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Leadership Practices That Improve the Workplace Safety Environment

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This is to certify that the doctoral study by

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Abstract

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MA, University of Zimbabwe, 2010

BCOM, University of South Africa, 2008

Doctoral Study Submitted in Partial Fulfillment

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Abstract

Inadequate leadership is the reason workplace accidents in the mining industry remain high, making the industry one of the most hazardous operational activities in the world. Unsafe leadership practices may result in death or injury to workers. A group of 30 mining company leaders from 3 gold mines in Zimbabwe revealed an exception to these hazardous practices, however, notable through their outstanding safety improvement records. To better understand what these practitioners were doing, this multicase study research design explored their strategies to improve the workplace safety environment in the mines. Data were collected using audio-recorded semistructured interviews and document analyses. Shewhart's plan-do-check-act conceptual framework anchored the study. Data analysis followed the thematic data analytic approach involving classification, coding, and interpretation to identify common themes. The following themes emerged: planning and organizing, leading, and risk management. The findings indicate that the business leaders created a safe work environment by planning the work to be performed; how the task would be executed; and when, where, and who performed the task. The results of study also indicate that leaders designed the work environment, trained, empowered, and equipped employees with the relevant skills, and provided appropriate technology and personal protective equipment to improve workplace safety. Finally, the research findings indicate that leaders embedded risk management principles and practices in every process or activity, and continuously learned from each event to create a safe work environment. The findings promote social change by encouraging safe behavior and risk-based thinking and practices in the workforce and the community.

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Dedication

I dedicate this study to all the business leaders confronted with the goal of championing safety at the workplace. I further commend all business leaders who prioritise workplace safety and promote risk-based thinking and practices. Achieving zero harm at the workplace is a challenge. However, for those leaders who commit to reducing workplace accidents, the results of their efforts will be rewarded through saved lives, avoidance of injury, sustainability, and economic prosperity.

Acknowledgments

I acknowledge the support of my family during the course of the doctoral study. My wife and children sacrificed family time to allow me to concentrate on the study program. I also thank faculty and classmates who contributed by sharing notes, advice, and ideas on my study.

Finally, I acknowledge the support of my employers who sponsored the studies, gave me leave to study, and allowed me time off to attend the residencies. I am greatly indebted to the board of directors for investing in my personal development. Without all the support, the doctoral study could have been an impossible task to accomplish.

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Section 1: Foundation of the Study

Unsafe leadership behaviors and practices may result in workplace accidents (Doh & Quigley, 2014; Tetrick & Pieró, 2016). Porru, Calza, and Arici (2011) posited there were many workplace-safety intervention studies, but occupational accidents remained a challenge. In 2009, the accident prevalence rate in the mining industry in Katanga province in the Democratic Republic of Congo (DRC) was 72.2% (Elenge, Leveque, & De Brouwer, 2013). Sixty percent of the employees in Katanga province of DRC confirmed having experienced at least two accidents within a 12-month period (Elenge et al., 2013).

Workplace accidents harm employees and affect business operations by causing absenteeism from work, loss of productivity, loss of self-esteem, and rising production costs (Kirsh, Slack, & King, 2012; Yeoh, Lockhart, & Wu, 2013). Despite such negative impact on business, Akelsson, Jacobsson, Bötjesson, and Enander (2012) concluded, leaders either consciously disregarded safety or lacked the skills and commitment to manage workplace safety. Obtaining safety enhancing skills is important for industry leaders because injury prevention is achievable by implementing interventions to reduce exposure to accidents or to minimize the severity of accidents (Hee, 2014). According to Molamohamadi and Ismail (2014), workplace safety interventions should appeal to the employee's mental status, including the worker's emotional reactivity and mental alertness. Interventions should be premised on detailed understanding of the human-machine environment to ensure the interventions address the correct causes (Robson et

al., 2012). Exploring how leaders influence workplace safety therefore becomes important from an organization development perspective (Andre, 2013).

In Zimbabwe, the national injury frequency rate increased by 6% from 2012 to 2013 (Ministry of Labor and Social Services, National Social Security Authority [NSSA], 2013). There is limited literature on how to reduce workplace accidents and which leadership practices promote safe workplace environments (Hansen, 2011). Therefore, empirical studies are needed to explore the leadership strategies that improve workplace safety.

Background of the Problem

Lim, Murray, Dowdeswell, Glynn, and Sonnenberg (2011) observed the unnatural death rate for the platinum mine workers in South Africa at 290 deaths per 100,000 employees, was more than double the global fatality rate resulting from unnatural causes. Lim et al. (2011) opined the mining industry to be one of the most hazardous occupational activities in the world. In the mining industry in South Africa, the organizational error management climate predicted coworker and supervisors safety support and safety behavior (Casey & Krauss, 2013). Additionally, coworker safety support and safety communication in the mining industry had a strong relationship with safety performance as compared to the influence of supervisor safety support and safety communication (Casey & Krauss, 2013). Accidents seldom happen instantaneously; there is usually a build-up to an accident event (Doh & Quigley, 2014). A chain of events causes accidents (Akelsson et al., 2012). Specific leadership interventions to prevent workplace accidents should be identified and implemented targeting particular safety

performance gaps (Doh & Quigley, 2014). Reducing workplace accidents frees resources for business process improvement and helps organizations reduce costs (Molamohamadi & Ismail, 2014). Moreover, a safety culture can reduce workplace injuries and fatalities (Drennan & Richey, 2012). A safe workplace encourages the exhibition of safety compliance and safety participation behavior (Hee, 2014). Therefore, workplace safety is a product of individual and group values, perceptions, attitudes, behaviors, and competencies (Hee, 2014). Furthermore, workplace safety and the success or failure of safe work practices depends on leadership (Hansen, 2011).

Workplace safety manifests through the reduction of accidents and injuries at work (Hee, 2014). Contrastingly, the injury incidence rate in Zimbabwe increased by 6% from 2012 to 2013 (NSSA, 2013). As reported by the NSSA (2013), 27.8% of the registered companies in Zimbabwe were not compliant with occupational health and safety legislation, thereby exposing workers to the risk of occupational accidents. While accident prevention strategies exist, there had been limited empirical evidence of which leadership strategies effectively reduce workplace accidents, which was the focus of this study (Conchie, Taylor, & Donald, 2012). Workplace safety includes policies, procedures, legislation, training, and restrictions at the workplace to guide operating behaviors and practices to ensure the safety of people in the workplace (Pater, 2014). Creating a culture of safety at the workplace requires defined safety behaviors and practices (Drennan & Richey, 2012; Hajaistron, 2014).

Problem Statement

Inadequate leadership is the reason workplace accidents in the mining industry remain high, making the industry one of the most hazardous operational activities in the world (Casey & Krauss, 2013). The accident prevalence rate per 100,000 workers in the Spanish mining industry in 2012 was 4.8 times higher than the total for all other economic sectors and 7 times higher than in the United States of America (Sanmiquel, Rossell, & Vintró, 2015). The general business problem is mining activities are affected by workplace accidents, which result in lost production time, injured workers, and increased production costs (Idris, Dollard, & Yulita, 2014). The specific business problem is some mining company leaders located in Zimbabwe lack strategies to improve workplace safety.

Purpose Statement

The purpose of this qualitative multicase study was to explore the strategies mining company leaders located in Zimbabwe use to improve the workplace safety environment. The target population consisted of managers and supervisors at three gold mines in Zimbabwe, 30 of whom participated in this study. The study may influence the business environment by proffering leadership strategies to improve workplace safety. The study may contribute to social change by promoting a culture of safety through knowledge sharing, thereby reducing accidents in society.

Nature of the Study

The study was based on a qualitative research approach. A qualitative research approach provides flexibility to a study and does not follow rigid processes and procedures

(Leedy & Ormrod, 2014). A qualitative study can have its steps varied to align with the prevailing conditions (Shaik, 2012); hence, it was appropriate for this study. Moreover, a qualitative research approach was appropriate because it enables the in-depth study of the phenomena and answers the what, how, and why questions more comprehensively (Matthews, Quinlan, Rawlings-Way, & Bohle, 2012). In contrast, quantitative research methods answer the how many, how much, and relational questions (Leedy & Ormrod, 2014), which fell outside the scope of this research and therefore were not appropriate for this study. A mixed methods approach was not appropriate because only the qualitative phase of the study would have been relevant, as the quantitative phase of the inquiry would not help in answering the research question (Leedy & Ormrod, 2014).

A multicase study research design using semistructured interviews and dcoument study was the most appropriate research design for the study. A multicase study was appropriate because it enables the in-depth study of the leadership practices at different sites economically (Buser, Pitchko, & Buser, 2014; Finlay, 2014; Leedy & Ormrod, 2014). A study of multiple sites enables comparisons of leadership practices, which enhances in-depth understanding of the phenomenon (Leedy & Ormrod, 2014). Research designs such as ethnography were inappropriate because ethnography involves lengthy contact with participants in their real life setting (Mannay & Morgan, 2015), which was not practical because of the time constraints in this academic research. In addition, narrative research was not considered for this study because it would not adequately answer the central research question where an in-depth understanding of the strategies to improve workplace safety is required (Clandinin & Caine, 2008; Håkansson & Olsen,

2014). According to Calndinin and Caine (2008), narrative research is more appropriate for storytelling and would therefore be inadequate for providing in-depth understanding of leadership strategies to improve workplace safety. Furthermore, grounded theory was inappropriate because it is primarily designed for theory building from data analytics (Ji Young & Eun-Hee, 2014), which was outside the scope of the current study. In addition, a phenomenological research design was inappropriate because it is used to describe the meaning of the lived experience (Finlay, 2014; Sandquist, 2014; Wahyuni, 2012), yet the purpose of this study was to understand the strategies to improve the workplace safety environment.

Research Question

The study's central research question was as follows: What strategies do business leaders need to improve the workplace safety environment in Zimbabwe? The central research question and subquestions underlie a study by informing the type, quantity, and quality of data required to satisfy the purpose of the study (Lee, 2012). In addition, the research questions inform the choice of research tools used in a study (Leedy & Ormrod, 2014).

Interview Questions

A semistructured interview protocol provides a guide to the researcher on the focal areas for the case study (Leedy & Ormrod, 2014). Additionally, the interview questions should be clear of ambiguity so as to extract the relevant data for a study (Ashton, 2014). Finally, interviews have the added advantage that they allow follow-

through questions to obtain clarification and rich descriptions of the phenomenon under study (Leedy & Ormrod, 2014). The following questions were asked to the participants:

1. What strategies do leaders need to improve workplace safety?

2. How can leaders implement the strategies to improve workplace safety?

3. What challenges are there in creating a safe work environment?

4. What else do you want to share about leadership practices with regard to workplace safety practices?

Conceptual Framework

The plan-do-check-act (PDCA) cycle, also known as the *Shewhart's PDCA cycle*, is a 1939 framework for continual process improvement (Andre, 2013). Shewhart first developed the PDCA cycle, which Deming later improved on in the 1950s (Andre, 2013). The PDCA cycle outlines how organizations implement change efforts; hence, it was most appropriate as a conceptual framework for the current study (Andre, 2013). The choice of the PDCA cycle instead of other organization development approaches was inspired by the need to answer the central research question and provide a systematic approach to improving workplace safety (Manuele, 2014).

The PDCA cycle was selected as the conceptual framework to underpin this study because it introduces systematic intervention planning, execution of planned action, reviewing of the results of the action, and taking further action based on evaluation of the results of action already taken (Manuele, 2014). The systematic approach provided by the PDCA cycle helps identify where leaders in the mining industry in Zimbabwe could be lacking in promoting workplace safety (Andre, 2013). The PDCA approach to change

interventions relies on systematic data collection, analysis, evaluation, and taking action based on objective diagonistics (Manuele, 2014; Shukla, Heda, & Panda, 2015). The systematic approach to introducing change aligns with the purpose of this study, which was to explore how leaders could improve the safety of the work environment.

Operational Definitions

The following definitions clarify the core concepts in the study and inform the approach adopted in addressing the study. The definitions further help in aligning, understanding, and providing a shared lens from which to view reality (Leedy & Ormrod, 2014). The key definitions further simplify a study by enhancing understanding of the concepts in a study.

Workplace accidents: Workplace accidents refer to events at the workplace that cause external and visible disabilities and invisible discomfort, dislocation, disfigurement, dismemberment including pain, suffering, trauma, and death resulting from a workplace accident (Matthews et al., 2012).

Workplace safety: Workplace safety refers to all efforts to reduce the risk of a person within the workplace being killed or injured (Tetrick & Pieró, 2016; Wang & Dalal, 2013). Workplace safety is improved by implementing interventions that improve the safety of the work environment (Molamohamadi & Ismail, 2014).

Workplace safety culture: Workplace safety culture includes the workers' beliefs, norms, habits, behaviors, and how they react to any changes to these behavioral norms that maintain or improve the occupational safety (Geller, Bolduc, Foy, & Dean, 2012).

Workplace safety evaluation: Evaluation research reveals whether or not the intended results of the interventions were achieved (Latiff Khan, Ghazali, & Ahmad Shahrul Nizam, 2014). Evaluation therefore confirms the success or failure of intervention efforts (Mouton, 2011).

Workplace safety interventions: Interventions comprise strategies and action plans to address safety targets (Molamohamadi & Ismail, 2014). Interventions therefore take many forms and require careful planning (Shukla et al., 2015). Planning to intervene includes who will intervene, how to intervene, when to intervene, and what to change (Shukla et al., 2015; Warrick, 2014).

Assumptions, Limitations, and Delimitations

Not everybody makes the same assumptions; therefore, the suppositions in a study must be clearly stated to avoid misunderstanding (Singh, 2008). Limitations to a study confirm what is supported and what is not confirmed by the evidence and therefore underpin claims to validity and generalizability by separating facts from opinion (Jacobs et al., 2013; Shipman, 2014). Delimitations, however, demarcate the bounds of a study by stating what is included and what is excluded from a study (Leedy & Ormrod, 2014).

Assumptions

Assumptions are suppositions held true but not proven (Fox & Bayat, 2007). For this study, I assumed the participants experienced and were involved in the leadership practices to promote workplace safety. Also, I assumed the participants would be truthful during the interviews. Finally, I assumed the permission to conduct the study from

leading organizations in promoting workplace safety in the mining industry in Zimbabwe would be obtained.

Limitations

The limitations to a study separate the researcher's opinions from the facts embodied in the research evidence and therefore inform validity and generalizability of the research (Dowling, 2007; Shipman, 2014). The potential limitation of the study was that a single coder conducted the data coding for analysis. A further limitation of the study was only three mining sites were studied in Zimbabwe, and no evidence was gathered from other parts of the country or other regions of the world, which limits the statistical generalizability of the research findings.

Delimitations

The delimitations of a study are the bounds within which the study is conducted and stem from the research question (Fox & Bayat, 2007). I confined this study to leadership strategies to promote workplace safety based on the experience of mining business leaders in Zimbabwe. Only the leadership strategies to improve workplace safety were studied.

Significance of the Study

The potential value of the study to business practice is the anticipated reduction in occupational accidents resulting from the implementation of the research findings. Increased workplace safety results in operating efficiences through reduced accidents, injuries, business downtime, operating costs, fines, and penalties (Hansen, 2011; Hee, 2014). The reduction in business costs, injuries, and fatalities could enhance business

viability and sustainability (Bahn, 2013). Furthermore, safe workplaces potentially enhance the attractiveness of the firm on the labor and capital markets (Hill & Seabrook, 2013). Organizations that promote safety may also receive community and government support and earn legitimacy, which further boosts sustainability (Shuayto & Miklovich, 2014). Unsafe workplaces encounter potential international trade sanctions, which may restrict the markets available for a firm's products and services (Palsule-Desai, Tirupati, & Chandra, 2013).

The study contributes to positive social change by placing the safety agenda at the center of individual, family, and community life, as safety knowledge and information increases (Hansen, 2011; Hee, 2014). A safe workplace potentially results in a safe community through knowledge sharing of safety habits and practices from the workplace to the households (Shuayto & Miklovich, 2014). As the company enhances its corporate citizenship through embracing safe work practices, the community collaborates with the organization in its outreach programs, thereby positively contributing to the wider societal safety values and practices (Hill & Seabrook, 2013). Additionally, promoting safe work practices enhances the organizational legitimacy in the community and from regulatory agencies, which improves the organization's sustainability ratings (Tairan, Pepper & Bowrey, 2014).

A Review of the Professional and Academic Literature

The literature search plan comprised the central research question, key words, and a set of inclusion and exclusion criteria (Snaebjornsson & Edvardsson, 2013). Research articles and publications centered on culture, workplace safety, leadership, risk

management, sustainability, and follower behavior were relevant as they captured the essence of this study. The literature review was organized in terms of the key concepts—workplace safety, organizational culture, leadership, sustainability—and concludes with a discussion of followership behavior. Of all the sources cited, 86% were published within the past 5 years. Peer-reviewed journal articles accounted for 86% of all the sources cited in the study.

Workplace Safety

The purpose of this qualitative case study research was to explore the strategies that mining company leaders located in Zimbabwe used to improve the workplace safety environment. The literature review, therefore, begins with an exploration of the safety concept. Safety is an operational state where the chance of loss, damage, or injury is eliminated or minimized (Young, 2012). Attainment of safety entails risk management, which is the effect of uncertainty on outcomes (Chun, Xianghui, Wei, & Yuan, 2014). Safety improvement interventions were either incident induced or proactively planned (Blair, 2014). As reported by Blair (2014), what made safety interventions effective were corrective actions and safety controls. A corrective action is an action taken to eliminate or reduce the cause of a system deficiency, hazard, or risk (Blair, 2014). Safety controls, however, were the processes for risk identification, assessment, and mitigation (Blair, 2014). According to Blair, safety controls had the following rank order or priority hierarchy: (a) elimination, (b) substitution, (c) engineering controls, (d) warnings, (e) administrative controls, and (f) plant, property, and equipment. Safety interventions therefore seek to alter a process or behavior to improve safety performance (Blair, 2014).

As posited by Akelsson et al. (2012), organizations should plan how to achieve safety at the workplace.

Tetrick and Peiró (2016) claimed work was an important part of mankind. Work earns people income, respect, self-identity, and self-esteem (Tetrick & Pieró, 2016). However, the work's context, conditions, processes, procedures, and activities expose the workers to hazards and accidents (Tetrick & Peiró, 2016). The organizational leadership should therefore devise strategies to reduce hazards and prevent accidents from occurring. Organizational health and safety targets center on four pillars: the employee, the leadership, the task, and the environment (Tetrick & Peiró, 2016). The employee pillar of organizational health and safety considers the employee's wellbeing, food and nutrition, physical exercises, mental alertness, skills, training, and development. An unskilled and untrained employee can be a risk to himself or herself (Tetrick & Peiró, 2016). Training and development improves skills and competencies.

