the organisation’s culture is sustained through facilitating the needs of others in enabling them to properly execute their responsibilities (Cooper, 2015). Transformational and transactional leadership, although not equally important, complement each other (Robbins et al., 2009). The authors go on to state that transformational leadership adds further value to transactional leadership by producing
levels of employee performance and effort much higher than what would have been achieved by transactional leadership alone.

Transformational leaderships use positive language to share the benefits with their employees, and they also focus on connecting their employees’ own identities with the organisation’s vision (Cooper, 2015). Transactional leaders ensure that employee’s understand their performance requirements and the outcomes required in order to embed the culture of the organisation (Xenikou, 2017). Leaders of this type regard employees as being responsible for their work outputs, and utilise performance management in order to achieve the desired results from employees. Servant leaders ensure that culture is sustained by establishing personal relationships and providing personal support to individual employees by ensuring open communication and dialogue; coaching employees whose performance is poor, and maximising employees’ potential in order for them to make a difference (Russel, 2001). By setting employees up for success and addressing their needs, servant leadership creates a supportive environment that increases employee engagement, and thus positively affects team performance (Cooper, 2015).

Clarke (2013) performed a meta-analysis of transformational and transactional leadership styles as antecedents of safety behaviour. The study involved the analysis of 103 research papers. Clarke (2013) concluded that a leadership style which was a combination of transactional and transformational would be most effective in dealing with safety in the workplace. The study supported previous research regarding the role of transformational leadership for safety in the workplace, and further found that transactional leadership behaviour, such as monitoring, pro-activeness in terms of potential problems and error feedback, is also critical for workplace safety. It was found that transactional leadership was able to enhance safety compliance, and that transformational leadership was effective at promoting safety participation (Cooper, 2015). Clarke (2013) found that active transactional leadership behaviour is required in addition to transformational leadership behaviour to encourage the perceived positive safety climate and safe behaviour at work. In comparison, servant leadership provides a supportive environment which stimulates a greater influence regarding employee engagement, safety behaviour and reducing incidents (Walumbwa, Hartnell & Oke, 2010).
2.9 Safety Behaviour

Safety behaviour is defined as specific behaviours or actions that employees demonstrate to protect themselves and others against injuries and accidents in the workplace (Burke, Sarpy, Smith-Crowe, 2002:431). Thus organisations which are regarded as highly hazardous in terms of incidents and accidents, normally implement policies, procedures and training for employee behaviour in order to enhance safety in the workplace (Kao, Spitzmueller, Cigularov & Wu, 2015). An example of safety behaviour is the use of heavy uncomfortable personal protective equipment. Safety behaviour is expected and mandatory for employees in enabling them to comply with organisational policies and legislation, and in turn enhancing the health and safety of employees (Griffin & Neal, 2000). Organisations perceive safety behaviour as adherence to behavioural safety practices in the workplace (Fugas, Silva & Meliá, 2012). Neal and Griffin (2006) expanded on the topic and identified two types of behaviour regarding safety: compliance and participation. Safety compliance is defined as the minimum the employee needs to comply with in order to maintain workplace safety (Griffin & Neal, 2000). Safety compliance includes aspects such as complying with safety procedures and wearing personal protective equipment when required. Safety participation focuses on the behaviour of the individual which promotes the development of an environment that supports safety.

The unsafe behaviour of workers has been recognised as the direct and most common reason for construction accidents (Li, Wang & Zou, 2015). Li et al. (2015) further elaborate that the reasons for unsafe behaviour are derived from internal aspects (risk perception, attitude and tolerance, stress and self-efficacy) and external aspects (environment, regulations and culture). Nahrgang, Morgeson and Hofmann (2011), state that safety can be improved by the reduction of risks and hazards in the workplace, and also by creating a supportive environment. The authors further state that the supportive environment can be achieved by providing leadership coaching to supervisors focusing on teamwork and supporting subordinates. First-line supervisors have an influence on behaviour related to the safety of their subordinates (Kapp, 2012). Kapp’s research found that subordinates who are led by leaders who place high value on safety are more safety compliant. Management commitment towards safety has a
positive impact on the safety behaviour of workers translating into a lower occupational incident rate (Boughaba, Hassane & Roukia, 2014). Nahrgang et al. (2011) further identified that engaged employees were motivated to work safely and that burnout was detrimental to safe working behaviour. Markos and Sridevi (2010) state that a positive relationship exists between employee engagement and safety performance.

### 2.10 Behaviour-Based Safety

Cox, Jones and Rycraft (2004) describe the behaviour-based safety process as a people-focused intervention which concentrates on one-on-one or group observations of employees carrying out routine tasks, feedback to the observed employees on the task in terms of their safety-related behaviour, coaching and mentoring. Geller (2005) states that Behaviour-Based Safety (BBS) deals with what people are doing, studies why they are doing it, and then by applying research-based intervention techniques to improve behavioural processes. The process focuses on individual behaviour and improves safety behaviour by reinforcing safe behaviour and eliminating risky behaviour (Fang, Wu & Wu, 2015). The fundamental outcome of the BBS process is “to engage employees in meaningful behaviour-focused communication with each other about how to work more safety and achieve a vision of zero harm” (Geller, 2016:65).

The BBS process uses the ABC (A for Activator or Antecedent, B for Behaviour and C for Consequence) principle to develop interventions for improving behaviour from individual to organisational level. Antecedents or activators precede the behaviour, and aid in stimulating the behaviour (Fleming & Lardner, 2002). Typical examples of antecedents or activators include procedures, equipment and tools, information, job-specific tools and knowledge, management and expectations. Antecedents are required to cause a specific behaviour. However, it is not guaranteed that such behaviour will occur (Fleming & Lardner, 2002). In terms of the safety topic an example would be that safety rules or procedures in an organisation do not guarantee that safe behaviour will occur in the workplace. To ensure sustainable behaviour, significant individual efforts are also required. Antecedents such as training and ergonomics are essential for promoting more regular safe behaviour. Training provides employees with the correct skills and knowledge to execute their tasks safely, and correct ergonomics
ensure that employees feel more comfortable while executing their tasks (Talabi, Edum-Fotwe & Gibb, 2015). According to Fleming and Lardner (2002), consequences can be defined as the result of the individual’s behaviour which influences the probability that the same behaviour will be repeated. Thus by altering the consequences, the frequency of a specific behaviour can be increased or decreased. The three key types of consequences that influence behaviour are positive reinforcement, negative reinforcement and punishment. Both positive reinforcement and negative reinforcement increase the probability that certain behaviour will be repeated, while punishment reduces the probability (Fleming & Lardner, 2002). Both antecedents and consequences have variable effects on behaviour, and it can be argued that consequences are greater influences on behaviour than antecedents (Talabi et al., 2015).

2.11 An Integrative Model of Workplace Safety

Christian, Bradley, Wallace and Burke (2009) presented an integrative model of workplace safety by meta-analytically examining personal and situational based antecedents of safety performance behaviours and safety outcomes (accidents and injuries). The researcher found the model to be comprehensive in terms of the factors which influence employee safety in the workplace. This model was used to validate the findings of this research study, and thus the researcher provides a detailed description of the model below. Figure 2.2 illustrates the model conceptualised by Christian et al. (2009).
Figure 2.2 Integrative Model for Workplace Safety

Source: Christan et al. (2009)
Figure 2.2 presents the conceptual model for workplace safety of Christian et al. (2009). The factors were classified as either person or situation-related and were further divided into being more proximal or more distal to safety performance. Safety performance in the model was related to the definition by Burke et al. (2002) who defined it as “actions or behaviours that individuals exhibit in almost all jobs to promote the health and safety of workers, clients, the public, and the environment.” The research found various relationships between the factors in the model. Safety climate was found to be positively related to safety knowledge and safety motivation.

Conscientiousness was found to be positively related to safety motivation only. Safety motivation and safety knowledge where related to each other and both were positively related to safety performance. Safety climate was found to be more highly associated with safety participation than safety compliance. By definition, employees should comply with procedures and practices. Hence, the safety climate should not matter as much for behaviour which is mandatory. The finding also indicates that leaders are likely to have a greater influence on employees’ safety participation rather than safety compliance and thus influence the safety climate in the organisation and discretionary safety behaviour of employees.

The findings from the meta-analysis of Christian et al. (2009) indicates that person and situation factors are both important aspects of workplace safety. Employees can be identified, trained and guided through a positive safety climate that will maximise safety motivation and safety knowledge and improve safety behaviour resulting in fewer accidents and injuries.

2.12 Conclusion

It is imperative for organisations to prevent injuries in the workplace. Both employers and employees have significant roles to play in order to achieve zero safety-related incidents in the workplace. Therefore, it is important to understand the factors that influence employee safety in the workplace.

The next chapter describes and discusses the research methodology that was followed in this study.
Chapter 3: Research Methodology

3.1 Introduction

This chapter provides a detailed description of the way in which the researcher plans to go about answering the research questions. Details regarding the primary data-gathering, as well as the data analysis, are discussed in this chapter. There is no single definition of research design. However, according to Blumberg, Cooper and Schindler (2008:195), the essential aspects of the definition of research design include the following: “The design is an activity and time-based plan. The design is based on the research question, the design guides the selection of sources and types of information, the design is a framework for specifying the relationships among the study’s variables, and the design outlines procedures for every research activity.” Yin (2009:26) states that a research design is; “a logical plan for getting from here to there, where here may be identified as the initial set of questions to be answered, and there is some set of conclusions about these questions.” The research design contains distinct objectives of the study which are derived from the research questions, indicate the data sources from where the researcher plans to obtain the research data, and consider any constraints of the research process (Saunders, Lewis & Thornhill, 2009). In this chapter it now becomes important to illustrate the way in which this research study was designed and executed.