The leadership pillar of organizational health and safety embodies the leadership skills, style, and experience of the leader (Tetrick & Peiró, 2016). The business leaders can create a work environment where teamwork can flourish. Leaders ensure mutual trust, rewards, motivation, training, and development (Tetrick & Peiró, 2016). Furthermore, according to Tetrick and Peiró (2016), leaders create the work procedures, provide protective clothing, tools and machinery, and ensure the training of the workforce to use the tools and machinery. Business leadership also create the working conditions by defining the rules of engagement, hours of work, length of break times, shift work, and the design and physical layout of the workspace (Tetrick & Peiró, 2016).

The task environment is closely related to the leadership pillar. As posited by Tetrick and Peiró (2016), the task pillar informs the job content. The task to be performed determines the manpower specifications in terms of skills, experience, and the tools of trade required (Tetrick & Peiró, 2016). The leader should match the employee to the task and the appropriate leadership style in a given situation to guarantee health and safety at the workplace. Finally, the environmental pillar of organizational health and safety embodies the size of the workspace, layout, ventilation, lighting, tools and machinery, and other physical amenities such as rest rooms (Tetrick & Peiró, 2016). Leadership plays a central role in designing the layout and size of the workspace. A crowded workspace is not conducive for health and safety, and neither is inadequate lighting, poor ventilation, and bad housekeeping of the workspace (Tetrick & Peiró, 2016).

Lim et al. (2011) observed the unnatural death rate for the platinum mine workers in South Africa was more than double the global fatality rate due to unnatural causes. As reported by Lim et al. and Elenge et al. (2013), workplace safety in the mining industry was a major challenge that required urgent attention. In the mining industry in South Africa, the organizational error management climate predicted coworker and supervisor safety support and safety behavior (Casey & Krauss, 2013). Additionally, coworker safety support and safety communication in the mining industry had a strong relationship with safety performance as compared to the influence of supervisor safety support and safety communication (Casey & Krauss, 2013). While errors and mistakes were a natural consequence of human activity, errors were costly and often life threatening (Casey & Krauss, 2013). Furthermore, error management provides learning opportunities for

improvement (Casey & Krauss, 2013). Mining is one of the most hazardous occupational activities in the world, with fatal injury incidence rates of over 70 per 100,000 workers and nonfatal injury incidence rates of over 5,000 per 100,000 workers (Casey & Krauss, 2013). The literature on mining industry safety highlighted the importance of evaluating the safety climate of each mining organization to understand the safety performance gaps and how safety improvement can be implemented. The literature on mining industry safety was most appropriate to underpin this research as it focused on leadership practices that improve workplace safety. Safety climate embodies all the policies, procedures, measures, and practices that create a safe working environment (Idris et al., 2014). Safety compliance includes the activities that workers must abide by to maintain safety at work (Idris et al., 2014; Neal & Griffin, 2006). As stated by Neal and Griffin (2006), there was a lagged effect of safety climate on safety motivation. Safety motivation is the voluntary willingness to work alone and in collaboration with others to enact safety (Conchie, 2013). Safety motivation reinforces the formation of a safe work culture (Cronchie, 2013). Employees require motivation to comply with safe work practices and to participate in safety activities.

Safety motivation. Safety motivation is an individual's voluntary willingness to enact safety (McGonagle, Walsh, Kath, & Morrow, 2014). Fell-Carlson (2004) argued in favor of workplace safety incentives as a tool to promote workplace safety. Fell-Carlson recommended the mapping of safety contexts and safety awareness activities to safety improvement efforts aimed at specific safety behaviors and predetermined safety processes. Additionally, Fell-Carlson encouraged the use of safety incentive programs

linked to corporate events, anchored and integrated in corporate vision, mission, and strategy to remind workers of their safety obligations. Shin, Taylor, and Seo (2012) posited that organizational inducements and psychological resilience jointly enabled employees to commit to the implementation of organizational change. According to Shin et al., organizational inducements positively related to two types of employees' commitment to change. Normative and affective behaviors were mediated through positive affect and social exchange (Shin et al., 2012). Shin et al. identified two types of commitment to change that affected discretionary change behaviors. Normative commitment to change is support for change stemming from employees' sense of obligation to their organization (Shin et al., 2012). Contrastingly, affective commitment to change is a desire to support change based on beliefs about the benefits the change brings (Shin et al., 2012).

Employees receive various forms of inducements from their organizations in exchange for the actual and anticipated contributions they make to organizational performance (Shin et al., 2012). As posited by Greyvenstein and Cilliers (2012), employees given abundant inducements and resources by their organizations felt needed, valued, supported, and thus were a part of their organization. A feeling that one is wanted and valued by their organization increases individuals' positive emotions towards their workplace (Greyvenstein & Cilliers, 2012). Employees who perceived high levels of organizational inducements were likely to feel more positive emotions during organizational change than those who perceived low levels of inducements (Cronchie, 2013). Inducements can promote an organizational culture (Hoffmeister et al., 2014).

Hajaistron (2014) argued in favour of safety coaching as an ancillary to safety motivation. According to Hajaistron, employees must be given training in life saving procedures. In order to embed safety skills in employees, managers and supervisors must identify safety contacts, which are situations where they catch their employees doing well or badly on safety (Hajaistron, 2014). The managers used these good or bad safety incidents as training opportunities and examples to give employees experiential learning and practice (Hajaistron, 2014). As part of safety coaching, employees require induction and training in hazard identification, postincident reaction training, and root cause analysis training to enable the correct diagnosis of the problem and prescription of appropriate remedial action (Hajaistron, 2014). From the literature, leaders can shape the behaviors of employees through training, motivation, and inducements to achieve a desired workplace safety culture.

Organizational Culture

As stated by Parker (2012), organizational culture refers to a complex system bounded by values, beliefs, language, and artifacts that hold people together and guide attitude and behavior in the organization. Khosla (2015) went further and stated that organizational culture includes both tangible and intangible artifacts. Intangible artifacts of organizational culture include shared understandings, beliefs, and values (Khosla, 2015). The tangible characteristics of organizational culture include codified norms, such as employee handbooks, manuals and procedure guides, and the company hierarchy (Khosla, 2015). Theories of organizational culture therefore seek to understand and define the tangible and intangible elements of culture to gain an understanding of the

internal culture of organizations. Culture is dynamic and underpins everyday activity (Khosla, 2015). Understanding organizational culture enables the appropriate selection of organizational strategy and leadership behaviors (Parker, 2012). Khosla employed the adaptationist and ideationalist concepts of culture formation to depict the most influential drivers of culture in organizations. The adaptationist concept of culture formation anchors on observable artifacts common to members of a community and include features such as speech, behavior, and the tools used (Khosla, 2015). The ideationist concept of culture relies on shared beliefs, norms, habits, shared knowledge, meanings, and ideas shared by a community of people (Khosla, 2015).

Dwivedi, Kaushik, and Luxmi (2014) summed up the concept of organizational culture by arguing it is the manner in which everything is accomplished in the organization. Leaders should therefore embrace all concepts of culture and use the most influential cultural concept to a particular work setting to attain corporate objectives (Khosla, 2015). As Nguyen, Yunshi, Ping-Fu, and Sheng-Hung (2014) reported, organizations were open systems; therefore, organizational culture was influenced by both internal and external factors. Organizational cultures were dynamic and changed with changes in leadership, team demographics, and changes in the business environment (Nguyen et al., 2014). Theodore (2013) argued in favor of creating learning organizations. Learning organizations allow people continually to expand their capacity to create the results they desire, environments where new and expansive patterns of thinking were nurtured, and entities designed to set free collective aspirations (Theodore, 2013). Furthermore, learning organizations were organizations where people continually

learn together and from each other (Theodore, 2013). Zhengchi, Jennifer, and Mingyong (2015) argued in favor of introducing incentives for knowledge sharing. According to Zhengchi et al., organizations should strive to integrate knowledge sharing in management practices. Businesses must develop capabilities to harness, manage, and use organizational information (Zhengchi et al., 2015). According to Theodore, an organization development intervention is the process of entering into an ongoing organizational relationship to help increase capacity and self-renewal. Foster and Hoult (2013) identified and described an organizational safety culture maturity model with the following three phases: dependent, independent, and interdependent.

Workplace safety culture. The three stages of safety culture formation using the safety culture maturity model were dependent, independent, and interdependent (Foster & Hoult, 2013). A dependent safety culture emphasizes adherence to rules, procedures, regulations, and management supervisory control (Foster & Hoult, 2013). Safety depends on management supervision (Hee, 2014). An independent safety culture focuses on inculcating personal commitment, accountability, and responsibility for safety (Foster & Hoult, 2013). Employees become their own safety managers. An interdependent culture is when everyone cares for the others' safety (Geller et al., 2012). Safety becomes a shared responsibility (Foster & Hoult, 2013). From the literature, however, it was not evident how an organization can develop from the dependent safety culture to an interdependent safety culture.

The factors that contribute to the creation of a workplace safety culture were leadership support, management commitment, and the implementation of a formal safety

management system (Hee, 2014). Lyndon et al. (2015), in agreement with Hee (2014), identified human factors as the main cause of workplace accidents. According to Lyndon et al., communication facilitates information dissemination and correction of potentially hazardous conditions. Every team member must be empowered to express their views about safety. Pelantova and Vitvarova (2015) stated that the responsibility for safety, priority for safety, learning from incidents, resourcing for safety, and creating a safety system were management's key result areas in every organization. Safety characteristics were measured to identify root causes, deal with nonconformities, and reward safety compliance (Pelantova & Vitvarova, 2015). As opined by Pelantova and Vitvarova, safety training, safety inspections, and reporting were critical elements of organizational safety culture.

Most accidents in the workplace were caused by failure of human factors such as communication, leadership, and judgment (Lyndon et al., 2015). A safety culture encourages the exhibition of safety compliance and safety participation behavior through empowerment and belongingness (Hee, 2014; Pater, 2014). According to Hee (2014), a safety culture benefited organizations by influencing safety behavior, fostering trust, and encouraging participation in safety activities. A safety culture also benefited organizations by reminding employees about safety, empowering employees through safe work practices, encouraging shared responsibility, and establishing communication and information sharing channels in the workplace (Hee, 2014). A safety culture was a product of individual and group values, perceptions, attitudes, behaviors, and competencies (Hee, 2014). As posited by Williamsen (2013), reporting accidents was part

of culture building. Not reporting all accidents resulted in overlooking opportunities for organizational safety performance improvement (Williamsen, 2013). Near-miss accident reporting was therefore an integral part of developing a workplace safety culture (Williamsen, 2013). According to Wang and Dalal (2013), a safe culture formation was the starting point in achieving corporate sustainability.

Jin and Chen (2013) defined safety culture as all the aspects of an organization that influenced attitudes and behaviors related to increasing or decreasing workplace risk. As reported by Jin and Chen and Shukla et al. (2015), a collaborative workplace safety enforcement program involving all levels of staff improved safety performance. Continuous safety monitoring and reporting increased accountability and safety performance (Jin & Chen, 2013). According to Geller et al. (2012), a caring safety culture was achieved by ensuring employees cared for each other and actively looked out for each other's safety. Related subthemes to workplace safety culture were organizational learning, working conditions, and sustainability as they complimented safety culture formation (David, Theodore, & David, 2012; Dinu, 2013; Jin & Chen, 2013).

As observed by David et al. (2012), there was a close relationship between the length of accumulated break time and the length of time to injury. A safe culture formation requires; reflective practice, communication, collaboration, inclusivity, and incentives (Jin & Chen, 2013; Williamsen, 2013). However, there were also factors and conditions that militated against the embedment of a safe work culture (Geller et al., 2012; Wang & Dalal, 2013). Once a desirable culture is created, it should be sustained and improved upon to enhance organizational effectiveness (Geller, 2014; Tairan et al.,

2014). From the evidence reported by Dinu (2013), a sustainable safety culture depended on the interaction effects of multiple environmental and specific individual factors to create an atmosphere that characterize the organization. The organizational climate variables influencing sustainability culture formation included; working conditions, internal communication, political climate, procedures, motivation, job satisfaction, participation in decision making, relationships between and across levels, workplace safety, rewards, and benefits (Dinu, 2013; Zdanyte & Neverauskas, 2014). Latiff Khan et al. (2014) argued in favor of the investment in skills training across all organizational levels to quicken knowledge transfer and assimilation. Josephine and Kinyanjui (2012) advocated for the mainstreaming of occupational safety and health into the education curricula at different levels of education and vocational training to build culture from early childhood learning. Jun (2013) believed the deployment of information management systems would improve production, health, and safety management information of the organization.

As observed by Jun (2013), the application of accident early warning indicator systems improved mining safety. Jun further argued that mine accident early warning information management systems optimize systematic research, systems standardization, and the efficient collection of safety information. The accident early-warning indicator hierarchy lists; people, equipment, environment, and management as the core pillars of mining safety (Jun, 2013). Under the personnel pillar, an assessment of the personnel's physiological status, mental state, cumulative fatigue, working hours, experience on the job, and safety knowledge is conducted (Jun, 2013). In respect of equipment; the usage

rate, condition of equipment, state and frequency of maintenance, and physical preventive barriers were assessed (Jun, 2013). With reference to the environment pillar; the geological conditions, rock formation, roof-caving status, ventilation, drainage, and rock-fall preventive measures were assessed (Jun, 2013). Finally, with regards to management; an assessment is conducted of the rationality of mining designs, production systems, production methods, level of safety education, quality of education, and intensity of safety training (Jun, 2013). From the evidence reported by Pagura (2013), people tend to forget their health and safety obligations under the labor laws. According to Pagura, health and safety legislation seek a uniform approach to occupational health and safety management. The employer is a primary duty holder for ensuring health and safety at the workplace (Pagura, 2013). The definition of employer is broad and encompasses individuals, partnerships, companies, and the self-employed (Pagura, 2013). From the literature, workplace safety can be achieved, and the responsibility for safety is for everybody. However, the literature does not provide a definite approach on how leaders can achieve workplace safety.

Health and safety legislation imposes numerous reporting requirements for employers for incidents and their remediation (Pagura, 2013). There are also specific duties for an employee to take reasonable care for his or her health and safety and the safety of other persons (Pagura, 2013). The breach of health and safety legislation results in penalties which differ depending on the seriousness of the offense committed, and the jurisdiction in which the offense is committed (Pagura, 2013). Other health and safety legislation protect the safety of workers and criminalize the failure to ensure the

protection of workers (Miller & Gordon, 2015). Rosner and Markowitz (2016) observed discomfort by employers from increased health and safety legislation. Instead, employers were advocating for self-regulation and voluntary collaboration with workers to improve the workplace safety environment (Rosner & Markowitz, 2016). Organizations adopted various interventions to improve health and safety at the workplace by raising health and safety education through conducting awareness campaigns led by management and workers' committees. According to Rosner and Markowitz, other interventions that improved health and safety at the workplace were; danger warning posters, data sheets, container labels, and public lectures. Voluntary workplace safety improvements through collaboration with the workers, supply chain partners, and government agencies achieved greater results than relying on legislative provisions on health and safety (Rosner & Markowitz, 2016). Health and safety legislation anchors on three pillars; an enforcement agency, employee involvement, and self-regulation by employers (Epstein, 2012). Epstein argued that legislation was an inefficient approach to achieving health and safety improvement in the workplace because legislation imposed costs on fines, penalties, and compliance requirements, which resources could be used to further improve workplace safety. The effectiveness of legislation in improving workplace safety was questionable (Epstein, 2012). As observed by Epstein (2012), there can never be adequate resources to monitor every workplace for safety compliance as the cost would be prohibitive and an administratively impossible. Employers should embrace risk self-assessment to identify hazards and take appropriate remedial action before the event occurs (Epstein, 2012).

Greater education for both management and employees in risk management techniques could result in improved effectiveness of the workplace safety improvement initiatives.

Cole, Chaudhary, and Bang (2014) advocated for sustainable risk management for an evolving business environment as a pathway for businesses to remain viable. Sustainable risk management involved scenario analysis to identify, evaluate, and provide risk treatments for every conceivable outcome (Cole et al., 2014). Sustainable risk management prioritized strategies for risks that have the highest likely impact on the organization (Cole et al., 2014). Cole et al. opined, continual self-assessment and strengthening of controls assists to achieve security and compliance. Organizations should embrace a continuous process of learning and improvement, by responding to threats, avoiding repercussions, and avoid suffering a damaged reputation (Cole et al., 2014).

Ralph (2014) approached risk management from the perspective of the International Organization for Standardization (ISO). ISO introduced ISO 31,000:2009 risk management principles and guidelines standard to assist organizations manage risk. ISO 31,000:2009 anchors on three pillars; the principles, framework, and the process (Ralph, 2014). The ISO standard on risk management recommends an identify-analyze-evaluate-treat process (Ralph, 2014). Organizations however, should set the risk management process in the context of the business, and design a framework for managing risk, implementing risk management, monitoring and reviewing risk management, and continual improvement of the whole process. Ralph posited, the ISO 31,000 risk management standard does not prescribe risk assessment methodologies or tools, and this

could be an area of challenge to the businesses. According to Preda (2013), the absence of a certification scheme for organizations limits the adoption and internationalization of the risk management standard and this should be addressed when the standard is revised.

An international risk management standard is a set of rules, principles, and guidelines which should be followed to provide a coherent and systematic approach in respect of processes, structure, content, and quality (Preda, 2013). As recommended by Preda (2013), ISO standards ensure products and services are of good quality, safe, and reliable. ISO standards are strategic tools that business leaders must adopt and use to reduce costs, variability, and to minimize waste and errors. The advantage of ISO standards is they can be used by any size organization (Preda, 2013). The ISO risk management standard recommends the integration of risk management in the organization's overall management processes and practices (Preda, 2013; Ralph, 2014). However, despite some shortcomings that are in the current ISO 31,000 risk management standard, the standard remains a useful guide for organizations seeking to manage risk. Adopting ISO standards can help organization develop and embed culture by eliminating variability.

Sharma (2013) opined, organizations require knowledge management systems to harness experiential learning. Knowledge management is the process of managing organizational knowledge to create firm value by; leveraging, creating, developing, and improving the organizational competencies to achieve organizational goals (Sharma, 2013). The major processes of a knowledge management program include: (a) processes and tools for connecting knowledgeable people in different units of the organization, (b)

processes and tools for company-wide accessibility of information about best practices, guidelines, experiences, ideas, and exceptional results based practices, (c) learning tools for improving organizational and team performance, and (d) inventories of knowledge areas for example where to obtain the knowledge on a specific area (Sharma, 2013). According to Sharma, knowledge management capabilities include the following: (a) technology, which are the information technology systems that facilitate integration of knowledge, knowledge storage, transfer, and protection of the organization's knowledge resources, (b) organizational culture, which is a complex collection of values, beliefs, behaviors, symbols, and interpretations that influence organizational flexibility and adaptability to change, and (c) organizational structure, which is the hierarchical manner in which the jobs in a firm are organized. Knowledge management therefore, enhances culture formation and organizational effectiveness in improving workplace safety.

As reported by Molamohamadi and Ismail (2014), occupational safety, health, and environment strategies were interrelated to sustainable development strategies and ignoring one set of strategies resulted in failure of the overall strategy for the organization. Occupational safety, health, and environment and sustainable development were concerned about conserving resources (Molamohamadi & Ismail, 2014). Sustainability focuses on environmental resources while human resources is the concern for occupational safety and health (Strand, 2014). Sustainable development is the continuous concern about the impact of business decisions on the environment, safety, occupational health, economy, and society (Strand, 2014). Leadership is a central pillar in corporate sustainability management and workplace safety improvement (Doh &

Quigley, 2014; Molamohamadi & Ismail, 2014). John Henrik, Marcus, and Hellen, (2014) recommended the application of the PDCA cycle to facilitate organizational sustainability through continual improvement and change. The PDCA cycle involves the following steps: (a) plan an event, including establishing the measures of success or quality as well as determining the process to be followed, (b) do implement the plan, (c) check the results of the implementation of the plan, and (d) act on what is learned (John Henrik et al., 2014). All steps were followed for each operating level and for each activity in helical fashion (Andre, 2013). Implementing the PDCA cycle improves skills, focus, accountability, and objectivity in evaluating interventions in organizations (Manuele, 2014). The PDCA approach is action oriented and harmonizes internal and external focus of the employees and management (John Henrik et al., 2014). The PDCA cycle enables management and employees to anticipate the future by embracing risk-based thinking (John Henrik et al., 2014). The PDCA framework entails the setting of goals and establishment of methods to attain the set goals (Andre, 2013). According to John Henrik et al. (2014), the PDCA framework anchors on systematic, structured, and timely interventions to improve organizational performance. Moreover, training interventions were deployed to strengthen implementation capacity (Manuele, 2014). Measurement metrics were pre-determined and evaluation takes place against set metrics (John Henrik et al., 2014). Further action is taken to remedy performance based on further planning and implementation and taking into account the experiential knowledge learned (John Henrik et al., 2014).

Moen and Norman (2010) extended knowledge on the PDCA cycle by exploring Deming's plan-do-study-act cycle (PDSA), a problem solving and performance improvement approach for organizations. As observed by Moen and Norman (2010), the PDSA cycle derives from the PDCA cycle, and is a dynamic process of acquiring knowledge, which helps in problem diagnosis in organizations. Moen and Norman (2010) concurred with Andre (2013) and John Henrik et al. (2014) on the PDCA process starting with: (a) Planning, or defining a problem and hypothesizing possible causes and solutions, (b) doing, or implementing the possible solutions, (c) studying, or evaluating the results, and (d) acting, or taking corrective action to improve performance if the results were not satisfactory, or standardizing the process if the results were satisfactory.

The PDCA cycle relates to leadership, management, and worker involvement and competence (John Henrik et al., 2014). Systematic intervention, planned evaluation, and diagnostics are at the center of effective organizational change management and culture formation (John Henrik et al., 2014). The PDCA cycle balances the systems and behavioral aspects of management and integrates risk management into the organizational processes (John Henrik et al., 2014). The PDCA cycle is helical in nature and assumes a spiral of stages involving planning, implementation, evaluation, and taking corrective action based on objective diagnostics (John Henrik et al., 2014). Andre (2013) further explored the helical nature of the PDCA cycle and proposed an alternative change management approach, the plan-do-stabilize-repeat plus empower and communicate process to guide change programs in organizations. According to Andre (2013), existing change models erroneously presumed a start and end to organizational change programs.

The plan-do-stabilize-repeat process is a continuous change process and aligns with the evolving nature of organizations (Andre, 2013; John Henrik et al., 2014). The plan-do-stabilize-repeat plus empower and communicate process is an improvement on the Deming cycle (plan-do-study-act) and Shewhart's PDCA cycle (Andre, 2013). Smith (2012) identified two forms of organizational learning models with relevance to organization development as single-loop learning and double-loop learning. Single-loop learning is action oriented, routine, incremental, and occurring within existing mental models, norms, practices, procedures, and assumptions (Smith, 2012). Double-loop learning however, involves changing the mental models, norms, policies, procedures, and assumptions underlying occupational behavior (Smith, 2012). According to Smith, organizational learning and transformation therefore, demand double-loop learning approaches and align with the PDCA framework, which anchors on system-wide continuous learning and improvement (Andre, 2013; Manuele, 2014). From the literature, culture formation was facilitated by collective learning and development, standardized work processes, knowledge management, and adopting risk-based thinking practices and systems. Business leaders should lead the processes necessary for organizational transformation.

Leadership

Leadership is a characteristic to influence others to commit to the leader's desired objectives (McCkleskey, 2014). Early theories considered leadership as a characteristic of extraordinary individuals, known as the great man theory (McCkleskey, 2014). The great man theory later evolved to the leadership trait theory, which in turn evolved into

transactional, situational, and transformational leadership theories (McCkleskey, 2014). According to Collinson and Tourish (2015), leadership involves eliciting cooperation and teamwork from a large network of people and keeping the key people in the network motivated. Therefore, an exploration is required on how leadership practices were operationalized.

Leadership practices potentially improved workplace safety (Doh & Quigley, 2014). Having concern for the workers' safety was testimony of responsible leadership (Doh & Quigley, 2014). Responsible leadership manifested in organizations when companies added a social dimension to the value proposition, thereby making social impact integral to overall business strategy (Doh & Quigley, 2014). Miska, Hilbe, and Mayer (2014) and Voegtlin, Patzer, and Scherer (2012) observed responsible leaders as accountable always to all their stakeholders. Responsible leaders respected an unwritten social contract with their environment and communities which guaranteed ethical leadership and sustainability (Doh & Quigley, 2014). Furthermore, responsible leaders understood the profit trade-off of sustainability practices (Doh & Quigley, 2014). Leaders who cared about their employees and provided feedback on safe activities and behaviors influenced positive safety behaviors (Hajaistron, 2014).

As observed by Doh and Quigley (2014), responsible leadership followed four distinct pathways. At the individual level, responsible leadership considered the interests of followers and this employee focus fostered teamwork, motivation, and creativity in individual team members (Doh & Quigley, 2014). From a team perspective, responsible leadership uses team learning, diversity, and collaboration to enhance psychological

safety and learning (Doh & Quigley, 2014). At the organizational level, responsible leadership took an inclusive stakeholder consultative and collaborative approach; to cement relations, build culture, and promote knowledge sharing (Doh & Quigley, 2014). Finally, at the societal level, responsible leadership scanned the environment, anticipated change, and planned how to embrace change for the benefit of the community (Doh & Quigley, 2014). Smit (2013) identified potential hindrances to responsible leadership.

The central role of self-interest and profit maximization in business and economic studies was the root cause of; greed, corruption, social, and environmental over-exploitation and undermined responsible leadership (Smit, 2013). Responsible leadership advocates for companies to promote core values anchored on; human rights, fair, and safe labor standards, environmental concern, and anti-corruption (Smit, 2013). Sharif and Scandura (2014) considered the leader ethics and how this influenced followership behavior and workplace safety.

Sharif and Scandura (2014) opined, the pathway to organizational change effectiveness started with ethical leadership, followed by the involvement of all staff in the change process. Organizational change is conceptualized as the opportunity to change, capability to change, and motivation to change (Sharif & Scandura, 2014). As observed by Sharif and Scandura, ethical leadership was the demonstration of normatively appropriate personal and interpersonal actions and interactions exemplified by demonstrating care, trustworthiness, honesty, fairness, rewarding positive behaviors, and disciplining unethical behaviors. Business leaders use different leadership styles to obtain followership support.

Leadership styles. Leaders shape the culture of an organization using different styles and practices to change the beliefs, norms, habits, behaviors, and how employees react to any changes to these behavioral norms (Geller et al., 2012). Organizations with high incidences of workplace accidents can transform to high-safety workplaces through critical reflection and planned change (Akelsson et al., 2012). Additionally, leaders' commitment to safety was a critical factor in fostering workplace safety culture (Hansen, 2011; Mulenga, Town, & Bagraim, 2011). Manuele (2014) opined, leaders must return to the basics of managing and leading by continuously monitoring, measuring, and providing feedback to team members on their performance on the critical organizational deliverables. McCkleskey (2014) explored situational, transactional, and transformational leadership styles to depict when each leadership style would be most appropriate to apply.

Situational leadership. According to McCkleskey (2014), situational leadership required a rational understanding of the situation and coming up with an appropriate response. The leader's action is dependent on a detailed understanding of the situation (Collinson & Tourish, 2015). Understanding the situation pre-occupies the leader's mind as leadership practices must align with the dictates of the situation (McCleskey, 2014). As stated by Haibin and Shanshi (2014), matching the leadership style to the situation aligns the leadership style to the employees' level of comprehension and willingness to follow the leader. Situational leadership premises on understanding the link between employee behavior and leader behavior in combination with follower level of development (Greyvenstein & Cilliers, 2012). Situational leadership effectiveness

dictates equipping employees with the relevant skills to execute the task, which is achieved through training and development interventions (Bedford & Gehlert, 2013). As posited by Hersey and Blanchard (as cited by West, 2013), situational leadership has a continuum of styles dictated to by the follower behavior and capacity. A situational leader focuses on either the task or the relationship and the leader behavior depends on the capacity of the followers and the complexity of the task (West, 2013).

Transactional leadership. Transactional leadership focuses on the exchanges between leaders and followers designed to bring benefits to the individual and the organization (McCkleskey, 2014). Hoffmeister et al. (2014) stated, transactional leadership embodied; contingent rewards, active management by exception, and passive management by exception. Contingent rewards mean providing rewards and recognition for positive safety behaviors, and communicating the reward contingencies to employees (Hoffmeister et al., 2014). Management by exception discourages unsafe behavior both in active and passive form (Hoffmeister et al., 2014). In passive form, management by exception takes an after the event approach to correcting employee behavior, whilst in active management by exception, leaders are proactive in preventing unsafe employee behaviors (Hoffmeister et al., 2014). As observed by Kahai, Jestrie, and Rui (2013), transactional leadership involves setting clear objectives and goals for the followers and the use of either punishments or rewards to encourage compliance with these goals. Transactional leadership therefore lays the foundation for transformational leadership, and is a necessary skill for every leader (Kahai et al., 2013). Transactional leadership derives from the leader's hierarchical position and the leader uses rewards and

punishment to enforce behavioral change and compliance with organizational goals (Rowland, 2014).

Transformational leadership. As reported by Collinson and Tourish (2015), transformational leadership is when a leader raises the followers' consciousness about the importance of attaining the set objectives to a level beyond self-interest in pursuit of organizational goals. Transformational leadership uses idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Hoffmeister et al., 2014). Hoffmeister et al. (2014) opined, idealized influence is the degree to which a leader is exemplary to employees who then attempt to emulate the leader behaviors. Conversely, inspirational motivation is concerned with encouraging employees to achieve results greater than their personal goals and aspirations (Hoffmeister et al., 2014). Intellectual stimulation attempts to inspire employees to be creative and innovative (Hoffmeister et al., 2014). As stated by Hoffmeister et al. individualized consideration involves the leader showing respect and personal concern for employees.

Transformational leadership predicted occupational injuries through the effects of perceived safety climate, safety consciousness, and safety related events (Conchie, 2013). Conchie (2013) posited that leaders exhibiting transformational leadership promoted high quality leader-member exchanges resulting in increased knowledge sharing as employee relational identification and organizational identification converged. According to Carter, Armenakis, Field, and Mossholder (2013), Clarke (2013), and Xue, Bradley, and Liang (2011), transformational leadership fostered team development, team environment, and empowering leadership. Additionally, transformational leadership influenced individuals'

knowledge sharing behaviors, which affects attitudes positively towards knowledge sharing and goal congruence (Carter et al., 2013). Xue et al. (2011) argued that team members who trusted one another and were led by empowering leaders had a higher-level of knowledge sharing and unity of purpose. As reported by Carter et al. (2013) transformational leadership was associated with organizational change effectiveness. Conchie et al. (2012) explored safety-specific transformational leadership. Task specific transformational leadership focuses relationship building and creates exchanges defined by mutual concern and socioeconomic benefits. Conchie et al. postulated, transformational leaders develop an empowering relationship with their team members, which enables followers to openly challenge the processes, innovate, and create a learning organization. Fear of retribution weakens the trust relationship between the leader and the followers and therefore, transformational leaders do not resort to intimidation to achieve results (Conchie et al., 2012). As stated by Ghasabeh, Reaiche, and Soosay (2015), transformational leadership stimulates new idea generation and innovation through; intellectual stimulation, inspirational motivation, idealized influence, and individualized consideration.

Mathew and Gupta (2015) approached transformational leadership from the perspective of emotional intelligence. As reported by Mathew and Gupta, transformational leadership is relationship centered. Transformational leaders therefore, concentrate on stimulating the emotions of their followers to influence the team to do more than is expected of them (Mathew & Gupta, 2015). Mathew and Gupta suggested, transformational leaders; guide, motivate, inspire, listen, persuade, and create

significance. Transformational leadership enhances productivity, increases job satisfaction, reduces stress, and increases organizational commitment (Mathew & Gupta, 2015). Managing emotions is a key aspect of transformational leaders' jobs. As reported by Mathew and Gupta, emotional intelligence has the following domains; knowing one's emotions, managing one's emotions, motivating oneself by controlling emotions, recognizing emotions in others, and managing emotions in others in order to build relationships.

Charismatic leadership. As posited by Lapierre, Bremner, and McMullan (2012), leadership behaviors derive from the interaction effects of the leaders and followers and therefore, require sensitivity analysis and context matching. Understanding how leaders and followers make sense of organizational behavior was foundational when implementing organizational change interventions (Epitropaki, Martin, Tram-Quon, & Topakas, 2013). A leader who has socialized charismatic leadership and personalized charismatic leadership traits was more suited to adjust to the dictates of the followers' behavior towards leadership action (Lapierre et al., 2012). A leader with both socialized and personalized charismatic leadership traits achieved organizational success working with either passive or proactive followers (Lapierre et al., 2012). Charismatic leadership arises out of extraordinary events such as exemplary performance in a difficult environment or situation, courage, and extraordinary results (Zehir, Müceldili, Altindağ, Şehitoğlu, & Zehir, 2014). A leader is revered for achieving extraordinary accomplishments and followers rally behind the leader because of the past achievements (Zehir et al., 2014). For a workplace improvement program, workers therefore search for

past accident events and assess how a leader responded in each situation. However, where there is no history and records of a past event of significance, charismatic leadership will have no basis to stimulate followership and other leadership approaches will be required.

According to Junker (2014), charismatic authority is an interactional relationship between leader and followers. Followers of charismatic leaders are adoring and obedient to the leader (Zehir et al., 2014). However, leaders may not see and control every situation that may confront followers, which gives followers some freedom to act independently of the leader (Junker, 2014). Followers can influence charismatic leaders through collective action (Junker, 2014). As observed by Junker (2014), charisma is not a characteristic of a person. Charisma is a social relationship in which followers attribute to the leader some kind of extraordinary status, which supports a command and obedience type of relationship between the leader and the followers (Junker, 2014).

The leader's authority depends in part on the recognition of the authority by the followers, and the leader's capacity to deliver extraordinary results as proof of the leader's legitimacy (Lapierre et al., 2012). The leader has authority to command his or her devotees (Junker, 2014). Charismatic obedience is based on emotions, and is almost a pure form of supplanting one's interests for the leader's interests (Junker, 2014). A charismatic leader must manage his or her charismatic legitimacy in times of change otherwise his or her authority gets diminished (Junker, 2014). According to Junker (2014), failure to articulate the vision, mission, strategy, and action plans to the followers may result in decentralized, voluntaristic collective action by followers, which weakens

the leader's control over the followers. Pardesi and Pardesi (2013) observed, charismatic leadership differed from other forms of leadership because charismatic leaders do not use power to influence followers but instead use authority. According to Pardesi and Pardesi, power is the ability to make people obey orders regardless of their resistance, yet with authority, orders are obeyed voluntarily by those receiving them.

Instrumental leadership. While transformational leaders inspire their followers with a positive value-based vision of the future, contrastingly, transactional leaders rely on clearly defined action plans to guide execution of the task (Rowold, 2014). As stated by Rowold, there are a number of leadership behaviors which are not addressed adequately by traditional leadership theories, hence, the need for the instrumental leadership style. Instrumental leadership style focuses on strategy formulation and implementation, environmental scanning and monitoring, market intelligence, team supervision, work monitoring, and team development (Rowold, 2014). Rowold opined, transactional, transformational, charismatic, and instrumental leadership were complimentary leadership styles which every leader should possess to be effective.

Rossouw (2010) approached corporate leadership from a corporate governance perspective. According to Rossouw, the King report on corporate governance for South Africa published in 2009 (King III) emphasises responsible leadership and corporate sustainability. A company should have a board of directors with the necessary skills and experience to develop and implement policies, procedures, and controls that ensure the company's operations positively impact on the triple bottom line (Rossouw, 2010). As observed by Rossouw, roles and responsibilities must be defined for inclusive risk

management which is embedded in all aspects of the company's operations. As stated by Rossouw, the Global Reporting Initiative (GRI) enhances responsible leadership and accountability by emphasizing independently verifiable results and not just public relations disclosures. Integrated reporting entails providing information on how the company manages; risks, challenges, and opportunities in qualitative and quantitative terms (Rossouw, 2010). The board of directors through its functional committees provides oversight to managerial action and decision making thereby strengthening leadership and management (Rossouw, 2010). The literature on leadership provided insights on how a business leader can implement an organization development intervention by using different leadership approaches and styles to harness the support of the followers in different work settings. The literature provided different cases and scenarios for leaders to choose from and the challenge remains with the business leader on which approach to select in any given situation. The leadership challenge remains what to do, how do it, and when to do what, in a life-threatening situation as evidenced in a workplace safety incident.