The sections that follow provide information regarding the research design, which discusses the research method, sampling, data-gathering and data analysis. The research approach, details about the researcher and participants interviewed and timelines for the research are then presented and discussed. Research limitations regarding this study are presented before the chapter is concluded.

3.2 Research Design

As referred to in Chapter 1, Figure 3.1 below, adopted from Saunders et al. (2009:138), illustrates the research onion which is used to describe the research methodology followed in this research study. It provides the various layers of research that need to be considered when executing a research study.
From Figure 3.1 it is evident that there are various options a researcher can choose in terms of data collection and analysis. The research methodology this study follows is indicated by red rings on the various layers of the research onion. The research study utilises interviews, and a case study for data gathering. The study is mono-method as it only makes use of qualitative data. The time horizon for this study is cross-sectional in nature. The sections below describe the aspects chosen, and provide reasons for the design choices of the study.

3.2.1 Qualitative Research

According to Hakim (1987:26), “Qualitative research offers richly descriptive reports of individuals’ perceptions, attitudes, beliefs, views and feelings, the meanings and interpretations given to events and things, as well as their behaviour; displays how these are put together, more or less coherently and consciously, into frameworks which make sense of their experiences; and illuminates the motivations which connect
attitudes and behaviour, the discontinuities, or even contradictions between attitudes and behaviour, or how conflicting attitudes and motivations are resolved in particular choices made.” This research design seeks understanding and subjective assessment of reality from the perspective of the identified sample population (Creswell, 1994). It may be regarded as an inquiry process of understanding that is based on sound methodology that explores a human problem (Creswell, 1998:15). Qualitative research studies enable one to describe and understand groups, communities and organisations, and build a holistic, complex picture (Creswell, 1998; Welman et al., 2005). Furthermore, qualitative research enables one to analyse and present themes that explore unusual angles or the shadowy side of a particular topic (Creswell, 2013). From the various definitions and explanations regarding qualitative research above, simplistically stated, qualitative research is concerned with the study of people in the setting in which they find themselves. The research choice is mono-method qualitative as unstructured interviews are used for the gathering of primary research data (Saunders et al., 2009:151-152). This methodology provides meaning to the research findings, and was thus adopted for the purpose of this study.

3.2.2 Sampling

Data-sampling includes the use of some elements of a population to draw conclusions about the entire population. Blumberg, Cooper and Schindler (2008:235) state that non-probability sampling is arbitrary and subjective. This technique provides the researcher with a sample that is rich in information, and that can provide theoretical insight (Saunders et al., 2009:233; 237). Babbie and Mouton (2001:277) state that transferability is the extent to which research findings can be applicable to other contexts or participants. Transferability is strengthened by utilising purposeful sampling. The sampling method for this research is non-probability purposive sampling as the researcher uses his judgement to select the individuals who allowed for the research aims to be attained. The selection of the interview participants were those individuals who are known to the researcher to provide the largest amount of relevant information.

The research also makes use of snowball-sampling to identify suitable participants for the research study. Saunders et al. (2009:601) define snowball-sampling as a non-
probability sampling method where previous participants of the study provide details of information for subsequent participants. This method is helpful in research studies where participants are difficult to locate (Blumberg et al., 2008). The researcher utilises participants and informants to identify interviewees for the research study.

There are many different authors who propose different sample sizes for qualitative research. A number of two to ten interviewees is recommended in order to reach saturation in qualitative research (Boyd, 2001). For qualitative studies conducted in South Africa, Babbie and Mouton (2001:287) recommends a sample size of between five and 25 interviewees. A research paper authored by Onwuegbuzie and Collins (2007) identified that six academic sources recommended that the range of participants for interviews should be between six and 12 participants. Based on this, a sample of eight participants was identified for this research study. The individuals include process and maintenance artisans from the organisation and service provider employees who conduct hands-on work activities in the operational unit. In addition, first-line supervisors and managers from both Company A and service providers form part of the sample population to obtain an idea of safety from a management perspective.

The primary focus of the study was to determine the factors that influence safety in Company A. This necessitates the need for obtaining the perspectives of the various stakeholders who have an influence on preventing injuries in the workplace. The stakeholders are divided into four main groups: Company A Employees, Company A Managers, Service Provider Employees and Service Provider Managers. Two participants from each group were interviewed resulting in eight participants in total. Interviews with employees of Company A and management representatives from Company A were conducted. This was followed by interviews with employees of Company A and management representatives from service providers’ employees.

3.2.3 Data Gathering

The data-gathering utilised in this qualitative research study involves three main methods, namely, case study, solicited data and unstructured interviews. Details regarding each data-gathering method are discussed below.
3.2.3.1 Case study

Blumberg et al. (2008) state that case study research is widely used, and very effective in management research. The case study method allows researchers to retain the holistic and meaningful features of real-life events (Yin, 2009). Hartley (2004:323) defined a case study as; “a detailed investigation, often with data collected over a period of time, of phenomena, within their context. The aim is to provide an analysis of the context and processes which illuminate the theoretical issues being studied.” A case study involves an investigation of a certain current topic within a real-life context using more than one source of evidence (Saunders et al., 2009:558). Yin (2009) provides a two-fold definition for case study, stating firstly that a case study is; “an empirical inquiry that investigates a contemporary phenomenon in depth and within its real life context, especially when the boundaries between phenomenon and context are not clearly evident.” Yin (2009) further states that case studies are able to deal with research initiatives where there are more variables of interest than data points, and thus relies on multiple sources of evidence.

Case studies may use many different cases or a single one. A single case study is chosen for three reasons. The first reason is: “Single case studies are analogous to single experiments, and as such are justified using the same arguments as the single experiment” (Schell, 1992:5). The second rationale is that it may be a unique or extreme case which is worthy of being analysed and documented. The third rationale for a single case study occurs when the case is revelatory; when a situation develops where the researcher has the opportunity to analyse a phenomenon which was not previously available for scientific research.

This research strategy is a case study as the researcher investigated the contemporary topic of safety in the workplace from various real-life evidence sources. The case study is based on Company A which is a petrochemical organisation in South Africa. The case study is presented in Chapter 4.

3.2.3.2 Solicited Documents

As part of the data-gathering of the research study, solicited data was collected and analysed. Previous annual reports of Company A were obtained from the
organisation’s website. These reports provide information on the organisation’s performance in terms of safety, as well as other business metrics, in a holistic view. Company documents illustrating the safety strategy of the organisation, were also sourced and analysed to determine the organisation’s strategic intent in terms of employee safety. The researcher also obtained specific safety-related statistics for the various sub-hubs. The statistics provided information related to the various safety incident classifications for Company A employees and service provider employees. Investigation reports and BBS statistics included safe and at-risk behaviour. Flash notifications that are sent out to all personnel in the business unit via email were also used as sources of data. Policies and procedures that govern individual performance rating and short-term incentives were obtained to understand the impact of employee safety on these factors. The solicited data gathered was utilised to inform the case study.

3.2.3.3 Unstructured Interviews

The interview technique is the most common method for data-gathering in qualitative research (Drake & Broadbent, 1998). An interview can be defined as a meeting between two parties in which opinions and information are exchanged by asking questions and providing responses (Esterberg, 2002), thus allowing for joint construction of meaning for a particular topic. Choosing interviews as a data-gathering method allows for the collection of data through various ways of posing questions. To make certain that there are diverse and well-represented ideas on a particular topic, the researcher needs to ensure that most appropriate sample of interviewees is chosen (Boyce & Neale, 2006). Unstructured interviews or open-ended interviews, are normally used for observational studies. As a result of their qualitative nature, unstructured interviews provide a larger wealth of information than any other data-gathering method (Welman et al., 2005). Utilising the unstructured interview method allows the researcher to gain insight into the aspects which the interviewee considers to be relevant, as well as into interpreting the specific situation (Blumberg et al., 2008). This type of interview was used in this study.

This interview type initially begins with the interviewee’s narrative, and is closest to a real conversation (Keller & Conradin, 2010). There may not be predefined questions
for this type of interview technique. Open-ended questions are either utilised alone or with other interview techniques in exploring issues in depth, to understand practices and to determine the potential causes for observed relationships (Weller et al., 2018). The questions provide the researcher with long narratives and brief answers or lists. Response opportunities tend to be appreciated by interviewees since they are able to share their stories in a manner that is comfortable to them (Blumberg et al., 2008). The researcher attempted to gather data through the unitisation of unstructured interviews. Due to the fact that unstructured interviews provide so much of information (Blumberg et al., 2008:389), all interviews are recorded using a digital voice recorder. This allows the researcher to concentrate on the conversation with the interviewees. The audio files are then transcribed by the researcher himself. An interview guide allows researchers to make a note of their mental list of relevant topics or themes that need to be addressed during the interview. Blumberg et al. (2008:387) state that the main functions of the interview guide for unstructured interviews are to serve as a memory list to the interviewer ensuring that the same themes and topics are addressed in every interview, and are not missed out in some interviews. The interview guide also increases the comparability of multiple unstructured interviews by ensuring that questions are phrased in a similar method. The researcher made use of an interview guide for the interviews he planned to conduct for this research study.

Theoretical saturation can be defined as the point where the core concepts and differences relevant to the construction of a theory have been identified (Glaser, 1965). Lincoln and Guba (1985) later introduced the term thematic saturation that is defined as the point during a series of interviews where little or no new ideas, themes or codes are discovered. The determining factor for a sample size for open-ended questions is the point where little or no new information is obtained (O'Reilly & Parker, 2012; Weller et al., 2018). Weller et al. (2018:2) state that; “saturation may be more meaningfully and more productively conceived of as the point where the most salient ideas have been obtained.” Weller et al. (2018) further state that instead of attempting to reach saturation with an incremental sampling plan, it may be more productive for researchers to gain more depth by probing and identifying more important or salient concepts.
3.2.4 Data analysis

Information from a qualitative study, which is mainly textual in nature, must be analysed by utilising qualitative data analysis techniques. The two types of data analysis methods used for this research study are content analysis and descriptive statistics. Details of the analysis methods are discussed in the next two sections.