Leader-Follower Relationship

Most people practice the roles of both leader and follower in organizations and more often assume the followership role (Raffo, 2013). Followership is being subordinate to someone possessing more power, authority, and influence (Alvesson & Blom, 2015). Followership is a process in which subordinates recognize their responsibility to comply with the orders of leaders or to take action that contributes to the attainment of organizational goals (Alvesson & Blom, 2015). Leaders and followers share a common

purpose yet leaders and followers have different functions but driving towards achieving organizational success (Raffo, 2013). From the evidenced reported by Oc and Bashshur (2013), followers affect leader behaviors through influence tactics drawn on followers' different sources of power or through different types of feedback. Leaders exist in the same social context as followers and consequently, leadership and followership are joint constructs (Oc & Bashshur, 2013). Leadership exists in the minds of followers and the followers' implicit beliefs and assumptions regarding the characteristics of effective leadership translate into leadership prototypes for an ideal leader in a given situation or context (Oc & Bashshur, 2013). Leaders who match the leadership prototypes idealized by followers receive greater leadership assessment ratings (Oc & Bashshur, 2013). Leadership is therefore, effective when viewed as such by followers, who then voluntarily support the leader in executing organizational strategy (Oc & Bashshur, 2013).

Followership behavior can be at variance with the leader's expectations and preferences (Greyvenstein & Cilliers, 2012). Greyvenstein and Cilliers emphasized the importance of respect, empowerment, and effectiveness in a leader-follower relationship. Traditional leadership theory emphasizes leadership at the expense of followership despite the fact that leading and followership happen at the same time, place, and context (Greyvenstein & Cilliers, 2012). Irresponsible leadership which relies on positional power and influence, and uses excessive social and economic exploitation results in strained and diminished trust relationship between leaders and followers (Oc & Bashshur, 2013). Leaders must optimize relationships with followers and influence organizational

change through people (Greyvenstein & Cilliers, 2012). Stewardship leadership focuses on relational motivation and contextual supportive leadership behaviors that promote personal responsibility (Greyvenstein & Cilliers, 2012). Followers who follow a leader because of fear, are impoverished, resentful, lack innovation, shun teamwork, and have no organizational commitment (Oc & Bashshur, 2013). Personal responsibility in followers' anchors on identification, intrinsic motivation, interpersonal trust, and moral courage (Greyvenstein & Cilliers, 2012). Shared or distributed leadership narrows the power gap between leaders and followers and takes a dynamic perspective of leading and following which recognizes different people assuming leadership and followership roles at different times and contexts (Oc & Bashshur, 2013). Organizations therefore, need effective followers as much as they need effective leaders. Leadership and followership skills are developed through training (Oc & Bashshur, 2013).

The significance of the literature on followership to the current study is that followership and leadership happen at the same time and therefore are joint constructs (Lapierre et al., 2012). Understanding the leadership behaviors without understanding followership behaviors would lead to a distorted interpretation of how leaders promote safety in the work environment (Greyvenstein & Cilliers, 2012). A literature review of both leadership and followership approaches helped in exploring the interaction effects of the leader and follower as it determined leadership strategies, which is the focus of the current study. Many literature sources about workplace safety were reviewed and the following themes kept recurring; leadership, followership, organizational culture, and sustainability. However, there were no literature sources that specifically focused on

leadership strategies that promote workplace safety, which is the focus of this research. The PDCA cycle emerged as a strategic tool to help manage experiential knowledge, continuous learning, and organizational change (Knight & Allen, 2012). The PDCA cycle provided a reference point from which to evaluate how business leaders intervene in organizations to improve the workplace safety climate.

Transition

Section 1, of this study covered the motivation for the study. Workplace safety is a global challenge affecting all businesses across all sectors of the economy and challenging business leaders to devise strategies that effectively reduce workplace accidents (Hee, 2014). The PDCA cycle is the reference point in evaluating how leaders embed a safety culture in their organizations (John Henrik et al., 2009). The study follows a central research question, which explores the strategies leaders use to improve the workplace safety environment. A qualitative multicase study research design was chosen to explore how leaders promote workplace safety based on the experience of managers and supervisors in the mining industry in Zimbabwe. Semistructured interviews and documents study were the most appropriate research tools to gather data for this research. Semistructured interviews allow open discussion guided by the set questions and allow open expression of viewpoints as well as emotions that capture the lived experiences (Leedy & Ormrod, 2014). Promoting workplace safety involves interventions in the human system to change behaviors of employees and leaders at the same time (Manuele, 2014). Organization development techniques were selected, particularly the PDCA conceptual framework, as a philosophical construct to guide how leaders might

intervene in workplaces to promote safety. There were many literature sources on workplace-safety which guided this research. The literature was organized in terms of the major themes on the topic, and four major groupings were identified as; workplace safety, leadership, organizational culture, and leader-followership. In section 2, I will discuss the preparatory work for the data collection and analysis. Decisions were centered on sample size and sample selection, data collection techniques, data analysis, data saturation, and ethics in research. In section 3, I will present the research findings, discuss application to business practice, implications for social change, and recommendations for action resulting from the research findings.

Section 2: The Project

In this section, I present how I conducted the data collection and analysis for the study. A systematic approach was adopted for the data collection and analysis in order to ensure adequate precautions were taken to conduct a study of high standards of academic rigor. In this section, I present a detailed description of the key decisions taken with respect to choices made on research methodology. This section begins by reaffirming the purpose of the study. Next, the role of the researcher is placed into context. The section begins with the purpose of the study and how I related with the research participants. In making decisions regarding the research participants, I justify the selection of managers and supervisors instead of other members of the research population. The sample choice decisions is followed by a discussion of the decisions made with respect to research methods and research designs. The ethical considerations applied to the study are presented, followed by the choices made regarding data collection techniques, data organization, and data analysis techniques. Moreover, a presentation is made of how research reliability and validity were achieved in the study. The PDCA cycle is the philosophical construct used to evaluate how leaders implemented safety improvement strategies in their organizations (John Henrik et al., 2014). The section conclusion acts as a summary and transition into Section 3, where I present the empirical evidence of the research.

Purpose Statement

The purpose of this qualitative multicase study was to explore the strategies that business leaders used to improve the workplace safety environment. The target

population consisted of mine managers and supervisors at three mines in Zimbabwe, 30 of whom participated in this study . The study may influence the business environment by offering leadership best practices that reduce workplace accidents. The study may contribute to social change by promoting a culture of safety through knowledge sharing, thereby reducing accidents in society.

Role of the Researcher

My role as a researcher entails ensuring that research participants are respected, obtaining the participants' voluntary consent to participate in the study, and eliminating bias in research in accordance with the Belmont Report protocol for conducting research (Fisher, 2011). Some of the strategies that help to mitigate bias in the qualitative study include reflexivity, bracketing myself from the participants' views, and reporting disconfirming evidence (Finlay, 2014). According to Sutherland, Dawczyk, Leon, Cripps, and Lewis (2014) and Leedy and Ormrod (2014), in qualitative research, the researcher is part of the research instruments because the researcher decides the questions to ask and how to ask them, chooses the sample, and has underlying beliefs, interests, and ideas about the subject under study.

From a social constructivist viewpoint, my role as a researcher was participatory through engaging in dialogue with participants (Finlay, 2014). Moreover, my role as a researcher was to engage research in a way that allowed participants to define and interpret their own reality (Lee, 2012). I allowed themes and meanings to emerge from the dialogue. Furthermore, I enabled the participants to validate my interpretations and to confirm if the interpretations and meanings formulated reflected their viewpoints (Finlay,

2014). According to Ashton (2014), the role of the researcher entails listening, observing, taking notes, and recording the interview without becoming too involved in the discussion. The researcher must understand when to pause the interview, allow it to flow, and how to remain calm notwithstanding the tensions or distress of the participant (Ashton, 2014). As observed by Ashton, the researcher should constantly read the body language, tone, and expressions, and check if the participant was comfortable to continue the interview. I was empathetic to the participant's distress, but avoided assuming a counseling role (Ashton, 2014). Researchers conducting semistructured interviews must plan the research to take into account the moral complexities of research relationships and be sensitive to the needs of the participants from the start of the interview to the report writing stage (Goble, Austin, Lasen, Kreitzer & Brintnell, 2012). I therefore balanced empathy with neutrality. Neutrality required that I desist from being judgmental (Ashton, 2014). Moreover, my role as the researcher in a case study was to enable readers to understand the phenomenon as if they experienced it (Goble et al., 2012).

Participants

The participants for the study were 30 managers and supervisors from three mines in Zimbabwe. Bahn (2013) argued that managers and supervisors had a direct influence on workplace safety; hence, their involvement in the study would help answer the research question. I sought permission to conduct the study from the organizations before recruiting the research participants (see Appendix C). The organizations received letters of introduction explaining the purpose of the research, why the organization was selected to participate in the study, and how the organization would benefit by participating in the

study (Lee, 2012). After obtaining the corporate authorization to conduct the study (Appendix C), I approached individual participants to obtain their permission to participate in the study on a voluntary basis (Mouton, 2011). Telephone contacts were made with the selected individuals to explain the study and how other organizations could benefit from lessons drawn from this study. Contacts who expressed willingness to participate in the study received written introductions explaining the study together with a voluntary consent agreement to review and sign to demonstrate their free will to participate in the study. Additionally, individual appointments with the participants were scheduled at their convenience in terms of place and time for purposes of conducting the interviews (Leedy & Ormrod, 2014).

I selected the maximum variation chain-referral sampling technique, in which participants who possessed diverse views on the subject of workplace safety leadership were selected for the interviews (Leedy & Ormrod, 2014; Wahyuni, 2014). The selection of managers and supervisors for the interviews was based on the belief they practiced workplace safety leadership and therefore possessed insights to share on how to improve workplace safety (Bahn, 2013). The criteria for selecting participants considered their practitioner-experience on workplace safety leadership (Finlay, 2014; Wahyuni, 2012). The maximum variation chain referral sampling technique ensures diversity of data collected by neutralizing the weaknesses of purposive chain referral sampling in that excessive homogeneity of the sample is kept under scrutiny, which enhances the transferability of research findings (Sutherland et al., 2014; Wahyuni, 2012). Once the

first contact was identified, he or she would recommend the next participant based on the participant's assumed knowledge of the topics under discussion.

Research Method and Design

In this section, the explanation and justification for the choice of the research method and research design for the study are provided. Explaining the research process in a step-by-step approach enables readers and other researchers to understand the research process and enables the auditing of the research processes (Tracey & Unger, 2012). Research methods and research designs that are explained in detail enhance the validity of the study (Sutherland et al., 2014).

Research Method

The study was based on a qualitative research approach. A qualitative research approach provides flexibility to a study and does not follow rigid processes and procedures (Leedy & Ormrod, 2014). A qualitative study can have its steps varied to align with the prevailing conditions; therefore, it was appropriate for this study (Shaik, 2012). Moreover, a qualitative research approach was appropriate because it enables the in-depth study of the phenomena and answers the what, how, and why questions comprehensively (Matthews et al., 2012). In contrast, quantitative research methods answer the how many, how much, and relational questions (Leedy & Ormrod, 2014), which were outside the scope of this research and therefore were not appropriate for this study. A mixed methods approach was not appropriate because only the qualitative phase of the study was relevant as the quantitative phase of the inquiry was not helpful in answering the research question (Leedy

& Ormrod, 2014). The choice of the research method was determined by the need to answer the research question.

Research Design

The research design appropriate for the study was a multicase study using semistructured interviews. A multiple-case study was appropriate because it would enable the in-depth study of the leadership practices at different sites economically (Buser et al., 2014; Finlay, 2014; Leedy & Ormrod, 2014). A study of multiple sites enabled comparisons of leadership practices, which enhances understanding of the phenomenon (Leedy & Ormrod, 2014). A multicase study research design was more appropriate because it enables in-depth study of real-life bounded cases using multiple data sources, which enhances the research reliability and validity (Tracey & Unger, 2012; Vasilchenko & Morrish, 2011). As stated by Leedy and Ormrod (2014), a case study research design explains what decisions were taken, why the decision were taken, how the decision were implemented, and the outcome of the decisions taken, which aligns with the purpose of the current study. Research designs such as ethnography were inappropriate because ethnography involves lengthy contact with participants in their real-life setting (Mannay & Morgan, 2015), which was not practical because of the time constraints in this academic research. In addition, narrative research was not considered for this study because it would not adequately answer the central research question where an in-depth understanding of how to improve workplace safety is required (Clandinin & Caine, 2008; Håkansson & Olsen, 2014). According to Clandinin and Caine (2008), narrative research is more appropriate for storytelling and is inadequate in providing in-

depth understanding of leadership strategies on how to improve workplace safety. Furthermore, grounded theory was inappropriate because it is primarily designed for theory building from data analytics (Ji Young & Eun-Hee, 2014), which was outside the scope of the current study. In addition, a phenomenological research design was inappropriate because it is used to describe the meaning of the lived experience (Finlay, 2014; Sandquist, 2014; Wahyuni, 2012), yet the purpose of the current study was to understand the strategies that can improve workplace safety performance.

Population and Sampling

The population for the study comprised all managers and supervisors of three mining firms in Zimbabwe. Thirty managers and supervisors constituted the research sample because leadership strategies were implemented through the managerial and supervisory ranks (Al-Sari & Al-Khatib, 2012). The Matabeleland and Mashonaland provinces of Zimbabwe were the geographical locations for the study because the provinces have some of the largest and most successful mines in Zimbabwe in terms of productivity and safety records (NSSA, 2013; Zimstats, 2012).

The sample for the study was drawn using the chain referral sampling technique. The chain referral sampling technique was most appropriate for the case study as only those managers and supervisors who were involved in promoting workplace safety leadership practices would have the knowledge and insights under study (Wahyuni, 2012). The selection of managers and supervisors for interviews was based on the belief they were involved in implementing strategies that promote workplace safety (Bahn, 2013). The criteria for selecting participants considered their practitioner experience in

leading workplace safety (Finlay, 2014). Not everybody recommended through the chain referral system was interviewed, but those who were deemed to possess unique insights from the ideas already captured were interviewed to reduce excessive homogeneity of the sample, which weakens transferability of research findings (Sutherland et al., 2014).

A sample of 30 participants was selected for the interviews. The choice of a research sample of 30 participants was based on the advice of qualitative research methodologists such as Morse (as cited in Marshall, Cardon, Poddar, & Fontenot, 2013), who recommended 20 to 30 participants. Data saturation was reached when all available evidence was collected and no new evidence was collected from additional interviews (Leedy & Ormrod, 2014). To signal data saturation, themes began to recur and no new insights were revealed from additional interviews (Tracey & Unger, 2012). I conducted additional interviews until no new significant insights appeared (Tracey & Unger, 2012). I followed the approach adopted by Goble et al. (2012), who continued adding new members to their sample during the course of the study to achieve data saturation. While a minimum of 25 participants was included in the sample, additional participants were recruited using the chain referral sampling technique until no new insights emerged from additional interviews and themes on workplace safety leadership began to recur (Tracey & Unger, 2012). I interviewed 30 participants. Themes began to recur from the 22nd interview and I kept on adding participants until I interviewed 30 participants.

Ethical Research

Participants were asked to voluntarily consent to participate in the study after an explanation of the background to the study as well as the risks and benefits of participating

in the study (Seale, 1999; Wahyuni, 2012). The participants' involvement in the study was of a voluntary nature as there were no incentives, financial, or other rewards for participating in the study (Morrow, 2005). In addition, participants were at liberty to withdraw from the study at any time without any costs or penalties (Lee, 2012). To withdraw from the study, a participant notified the researcher of their intention to withdraw from the study and it was accepted without any questions or procedures. Participants were informed that research findings would be presented in the aggregate, with no individual identification marks (Leedy & Ormrod, 2014). A signed voluntary consent agreement was kept for each research participant.

In addition, participants were informed that no individual or company names would be mentioned in the study (Leedy & Ormrod, 2014). Data analysis was based on the thematic approach and block quotations were avoided (Leedy & Ormrod, 2014). Instead, individuals were referred to by way of pseudo-names using an alpha-numeric numbering system. Individual participants were assigned alpha-numeric codes for easy of referring to them while simultaneously concealing their identities. The identification marks in the data were removed before storage to ensure participants' privacy was protected (Leedy & Ormrod, 2014; Wahyuni, 2012). The research data was stored under password-protected files in the electronic format and the hard copies of the transcription forms were maintained in a locked cabinet at the researcher's place of residency for a period of 5 years (Shaik, 2013; Tracey & Unger, 2012). At the expiration of the 5-year storage period, the password protected electronic files will be erased from the data storage media through

flushing and re-formatting the storage media and the hard copies will be destroyed by shredding them.

Additionally, non-discriminatory language was used in describing research participants (Morrow, 2005). Furthermore, the research evidence was reported truthfully and objectively to present all the facts as captured in interview transcripts including disconfirming evidence, and the views of the minorities (Seale, 1999). The work of previous researchers whose ideas were used in the study was appropriately cited and referenced to acknowledge their contribution in shaping this research (American Psychological Association, 2010). Additionally, the researcher's own biases and assumptions were bracketed-off to prevent their interfering with the research findings (Finaly, 2014). The names of the individuals who consented to participate in the study and the names of the organizations studied were not be mentioned anywhere in the research report (Leedy & Ormrod, 2014). The study was approved by the Walden University Institutional Review Board (IRB) for academic standards and ethics in research. The IRB approval number is 06-06-16-0383295, which expires on 15 June 2017. The researcher also successfully completed the National Institutes of Health (NIH) training for conducting research involving human research participants under certificate number: 1910607 (Appendix A).

Data Collection Instruments

In this section, the decisions made regarding the research instruments, data collection techniques, and data organization are presented. This section provides an insight into the preparatory work completed in readiness for the data collection exercise.

The section contains details of how the data collection instruments were used and how the data collection processes were conducted. Adequate preparation and correct choices on which tools to use simplified the data collection processes (Mouton, 2011). Semistructured interviews and documents study were chosen as research instruments for the data collection (Appendix B). Interviews were the primary data collection tool because interviews allow the voice, emotions, feelings, and the expressions to be captured and provide a deeper appreciation of the problem under study (Hajaistron, 2014; Fletcher et al., 2012). Semistructured interviews were more suited to the study as they enable repeat interviews and follow-through questions to clarify facts and interpretations (Sutherland et al., 2014). In addition, the semistructured interview provides a general guide for the researcher to discuss key topics and themes while allowing the participants free expression and discussion (Bahn, 2013; Morrow, 2005). Documentary evidence of the policies and strategies implemented were also be collected to compliment the interviews (Leedy & Ormrod, 2014). Documentary evidence formed the secondary data sources that were used in the study. The secondary sources comprised of internal company published information, and publicly available data such as published annual reports (Wahyuni, 2012). The multiple interactive interview approach involved calling upon the same participant several times during the research to seek clarification on issues raised in the interview transcripts or in documents provided to the researcher to augment the interview evidence (Rudnick, 2014; Sutherland et al., 2012).