3.2.4.1 Content Analysis

Content analysis is regarded as a classic procedure that can be used for analysing various sources of textual material (Bauer, 2000). It involves the coding of data sources where the assumption is that words or phrases which appear more frequently than others, indicate a concern (Blumberg et al., 2008:361). The technique is used to allow the researcher to analyse substantial amounts of qualitative data (Creswell, 2014). The data obtained from the solicited data and interviews is analysed and classified using the content analysis technique. The research needs to generate and categorise the data, analyse the data and rearrange it in order to identify key themes and relationships. Simply put, coding is a process that can be used for analysing data (Strauss & Corbin, 1990). The process of coding involves the attachment of codes to certain segments of the data that is being analysed, and then being able to compare the labels with other segments of data (Charmaz, 2006). There are various step-by-step procedures with various levels of detail that depict the process of coding text. In essence, the first aspect allows the researcher to review the information, and to be able to make sense of it, and the second identifies themes or concepts which can then be coded and categorised (Charmaz, 2006). A line-by-line coding technique, as described by Charmaz (2006:50) is utilised to code the transcribed data in interviews. The researcher draws a margin line on the right side of the transcribed interviews and code line-by-line. The codes are collated to form themes. The various codes were grouped together by the researcher in order to derive insight to the specific themes which emerged. Ultimately the researcher aims at deriving meta-insights that emerge from these themes. This method was utilised in the research study to analyse the solicited data and unstructured interviews.
3.2.4.2 Descriptive Statistics

Descriptive statistics is a generic term regarding statistics that can be utilised to describe variables (Saunders et al., 2009:591). It aids in the identification of prominent aspects of the research. This data analysis method is concerned with the description and summary of the findings from the sample population (Welman et al., 2005). Mann (2010) states that; “descriptive statistics consists of methods for organising, displaying, and describing data by using tables, graphs, and summary measures.” Depending on the variables that need to be analysed, the analysis may be regarded as a “univariate analysis,” “bivariate analysis” or a “multivariate analysis” (Welman et al., 2005:231). The researcher utilised descriptive statistics to present information regarding demographics of interview participants, participants’ responses and safety information of Company A. Examples of descriptive statistics that were utilized in the chapters to follow of this research study include pie charts, histograms and percentages of observations.

3.3 The role of the researcher

The researcher has been employed as an Engineering Manager by Company A for approximately seven years. During his career in the organisation, the researcher has experienced injuries to some of his employees and service providers, as well as other safety incidents. The researcher regards himself as a knowledgeable individual in the field of employee safety. Being responsible for his own safety, as well as that of his employees and service providers, the researcher acknowledges his subjectivity in the research study. The researcher aims at suspending previous knowledge of the topic and immersing himself in the data.

3.4 Time Horizon for Research

Time horizon gives an illustration of events within a given period. As illustrated in Figure 3.1, two types of time horizons can be adopted for a study, namely, cross-sectional and longitudinal. “Cross sectional studies seek to describe the incident of phenomenon at a given time” (Saunders et al., 2016:741). Saunders et al. (2016:200) further state that the cross-sectional time horizon deals with the study of a phenomenon at a specific point in time, as most research projects that are undertaken for academic courses are
of necessity time constrained. Longitudinal time horizons, on the other hand, deal with studies of variables over a period that focuses on change and development of the variables being studied. This study deals with a cross-sectional time horizon.

3.5 Conclusion

The chapter presented and discussed the qualitative, inductive, research methodology based on the research onion presented by Saunders et al. (2009:138). The methodology comprised the research design, data collection techniques and data analysis methods that is associated with the study. The role which the researcher plays in the research study and the time horizon of the study was also discussed. In Chapter 5 the researcher discusses the analysis and presents the findings of the data collected in this research study. The descriptive statistics and content analysis are applied in the analysis of the findings. In the next chapter, the case study of Company A is presented.
Chapter 4: The Case of Company A

4.1 Introduction

As discussed in Chapter 1, the aim of this study is to explore the factors which influence employee safety in the workplace. In this chapter, the researcher presents information regarding background and history of Company A, as well as the environment in which it operates. Details regarding Company A’s safety performance are analysed and presented in this chapter. The company’s initiatives in terms of safety in the workplace are discussed. These include the safety strategy in terms of initiatives, as well as performance management and incentives to ensure safety in the workplace.

4.2 South African Economy

South Africa’s economy has experienced severe pressure over the past few years. The South African economy remains under pressure in the midst of the challenges that are experienced by the high consumer debt levels, and the rising rate of inflation in South Africa. This resulted in the country’s experiencing a technical recession in the second quarter of 2018 (Fin24, 2018). The country’s economy grew by a mere 2.2% during the third quarter of 2018 thus ending the technical recession (Statistics SA, 2018). During 2017, South Africa experienced the highest increase in labour strikes with an increase of 8% from the previous year (Mahlakoana, 2018). Coupled with the unemployment rate of over 25%, this has put a significant strain on the South African economy (Statistics SA, 2018). It is thus imperative for Company A to ensure that it operates and functions efficiently, reliably and stably to ensure maximum shareholder wealth creation.

4.3 Safety Performance and Impact on Businesses

By preventing occupational injuries to employees, organisations can gain competitive advantage by having an improved image and reputation (Aksorn & Hadikutsumo, 2008). Additionally, occupational injuries are a costly expense for organisations with the average cost being approximately R500 000 per case (Lebeau, Duguay & Boucher, 2014). Both direct and indirect costs are associated with accidents in the workplace (De Koster, Stam & Balk, 2011). Direct costs include medical costs, the costs associated with the loss of labour and other damage-related costs. The indirect costs
include the damage to the company’s reputation and productivity costs. The South African Department of Labour administers a compensation fund which provides for compensation to employees who experience some form of disablement or disease while employed. According to Ramutloa (2016) during the 2011 financial year, a total of almost 900 000 compensation claims totalling approximately R2.7 billion was paid out to injured and diseased workers. Organisations need to ensure that they have a business which does not bring any harm to their employees and service providers.

4.4 The Background of Company A

Company A was established in South Africa during the 1950s to aid the country with its energy requirements. The government formed the organisation as part of its industrialisation process. In addition, the government at the time believed that the formation of Company A would assist in safeguarding against fuel supply interruptions from supplying countries. This realisation happened during the First World War, when various crucial supplies became scarce due to on-going violence abroad. The organisation pioneered and perfected the use of propriety technologies to derive liquid fuels and other chemicals from natural gas and coal. Currently, Company A trades in approximately 32 countries throughout the world. This includes operations, exploration activities, marketing and sales, as well as research and development across almost all continents of the world. The organisation produces a wide variety of energy and chemical products that are distributed worldwide. This includes gas, which can be used both in the home as well as business, various liquid fuels and a variety of chemical products that are used in the development of numerous household items.

The company employs approximately 31 000 people on a full-time basis. In addition to this more than 24 000 service-provider employees support Company A by rendering various services as required by the organisation. The organisation’s workforce comprises people with diverse backgrounds, skills and experience. Company A regards its human capital as a critical asset to its business success. The organisation’s leaders believe that to enable the organisation to operate its various facilities safely and efficiently, it requires a motivated and diverse workforce (Company A, 2018a).
Company A’s structure is divided into upstream business units, operating hubs that are regionally split, and strategic business units which face the customer (Company A, 2018b). The upstream business units are focused on feedstock supply to the regional operating hubs. The main activities involved in the upstream business units are coal mining and the exploration of additional gas and oil resources. The coal is used for feedstock into the business processes which convert coal to liquid fuel, electricity and steam. The gas which is supplied is used for the processing of liquid fuels and electricity generation. The organisation’s regional operating hubs are situated in Eurasia, North America, and Southern Africa. The operations in southern Africa comprise all downstream operations for the business, and include the piping network and related infrastructure. The portfolios are divided into chemical operations, fuel processing and the refinery business, which are situated in different regions in South Africa. Company A’s international business entity is responsible for the organisation’s international operations footprint which operates in Eurasia and North America. These operations are mainly involved in the processing of chemical products (Company A, 2018b). The organisation’s strategic business units comprise an energy business, chemical business and the group functions of the organisation. The energy business cluster is responsible for the sales and marketing of Company A’s oil, gas and electricity products. The business cluster is responsible for all energy ventures both nationally or internationally. The chemical business cluster is divided into two distinct groups, namely, base chemicals and performance chemicals. The base chemicals unit involves the sales and marketing of chemicals such as fertilisers, solvents and polymers. While the performance chemical group manage the sales of products such as paraffin, waxes and surfactants. The group functions comprise Company A’s technology division and other group functions, such as human resources, finance and the supply chain. The organisation’s technology division is responsible for the management of Company A’s research and development, engineering services and project management and technology innovation and management (Company A, 2018b).

Company A is one of the top 40 companies listed on the Johannesburg Stock Exchange (JSE). In the organisation’s 2016 financial year, it paid R36.8 billion in direct and indirect taxes to the South African government (Company A, 2016). It is South
Africa’s largest tax payer and is an important role player for both the South African and African economies at large (Stevis, 2016). In the organisation’s 2018 financial year, the organisation spent more than R1 billion on research and development and more than R50 billion on capital expenditure. Company A was able to generate more than R40 billion through its operating activities across the world.

Company A has seven core values which are the fundamental beliefs upon which its business and behaviour are based. The company’s first value is that safety, health and environment are always given the highest priority in the organisation. The second is that the organisation cares for its employees, and supports their development. The organisation values and drives the promotion of diversity and inclusion in the business. The fourth value revolves around everyone in the organisation acting with integrity and respect at all times. The fifth value involves compliance with all legal requirements which are applicable in the various countries in which Company A operates. The organisation also ensures that their employees know what they are accountable for by adding ownership and accountability as the sixth core value. The final value is that the organisation promises to deliver what was promised to its key stakeholders.