The multiple interactive interview approach enabled participant feedback to be obtained. Participant feedback helps to improve validity by asking the participants to

validate the truth-value of the researcher's transcription and interpretation of their views (Finlay, 2014). According to Johnson and Johnson (2010), participant feedback or member checking brings authenticity and credibility to qualitative data. Participant feedback enables participants to correct and challenge misrepresentations and misinterpretations by the researcher (Sutherland et al., 2014). Additionally, member checking reduces the possibility of participants' claiming the researcher misunderstood their information (Johnson & Johnson, 2010). Furthermore, member checking provides opportunities for the researcher to seek clarification on what certain information means, allows for further information gathering, provides participants with the opportunity to confirm the accuracy of data, and finally, enables participants to help shape research summary and conclusions (Sutherland et al., 2014). More specifically, this section identifies how I enhanced the reliability and validity of the data collection instrument and data collection processes.

The benefits of participant feedback have been presented, but there are also potential drawbacks of member-checking. The potential drawback of member checking is some respondents may attempt to please the researcher by agreeing with the researcher's flawed interpretations (Leedy & Ormrod, 2014). According to Rudnick (2014) and Johnson and Johnson (2010), cross-case validation of findings with the inquiry group mitigates against participants who attempt to please the researcher by agreeing with the flawed conclusions of the researcher. The repeated participant feedback, data and methods triangulation, and cross-case validation produced new data that was integrated into conclusions, which further enhanced the authenticity and credibility of the research

findings (Lee, 2012; Tracey & Unger, 2012). In addition, research authenticity and credibility were enhanced by contrasting the research evidence against related findings and conclusions from the literature (Seale, 1999). Data triangulation was performed by contrasting evidence from different participants (Leedy & Ormrod, 2014). The managers' evidence was contrasted against the supervisors' evidence from the same organization and also from different organizations, to enhance the authenticity and credibility of the study (Lee, 2012).

Data Collection Technique

Data were collected using the semistructured interview tool and document analysis. Interviews have the advantage of capturing the lingering memories, the emotions, and the voice (Finlay, 2014). In general, interviews are friendlier compared to most other data collection techniques because in interviews one engages in mutually beneficial dialogue (Finlay, 2014). Interviews were scheduled to each participant's convenience in terms of time and place (Leedy & Ormrod, 2014). Interviews were audio recorded after obtaining permission from each participant to record the interview (Morrow, 2005; Wahyuni, 2012). Recording the interview was advantageous because it enabled the researcher to listen to the evidence repeatedly to enhance understanding and to facilitate data transcription (Shaik, 2013). Additionally, I kept a journal of each interview for notes and comments in addition to the audio-recorded evidence (Lee, 2012). The semistructured interview protocol (Appendix B) served as a guide but participants were allowed to express their viewpoints freely (Shaik, 2013). Member checking and cross-case validation were used concurrently with the data collection process by seeking

clarification of viewpoints from different participants within the same organization and also from different organizations to establish the truth-value of evidence (Leedy & Ormrod, 2014).

Furthermore, documentary evidence was collected to support interview explanations. Documents such as manuals, procedure guides, e-mails, staff notices, and strategy documents were obtained to augment the evidence collected through interviews. According to Leedy and Ormrod (2014), using multiple data sources in a qualitative case study enhances the research reliability and validity.

Data Organization Technique

All interviews were audio recorded and saved in a password-protected file maintained on my computer and another copy was maintained in an expandable memory disc as a back-up copy. In addition, journal notes were kept for each interview as a supplement to the audio-recorded interviews, which were filed in a locked cabinet at my permanent place of residence. Documentary evidence such as manuals, staff notices, and strategy documents were filed manually by category and back-up copies were scanned and uploaded into a password protected computer folder for storage. In addition, the transcribed data was be uploaded into the NVivo software for data storage and analysis (QSR, 2014). Data recordings and transcripts were kept securely in password-protected format for the electronic copies and hard copies were kept in a locked safe at the researcher's place of residence for a period of five years. All identification marks were removed from the data before storage. After five years, the manual transcripts and other documentary evidence will be destroyed by shredding. The electronic copies would be

flushed and re-formatted to permanently erase the data from the computer data storage media.

Data Analysis

Qualitative data analysis techniques involved editing, cross-member checking, cross-case validation, classification, coding, and interpretation (Taylor et al., 2011). Editing and cross member validation involved examining the collected raw data to detect errors and omissions and to correct the errors where possible, by returning to the participants for clarification (Leedy & Ormrod, 2014). Classification involved arranging data in groups based on common characteristics, themes or meaning (Lee, 2012). Coding involved assigning numerals, color codes, or symbols to responses so they can be placed into a limited number of categories or classes (Finlay, 2014). Finally, interpretation involved drawing meaning from the categorized data and verifying the interpretation with some of the participants to ensure accurate interpretation of the data (Leedy & Ormrod, 2014).

Emerging themes were noted in the margins of the transcripts. Transcripts were analyzed one-by-one and line-by-line to achieve completeness of analysis by ensuring no evidence is omitted. A codebook was used to categorize the notes into general themes for analysis using the manual approach (Quick & Hall, 2015). I used thematic data analysis, which entails the identification of concepts in the text as opposed to content analysis, which relies on identifying specific words in the scripts (Mouton, 2011). Thematic analysis enabled me to search for groups of words as they relate to a specific meaning or concept and this approach helped to overcome the main shortcoming of content analysis where the

meaning of a particular concept or word can be expressed in a number of different ways or words (Silverman, 2011). Thematic analysis enabled the researcher to check all the content for related themes and organize the data in terms of recurring themes, and then draw meaning from that analysis (Leedy & Ormrod, 2014).

Once all transcripts are analyzed, themes were collated, sorted, and in some cases, merged to give a holistic analysis of the data. Additionally, data was captured into the NVivo software, which aided in performing various qualitative data analytics such as thematic analyses and word cloud among other analytics (QSR International, 2014). The themes emerging from the data and in some cases the names ascribed by the participants to certain processes or events were used to categorize data (Finlay, 2014). In the body of the transcripts, color coding and lettering was used to identify recurring themes and key concepts. The cognitive process that influenced the selection of the codes was based on the need to answer the research question. Prefigured themes aligned with improving workplace safety were; processes, actions taken, reactions, interactions, collaborations, interventions, lessons learned, and culture development. Prefigured themes were however, modified by what the participants said as recorded in the interview transcripts (Leedy & Ormrod, 2014).

The themes and meanings from the data synthesis were clustered into groups of commonality (Leedy & Ormrod, 2014). Preliminary interpretations of the data were based on the thematic analysis (Lee, 2012). During this stage, initial codes were modified or expanded where necessary. The themes and meanings derived from the preliminary interpretation and cross-member checking and cross-case validation were used to form a

holistic interpretation of the data (Leedy & Ormrod, 2014). According to Sutherland et al. (2014), the data analysis can stretch from holistic analysis of the entire case to an embedded analysis of a specific aspect of one case or the entire case or just focus on limited key issues or analysis of themes within a case or across cases also known as cross-case analysis.

The data analysis and interpretation process followed a participatory process involving both the researcher and participants (Lee, 2012). According to Finlay (2014), participatory analysis and interpretation was an interactive form of feedback and reflection that moved back and forth between the understanding of the researcher and the reality of participants. The process followed a multistep procedure for qualitative analysis and interpretation. A recursive approach to data analysis was employed that infused both deductive and inductive reasoning processes to interpret data. From an explanatory lens, I used a significance filter to accept richly detailed evidence, in priority to evidence which were not adequately described with the goal to achieve rich descriptions, detailed meanings, and useful processes (Tracey & Unger, 2012). I used data coding to immerse the researcher with the data, which aided data transcription and analysis (Wahyuni, 2012).

Reliability and Validity

The reliability and credibility of the research derived from the rigor with which the study was conducted (Seale, 1999; Wahyuni, 2012). To demonstrate academic rigor in research, the research processes must be clearly articulated in a step-by-step approach for the benefit of the readers and other researchers (Leedy & Ormrod, 2014). Clearly

explaining the research design and research methods helps interested researchers to audit the research process to assess if the same results can be found by replicating the study (Silverman, 2011).

Reliability

Reliability in qualitative research measures the truth-value of a study by assessing the completeness of data collection methods, data sources, and data interpretation (Lee, 2012; Seale, 1999). To achieve reliability, I explained the research methods in detail and followed a step-by-step approach to enable other interested researchers and readers to follow the same steps and arrive at the same conclusions (Shaik, 2013). The research methods and research design were justified and anchored on literature sources (Leedy & Ormrod, 2014).

Confirmability. As stated by Lincoln and Guba (1982), the confirmability of a study depends on how detailed and justified are the research methods and research sample. Additionally, the researcher must maintain an audit trail of the research process (Lincoln & Guba, 1982). As posited by Leedy and Ormrod (2014), the researcher should maintain a journal of the interview process. A journal can capture decisions made in the field of inquiry relating to actual experiences, decisions, and choices made (Lincoln & Guba, 1982). Silverman (2011) argued that using block quotations in reporting evidence enhances confirmability as the evidence can be verified through replicated studies. The primary motive was to ensure the data collected answered the research questions and all research findings were backed by the evidence (Leedy & Ormrod, 2014).

Dependability. As stated by Funder et al. (2014), the dependability of a study anchors on detailed descriptions and justifications of sample choice and sample size. Additionally, a researcher must discuss and present the effect size and statistical significance of research findings (Funder et al., 2014). Procedures such as member-checking and cross-case validation were used to ensure the findings reported were the true understanding of the meaning of the observed phenomena by the participants (Finlay, 2014; Lishner, 2015). Triangulation of data was used by contrasting evidence from documents study with that from interviews to gain a deeper understanding of how to improve workplace safety from the multiple data sources. The authenticity of the understanding of people's experiences and beliefs was achieved through recordings of the interviews, member checking and data triangulation (Sutherland et al., 2014). Confidence in the truth of the findings was established by using participant feedback. In addition, multiple interviews were conducted with participants to verify and confirm facts and interpretations (Fletcher et al., 2012; Seale, 1999). Moreover, disconfirming evidence was reported as further assurance of the integrity of the research findings (Lishner, 2015).

Validity

The methodology of the research was assessed in order to establish whether the data collection tools produced information that was appropriate for the level of precision required (Lee, 2012). The questions comprising the semistructured interview protocol were assessed to determine if the questions maximized the chances of identifying the full range of the phenomenon under study (Sutherland et al., 2014). Furthermore, an evaluation of the extent to which the semistructured interview questions generated the

level of detail needed for answering the central research question was conducted (Silverman, 2011).

Transferability. As posited by Finfgeld-Connett (2010), transferability in research is enhanced by systematic sampling, data and methods triangulation, and maintaining an audit trail of the research processes. In this study, the strategies that improve workplace safety were explored; as a result, a purposive sample was selected. According to Lee (2012), asking questions demands the prior specification of the range of variables, and attributes to be investigated before any application of question-asking. The review of the questions by experienced researchers ensured the questions elicited evidence that covers the full range of the phenomenon under study (Finlay, 2014; Sliverman, 2011). The rich descriptions of processes captured and the step-by-step explanation of the research methods enable the replication of the research by other researchers (Finfgeld-Connett, 2010).

Creditability. Methods triangulation was employed by contrasting the results of the documents study and those of the interviews to ensure the trends discovered were not superfluous (Leedy & Ormrod, 2014). Methods triangulation assisted in assuring readers the results are supported by the data (Silverman, 2011; Leedy & Ormrod, 2014). Data triangulation was conducted to ensure the truth-value of the evidence provided in interviews by validating evidence provided by supervisors against evidence provided by managers in the same organization and in different organizations (Seale, 1999). Creditability therefore, implies there is a demonstration of how the research was

conducted, and the findings are supported by the evidence (Silverman, 2011; Leedy & Ormrod, 2014).

Furthermore, triangulation of data is a qualitative validation technique in which the researcher builds evidence for a code or theme from many sources or individuals (Quick & Hall, 2015). Finally, the researcher bracketted himself, to isolate the researcher's biases, prejudices, and preconceptions which should not interfere with research evidence by relying solely on recorded evidence and transcripts as research evidence in formulating the results of study (Finlay, 2014). Supporting the validity of the research were such procedures as reporting disconfirming evidence (Leedy & Ormrod, 2014). Disconfirming evidence is a qualitative validation technique whereby information that presents a perspective contrary to the one indicated by the established evidence is also reported (Quick & Hall, 2015).

Saturation. Additional interviews were conducted until no new significant insights emerged, in which case saturation was reached (Tracey & Unger, 2012). In this case, I followed the approach adopted by Goble et al. (2012) who kept on adding new members to their sample during the course of the study to achieve data saturation. While a minimum of 25 participants were included in the sample, more participants were recruited using the chain referral sampling technique until similar themes on workplace safety leadership began to recur, at which point saturation was reached (Tracey & Unger, 2012). Themes begun to recur from the 22nd interview and I kept on adding participants until 30 participants were interviewed.

Transition and Summary

In Section 2, the preparations for the data collection and analysis were done. Clarity on the role of the researcher was established. The research instrument, a semistructured interview schedule, was prepared. The data collection tools and data collection methods were explained and the research sample was selected. The Institutional Review Board approval was obtained before the data collection commenced. The data collection process was followed by data analysis, interpretation, and storage. In summary, this section presented the qualitative research approach based on a case study research design that was used to answer the research question. A multicase study using semistructured interviews was conducted at three mines in Zimbabwe. Thirty managers and supervisors were interviewed to gather evidence on how leaders improved the workplace safety environment. In Section 3, I present and discuss the results of the empirical study.

Section 3: Application to Professional Practice and Implications for Change

The purpose of this qualitative multicase study was to explore the strategies that mining company leaders located in Zimbabwe used to improve the workplace safety environment. From the results of the study, workplace safety has the following qualities: planned, led, systematic, integrated, inclusive, intentional, and dependent on continuous learning and improvement by all stakeholders. Furthermore, to create a safe work environment leaders should do the following: implement a formal system of risk identification and mitigation before any task is executed, allocate adequate resources for the performance of each activity, and document the steps to be followed for performing each task. In addition, the research results revealed that risk identification and mitigation are a key step in a workplace safety improvement program.

Based on the data analysis of interview responses and documentary evidence provided by participants, the following 10 themes emerged from the analysis of data: planning and organizing, leading, documented work procedures, risk management, communication, training and development, legal and compliance, measuring and reporting, ISO standards, and culture formation. The strategies identified to address workplace safety were as follows: identifying and mitigating risks before executing any task, integrating risk management in all processes, leading, controlling, monitoring, evaluation, and continuous improvement. In addition, leaders should control every process, document the steps to be followed, standardize the processes, communicate the steps to be followed, train, and empower the employees.

Presentation of the Findings

The study's central research question was this: What strategies do leaders need to improve the workplace safety environment? Participants were selected from three mining firms using the chain referral sampling technique. A sample of 30 managers and supervisors were selected to participate in the study. Data saturation was reached when themes began to recur and this happened from the 22nd interview onwards until the 30th interview. Data saturation is reached when themes begin to recur and there are no new insights or coding from each additional interview conducted (Fusch & Ness, 2015). The research sites were assigned anonymous codes A, B, and C to denote the three mining firms selected for the study. Participants from Company A were assigned anonymous codes from SA001 to SA013, and participants from Company B were assigned anonymous codes from PB001 to PB010. Finally, participants from Company C were assigned anonymous codes from DC001 to DC007. Table 1 indicates the frequencies of the main themes as they recurred in the interview transcripts and documentary evidence provided by the participants.

Table 1

Frequencies of Main Themes as They Recurred in the Interview Transcripts

Theme	Weighted Percentage (%)
Leading	0.87
Training and development	0.84
Risk management	0.84
Culture formation	0.77
ISO standards	0.65
Legal and compliance	0.65
Planning and organizing	0.65
Communication	0.65
Measuring and reporting	0.56
Documented work procedures	0.44

In the following sections, I will discuss the results of the study by theme. I will begin with the theme with the highest recurrence weighted frequency in the interview transcripts and documentary evidence provided by participants. The order of reporting the themes is not a rank order revealing the importance of the theme but merely an organizational approach to presenting the results of the study. However, the recurrence frequency of a theme indicates the shared application of the theme by participants (Silverman, 2011). Some themes were more common than others, as shown in Table 1.

Emergent Theme: Leading

Participants from Companies A, B, and C were unanimous that leading was a central theme in achieving workplace safety. Table 1 indicates that leading as a theme had the highest recurrence weighted frequency of 87%. The results of the study revealed that mining company leaders provide oversight and control the work environment by appointing managers and supervisors to take charge of work groups and tasks. Participants SA003, SA005, SA006, and DC010 affirmed that supervisors work together with the general staff and provide counseling, couching, mentoring, and motivation to practice safe work. As Collinson and Tourish (2015) reported, leadership involves eliciting cooperation and teamwork from a large network of people and keeping the key people in the network motivated. Participant PB005 argued against feared and unapproachable leaders because this resulted in followers hiding information from the leader. Participants SA002, SA003, SA004, PB001, and DC004 concurred on the supporting role of strategy formulation, target setting, communication, and having standardized work procedures in achieving workplace safety. Failure to articulate the vision, mission, strategy, and action plans to the followers may result in decentralized and voluntaristic collective action by followers, which weakens the leader's control over the followers (Junker, 2014).

Participants PB001, PB003, PB007, DC005, and DC007 avowed that leaders control the work environment by walking about the workplace to monitor and enforce compliance. Furthermore, Participant DC007 recommended leaders to walk about the workplace to counsel, coach, and mentor the line managers, supervisors, and general staff

on tasks and activities they observe during their tour of the work facility. In addition, Participant DC001 asserted that leaders rely on reports of line management to control the work environment. Moreover, Participant DC001 emphasized visible leadership where the leaders participate in the tasks to show followers how the task is performed. Corroboratively, Participant SA001 recommended leading and lagging control indicators of workplace safety to measure the workplace safety climate. Participant SA013 proposed leaders to use preventive control, such as protective clothing, detect controls such as fire alarms, and backstop controls such as postaccident investigations to select the most appropriate risk management interventions. The participants from Companies A, B, and C were unanimous that safety control measures were capable of continuous improvement.

Leadership styles were pivotal in creating a safe work environment (McCleskey, 2014). Participants SA009, SA010, PB003, and DC005 introduced the concept of leadership styles and proposed leaders to use participative and responsible leadership styles to bond with followers. Responsible leaders lead by example (Doh & Quigley, 2014). In support of the leadership style theme, Participants DC002, DC003, and SA006 posited leaders should respect and listen to their followers the same way they expect their followers to listen to and respected them. As stated by Participant SA009, what matters is not the style of the leader but the safety record. In concurrence, Participant DC002 agreed that safety performance was measured by the number of consecutive incident-free days achieved. Leaders should focus on their safety performance. According to Rowold (2014), there are other leadership behaviors that were not adequately addressed by traditional leadership theories, hence the need for the instrumental leadership style.

Instrumental leadership style focuses on strategy formulation and implementation, environmental scanning and monitoring, market intelligence, team supervision, work monitoring, and team development (Rowold, 2014). Leaders should optimize relationships with followers and influence organizational change through people (Greyvenstein & Cilliers, 2012). Participant SA013 suggested leaders should promote teamwork to share safety responsibilities. Participants from Companies A, B, and C concurred leaders should inspire a shared vision, show the way, and enable others to act. Shared or distributed leadership narrows the power gap between leaders and followers and takes a dynamic perspective of leading and following that recognizes that different people can assume leadership and followership roles at different times and contexts (Oc & Bashshur, 2013). As reported by Participant DC007, enabling others to act includes the following: communication, training, development, empowerment, and delegation. In corroboration, Participants SA003, SA004, PB001, and DC007 affirmed leaders should have technical, conceptual, and the emotional intelligence skills to lead others.

Emergent Theme: Training and Development

Participants from Companies A, B, and C concurred employees at different hierarchies were provided with training to improve their job skills. Latiff Khan et al. (2014) argued in favor of investment in skills training across all organizational levels to quicken knowledge transfer and assimilation. Participant SA007 said that employees should be recognized for possessing specialized knowledge and skills. As stated by Tetrick and Peiró (2016), leaders create mutual trust and provide rewards, motivation, training, and development to employees. Participants SA001 and SA009 emphasized the

importance of specialized training and development focusing on risk identification and mitigation skills. In corroboration, Participants PB003, PB005, and PB007 conjectured that in-house training was facilitated by managers and supervisors in charge of the work team or by functional experts from other departments within the same organization or external trainers.

Participant SA013 argued in favor of follow-up monitoring and performance evaluation of each employee following a training intervention. In concurrence, Participants DC002, DC003, and PB001 supported pretraining skills gap analysis to identify the areas an employee is falling short on their performance. Participant PB001 argued for performance monitoring to evaluate if performance improves after the training intervention. In corroboration, Participant SA005 said employees went to refresher courses to sharpen their skills on emerging safety approaches, new technologies, and threats on the job, and to continuously learn and develop. Furthermore, error management through training interventions provide learning opportunities (Casey & Krauss, 2013).

As reported by participants from Companies A, B, and C, employees who do not improve after repeated training interventions were subjected to disciplinary procedures. Participant SA010 observed that disciplinary action involved demoting an employee from one job level to a lower position of responsibility or terminating the employment contract. As propounded by Participant SA010, employees who do not improve their risk management practices were referred to as having at-risk behavior. Participant DC002 agreed with Participant SA010 that at-risk behavior exposes the employee and other coworkers to harm. Participant DC008 argued in favor of leaders using penalties to

discourage at risk behavior. As posited by Participant DC008, penalties for at-risk behavior included salary deductions, suspensions, and dismissal from employment.

Participants SA003, SA006, DC007, and PB001 agreed that training and development were complimented by the recruitment of people with appropriate skills and experience for the job. In support, Participant PB004 argued against untrained, unskilled, and unqualified staff, as they can be a risk to themselves and their coworkers. Furthermore, Participant SA011 emphasized thorough recruitment and selection screening to minimize harm and the cost of training the workforce. As stated by Josephine and Kinyanjui (2012), governments should integrate occupational safety and health into the education curricula at all levels of education and vocational training to create a safety culture.

Emergent Theme: Risk Management

Participants from Companies A, B, and C concurred, once a task has been documented, and resources allocated to enable task execution, risk management was the next step. Attainment of safety entails managing risk, which is the reduction of the effect of uncertainty on outcomes (Chun et al., 2014). As Participant PB006 said, risk management was the process of identifying potential hazards and mitigating the hazards to prevent the risks from occurring. Risk management also involves taking action to improve the work processes and facilities continuously to prevent harm from occurring or to reduce the impact of a materialized risk (Preda, 2013). A materialized risk is when a risk occurs causing death and injury or property damage (ISO, 2009).

Risk management begins by identifying hazards in a process called risk identification (ISO, 2009). As posited by Participant SA003, risk identification is a collaborative process involving the work team, the team leader, and the safety, health, and environment (SHE) officers. Participant DC005 opined, before each task is executed, the work team gathers at the workstation to brainstorm on what may go wrong in performing the tasks. In corroboration, Participant PB007 posited that these daily safety briefings and discussions were referred to as safety talk. Participant SA006 alluded that a risk register was used to record the identified hazards and their possible remedies. Participants from all three companies agreed that work should not commence until all identified hazards were mitigated. Participant DC002 recommended the team leader, the workers' representative, and the SHE officer to sign the risk register to confirm the processes carried out in identifying and mitigating risks.

Moreover, Participant SA004 postulated, in the event of an identified risk not being mitigated by the work team, a stop and fix order was issued. As Participant PB006 suggested, a stop and fix order is a form signed by the workers' representative, the team leader, and the SHE officer directing work stoppage until the hazards identified were eliminated to improve the workplace safety. In agreement with Participant PB006, Participant DC007 recommended the escalation of records of all stop and fix orders to the mine manager. As reported by Participant DC007, the mine manager discusses the significant risks in the monthly management meetings and on a quarterly basis presents the unmitigated risks to the board of directors.

Participant SA001 argued for the use of awards and incentives to promote safe risk behavior. Employees receive various forms of inducements from their organizations in exchange for the anticipated contributions they make to organizational performance (Shin et al., 2012). In support of Participant SA001, Participant DC006 recommended leaders to give individuals recognition for practicing safe work procedures. Further evidence supporting the use of incentives, rewards, and encouragement was provided by Participant SA008. Participant SA008 observed leaders issuing letters of acknowledgement to individuals or team members, or awarding the individual or team members a bonus for achieving workplace safety targets. Participant PB009 advocated leaders to praise employees in public for exceptional safety performance and to reprimand employees in private to discourage unsafe work behavior. The tactical use of incentives, praising, reprimands, and penalties assist to encourage or discourage behavioral safety practices in the workplace (Greyvenstein & Cilliers, 2012). Greyvenstein and Cilliers (2012) opined, any form of recognition makes an employee feel valued and more committed to organizational processes.

Participants SA013, PB002, PB007, and DC004 narrated the challenges encountered by business leaders in promoting risk management in the workplace. Participant SA013 observed the shortages of personal protective equipment, inadequate plant maintenance, attitude problems, and lack of training as contributory factors increasing the risk of workplace accidents. Blair (2014) suggested safety controls followed a rank order or priority hierarchy beginning with (a) elimination, (b) substitution, (c) engineering controls, (d) warnings, (e) administrative controls, and (f)

plant, property, and equipment. Furthermore, Participant PB007 posited, there was conflict between production targets and safety goals. Additionally, Participant PB007 posited, the conflict of goals resulted in business leaders taking shortcuts that compromised safety. Moreover, most accidents in the workplace were a result of failure of human factors such as communication, leadership, and judgment (Lyndon et al., 2015). Participant SA008 argued against adopting a safety-first archetype. Participant SA008 conjectured, risk management should be integrated in every process on a continual basis, yet the safety-first concept implies a start and end for safety performance. Furthermore, Participant PB002 observed government legislation as punitive, costly, and ineffective in promoting risk management. Although a mining operation can be shut down by government inspectors for failing to create a safe work environment, Participant PB002 opined, shutting down businesses was not a priority action for governments. As stated by Participant PB002, shutting down companies increases unemployment. Sustainable risk management prioritizes strategies for risks that have the highest likely impact on the organization (Cole et al., 2014). As propounded by Cole et al. (2014), continual self-assessment and strengthening of controls assists to achieve workers' security and safety compliance.

Emergent Theme: Culture Formation

The factors contributing to the creation of a workplace safety culture were; leadership support, management commitment, and the implementation of a formal safety management system (Hee, 2014). All participants at Company A encouraged leaders in the mining industry to adopt ISO standards because they help simplify processes and

practices through standardized documentation, repetition, and continuous improvement. Participants at Company A concurred, they had obtained certification on three ISO standards to support their process improvement initiatives. Participants SA001, SA003, and SA006 assented, their organizational culture was anchored on standardized procedures, documented work processes, continuous monitoring and improvement. A safety culture encourages the exhibition of safety compliance and safety participation behavior through empowerment, and belongingness (Hee, 2014; Pater, 2014).

A safe culture formation requires; reflective practice by the leaders, communication, collaboration, inclusivity, and incentives (Jin & Chen, 2013; Williamsen, 2013). Participants PB003, PB005, PB008, and DC004 acquiesced on repetition being influential in creating habits, and habits develop into character. The ideation concept of culture relies on shared beliefs, norms, habits, shared knowledge, meanings, and ideas shared by a community of people (Khosla, 2015). Furthermore, Participant PB005 argued, shared character was the foundation for culture formation. Organizational cultures were dynamic and changed with changes in leadership, team demographics, and the business environment (Nguyen et al., 2014). Participant SA012 observed risk identification and mitigation as a daily routine accomplished through safety talks. Additionally, Participant SA011 witnessed safety drills performed monthly and every incident was investigated and reported. Moreover, Participant DC001 supported standard color coding as it helped easy identification of hazards and taking appropriate remedial action immediately a certain color code appears.

Leaders should therefore, embrace all concepts of culture and use the most influential cultural concept to a work setting to attain corporate objectives (Khosla, 2015). However, participants in Companies B and C confirmed they were in the process of obtaining certification on the international standards. As proposed by Pelantova and Vitvarova (2015), safety training, safety inspections, and reporting were critical elements of organizational safety culture. Participant SA013 posited, achieving workplace safety begins with developing a culture for caring for oneself and the others. Geller et al. (2012) argued, a caring safety culture was achievable by ensuring that every employee cared for the other and is conscious of each other's safety. Participants in Companies A, B, and C agreed that ISO standards assisted to create a safe work culture through fostering consistent practices.

Emergent Theme: ISO Standards

As opined by Preda (2013), leaders seeking to improve the workplace safety environment adopted ISO standards for safety, health, environment, and quality (SHEQ). ISO standards outline the minimum requirements for documentation and practices for an organization to be certified as compliant with an ISO standard (ISO, 2009). Participants in Company A confirmed they were certified on the ISO 14,001, ISO 9,001, and OHSAS 18,001 standards.

ISO 14,001. As corroborated by participants from Companies B and C, management was at different stages of implementing the ISO 14,001 environmental management standard. From the results of documents study, the ISO 14,001 standard has guidelines for ensuring the health and safety of workers at the workplace. Participant

SA007 expounded, certification on ISO 14,001 entailed prioritization of the creation of management systems, maintaining a hierarchy of controls, and investigation of incidents. As posited by Participant SA002, being ISO certified enabled Company A to record zero harm for two consecutive months immediately following the certification. Furthermore, Participant SA002 opined, achieving zero harm for two consecutive months was a significant safety improvement, because Company A used to record up to 38 accidents in a month.

ISO 9,001. Participants from Companies B and C concurred, leadership was in the process of implementing the ISO 9,001 quality management standard. From the results of documents study, the ISO 9,001 standard emphasizes quality control through defining and documenting processes. As stated by participants from Company A, who confirmed having achieved the ISO 9,001:2008 certification, periodic audits of the processes and documentation of the processes ensures continuous improvement and consistent practice. Participants SA003, SA008, and SA011 concurred, non-conformities with the standard observed through the periodic audits were used to take corrective action to improve organizational processes.

OHSAS 18,001. The research results indicate leadership at all three sites had implemented the occupational, health, and safety management standard (OHSAS 18,001). From the results of the documents study, the OHSAS 18,001 standard helps organizations reduce or eliminate risk to employees through formalized risk assessments and mitigation approaches. Participants from Companies B and C however, confirmed having encountered challenges in complying with the OHSAS 18,001 standard. As

reported by Participants; PB006, PB007, and DC002, the availability of resources such as funding and trained personnel was a major limitation in achieving compliance with the international standards. Participant SA008 concurred with participants from Companies B and C on the instrumental role of adequate capitalization in achieving safe work operations and achieving ISO certification.

Emergent Theme: Legal and Compliance

Pagura (2013) posited health and safety legislation seek a uniform approach to occupational health and safety management. The employer is a primary duty holder for ensuring health and safety at the workplace (Pagura, 2013). Participants from all three companies observed mining operations as regulated businesses. All participants experienced government controls on mining operations through statutory instruments and legislation. As observed by Participant DC001, workplace safety is over-regulated despite the increased investments by the employers to improve mining safety. Other health and safety legislation protect the safety of workers and criminalize the failure to ensure the protection of workers (Miller & Gordon, 2015). As reported by Participant SA012, government legislation provides guidelines to be followed by mining operators to ensure a safe work environment. Additionally, Participant PB001 observed government legislation as embodying fines and penalties for noncompliance, which include mining license cancellation, or suspension of the license. From the results of documents study, legislation was pivotal in achieving workplace safety.

Labor Act (2005). The results of study indicate the Labor Act of 2005 in Zimbabwe as a key piece of legislation guiding workplace safety. The results of

documents study denote the Labor Act of 2005 underpinning the employer and employee relationship in the mining industry in Zimbabwe. The results of documents study reveal that the Labor Act of 2005 outlines the acceptable standards for recruitment, compensation, working hours, lighting, ventilation, protective clothing, and retrenchments for employees in the mining sector.

Labor inspection system regulations. From the results of documents study, Statutory Instrument 154 of 2003 in Zimbabwe, provides for the inspection of mining facilities carried out by Labor Inspectorate from the Ministry of Labor. Furthermore, research participants witnessed mining inspectors carrying out annual visits and inspections to check if mining operations were safe to employees. Research participants were unanimous that a certificate of inspection should be displayed at the reception facility to confirm compliance with the laws.

Mining management and safety regulations. The results of documents study also indicate Statutory Instrument 109 of 1990 in Zimbabwe as an important piece of legislation on mining safety. From the documentary evidence provided by participants, Statutory Instrument 109 of 1990 outlines the minimum safety standards for a mining operation. The statutory instrument includes fines and penalties for breach of regulations.

Health and sanitation regulations. From the documentary evidence provided by participants, Statutory Instrument 185 of 1995 in Zimbabwe sets out the minimum requirements for health and sanitation for mining operations. Failure to comply with legislation attracts fines and penalties. As reported by research participants, every worker

must have access to a private locker room to store personal belongings and shower rooms to freshen-up after a work shift.

Factories and works regulations. The documents study also indicated Statutory Instrument 263 of 1976 in Zimbabwe as providing general guidelines for the registration and safe operation of mining operations. The regulations impose penalties for breach and non-compliance with regulations. The regulations provide minimum standards for the installation of plant and machinery.

Machinery regulations. From the results of documents study, Statutory Instrument 302 of 1976 in Zimbabwe sets out guidelines for the safe installation, use, and maintenance of plant and machinery in mining operations. Failure to comply with the legislation attracts fines and penalties including imprisonment of senior management.

Electrical regulations. The documentary evidence provided by participants confirm Statutory Instrument 304 of 1976 provides guidelines for the safe installation and maintenance of electrical facilities. From the results of study, the regulations include standard color-coding for electrical wiring and protection of electrical installations. According to research participants, only qualified and approved contractors can install electrical fittings in a mining operation.

Buildings, structural, and excavation regulations. Statutory Instrument 264 of 1976 in Zimbabwe sets out the safety guidelines for buildings, structural works, and excavations for mining operations. The documentary evidence provided by participants confirm fines and penalties were imposed for failing to comply with this legislation.

Elevator and escalator regulations. Statutory Instrument 263 of 1976 in Zimbabwe also supports workplace safety. From the results of documents study, the legislation provides guidelines for the safe installation, use, and maintenance of any hoist devices and installations in a mining facility. Failure to comply with the legislation attracts fines and penalties.

As reported by the research participants, the legislation imposes mandatory annual inspections for elevator and escalator installations to ensure safe use. As stated by participants DC006, and PB003, the annual inspection certificate must be displayed on each elevator or escalator to reveal it was inspected and fit for use. Voluntary workplace safety improvements through collaboration with the workers, supply chain partners, and government agencies achieve greater results than relying on legislative provisions on health and safety (Rosner & Markowitz, 2016). Employers must embrace risk self-assessment to identify hazards and take appropriate remedial action before the event occurs (Epstein, 2012).

Emergent Theme: Planning and Organizing

Research participants concurred that deciding what needs to be done, when, how, and by whom, was a central theme in creating a safe work environment. As opined by Akelsson et al. (2012), organizations should plan how to achieve safety at the workplace. Participants SA001, SA002, and SA004 concurred, leaders pre-determine the tasks to be performed and allocate resources for the performance of the tasks. In corroboration, Participants PB003, PB006, and DC003 confirmed, leaders use budgets to allocate the

resources needed for each task or activity and to monitor the efficiency in task performance.

As observed by Participant SA011, planning involves leaders devising an inspiring vision, which is a long-term rallying point for the organization. Additionally, Participant DC002 explained a vision statement as setting out the desired future state of the organization such as creating an accident free workplace. As observed by Participant SA011, a vision statement is supported by a mission statement, which states how the organization will realize its desired future state. Furthermore, Participant SA011 posited leaders promote a set of values which guide the behaviors of everybody who works for the organization. Moreover, in support of value-driven behaviors Participant PB002 opined organizational objectives can be qualitative or quantitative for example achieving a zero-harm workplace environment. Participants from all three companies concurred; the vision, mission, values, and objectives formed the foundations anchoring the leadership practices that lead to achieving zero-harm.