4.5 Company A’s focus on safety of employees

As stated in the previous paragraph safety is one of the core values on which Company A is based. The organisation considers safety as a given priority above all other aspects of the business, which may include production volumes and financial implications. Safety is integral to the organisation’s culture (Company A, 2018b). The organisation strives at ensuring a safe workplace for both their employees and service providers. This is achieved through a strong foundation of leadership and competencies of employees. This is further enhanced through the various policies and procedures which are implemented in the interests of safety throughout the organisation. The organisation believes that zero harm is possible through taking a focused approach and ensuring that there is disciplined teamwork throughout the organisation. The organisation is consistently looking at ways for improving its safety performance across its various business units. In order to drive the goal of zero harm, the organisation commits to various activities that support the initiative of zero harm. All safety-related incidents are investigated and relevant information and learnings are
shared across the organisation. According to the organisation’s annual report for 2018, nothing is more important than ensuring that all employees and service providers return home safely to their loved ones and families (Company A, 2018b). In addition, Company A has identified safety, health and the environmental aspect as top ten risks to the organisation’s value creation (Company A, 2018a). The organisation believes that safety performance and the improvement thereof, are imperative for the Company A to remain sustainably competitive. The organisation remains committed to achieving zero harm to their people. The organisation has implemented Safety, Health, and Environmental (SHE) risk procedures and incident management procedures to improve safety performance in the organisation (Company A, 2018a).

In order to improve safety performance, the organisation investigates safety incidents and near misses, which include those that are of low probability and high consequences. In addition, the organisation utilises leading indicators, including plant and equipment inspections and equipment tests, to ensure that controls are monitored and incidents are prevented. The organisation strives at ensuring that learnings from safety performance insights are utilised to maintain focused on safety initiatives (Company A, 2018b). In line with Company A’s core value of “ownership and accountability”, every employee in the organisation has the authority and responsibility to stop unsafe work (Company A, 2018b). The organisation has developed and implemented safety requirements in order to guide its employees and service providers on working safely while performing tasks which can potentially cause harm. In addition, there are daily safety talks and safety moments related to Company A’s safety rules and behaviour, which are used for reinforcing the importance of safety in Company A.

In line with the organisation’s safety strategy Company A launched an organisation-wide High Severity Incident programme during an executive leader’s safety workshop. The programme was centred on the elimination of fatalities and prevention of high-severity incidents in the organisation. The programme analyses the current best practices in the organisation related to safety and enables a standardised methodology to address identified areas of improvement. This includes the identification, mitigation and communication of hazards prior to the commencement of tasks, utilising the relevant risk assessments. The programme also sets out to understand how human behaviour and mind-set can influence safety performance. In addition, the organisation
has identified twelve life-saving rules that will be standardised and implemented throughout the organisation as part of the programme. Finally, the programme focuses on the continuous sharing, implementing and embedding of safety-related incident learning throughout the organisation in anticipation of eliminating similar incidents (Company A, 2018b).

Throughout the various levels of the organisation, Company A has committees which are established in the interest of safety. One such committee, is the Safety, Social and Ethics committee, which provides oversight and supports Company A’s Board with the effective risk management in terms of safety, social and ethical aspects (Company A, 2018b). Each business cluster and regional operating hub has safety meetings that range from legal safety meetings (as prescribed in the Occupational Safety Act) with employees, to various management’s levels of the organisation. This provides the platform for both employees and management representatives to discuss safety-related performance, concerns and learnings.

From an analysis of the past five annual reports of Company A, it is evident that the importance of safety is at the core of Company A. All the messages from Company A’s Chairman, Chief Executive Officer, and various heads of committees within Company A, revolve around safety. An example of this is a statement from Company A’s Chairman which states: “The safety and well-being of all who are involved in or impacted by the Group’s operations remain an overriding priority, and an integral component of our business ethos and practice” (Company A, 2018b). Similarly, one of the key messages of the Chief Executive Official was that of intensifying Company A’s focus on safety (Company A, 2018b). The organisation stated that they were striving to prevent safety-related incidents to achieve zero harm (Company A, 2018). The short, medium and long term strategies further demonstrate Company A’s focus on safety. The strategy deliverable of the organisation, in terms of safety, is to have zero harm across all Company A’s operations globally. The organisation’s medium and long-term strategies focus on continuing to pursue and reinforce the pursuit of zero harm in the organisation (Company A, 2018b).
4.6 Company A’s Performance Management Initiatives to drive Safety

To achieve zero harm, and measure and manage safety performance within Company A, various key performance indicators and incentives are implemented throughout the various levels and business units of the organisation. The short-term incentive (STI) is a discretionary annual bonus payment which is approved by the Company A’s remuneration committee. Each business unit achieves a score out of 100. This score is then multiplied by defined factors which may depend on aspects such as the employee’s role of the company, a group multiplier, and eventually the employee’s total guaranteed package. The final amount is paid out to the employee as an STI bonus.

At the start of each financial year, the various key performance areas are identified and relevant targets are set by the respective committees for the different business units. There are seven main incentive elements which are measured for the STI (Company A, 2018c). These include aspects related to safety, health and environment, compliance, costs, production volumes, and broad-based black economic empowerment. SHE weighting is 20% of the total STI score. Lost work day case (LWDC) incidents are measured for the lagging portion of the SHE incentive element. The respective business will achieve 100% of this portion if it has zero injuries, 67% if it has one injury, 33% if it has 2 injuries, and 0% if the business unit has three or more injuries. In addition, a decline in the organisation’s recordable case rate may be used as a modifier if the RCR deteriorates by more than 20% of the previous financial year (Company A, 2018c).

At the beginning of each financial year, employees develop performance agreements in which their managers’ goals eventually roll up to the respective business unit and eventually to the financial year focus elements of Company A. The performance contract has the following three main performance indicators: business results, leadership and values and relationships, teamwork and collaboration (Company A, 2018). Within the business results section, SHE features in the form of three sub-sections. An extract from the SHE Goal 1 states: “Zero Harm… Zero recordable cases for all projects and maintenance initiatives for which my team and I are responsible…” (Company A, 2018c). Company A’s merit system ranks employees on a scale from X to E. Table 4.1 depicts the various ratings on Company A’s performance rating scale.
From Table 4.1 it is evident that there are clear definitions and ratings for the performance management of employees in Company A. If employees experience safety incidents in their responsible areas they will most probably be ranked as “D”, even if all other aspects of the performance contract have been achieved for the financial year. This ranking affects both the employee’s STI pay-out and the employee’s salary increase for the following year (Company A, 2018d).

In addition to the incentive programmes mentioned above the organisation also has another recognition scheme which has a shorter time period. The aim of the recognition scheme is “to emphasise specific performance measures intended as leading indicators for top operational priorities and focus areas” (Company A, 2018e). Qualifying employees have the opportunity of earning R5 000 per year in addition to their salaries. The performance of the organisation is reviewed and measured on a weekly basis for this recognition scheme. There are four main categories for this recognition scheme, namely, SHE, costs, production volumes and efficiency. In this recognition scheme, SHE is regarded as a qualifier, implying that if any of the SHE targets are not met for the week, the recognition points for the week are not awarded, irrespective of whether or not the other criteria have been met. If a recordable safety
incident occurs during the week, then all points are forfeited for that week (Company A, 2018e).

4.7 Safety Culture in Company A

As stated in paragraph 4.5, safety is the top priority value of Company A. This is exhibited throughout the various organisational structural levels of the organisation. In terms of daily activities in the workplace of Company A, all employees start the day with the discussion of toolbox talks, where aspects related to specific safety themes are discussed by the supervisor with his or her employees. This is practiced by both service providers and Company A employees. All formal meetings begin with a safety moment. The safety moment is normally a 5 to 10-minute timeslot allocated in a meeting where one presents a topic or lesson learnt in the interest of safety.

To further demonstrate the importance of safety to employees of Company A, the leadership has freed up Wednesday afternoons for safety initiatives. Every Wednesday, employees are allowed time (1 to 2 hours) for safety initiatives. Examples of safety initiatives include safety walk downs (where a group of employees visit an operational plant to conduct inspections in the interest of safety), watch a safety-related video, discuss compulsory safety investigations, or execute safety related projects. Company A also runs competitions for its employees which are related to safety. Competitions involve employees to develop slogans, videos to discuss various aspects related to safety at Company A.

Company A’s code of conduct is derived from its core values. Employees are expected to behaviour in line with the code of conduct of the company. Regarding safety, employees are expected to demonstrate that they care about their own safety and that of everyone they work with. In addition, they are expected to speak up about any issues related to safety, health, and environment pertaining to Company A (Company A, 2017). The organisation has a disciplinary code for employees should there be instances of misconduct by employees of the organisation. There are specific misconducts that are linked to violations of safety rules in the workplace. Examples of safety violations include, intentionally or negligently contravening a safety rule or service regulation endangering his/her own safety and the safety of fellow employees, and endangering
the safety of the general public, refusal/failure to follow the requirements as determined by procedures when issuing/accepting clearance related safety work (Company A, 2018f). According to the disciplinary code, employees will be dismissed should they be found guilty of any of the violations on the first offence.

4.8 Leadership in Company A

Company A strives for five key competencies in an excellent leader. These are people leadership, partnership leadership, business leadership, strategic leadership, and self-mastery (Company A, 2018f). The people leadership element includes the ability of a leader to inspire people by authentically and inclusively engaging employees to follow their vision. In addition, people leadership involves the building of capability and being able to leverage diversity for a competitive advantage. Elements of partnership leadership involves the ability of a leader to influence and persuade stakeholders as well as being able to build relationships and partnerships for mutual beneficial outcomes. The partnership leadership element also requires leaders to build teams and create synergies through working across boundaries. Business leadership aspects include leaders being able to demonstrate commercial acumen and achieve results through others by holding them accountable. Strategic leadership is the ability of the leader to provide a vision and direction aligned to the Company A’s vision and being able to lead organisational change, innovation and sustainability. The element of self-mastery is the ability of the leader to take accountability for driving own growth through developing self-awareness, reflecting, seeking feedback and self-correcting. The five competencies are what is required for a leader in Company A to be able to enable its aspirational culture.

4.9 Safety Performance of Company A

From the paragraphs above it is evident that the organisation strives at achieving zero harm. However, this has not yet been achieved. Figure 4.1 illustrates Company A’s recordable case rate (RCR) from Financial Year 14 to Financial Year 18.
From Figure 4.1, it is evident that there has been a continuous improvement of Company A’s recordable case rate over the past five years. There has been a steady decrease within the RCR for 2016 being 0.29, and 2017 and 2018, 0.28 and 0.27 respectively. While there is evidence of an increase in safety performance, there have still been injuries in the organisation which is evident from that fact that the RCR is not zero. In addition to this there have been four fatalities of employees in Company A as result of work-related incidents (Company A, 2018a). Figure 4.2 illustrates the safety performance of a business unit in Company A for Financial Year 2018.

Source: Company A (2018)
From Figure 4.2 it is visible that there were safety-related incidents which occurred in the respective business unit of Company A for Financial Year 2018. From the information presented in Figure 4.2, seven medical treatment case injuries occurred in the business unit. In addition, there were eleven lost work-day case injuries and two restricted work-day cases. In total twenty employees were injured, and required medical attention more serious than first-aid treatment. This resulted in the RCR for the specific business unit ending at 0.32 at the end of the 2018 financial year.

4.10 Conclusion

In the information presented in this chapter, it is evident that Company A is in the pursuit of zero injuries. Company A values the safety of its employees and service providers and as such, safety is the top priority value for the organisation. Management commitment towards safety is evident from the various extracts and documents quoted in the paragraphs above. The organisation also incentivises safety performance with various incentive and recognition schemes throughout the difference levels of the organisation. Disregarding the fact that safety is linked to management representative personal performance contracts and to incentives supported by management there are
still incidents. As safety is such an important part of ensuring how well Company A is operating, this study is critical.

The next chapter presents the analysis and research findings of this study.
Chapter 5: Data Collection and Analysis

5.1 Introduction

This chapter focuses on discussing the results of the data obtained from the case study, unstructured interviews and solicited data during the research study. A qualitative method of data-gathering and analysis was applied by the researcher for this research study. In order to provide a perspective about the participants in this research study, a demographic breakdown is provided of the research population. The demographic information includes information such as race, age, gender and job titles and roles. The researcher then discusses the dimensions analysed for the research study. The dimensions analysed focus on exploring the factors which influence employee safety in the workplace.

5.2 Demographic Detail of the Research Population

5.2.1 Job titles and roles of the research participants

A total of eight participants participated in this research study. In order to obtain a view from both management and employees, management representatives and employees from Company A and service providers were interviewed. The two management representatives from Company A were a mechanical area manager and a safety area manager. The service provider management representatives who were interviewed were an operations manager and a site manager for companies which provided critical services to Company A on a daily basis. The Company A employees who participated in the study were both qualified artisans. The discipline specific background of each participant was mechanical and instrumentation respectively. The service provider employees who were interviewed were both on site at Company A on a daily basis, and worked as a boilermaker for a welding service provider and a general worker for a scaffolding company.

5.2.2 Race representation of the research participants

As mentioned in the paragraph above, a total of eight participants were interviewed for the study. Figure 5.1 graphically presents the race demographic breakdown of the research participants.
Figure 5.1 Racial demographic of research participants

Source: Researcher’s own construct

Figure 5.1 graphically illustrates the breakdown of the racial demographics of the research participants. 50% of the participants were black, 37.5% were white and 12.5% were Indian. The data indicates that there is no representation of coloured individuals in the research study.

5.2.3 Gender Representation of the research participants

Figure 5.2 presents the gender representation of the research participants in a pie graph.

Figure 5.2 Gender Split of Research Participants

Source: Researcher’s own construct
The gender split of the research participants is graphically presented in Figure 5.2. From the data presented it is evident that 87.5% of the participants were male and 12.5% were female. The gender split of the participants is reflective of the employees who work at Company A, and provide services to it.

5.2.4 Age analysis of the research participants

The age of the participants was analysed and presented in a graphical representation which is illustrated in Figure 5.3.

**Figure 5.3 Age Analysis of Research Participants**

![Bar Chart: Age Analysis of Research Participants]

**Source:** Researcher's own construct

Figure 5.3 illustrates the age categories of the research participants. The majority of the participants are between the ages of 30 to 40 years. This represents a total of 62.5% of the participants. Twenty-five percent of the research participants are older than 51 years of age. The minority of the participants, which represents 12.5%, is between the ages of 41 to 50 years.

5.2.5 Work experience of the research participants

Figure 5.4 illustrates the years of work experience of the research participants in this study.
Figure 5.4 Work Experience of Participants

![Bar chart illustrating years of work experience of research participants. The majority had between 11 to 20 years' experience, 37.5% of the total number of participants. Twenty-five percent had 1 to 10 years of experience, 25% had 31 years' experience or more, and 12.5% had between 21 to 30 years' experience.]

Source: Researcher's own construct

Figure 5.4 illustrates the years of work experience of the research participants of this study. The majority of the research participants had between 11 to 20 years' working experience. This represented 37.5% of the total number of participants. Twenty-five percent of the participants had 1 to 10 years of experience. Similarly, the percentage of participants who had 31 years' experience and more was also 25%. The minority of the participants, which represented 12.5%, had between 21 to 30 years' experience.

5.3 Research Analysis

The research participants who were part of the in-depth interviews all had a clear understanding of employee safety in the workplace, and why it was important for Company A not to have safety-related incidents. Various themes emerged during the in-depth interviews with the research participants. These themes are presented in the paragraphs below.

5.3.1 Leadership

There was a lack of leaders who were coaching and leading their first-line supervisors.

So what we’ve picked up is, with the management of the service provider, they don’t put enough focus and coaching and development and engagement with their supervisors or foremen, they just you know tell them just go and do this job and you finish off.
A lack of leadership support creates added pressure on service provider supervisors since they do not have support to address safety-related or other issues with Company A management representatives.

Hence: …he puts the pressure on his team. So he’s rushing his team to get things done because he’s got the pressure from this side and this side, ’cause this guy wants the job done and his money, this guy wants the job done.

All participants feel that leaders play a role in their safety as the leaders need to understand their employee’s well-being, as well as production requirements.

You have to as a leader you have to deal with my emotional well-being, you also have to deal with the fact that plant availability.

Aspects of understanding employees may be lacking, and thus employees feel that: You find that instead of having the leadership, we have the management only. You just only managing the work and that’s it.

Leaders need to be able to understand their employees.

Sometimes they can even send you to the plant not recognising that you are not feeling well or you are not well emotionally and stuff like that.

This may prevent employees from working on tasks while not being focused owing to either emotional or physiological issues.

A lack of leadership visibility and support on site is evident.

You never see their management, you never see their commitment, you only see them when there is a problem on site. You only see them when there was an injury or an incident…. you never see them until the pawpaw hits the fan then you see everybody here.

This results in employees sensing a lack of leadership and guidance, and recognition by their leaders for them executing their tasks safely.
Participants notice a trait of leaders in the organisation who do not exhibit safety values.

You (leaders) can have all the tools for people to work safely but if you yourself are not, I don’t know, using them correctly, in terms of applying them cos now if you are rushing people.

Employees need leaders to visibly demonstrate their safety values by ensuring that safety is always given priority despite the situation, or else employees may feel that safety is not really valued by leaders.

…if you are rushing them to a point where everything depends on your cut-off date, not how safe people are, then all that it becomes just a paperwork.

5.3.2 Supervisor Support

First-line supervisors may experience pressure to ensure that the production facilities for which they are responsible are producing according to plan.

The foreman is putting pressure onto the service provider to say listen you must quickly do this job for me, then you must go to this job and you must complete this job.

Supervisor support is linked to job attitude and the employee’s happiness at work.

What causes an unhappy worker it’s management in most cases cos if they don’t want to listen to you you’ll end up don’t want to listen to them and then the relationship is not good.

This has an effect on the relationship between the supervisor and employee which may affect communication, and thus have an influence on the employee’s safety.

Not having their supervisor’s support prevents employees from actively communicating with their supervisors about work-related requirements.

His manager will tell him just go on you’ve got the tools. You know, boer maak ‘n plan? Just do the job.
This causes employees to use incorrect tools for tasks which may result in injuries. Employees would prefer to focus on completing tasks with tight deadlines from their supervisor rather than seem to be the one who’s always like almost like a cry-baby, you don’t finish up. At times they will even call it complaining, yes you couldn’t do this because of that and you always have reasons why you could not finish. Employees do not want to be seen by their supervisors as not doing what is expected of them, even though they may have valid concerns in terms of safety and other aspects of the job.

5.3.3 BBS (Behaviour-Based Safety)

The BBS process supports employee safety by providing stewardship by the observer to the individual or team who is being observed.

…but for the mere fact that there is somebody there who’s reminding you that you know what, you should not be wearing gloves that are torn…

The BBS process also reminds the employees who are being observed to refocus on their tasks and their surroundings.

…so the BBS is kind of that thing that reminds them that okay there might be something that we are doing that is at risk…

The BBS also provides recognition to the employees for their safety efforts; thereby reinforcing their safety behaviour.