As reported by Participant SA001, planning creates a chain of events and activities performed to improve workplace safety. As posited by Lyndon et al. (2015), communication facilitates information dissemination and correction of potentially hazardous conditions. Participant PB002 observed during the planning stage, safety is integrated in every process. As observed by Participant PB002, business leaders conduct situational analyses of the business' current state regarding workplace safety. Participants SA002, SA003, PB001, and DC005 confirmed various tools used to conduct situational analyses such as strengths, weaknesses, opportunities, and threats (SWOT), and gap

analyses. As opined by Participant DC005, the SWOT analysis reveals gaps in workplace safety performance, which are corrected through leadership interventions. Sustainable risk management involves extensive scenario analyses to identify, evaluate, and provide risk treatments for every conceivable outcome (Cole et al., 2014).

Intervening in the organization requires action steps aimed at improving workplace safety (Manuelle, 2014). As observed by Participants PB006, and DC001, developing the action steps requires inclusive consultation of all relevant stakeholders. Participant DC007 went further and posited stakeholders were people who perceived themselves to be affected by the action steps, and those who affect, and influence the action steps. Furthermore, as stated by Participant DC007, all employees, suppliers, contractors, and subcontractors were required to follow the safety rules, regulations, and action steps. Participants SA003, SA008, and PB002 agreed that planning and organization should happen at the same time, or sequentially with planning happening first followed by organizing. As propounded by Participant PB003, organizing involves allocating resources to specific tasks and events. Participants from all three companies concurred, inclusive planning and implementation ensures all stakeholders have buy-in and support the interventions to improve the workplace safety environment.

Emergent Theme: Communication

Coworker safety support and safety communication in the mining industry had a strong relationship with safety performance as compared to the influence of supervisor safety support, and safety communication (Casey & Krauss, 2013). Participants concurred sharing information on work processes, hazards, and their mitigation was

achieved through communication tools and communication media. Participants SA001, SA002, SA004, PB003, and PB005 observed notice boards, e-mails, letters, billboards, and signposts were used to convey safety messages. Furthermore, Participant PB003 and DC001 proposed the use of multiple languages to convey safety messages. As echoed by Participant DC001, using the local vernacular languages enhanced understanding of the safety messages. In addition, Participant SA010 argued for monthly departmental meetings as a means of regularly communicating with the workers. Jun (2013) believed the deployment of information management systems can improve production, health, and safety management information of the organization.

As reported by Participants SA001, PB007, and DC003, anyone who has new information on risks and how to mitigate risks can initiate communication. Safety climate embodies all the policies, procedures, measures, and practices that create a safe working environment and these must be communicated to relevant stakeholders (Idris et al., 2014). Furthermore, Participant SA012 argued, communication of safety messages had no hierarchy. As stated by Participant SA012, anybody can be injured including the business leaders, so sharing information about risks and hazards was important. Participant PB004 opined, communication on major company events or significant risks that impacted on the mining community was accomplished through door-to-door visits and engagements between the SHE officers and the residents of the mining community. Moreover, Participant PB004 opined, such integrated communication and community relationship building initiatives bonded the company and its communities.

As postulated by Participant DC005, persistence in communication of safety information was fundamental in a workplace safety strategy. Supporting persistent communication, were Participants PB001, PB003, and SA002. Furthermore, as opined by participant SA002, safety messages were repeatedly communicated using multiple communication media to accentuate the safety messages. In addition, Participant PB003 argued for safety competitions among employees within and across departments and organizations to improve skills and knowledge sharing. Participant PB001 proposed the first aid competitions for mining firms in Zimbabwe, which were held at national level between organizations in the mining industry. In corroboration, Participant DC003 argued for a safety day for commemoration of safety improvements and major workplace safety events. Sharma (2013) opined, organizations needed knowledge management systems to harness experiential learning. Knowledge management is the process of managing organizational knowledge to create firm value by leveraging, creating, developing, and improving the organizational competencies to achieve organizational goals (Sharma, 2013). As echoed by Participant DC003, these safety days were attended by the local communities and government representatives. Participants from all three companies agreed: competitions, commemorations, and the publicity surrounding such events promoted information sharing and safety awareness at a national level. Participants corroborated, measuring risk events created information that was communicated through reporting to relevant stakeholders. Moreover, as reiterated by Sharma (2013), knowledge management enabled organizations to learn from past events, share, and benchmark experiences over time.

Emergent Theme: Measuring and Reporting

Participants from all three companies agreed that accurately measuring and reporting risk information helps in choosing appropriate risk behavior. As evidenced by Sharma (2013), knowledge management capabilities include: (a) technology, which are the information technology systems that facilitate integration of knowledge, knowledge storage, transfer, and protection of the organization's knowledge resources, (b) organizational culture, which is a complex collection of values, beliefs, behaviors, symbols, and interpretations that influence organizational flexibility and adaptability to change, and (c) organizational structure, which is the hierarchical manner in which the jobs in a firm are organized.

As postulated by Participants SA001, and DC003, leaders in the mining industry encourage timely risk measurement and reporting. Additionally, participant PB004 argued, daily risk assessments conducted through the safety talks resulted in identification of risks in the workplace. Furthermore, as opined by Participant SA012, each risk identified should be measured to assess the likelihood of its occurrence, frequency of occurrence, and the potential severity if it occurred. Participants were unanimous that accurate risk information helps in formulating risk policies and deciding on risk tolerance limits. Moreover, as evidenced by Participant DC005, risk tolerance limits were the thresholds for acceptable and unacceptable risks which were set by the business leaders. In addition, as observed by Rossouw (2010), the Global Reporting Initiative (GRI) enhances responsible leadership and accountability by emphasizing independently verifiable results and not just public relations disclosures. Integrated

reporting entails providing information on how the company manages risks, challenges, and opportunities in qualitative and quantitative terms (Rossouw, 2010).

Participant DC006 explained a color coding scheme developed for measuring the severity of each risk. As observed by Participant DC006, a color coding scheme helps to standardize meaning and responses for every color code. Participant SA009 went further and stated, risk severity measures the potential harm that a risk event can cause. As postulated by Participant SA009, risk severity is measured quantitatively or qualitatively. Participant SA009 further expounded, in qualitative terms, risk severity is expressed as high, medium, or low severity. In corroboration, Participant PB003 posited, an individual can inadvertently measure a risk as low and this influences whether they decide to proceed with a task. Furthermore, as opined by Participant PB003, risk behavior therefore, depends on the individual's perception of risk. According to Participant SA001, risk severity measures can be expressed in color codes for example red signifies extremely high risk or hazard and green reflects low risk. Research participants were unanimous, leaders in the mining industry enforce risk reviews by independent parties to ensure objective decision-making about risks.

As reported by Participant SA009, once the leadership is certain of the level of risk, communication is made to all relevant stakeholders. Moreover, as posited by Participant PB003, pre-determined risk tolerance limits guide corporate decisions on actions to take for a defined level of risk. Furthermore, participants from all three companies agreed, a stop and fix order was issued if the risk frequency or severity were assessed to be high. The results of study reveal the importance of maintaining data for

loss events and incidents to assist business leaders to benchmark decisions against past events.

As reported by Participant DC007, continuous risk management interventions ensure the leadership learns from past events and information. Participant PB001 posited team learning and knowledge sharing help to continuously improve the safety of the workplace environment. Risk management entails shared leadership (Doh & Quigley, 2014). Research participants agreed, each person was responsible not only for their safety, but that of their coworkers. Employees become their safety managers. An interdependent culture is when everyone cares for the other's safety (Geller et al., 2012). As observed by Foster and Hoult (2013) safety becomes a shared responsibility.

As revealed by the research results, every risk event should be recorded and reported. Furthermore, as reported by research participants, incident reporting includes accidents and near-misses, which aligns with the recommendations by Williamsen (2013). Participant SA011 opined, accident events were situations in which somebody is injured or killed. Contrastingly, Participant DC004 remarked, near-misses were events in which no harm occurs. From the research results, recording and reporting every incident assists business leaders to learn from each event. Research participants recommended the creation of a database of all risk events from which risk simulations and analytics were performed.

Emergent Theme: Documented Work Procedures

Participants from all three companies were unanimous; leaders should document every task and activity performed in the organization. Documenting tasks reflects how

the tasks were performed and simplifies task execution (ISO, 2009). Participants PB002 and DC001 agreed, documentation assists in information sharing and enables continuity. As reported by Participant PB002, in the event of a member of staff absenting himself or herself from work, another member of staff can follow the documented procedures and perform the task. Moreover, as presented by research participants, documenting the component parts of a task enables the auditing of the execution of each task to ensure safe performance and consistency.

The research findings confirm knowledge on workplace safety improvement in the literature by providing empirical evidence of the practical use of some of the recommendations on how to improve workplace safety. Tetrick and Peiró (2016) observed that organizational health and safety targets centred on four pillars; the employee, the leadership, the task, and the environment. Tetrick and Peiró's observation was confirmed by the study. The leaders, workers, task, and the environment were interdependent in creating an organizational safety climate. The research findings further extended Tetrick and Peiró's observations by revealing the importance of leadership actions in deciding the workplace safety climate. Based on the results of study, leaders decide the task to be performed, how it is executed, when it is carried out, and by whom. In addition, the research findings indicate leaders decide who works at the workplace, their skills, experience, and trains them to sharpen the skills and change their behaviors towards risk. Furthermore, the research findings extend the literature by indicating leaders control the task and the environment. Research participants confirmed, by implementing the stop and fix approach to managing risks, hazardous tasks were not

undertaken until risk reduction or elimination measures were implemented. The empirical evidence from this study further indicates; leadership, employees, the task, and the environment as important pillars to workplace safety, but leadership was the central pillar without which workplace safety would not be achievable. As observed by Hansen (2011), workplace safety depended on leadership, and this was also supported by the results of this study.

The research findings also indicate that leading workplace safety does not rely on any one style of leadership and agree with Rowold's (2014) instrumental leadership approach. Instrumental leadership focuses on strategy formulation and implementation, environmental scanning and monitoring, market intelligence, team supervision, work monitoring, and team development (Rowold, 2014). The elements of instrumental leadership were captured in the main themes from this study. The results of the study further extend the body of knowledge by providing empirical evidence of how instrumental leadership is implemented to achieve workplace safety.

The research results further agree with Miska et al. (2014) and Voegtlin et al. (2012) who observed responsible leaders as accountable always to all their stakeholders. The research results also confirm the central role of the community and agree with Doh and Quigley (2014) who argued responsible leaders respected an unwritten social contract with their environment and communities, which guaranteed ethical leadership and sustainability. From the research findings, leaders require the support of their stakeholders. The research findings agree with Kirk-Brown and Van Dijk (2016) who advocated for an inclusive and consultative approach to workplace safety.

The results of the study also confirm Lyndon et al's. (2015) assertion, most accidents in the workplace were a result of failure of human factors such as communication, leadership, and judgment. Faulty judgment on the level of risk in a task was identified in the study as a potential threat to workplace safety, and so was poor communication and inadequate leadership. The research results extend the body of knowledge by revealing how planning, organizing, leading, communication, risk management, and continuous improvement can combine to create a safe workplace environment. The research findings place collaboration between workers and their leadership at the center of successful workplace safety programs and agree with Jin and Chen (2013) and Shukla et al. (2015) that a collaborative workplace safety enforcement program involving all levels of staff improved safety performance. According to Dunn, Scott, Allen, and Bonilla (2016), the quality of information used by leaders in decision-making was a key determinant of the workplace safety climate. Additionally, the results of the study agree with Hedman (2016) who posited, communication is the anchor of team building and sense-making in the organization. Accurate and timely communication therefore, potentially save lives and enable continuous learning and improvement.

The research results agree with Preda (2013) and Ralph (2014) on the adoption of ISO standards to improve work processes. An ISO standard is a set of rules, principles, and guidelines, which should be followed to provide a coherent and systematic approach in respect of processes, structure, content, and quality (Preda, 2013). The research findings confirm Ralph (2014) and Preda's (2013) proposition that ISO standards were strategic tools business leaders should adopt to reduce costs, variability, and to minimize

waste, errors, and manage business risks. The results of the study also agree with ISO (2009) on the integration of risk management in the organization's overall management processes and practices. The research participants' evidence confirms Swensen, Gorringe, Caviness, and Peters' (2016) observation, organization development is intentional. By planning and implementing a systematic and structured program for organizational change such as workplace safety improvement, leaders intentionally improve the workplace safety environment.

The research findings support the PDCA framework by emphasizing (a) planning the event or task, including establishing the measures of success or quality as well as determining the process to be followed, (b) implementing the plan, (c) checking the results of the implementation of the plan, and (d) acting on what is learned which aligns with John Henrik et al.'s (2014) depiction of the PDCA framework. As recorded in the results of the study, all the PDCA steps are implemented for each activity in helical fashion including stop and fix periods for tasks with significant risks, which agrees with Andre's (2013) recommendations on how to implement the PDCA framework. The results of the study further contribute to the body of knowledge and extend the PDCA framework by providing a step-by-step approach to intervening in organizations to improve safety.

As an extension to the body of knowledge on the PDCA framework, the results of the study reveal the PDCA framework could be more effective in a workplace safety improvement program as plan-check-do-check-act (PCDCA) in helical fashion. The results of the study confirm planning (Plan) as the starting point of leadership

interventions in organizations to improve workplace safety. Immediately before doing the task, checking (Check) should happen to evaluate risks and mitigate them. During the checking processes, a stop and fix order can be issued to suspend or stop work until the risks identified are eliminated or reduced. Implementation (Do) takes place only after the team is satisfied of the safety of the work environment. The results of the study reveal checking (Check) should continue during the task implementation as risks evolve and new risks emerge as implementation progresses. Risk monitoring should be ongoing. Checking at this stage extends beyond emerging risks, but assesses whether planned objectives are met. If planned objectives for the business are not being met, leadership returns to the planning stage to review the plans. The research findings confirm; continuous monitoring, evaluation, reporting, and improvement continue during the entire implementation process (Act). The results of the study reveal the processes in the PDCA or PCDCA are repeated for each task in helical fashion. For a workplace safety improvement program, the results of the study incline towards a PCDCA as opposed to a PDCA framework, as performing the task before checking risks could expose workers to harm.

From a broader business effectiveness perspective, the PDCA is an important framework and is supported by the results of the study. However, to reduce workplace risk and improve safety, a PCDCA framework is more effective. As posited by Manuele (2014) and Andre (2013), the PDCA framework is suitable as a general organization development framework. To improve workplace safety, the PCDCA framework is a more appropriate approach. The research findings agree with Andre (2013) who observed

existing change models to erroneously presume a start and end to organizational change programs. Andre's (2013) plan-do-stabilize-repeat plus empower and communicate process is an improvement on the Deming cycle (plan-do-study-act) and Shewhart's PDCA cycle but as revealed by the results of study, the PCDCA framework is more effective in improving workplace safety. From the research findings, performing any task before checking the risks and mitigating them is discouraged, and this result contributes to the body of knowledge on workplace safety improvement.

Applications to Professional Practice

The research findings challenge current thinking and business practice by recommending risk based thinking and practice. Risk based thinking does not imply a safety-first approach, but integrating risk management in every decision, process, and in general, in all management actions and processes (ISO, 2009). The study provides a step-by-step approach to risk based thinking and practice in a workplace safety improvement program. Furthermore, the results of the study inform professional practice by extending beyond legal compliance, by advocating for voluntary proactiveness, and having detailed risk information about every task before, during, and after its execution. Research participants corroborated the need to integrate leading and following, and placed information and communication at the center of continuous workplace safety improvement.

The research participants were also in agreement on extending beyond leadership styles by emphasizing implementation of strategies and following a structured approach on how to create a safe work environment. Irrespective of how information is gained,

leadership must make use of the best available information to make timely decisions that improve the workplace safety environment. The research results confirm the pathway to achieving workplace safety as: Planning, leading, controlling, monitoring, and involving all stakeholders. To create a safe work environment, leaders must (a) plan what to execute and how the work is performed, (b) allocate adequate resources, (c) document the steps to be followed for executing each task, (d) lead, (e) control, (f) train and empower employees, (g) assess and mitigate the risks before executing any task, (h) measure and record, (i) report and communicate, (j) audit the work processes to ensure compliance, and (k) continuously learn each event. A PCDCA framework is proposed to guide leadership in creating a safe work environment. The PCDCA framework is a systematic helical pathway to leading safety at the workplace and an improvement to the PDCA framework. A task performed before checking risks is a potential source of harm to the employees. The research findings indicate the PCDCA framework is more aligned to risk management than the PDCA framework.

Implications for Social Change

The research findings may positively impact social change by encouraging safe work behavior and practices at home and in the workplace. By adopting risk based thinking and practices, communities begin to identify risks and mitigate them before executing any task (Preda, 2013). Proactive risk behavior helps prevent harm in society by eliminating impulse behavior and surprises. As communities begin to take calculated risks, death and injuries are reduced (Hee, 2014). Preventive risk behavior helps communities stay safe. Corrective action helps reduce the likelihood of a risk event

occurring and minimizes the consequences of the risk event. A safe community is productive and anticipates change and adapts to change more easily than an uninformed community (Hill & Seabrook, 2013).

Workers live in the communities that supply the mine with labor and other supplies. Workers practicing safe work behavior take the safe work habits home, and entire communities benefit from the shared wisdom and knowledge of the workers on safety (Hill & Seabrook, 2013). Shared safety knowledge and practices are embedded in community practices leading to prosperity and safety of the community. People living in communities that embrace safe work practices live longer thereby contributing more to their families, communities, and national development.

Increased life expectancies because of safe risk behavior enable safe practices to be passed on from one generation to the other thereby creating a risk-conscious and safe population. Safety is behavioral therefore, can be learned and shared (Hee, 2014). The cross-sharing of safety practices from the workplace to the home and vice versa creates a new safety culture for the communities which enhances continuous learning and development. The business and communities begin to learn together and from each other thereby reducing the training and development costs of the labor force.

Recommendations for Action

From the results of the study, workplace safety depends on leadership action. Business leaders should create an environment conducive for safe work practices (Preda, 2013). The following action steps help leaders create a safe work environment: (a) plan what to execute and how the work is performed, (b) allocate adequate resources, (c)

document the steps to be followed for executing each task, (d) lead, (e) control, (f) train and empower employees, (g) assess and mitigate the risks before executing any task, (h) measure and record, (i) report and communicate, and (j) audit the work processes to ensure compliance, and (k) continuously learn each event. Business leaders can implement the steps concurrently, sequentially, and helically implying a spiral of events each feeding into the other and from each other. Business leaders should eliminate fixed start and end time schedules to workplace safety improvement programs as continuous learning and improvement is an implied integral factor. Risk management should be integrated in all business processes. A safety-first approach is not adequate to promote safety, but risk identification and mitigation should be continuous throughout the life cycle of the project. Business leaders are therefore, encouraged to be proactive in managing workplace safety by anticipating risks and mitigating them before they occur. A PCDCA framework is recommended to business leaders to continuously identify and treat risks before they cause harm to employees.

Business leaders, governments, employees, and communities should pay attention to the research findings. Business leaders can benefit from the research findings by having a simplified framework for creating a safe work environment. By following the recommendations, business leaders can re-create the work environments to embed risk-based behaviors, safety thinking, and safe work practices. Voluntary safety practices reduce the chances of incurring government penalties and fines. Additionally, business leaders benefit from achieving high sustainability ratings, which enhance business

reputation, and help in attracting talented labor and capital from the markets (Hill & Seabrook, 2013).

Governments potentially benefit from the research findings by embracing the recommendations and integrating them into legislative provisions and guidelines for creating safe work environments. Additionally, government authorities may benefit from the research findings because as businesses adopt voluntary safe work practices, the cost of government supervision through inspections and monitoring is reduced. Furthermore, governments could benefit from having safe workers as it reduces the cost of social security and government expenditure. A healthy and long serving workforce contributes more to government revenue through taxes. Additionally, healthy workers contribute their intellectual capital for national development. Health and safety legislation anchors on three pillars; an enforcement agency, employee involvement, and self-regulation by employers (Epstein, 2012). Epstein (2012) assessed legislation as an inefficient approach to achieving health and safety improvement in the workplace because legislation imposes costs such as: fines, penalties, and compliance requirements, which resources could be used to further improve workplace safety. The effectiveness of legislation in improving workplace safety is questionable (Epstein, 2012). According to Epstein, resources are finite to monitor every workplace for safety compliance as the cost would be prohibitive and an administrative impossibility. Employers should embrace risk self-assessment to identify hazards and take appropriate remedial action before the event occurs (Epstein, 2012).

Employees should also acknowledge the research findings. The research findings reveal a pathway to workplace safety which employees will be interested in following to stay safe. Workers representatives may also acknowledge the research findings and could use the research results to advocate for safe work practices. Trade unions can lobby governments to increase legislative provisions anchoring on the research findings to improve the workplace safety environment. This study premises on the safety of workers, so the research findings could be a natural attraction to workers.

Finally, communities should acknowledge the research findings as they are a key stakeholder in workplace safety. Communities are affected by the injury or death of employees. Community advocacy groups could learn and develop strategies from the research findings and engage governments and employers to improve the workplace safety environment. Community advocacy groups could canvass support for adoption of the research recommendations by all stakeholders to improve the safety of the work environment.

The results of the study can be disseminated through lectures, workshops, legislative provisions and guidelines, ISO standards, and training manuals advancing workplace safety. The researcher and other training specialists can organize industry events to share the research findings. Zimbabwe has the Chamber of Mines, an association of all mining companies, which is a potential stakeholder for sharing the research findings. All industries in Zimbabwe comprise the Confederation of Zimbabwe Industries (CZI). Such industry bodies as the CZI present platforms for industry level engagement and information dissemination about the research findings. Industry bodies

will be engaged as stakeholders to share the research findings and recommended to adopt the research findings as a voluntary risk improvement initiative. Government regulators can also help disseminate the research findings by issuing guidelines to the business community on how to improve workplace safety based on the research findings. I also intend to start a risk management consultant business which will have a website which will host the research findings through a subscription service. Additionally, I will also create a workplace safety advocacy social media group to raise awareness of the workplace safety improvement initiatives and to seek input from the business community on how to improve workplace safety.

Recommendations for Further Research

The following topics are recommended for further research: examining the relationship between follower level of education and the workplace safety climate, examining the influence of worker age-group to the accident prevalence rate, and examining the relationship between the provision of adequate resources and the workplace safety climate. The proposed topics for further research will provide empirical evidence on the nature of relationship between defined workplace safety variables. Furthermore, the proposed topics for further research may assist business leaders to focus attention on the factors with significant impact on workplace safety performance. Understanding the relationships between workplace safety variables assists with strategic planning and allocation of resources.

The limitations to this study were that it is a cross sectional case study research and does not reflect the impact of time on the research findings, and a single coder was

relied upon to analyze the data. Future research could be based on a longitudinal case study to capture the impact of time on research findings. The impact of time on the study could be caused by changing demographics, legislation, or education systems over time, and a longitudinal study could capture these aspects and eliminate the weakness of having conducted a cross sectional case study. Additionally, more researchers could collaborate in a study to improve the data collection, coding, and analysis of the research findings and use multiple research methods to improve the research validity (Hawkins, 2016). Multiple researchers collaborating could improve on the limitation caused by a single coder conducting the data coding and analysis based on data collected from three mining sites in Zimbabwe. Collaboration between researchers in various geographical locations could broaden the scope and extent of the study to make it a global study (Morton, 2016).

Reflections

The DBA doctoral study process is a controlled process with high quality and support standards. When I started the DBA doctoral study process, I was not aware of the distinctiveness of a business problem. Initially, I struggled to grasp the concept of the business research problem. Before the research, I also did not appreciate the concept of bracketing myself from the research participants and ensuring that my preconceived ideas do not interfere with the research findings. After learning the research process during the DBA doctoral study, I do not believe any of my personal biases and preconceptions had an impact on the research findings. I bracketed myself from the research participants and my preconceived ideas. I bracketted myself by relying solely on the audio recorded

interviews, journal notes, documentary evidence, and transcripts as research evidence in formulating the results of study.

After the research, my knowledge and worldview on workplace safety changed. I learned new approaches to improving workplace safety through the research process. I have learned the power of research in contributing to the body of knowledge through gathering primary evidence. I now believe any business problem can be solved through conducting research. I have also learned to choose selectively what to read by assessing the authenticity and credibility of research findings made by authors, and by checking the rigor and validity of the research process.

Conclusion

In this qualitative case study, I used the semistructured face-to-face interviews to gather evidence from 30 mine managers and supervisors. Data saturation was reached after the 22nd interview, but I continued recruiting additional participants until the 30th interview. Data saturation was reached when themes began to recur and no new coding emerged from additional interviews conducted. Participant recruitment followed the chain referral sampling technique.

In Section 1, I concentrated on the problem statement and reviewing the literature supporting the problem statement. In Section 2, I focused on the research methods, sampling decisions, and how to analyze the data. In Section 3, I presented the results of the study. The results presentation followed the thematic data analysis approach. The sites studied were assigned anonymous codes; A, B, and C. Participants drawn from site A were also assigned anonymous codes from SA001 to SA013. Participants from site B

were assigned anonymous codes PB001 to PB010. Finally, participants drawn from site C were assigned anonymous codes DC001 to DC007. The anonymous codes for the sites and participants were part of a strategy to achieve participant confidentiality. Data analysis included cross case validation, methods, and data triangulation. Documentary evidence was collected during the face-to-face interviews and the interview evidence was verified against documentary evidence captured in processes and procedure manuals, handbooks, notes, and memos.

The research findings may impact on social change by promoting risk based thinking and practices in communities, as workers share safety knowledge and skills with their families. Additionally, the results of the study potentially impact professional practice by proposing a step-by-step approach to risk based thinking and practice in workplace safety improvement programs. Risk management should be integrated in all business processes. A safety-first approach is not adequate to promote safety, but risk identification and mitigation should be continuous throughout the life cycle of the project. Business leaders are therefore, encouraged to be proactive in managing workplace safety by anticipating risks and mitigating them before they occur. Furthermore, the results of the study inform professional practice by going beyond legal compliance, by advocating for voluntary proactiveness, and having up to date risk information about every task before, during, and after its execution.

The following themes emerged from the analysis of data: planning and organizing, leading, documented work procedures, risk management, communication, training and development, legal and compliance, measuring and reporting, ISO standards,

and culture formation. From the research findings, the workplace environment is designed by business leaders. Business leaders therefore, can alter the workplace variables to achieve a desired level of workplace safety such as zero harm. Further research results reveal workplace safety is dependent on the leader actions, practices, and behaviors. The results of data analysis also revealed workplace safety is: led, planned, systematic, integrated, inclusive, intentional, controlled, achievable, and dependent on continuous measurement, learning, and improvement from all stakeholders.

A top priority for business leaders to create a safe work environment is to (a) plan what to execute and how the work is performed, (b) allocate adequate resources, (c) document the steps to be followed for executing each task, (d) lead, (e) control, (f) train and empower employees, (g) assess and mitigate the risks before executing any task, (h) measure and record, (i) report and communicate, (j) audit the work processes to ensure compliance, and (k) continuously learn from each event. Furthermore, business leaders were introduced to a PCDCA framework to guide leadership in creating a safe work environment. The PCDCA is a systematic helical pathway to leading safety at the workplace, and an improvement on the PDCA framework. A task performed before checking risks is a potential source of harm to the employees. From the analysis of research data, the PCDCA framework improves workplace safety more effectively as compared to the PDCA framework.

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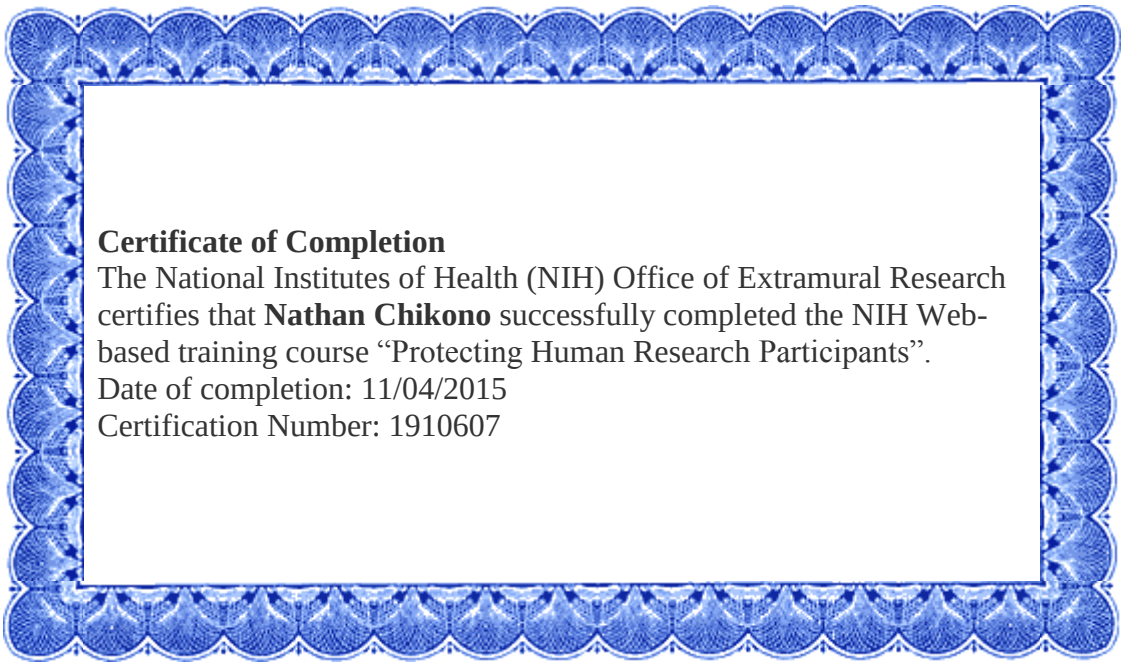
Appendix A: NIH Certificate



Certificate of Completion
The National Institutes of Health (NIH) Office of Extramural Research certifies that **Nathan Chikono** successfully completed the NIH Web-based training course "Protecting Human Research Participants".
Date of completion: 11/04/2015
Certification Number: 1910607

The NIH training for protection of human research subjects is available at https://phrp.nihtraining.com/users/login.php#

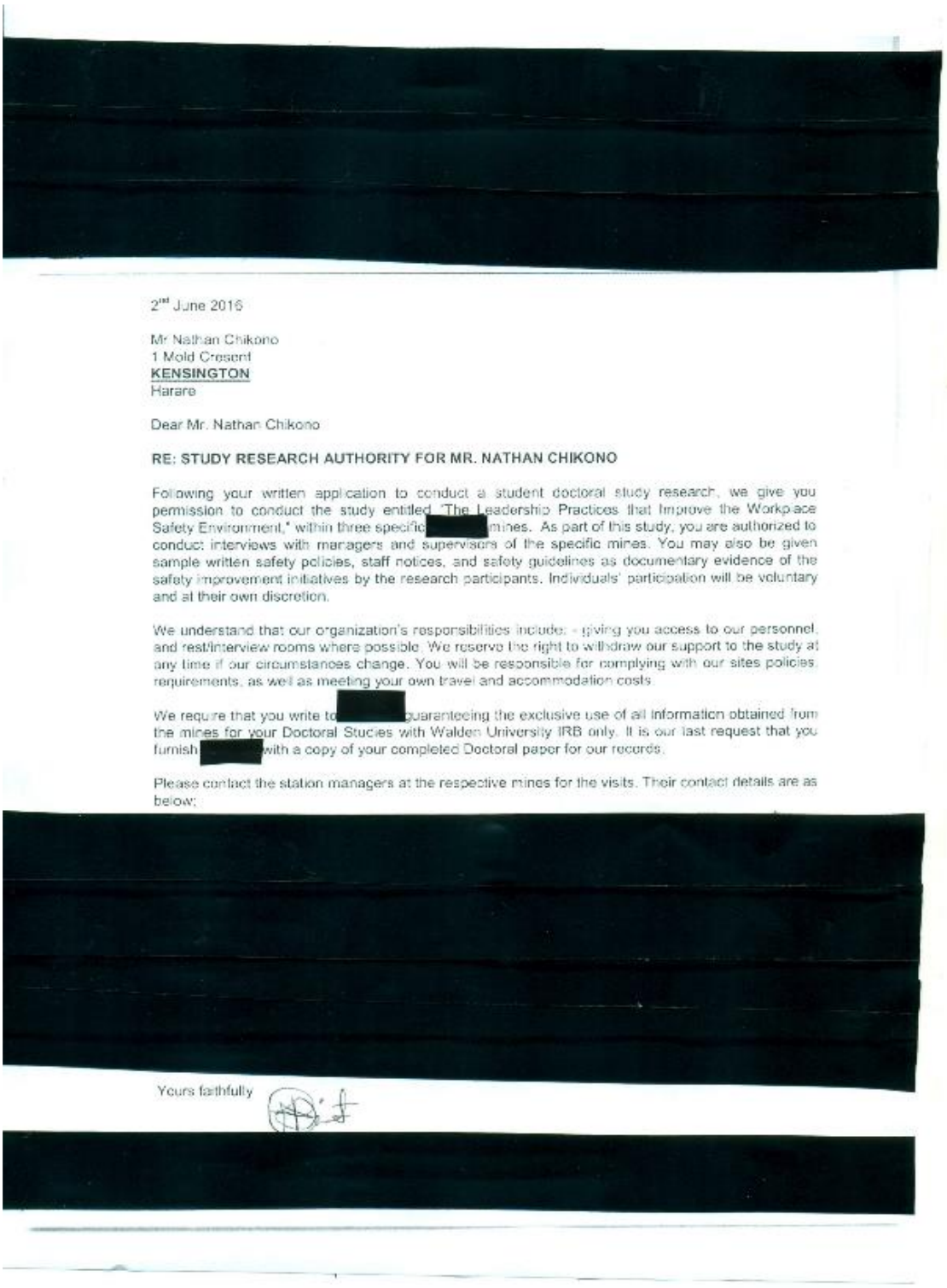
Appendix B: Interview Protocol

What you will do	What you will say—script
Introduce the interview and set the stage—often over a meal or coffee	My name is Nathan Chikono and I am doing research under the supervision of Dr. Teresa Jepma towards a Doctor of Business Administration degree at Walden University. I am inviting you to participate in a study entitled "The leadership practices that improve the workplace safety environment".
• Watch for non-verbal queues • Paraphrase as needed • Ask follow-up probing questions to get more in-depth information	1. What strategies do leaders need to improve workplace safety?
	2. How can leaders implement the strategies to improve workplace safety?
	3. What challenges are there in creating a safe work environment?
	4. What else do you want to share about leadership practices with regard to workplace safety practices?
	What strategies do leaders need to improve workplace safety?
Wrap up interview thanking participant	I appreciate the time you took for this interview. Is there anything else you think would be helpful for me to know, even handouts on workplace safety, so that I can read during my spare time to fully understand the management effort in improving workplace safety?

Schedule follow-up member checking interview	Would it be alright to call you if I have any more questions or to seek clarification on my interpretation of the data?
Follow–up Member Checking Interview	
Introduce follow-up interview and set the stage	I have gathered a lot of data from various participants and I need to confirm my understanding and interpretation of the issues discussed with subject experts like you.
Share a copy of the succinct synthesis for each individual question Bring in probing questions related to other information that you may have found—note the information must be related so that you are probing and adhering to the IRB approval.	I have recorded the following evidence from research participants and have summarised my understanding as per my transcription and I wish to check with you if my understanding and interpretation is correct. 1. Question and succinct synthesis of the interpretation—perhaps one paragraph or as needed 2. Question and succinct synthesis of the interpretation—perhaps one paragraph or as needed 3. Question and succinct synthesis of the interpretation—perhaps one paragraph or as needed 4. Question and succinct synthesis of the interpretation—perhaps one paragraph or as needed

Walk through each question, read the interpretation and ask: Did I miss anything? Or, What would you like to add?	

Appendix C: Letters of Cooperation



[redacted]

2nd June 2016

Mr Nathan Chikono
1 Mold Cresent
KENSINGTON
Harare

Dear Mr. Nathan Chikono

RE: STUDY RESEARCH AUTHORITY FOR MR. NATHAN CHIKONO

Following your written application to conduct a student doctoral study research, we give you permission to conduct the study entitled "The Leadership Practices that Improve the Workplace Safety Environment," within three specific [redacted] mines. As part of this study, you are authorized to conduct interviews with managers and supervisors of the specific mines. You may also be given sample written safety policies, staff notices, and safety guidelines as documentary evidence of the safety improvement initiatives by the research participants. Individuals' participation will be voluntary and at their own discretion.

We understand that our organization's responsibilities include: - giving you access to our personnel, and rest/interview rooms where possible. We reserve the right to withdraw our support to the study at any time if our circumstances change. You will be responsible for complying with our sites policies' requirements, as well as meeting your own travel and accommodation costs.

We require that you write to [redacted] guaranteeing the exclusive use of all information obtained from the mines for your Doctoral Studies with Walden University IRB only. It is our last request that you furnish [redacted] with a copy of your completed Doctoral paper for our records.

Please contact the station managers at the respective mines for the visits. Their contact details are as below;

[redacted]

Yours faithfully

[redacted]