Cos the positive feedback that you are giving them as well it also helps to reinforce that you know what I am doing something good for the day, I’ve just had somebody who patted me on the back and say you are doing a good job.

5.3.4 Complacency

The majority (75%) of participants regarded complacency as a factor related to safety. This may be linked to risk perception. Employees perceive a lower risk of a hazard the longer they have worked on a specific task or area.

…and even the foreman tells me oh I’ve been doing it for twenty years, I’ve never slipped and fall.
An employee who has been executing similar tasks in a similar environment expects a specific outcome when executing the task. Thus, he or she perceives a lower risk of an injury while executing that task.

*You get to that point where you know I’m going to open four bolts like this, and this is what will happen, it will drip a bit on that side… The conditions might change, so people we don’t actually look at things like that.*

This results in employees not being aware of danger, and not acknowledging that conditions may change. This lack of awareness may result in them experiencing injuries.

### 5.3.5 Remuneration

While 100% of participants acknowledge the importance of salaries, it was not seen as an important factor for employee safety.

*Yes, salaries everyone complain about salaries cos even if now you can give me increase, down the line I will complain. It’s not about salary.*

Deterioration of safety performance owing to safety incidents may result in employees losing their short-term incentives. Being remunerated is seen as the reason why employees are at work.

*…and also I am losing what I’m here for, because I’m here to get paid, my remuneration it depends on that safety so if I do get hurt, then I am losing something.*

Thus remuneration does play a role in employee safety in the workplace.

### 5.3.6 Job Security

One participant, a management representative, stated that owing to the lack of job security for some service providers, they may intentionally injure themselves in order to secure remuneration in the form of a pay-out from the compensation commissioner.

*If they get injured, or they’re told that when you get injured at work there might be some benefit for you that you might claim back from the Compensation Commissioner.*
The candidate further explained that the reason for this was that the employees were not certain about their jobs. In line with this, the participant stated that employees might also believe that being injured might be kept longer in that position or at that specific workplace than someone that’s not been injured because the company needs to look after them for a few years or 5 or 6 or 10 years than rather let them go and those type of things. The intentional act of any employee to become injured is underlined by the employee to obtain an income for basic needs.

In order to obtain job security, employees (specifically service providers) want to impress Company A and their management by doing as they are told despite having concerns.

So they are always eager to impress in a way, even if it’s not safe, they just want to impress.

This type of behaviour stems from the service provider’s need to be employed in order to earn an income.

But for service providers, it’s always a thing of if I lose my job here where else would I go because now it will be my, whoever the foreman is they will report to the other foreman that I don’t want to work, and I will never get a job again.

5.3.7 Job Attitude and Satisfaction

For all employees, enjoying what they do at work, contributes to their working safety.

Because, if you are happy where you are then you will most likely try to be there all the time safely.

Having job satisfaction ensures that employees take pride in their work; resulting in safe task execution and quality workmanship.

I won’t leave there up until that thing is fixed and it is running, so it’s a sense of satisfaction for me that I’ve worked on this thing, it is working fine, it is safe…

Employees were of the opinion that being happy enabled them to focus on the task at hand.
I don’t think if you have happy workers you’ll have problem with safety cos there’s a lot happening in people’s mind if they are not happy, cos it’s difficult to work if we are unhappy.

Job attitude and satisfaction assist employees in being more focused on the job, and in identifying associated hazards and risks.

If you are happy, all your mind will be focusing on what you are doing, then you will be able to see things that can cause one to get injured way in advance.

5.3.8 Hazards and Risks

Not taking into account the risks associated with the hazards of a particular job may result in employees becoming injured in the workplace.

The thinking behind the risks and what this job entails and the different jobs they need to execute on a daily basis, is not taken into consideration.

Employees increase their propensity to take risks owing to work pressure and lack of supervisor support.

Chances are taken just to get the job done. Sometimes you’ll take shortcuts because now you’ll say you’ll go report that things are not happening, it will be like you don’t want to work in other cases. So we end up taking shortcuts because of that.

To enable employees to remain safe while executing tasks; they need the ability to do hazard identification 100% every second every minute every hour of the day. Whilst executing a task, supervising a task, managing a task or a project that is one of the things they do need.

Doing so enables employees to identify hazards that can affect their safety, and the associated risk of the hazard. The employee is able to determine whether the risk of the hazard is acceptable, or whether the hazard needs to be mitigated or eliminated before continuing with the task.
Employees feel that conducting risk assessment aids them in remaining safe in the workplace; especially with that help of the risk assessment, it helps in that way to go and assess where you are going to work.

5.3.9 Work Pressure

Company A is a 24-hour operations facility that requires production activities to occur according to plan. Thus Company A supervision will be under pressure should there be equipment breakdowns or activities that are hindering production volumes.

Company A plays a part in the rushing because if you look at the requirements for production, requirements for the plant availability, there’s a request that these guys must do this job by this time.

Being under pressure affects the employee’s systematic approach of executing a job simply to ensure that the person applying the pressure is satisfied, and may leave the individual at peace.

Do their things systematically that okay this is where I will start with my risk assessment and this and this, but when somebody’s there at the back of you “maak gou maak gou!” then all they just want to do is make sure they finish up and that person moves on.

The pressure may be experienced by the first-line supervision, and they in turn put pressure on service providers and Company A employees.

…there’s pressure, not on the higher levels but on the lower levels, like the foreman is putting pressure onto the service provider to say listen you must quickly do this job for me, then you must go to this job and you must complete this job. Hence for supervisor provider management and supervision Company A employees in management may …say to a guy if you don’t do this job for me today I’ll get somebody else. If you don’t do this job in five days I’ll get somebody else in. Why you behind with this job? Why do you do this? So they are rushing the people and pushing the people to get the jobs done.

Thus to secure jobs for the company, service provider management may commit to completing jobs within the requested time frames of Company A employees. These
time frames may be unrealistic, and may put pressure on employees to work faster to complete tasks.

Work pressure may result in employees needing to rush jobs in order to complete the job within the time committed by the supervisor. If the employee does not complete the job according to plan; he is in trouble with his manager, why didn't you complete the 5, 6 jobs per day. So he doesn't care how quickly he does the jobs as long as he’s done the jobs for the day (Participant 5). Thus, employees may need to speed up on the job, and in doing so focus is lost. This may lead to the employee getting injured. Employees may experience a lack of focus owing to additional work pressure.

…rushing causes injuries is people is not focused on the job…. So it’s just about not being in the moment, I must do this job as quickly as possible then I must move to the next one and the next one and the next one.

5.3.10 Planning

Planning is required in terms of tasks in order to determine how long a job will take to be completed. Resources at hand, as well as other considerations, must be taken into account. Lack of competent planning is a big concern.

One of the problems that we’re faced with is the guys is rushing, the guys is overbooking jobs.

Based on the resources available, planning must be focused on determining the scope of the task at hand and its duration.

The plan should be done around the cooler is three days, and you say you have the manpower to do that work for three days, then let it be done like that.

To prevent work pressure on employees, no additional work should be expected from them.

Let’s squeeze this in, squeeze that in, then planning is out of the window. Yes, that’s where the rushing will creep in, because it seems like the whole planning doesn’t work...
Employees may welcome the overloading of tasks. According to Participant 5: They just rushing to get through the jobs because more jobs means more money means more overtime means I can provide to my family more at the end of the month.

5.3.11 Training and Competency

During shutdown activities, which last from two to six weeks on average, there is a demand for a greater workforce owing to the high number of project and maintenance jobs. This may result in substandard training being provided to employees for the duration of the shutdown. According to Participant 5: They put them through a crash course sometimes during shut downs, for two or three days, and they tell this guy you competent as a HP (high pressure) cleaner. But at the end of the day the guy did not learn the tricks of the trade – he’s just there and they told him you’re competent you can go do HP cleaning.

While the employees may be trained, they lack the experience and insight that are required for the safe execution of high-risk tasks.

Competency quality was raised as a concern in terms of learner-ship (training to become an artisan in production, electrical, instrumentation and mechanical fields) offered by Company A with service provider training. According to one participant: The companies get them in, they come and perform work, but they don’t train them like we do for a year or two years as learner-ships and, and then they say listen you come in and you do the job after your learner-ship, or you work under supervision of teams – this guy is just put into a team and say you must do the welding, cutting, grinding or whatever you need to do. So the guy is not really trained by his company himself.

Companies train individuals for a shorter duration in order to get them to work sooner in the field. The individuals may also not be formally trained. They are rather trained on the job.

Competency is not only a concern at an individual level, but also at service provider team level. Certain service provider teams may be chosen to execute jobs in a particular area, since; you know where the area is, you know what’s happening in the system, you know where this is, just go and do this job for me. I don’t have to go every
time and redo everything and take you there because you know mos my area, you’ve been working for me for three four five ten years, you know the area.

This creates a lack of resources since employees will make use of a particular team for company activities, and thus apply pressure on the specific team to complete the tasks.

5.3.12 Respect

Service provider employees are treated differently, in a negative light, from Company A employees.

I think, if you look at the respect for the service provider employees, I don’t think we handle them in the same ways that we handle our own people. There is disrespect for own employees. …if you hear sometimes how people speak to these guys, you know, it’s chasing them out of the offices and saying why is this not done, why didn’t you do this.

This may have a negative impact on the employee’s work attitude. Treating employees with respect may have a positive effect on them in various ways.

…what we’ve seen is in areas where you’ve changed the way that you work with service providers, you make a great impact in their life.

Employees need to be treated properly in the workplace to ensure that they are in the moment, and not focused on other issues because they are not being treated properly.

So now people are not in a healthy space they are always agitated or scared that if I don’t do this, then something will happen to me or I’m going to be scolded at, I’m going to be fired…

This treatment results in employees not focusing on the task at hand.

If people feel threatened all the time, they lose focus. They can’t concentrate they just want to finish…
5.3.13 External/Personal Factors

External or personal factors play a role in employee safety in the workplace since employees may be concerned with other aspects of their lives while executing tasks at the workplace.

Oh, I forgot to give my son money for this, or oh you know what I didn’t left the key for my person that’s working in my home, so how will she get in?

Just that moment of not focusing on the job might cause an injury. Lack of focus may result in an employee getting injured.

“Just that quick not focusing on the job you might still get injured.”

Thinking of external factors results in employees losing focus on the job.

You lose focus. Cos you get there, you might be thinking okay I know what to open or what to do, how to calibrate or do this. But your mentally you not focused on what you doing. Yes, you might be thinking about something else at home that was stressing you, the previous day you did not sleep well, so the thing that you are not focused on might make you miss something, yes that could injure you.

The ability of employees to take care of their families is a driving factor for them to work safely. Being safe enables employees to work and provide for their families.

Firstly, we love our families, we want to go back there safe and I don’t know, for people who have been hurt or gotten injured at work.

Providing employees with recognition in various ways has an enormous impact on them in terms of safety. A simple “thanks for wearing your hard hat” or “I see you’ve got this, please carry on like that to go safely” has an impact on a person’s way of thinking and their way working. It results in a shift in an employee’s mind-set on safety.

And if you tell that guy jis thanks for working safely continue with this, the guy’s got a big smile on his face because he knows he’s not in trouble.
Engaging with employees on positive aspects creates a platform for dialogue to address safety issues in a positive light.

*Seen if you engage the guys with something small that’s positive, the guys will smile and when you say to them but guys don’t you think it’s necessary to make your barricaded area bigger, if this pipe falls look at where it can go…*

Recognition in terms of monthly or weekly gifts or braais may provide employees with a short-term focus on safety if everyone is included in the scheme.

*Look at the mines, the mines have got an incentive every two weeks. Every two weeks they get the incentive. Or they get a coke or a chicken or two chickens and a coke or they get every six months a blanket or something, and that’s not just for own people, it’s for service providers as well, just to say to the guys thank you for contributing to make it safe.*

### 5.3.14 Communication

While there may be an understanding of the job or task the employee needs to complete and the reason for the specific tasks, there may be a lack of understanding regarding the safety aspect of the organisation. All of the research participants (100%) agreed that communication is vital for ensuring employee safety in the workplace. The employee may then understand the aspects of their specific trade.

*However; if you look at these people, let’s say he comes in as am electrical artisan. He’s here to do his electrical artisan job. But he does not understand why he needs to do the job, what is the positives regarding safety, why does he need to make sure his job is 100% completed so that you do not get any safety incidents or you cause any safety incidents. So that understanding of your concept of safety and the role you play is not really being spelt out or given to him.*

The communication of incidents which occurred in other companies or other business units of Company A positively supports employee safety in the workplace by creating an awareness of the specific lessons of the incident.
At the time when after you have talked about when something like that happens, you are able at least to check what is it that can cause an injury to other people and to yourself.

In addition, it also allows employees to discuss and share their own experiences or stories during the group discussion that may further embed learning, as well as improve the team.

Other people might even share their own personal stories to you that you know for the past thirty years I’ve been here this is what I’ve seen this is what have happened.

5.4 Conclusion

The research participants' demographics were presented graphically in the form of charts and tables. The themes which emerged from the findings of the research analysis of the transcribed interviews were then presented. In the next chapter the findings of this chapter are compared with the integrative model for workplace safety that was developed by Christian et al., (2009) along with the conclusions and recommendations of this research study. A conceptual model for workplace safety based on the findings from this study are also presented.
Chapter 6: Conclusion and Recommendations

6.1 Introduction

In this chapter the researcher presents the main research conclusions, aims of the research study and the contributions of the study. In addition, the research findings in terms of the research questions posed, and the limitations of the research study are then presented. The chapter is concluded with the proposal of recommendations for future research.

6.2 Key Findings in terms of Research Questions

The research questions of the study as discussed in paragraph 1.5 of Chapter 1 are answered in the paragraphs below. The researcher has established themes that emerged from the analysis of the data gathered from the interviews. These themes enabled the researcher to answer the questions set out for the research study. Each of the questions are answered below by making use of the themes that emerged and the relationships between the different themes.

The research questions are the following:

- What are the employees’ expectations regarding safety?

Employees believe that strong leaders can influence their safety in the workplace. They seek to have leaders who are able to understand the employees’ state of being, and who can ensure that they are given the appropriate guidance and leadership when required. This may prevent employees from working on high risk jobs while not being in the correct frame of mind or physical well-being to do so. Leaders must be able to demonstrate to their employees that they have their best interests in mind at all times while still being able to deliver on operational requirements. This is in line with the roles of leaders in the organisation as stated by Warrick (2017) and Petersen (2004) in the literature review of this study. Employees want leaders who lead by example, and who exhibit the values of the organisation and the behaviour and practices which the employees themselves are expected to exhibit. This becomes more critical when leaders need their employees to deliver on other critical performance areas. During
these times employees still need their leaders to demonstrate and exhibit behaviour which support safety values.

Employees also require the support of their supervisors regarding safety aspects, as well as for daily tasks in the workplace. They require their supervisors to be able to support them if there are tasks that must be executed safely. An example of this would be to ensure that the employee has the correct tools required for the work to be able to execute a task safely. Their supervisor’s support will also enable employees to raise safety concerns as well as resource or planning concerns with their supervisors, as they know that their supervisors will support them to ensure that the issues are addressed. The aspect of supervisor support can be linked to the influence of servant leadership on employee safety as stated by Walumbwa et al. (2010).

Providing employees with job security enables them to focus on their daily tasks knowing that they have secure employment. Job security enables employees to work to the best of their ability without having the need to take on additional tasks and commitments in order to demonstrate their value add and justify their employability to secure their jobs. This results in work pressure, which in turn may result in employees getting injured owing to rushing or not being focused. The findings from Cooper and Finley (2013) support this research finding, as their research found that leadership which is ineffective in terms of safety, impedes an organisation from achieving success.

Participants linked job attitude and satisfaction to being happy at work. Having job satisfaction and enjoying what they are doing at work allow employees to focus on their jobs. This benefit is twofold regarding task execution since it ensures that employees complete their tasks to the best of their ability as well as allowing them to do so safely. Having job satisfaction also enables employees to focus on their surroundings more intensely to aid them in identifying hazards and their associated risks. Respect for the employees plays a role in their job satisfaction, as well as in employee safety. Being treated with respect and dignity enables employees to be focused on the moment at hand.

Employees feel that work pressure negatively affects their safety in the workplace. Work pressure from supervisors and leaders results in employees not being able to
apply their minds and systematically and safely complete the tasks at hand. The pressure placed on employees results in them needing to speed up their activities in order to complete actions within a shorter time, which may lead to injuries. Work pressure on supervisors from management results in first-line supervisors placing this pressure on their relevant employees to speed up activities. This may result in a lack of focus owing to the additional work pressure. A lack of supervisor support may also increase work pressure since employees do not have relationships where they are able to explain to their supervisors that the deadlines are not achievable. This is in line with the work by Kapp (2012) who found that supervisors had an influence on their subordinates’ behaviour in terms of safety. Work pressure can further be magnified by the lack of proper planning. Improper planning by supervisors may result in target dates being unrealistic. When, during the task execution, supervisors realise that the dates cannot be met, they place added pressure on employees to try and make the deadlines.

While external and personal factors may not be related to the workplace, employees do think about them, and they become a concern to them while at work. These factors result in employees not being focused, and may lead to injuries while working on tasks in the workplace. Thus it is imperative for employees to be able to communicate with their leaders to explain the issues being dealt with by them in their personal lives. Leaders gain insight into their employees’ lives by getting to know them personally. They are able to identify when employees seem to have external factors which are bothering them. They are then able to intervene to show support to the employee, and also identify low-risk tasks which the employee can execute while being in this sort of mind-set. This is in line with the traits of servant leadership as described by Russel (2001).

Recognition is seen by employees as a factor which positively influences safety in the workplace. It provides employees with reassurance when they are executing tasks in accordance with the safety aspects associated with the task. Recognition for working safely from supervisors and colleagues reinforces the employee’s safety behaviour. The recognition may be in various forms. The simplest of forms, however, may have an impact on the employee’s work attitude and thus his attitude towards safety.
Employees need to be able to identify the hazards and risks associated with the tasks they execute. As mentioned in the paragraphs above, having job satisfaction enables employees to concentrate on their jobs, and to ensure that they are focused to identify ongoing hazards while carrying out their work. This may aid them in preventing them from being injured. Employees’ propensity for risk-taking is increased when their work pressure is increased. This may occur as a result of employees seeking to find ways of speeding up their jobs. The appetite for risk is further increased by lack of supervisor support, owing to the fact that employees are unable to discuss work-related concerns in terms of resources and safety with their supervisors. This may result in employees trying to complete tasks for which they are not properly resourced in an unsafe manner in order to satisfy their supervisor’s demands. Complacency was also found to negatively affect hazard and risk perceptions of employees. Executing similar tasks in the same or similar environment desensitises employees towards the associated risks and hazards since employees expect a certain outcome for a specific task.

- What perceptions exist among supervisory and management personnel regarding employee safety in the workplace?

The research finding indicated that a lot of the views expressed by employees in terms of safety were also supported by management representatives. Management representatives also felt that leadership influenced employees’ safety in the workplace. Leaders must take care that their supervisors and employees are given the necessary coaching and guidance to ensure that employees are engaged and embracing safety behaviour. This is associated with the definition of safety leadership as stated by Daniel (2015). A lack of leadership may increase work pressure on supervisors, and in turn on employees, which may result in injuries. Supervisor support was another factor which management representatives felt influenced employee safety. By providing employees with support, supervisors allow them to discuss constraints which may affect their safety in the workplace. Management representatives also felt that complacency was negatively affecting employee safety owing to the increased risk propensity of employees. According to management representatives, training and competency of employees are also regarded as factors that may affect employee safety. Not being competent in high-risk activities may result in employees not executing their tasks correctly, which may result in injuries. According to Talabi et al.
(2015), training provides employees with the correct skills and knowledge to execute their tasks safely. Treating employees with respect was also seen as a factor which might positively influence employee safety in the workplace. Management representatives shared the same view as employees regarding this, and linked respect to a positive job attitude which, in turn, would improve the safety behaviour of the employee.

- What insights can be gained regarding employee safety in the workplace?

Various insights were gained from the research study in terms of the understanding of employee safety in the workplace. The factors that influence employee safety were presented in the paragraphs above. It was interesting to note that remuneration was not seen as a driving factor towards employee safety. One of the main factors which influenced employee safety was the employee’s ties with their families. Respect and communication were also identified as factors which could positively influence safety in the workplace by primarily improving employees’ job satisfaction and thereby improving employee safety. BBS was seen as a process that was linked to recognition and that positively reinforced safety behaviour. In addition, recognition by supervisors and managers was seen to have a positive impact on employees in terms of safety. This may influence the probability that the positive safety behaviour will be repeated as stated by Fleming and Lardner (2002). Informal, as well as, formal recognition creates a platform where employees can positively engage with employers on safety related matters.

The main research question:

- What are the factors that influence employee safety in the workplace?

The study has revealed that various factors may have positive and negative influences on the safety of employees in the workplace. These factors were discussed in the previous section of the research study. The aims of this research study were achieved based on the fact that the research questions were answered. The analysis of the information gathered from the interviews has allowed the researcher to develop research themes that aided the researcher in answering the research questions.
6.3 Comparison of Safety Model from literature with research findings

As stated in paragraph 2.11 of Chapter 2, the integrative model of workplace safety presented by Christian et al. (2009) was found to be comprehensive in terms of the factors which influenced workplace safety. Figure 6.1, on the next page, illustrates the model developed by Christian et al. (2009). There are various similarities with the model above and the findings from the research study. In terms of the personality characteristics, the only factor that was explicitly mentioned was the propensity for risk taking. From the research findings this was found to be linked to planning, complacency and work pressure. Communication of learning and discussions amongst team members also had a positive influence on employee safety. In contrast a lack of communication between supervisors and employees had a negative impact on employee safety. Respect for employees, not mentioned in the model, could be a factor which might influence job attitude and thus employee safety. Another aspect not mentioned in the model was external or personal factors that were found in the research study to influence employee safety in the workplace. Training and competency that were identified as factors from the research findings may be linked with human resource management (HRM) practices in Figure 6.1. The research finding linked to hazard and risk may be associated with the job risk and “practising risk reduction” factors in the model in Figure 6.1. The propensity of risk-taking was linked to work pressure and lack of supervisor support.
Figure 6.1 Integrative Model for Workplace Safety

Source: Christan et al. (2009)
Based on the themes generated from the data gathered during the research study, the researcher has created a conceptual model to graphically illustrate the factors that were found to influence employee safety in the workplace. Figure 6.2 illustrates the conceptual model which was developed from findings of this research study.

**Figure 6.2 Conceptual Model of factors that will influence employee safety in the workplace**

Source: Researcher’s own construct

Figure 6.2 graphically illustrates the factors that influence employee safety in the workplace. The blue blocks indicate the factors that have a direct impact on employee safety, while the grey blocks identify factors which influence the factors in the blue blocks. The brown lines represent the interrelationship between the various factors as explained the in paragraph above.

**6.4 Summary of Key Research Conclusions and Recommendations**

From the information provided in Chapter 1 of this research study, it was evident that the aim of this research study was to explore the factors which influenced employee safety in the workplace. The aim of the study also included investigation of the employees’ expectations from the organisation regarding safety, as well as
understanding the perceptions of supervisory and management personnel in terms of ensuring safety in the workplace. A summary of the research findings related to the research aims, as well as recommendations for Company A are presented below.

From the findings presented, it is evident that leadership can positively influence employee safety in the workplace. Employees value leaders who are able to engage and lead them, and who, in addition, demonstrate a genuine care for the employees’ well-being. Supervisor support was also regarded as a factor that could influence employee safety in the workplace. The treatment of the employees in terms of respect and dignity was found to positively influence employee safety. Therefore, it is recommended that a training development programme be drawn up and implemented for first-line supervisors. The content should be based on the responsibilities and importance that first-line supervisors have in terms of leading their employees.

The training and competency of employees were also identified as factors that influenced employee safety in the workplace. The quality of the training that was provided by service provider companies to their employees was identified as not being standardised and vetted as compared to the artisan training programmes offered by Company A. It is recommended that the training programmes of service providers for activities such as scaffolding, lagging and high pressure cleaning, be regulated and approved by a South African training regulatory body. This will ensure that quality of the training and the competency of the employees is improved.

Recognition of employees was seen to reinforce and improve the safety behaviour of employees in the workplace. Employees appreciated both formal and informal recognition by supervisors and management for working safely. It is recommended that formal recognition schemes be reviewed to determine the possibility of including service-provider employees as part of the scheme. Including service providers in the scheme may increase their job attitude and safety behaviour. It may also increase the treatment and respect towards service providers by Company A employees.

6.5 Ensuring Quality Data

The data gathered from the interviews was compared with the information gathered from the solicited data to ensure that common themes, as well as key differences, were
discussed in the research study. This allowed for the data to be regarded as being triangulated, thereby increasing validation of the information. Content of all interviews were transcribed by the author, ensuring quality transcripts, as well as allowing the researcher to recap on key aspects of the interviews.

6.5.1 Authenticity

The researcher has honestly and accurately presented the views and values of the research participants. This was achieved without discrimination of any of the research participants. In addition, the researcher has kept the anonymity of the research participants of the study, thus ensuring that the participants provided their own accurate views. The findings of the study were shared with some of the participants to ensure their authenticity.

6.5.2 Transferability

Babbie and Mouton (2001:277) state that transferability is the extent to which research findings can be applicable to other contexts or participants. Yin (2003) defines transferability as the extent to which the findings of one research study can be applied to a wider population. The findings of this study could be relevant to other South African organisations that have similar operations and risks, when compared to Company A.

6.5.3 Triangulation

Triangulation is defined as the procedure used for ensuring correctness and alternative explanations (Stake, 1995). Yin (2003) states that triangulation is a research technique that assists in validating data by cross-verifying with two or more sources. The researcher has used in-depth interviews and solicited data as data-gathering methods. These various data-gathering methods were used for triangulating the data and providing increased data quality.
6.6 Limitations of the Research Study

Safety is a high priority of the organisation, and thus has appropriate consequences for any transgression of the rules. The researcher ensured that the interviewees clearly understood that information gathered in the interviews would remain completely anonymous. This ensured that interviewees were open and honest with their responses. The study was carried out in one business unit, and thus may not be representative of Company A as a whole.

6.7 Ethical Considerations

Permission was received from the business unit of the organisation to conduct the research. The researcher ensured that he abided by the code of academic and research ethics of the University of Johannesburg. All participants of the interviews were informed about the research details, that their contributions would be regarded as confidential and that participation was voluntary. The researcher also ensured that the research participants’ rights to freedom, dignity, privacy and bodily and psychological integrity were respected at all times throughout the research study.

The researcher is a management representative of Company A. He was open and honest with all research participants about his role in the organisation. He ensured that each participant understood that for the duration of this research study the researcher should be viewed as an independent researcher and not as a Company A manager. The data presented in this research study is stated truthfully without any manipulation or misrepresentation of the facts gained. This dissertation complies with the Plagiarism Policy of the University of Johannesburg.

6.8 Unique Contribution of the Research Study

The literature review and research findings presented in this research study can provide organisations involved in operation activities, with insight into the factors that can influence the safety of their employees. These findings can provide organisations with aspects that need to be addressed in order to prevent injuries, and thus improve on their safety performance. The research findings can allow organisations to develop streamlined initiatives for their safety improvement strategy.
6.9 Recommendations for Future Research

While the aims of the research study have been achieved, the researcher has also identified further research possibilities that can be conducted to broaden the understanding of employee safety in the workplace. The recommended future research topics are discussed below.

Over recent years there has been an increase in the number of women who have chosen to have careers in operational environments that were previously male dominated. It may be beneficial for research to be conducted to determine whether there are different factors that influence safety for male and female workers respectively.

Various themes that were identified as safety factors could be factors related to employee engagement. Research should be conducted to determine whether there is a relationship between employee engagement levels and employee injury rates in the workplace.

Employees in the workplace have different personalities and character traits. Research to determine whether there are specific character traits that can be linked positively and negatively to employee safety in the workplace may be valuable.

In the current working environment, there are employees in various age groups. Research to determine the link between generational theory and safety factors could be beneficial. This may aid leaders of organisations in developing tailored initiatives which can be implemented for the different generations of employees in the organisation.

6.10 Conclusion

In this chapter the research findings, conclusions and recommendations were presented. Recommendations were also made for further research. The research aims of the study were achieved. The research study revealed the factors that influenced employee safety in the workplace. The study also shared the aspects which both employees and management representatives deemed were important for employee safety. In order to reduce the amount of work related injuries, leaders of organisations need to understand these factors in order to identify and implement initiatives for
positively addressing the identified factors. This study provided the researcher with knowledge that can be utilised in the strategy of his team. The researcher will share the knowledge gained from the research study with the leaders of Company A in anticipating that the findings will be used in safety improvement initiatives. The findings of this research study can provide insight into other organisations in South Africa with operations similar to that of Company A.
7. References


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