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Preventing Injuries and Fatalities in Inherently Dangerous Work Environments

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Markeith Lamar Porter

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Walden University
2021

Abstract

Preventing Injuries and Fatalities in Inherently Dangerous Work Environments

by

Markeith Lamar Porter

MS, University of Phoenix, 2006

BS, University of Phoenix, 2004

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

December 2021

Abstract

Shipyard safety programs have uncertainty and vulnerability. Shipyard program managers are concerned with safety to mitigate negative business system performance because of unplanned safety events. Grounded in the contingency theory, the purpose of this qualitative single case study was to explore the strategies managers use to mitigate liability claims associated with the high numbers of injuries and fatalities in dangerous work environments. The participants were three program manager representatives in the American Southwest who use successful strategies to reduce injuries and fatalities in the shipyard industry. The data were collected using semistructured interviews, public documents and analyzed using a six-step thematic process from which the following three themes emerged: (a) safety incentives, training, and policies; (b) safety action, procedures, and innovation; and (c) safety production, protocol, significance, monitoring, assessments, and controls. A key recommendation is for managers to reinforce and reward staff efforts directed to addressing safety issues rather than waiting for accidents to occur and then punishing those they blame for the mistakes that occurred. The implications for positive social change include the potential for reducing ship repair safety incidents and risk, which could lead to lower liability claims, safe workplace dynamics, fewer injuries, increased business transparency, and, most of all, fewer fatalities.

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Dedication

I dedicate this study to the business professional in the shipyard who have been confronted with the dilemma of whether to side with production and just get the job done or ensure safety is taken into account. This study has been prepared to assist these business professionals with that decision. My sincere wish is that shipyard workers heed the message prepared in the document and understand how important your efforts are in making your people safe. Also, I dedicate this to my mother, my wife, my son and daughter, my daughter and son in law, and my three grandkids, all of which have helped to make my life purposeful and have meaning.

Acknowledgement

I would like to acknowledge the man who spent an enormous amount of his time away from his family to assist me with getting my DBA. His steadfast efforts vote well for Walden University, his family, and the man himself. Thank you, Dr. Kenneth Gossett. I love you man. To my second committee member, your intelligence and adherence to standards is what the Doctor of Business Administration program is all about. Thank you, Dr. Denise Land. Dr. Yvonne Doll, the time spent with you and the professionalism with your approach to the DBA is magnified to the tenth degree, which once the program is complete you clearly understand you have accomplished something significant. Thank you. Regrettable, it would be not to mention my wife and her steadfast belief in me. Again, thank you all for being in my foxhole.

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Section 1: Foundation of the Study

Managers of the United States Occupational Safety and Health Administration

(OSHA, 2019) reported the agency budget is over $500 million, and there were 5,250

work-related fatalities in the United States in 2018. Managers of OSHA refer to the fatal

four as falls, electrocutions, being caught in or between objects, and being struck by

objects. Each of these categories presents a clear and present danger in a shipyard

environment. A safety problem may exist if managers and employees are not aware of the

risks in their environment. The bottom line is that safety is negatively impacted for

companies on image, financial results, and productivity as a result of accidents and

injuries (Kim et al., 2019). As accidents and injuries rise, the image of a company will be

negatively affected. Productivity can be reduced, and the financial condition of a company

can be devastated. Sultana et al. (2019) found behavior, perception, and attitude cannot be

dismissed concerning safety awareness. For this research, safety and production included

instances in which employees may have hurt themselves and pursued litigation. The adage

this will never happen to me is present in the minds of many. Accidents and injuries can

happen to anyone at almost any time in a work environment.

Background of the Problem

In inherently dangerous workplaces, safety climate, safety culture, safety

awareness, and safety management are centered on performance metrics (Dale et al.,

2020). The dichotomy (a contrast between two things that are represented as being

opposed or entirely different (Merriam-Webster Collegiate, n.d.) of production and safety

is a paradox that is ever-changing and never-ending in a shipyard environment. Based on

my 33 years of experience, an enhanced safety management program can be ideal in joining these opposing forces together for the common good (Dale et al., 2020). In a shipyard environment, as far as installation and repairs go, forces are meshed together to create an unsafe environment for personnel, production, and equipment; safety does not happen in a vacuum. The goal is to prevent injuries, damage to equipment, decrease financial cost, and most of all, prevent fatalities. Dale et al. (2020) contended the link between production and safety has only been briefly explored and should be addressed in any research that is done on this problem. An analysis of peer-reviewed journals and articles has divulged the need for a comprehensive safety management program and the need for research in this critical area.

Problem Statement

Between 2017 and 2019, there were an estimated 20 fatal accidents among shipyard workers, higher than the rate for all U.S. workers (Center for Disease Control and Prevention, 2021; U. S. Bureau of Labor and Statistics, 2021). An estimated 24,600 nonfatal injuries/illnesses occurred during the same period, which was nearly twice the rate for all U.S. workers, and one of the highest injury/illness rates among maritime workers (OSHA, 2019). The general business problem is some shipyard managers lack strategies in dangerous shipyard environments to reduce liability claims, injuries, and fatalities that threaten business profitability. The specific business problem is some shipyard managers lack strategies to protect companies from liability claims associated with the high number of injuries and fatalities in dangerous work environments.

Purpose Statement

The purpose of this qualitative single case study was to identify strategies that shipyard managers use to protect companies from liability claims associated with the high number of injuries and fatalities in dangerous work environments. The shipyard environment under review was located in the American Southwest. The targeted population was comprised of three program manager representatives (PMRs) who provided expert assessments of the research question under review. PMRs use successful strategies to enhance safety features and reduce liability claims. The implications for positive social change include the potential to improve worker safety by identifying successful strategies that reduce injuries and fatalities. Reducing the number of injuries and fatalities in regard to social change might help to create a work environment that requires less manager oversight, reduced financial liability, increased transparency, and increased safety awareness in business; thereby, improving worker safety outcomes and reducing worker turnover.

Nature of the Study

There are three primary choices for conducting a study: qualitative, quantitative, and mixed method (Yin, 2018). Quantitative research focuses on examining the relationship among variables and the testing of hypotheses (Creswell & Creswell, 2018). A mixed method study would require using a quantitative and qualitative method together in the same study (Schoonenboom & Johnson, 2017). I did not use a quantitative or mixed method because I did not engage in testing a hypothesis or exploring the significance of relationships among variables or testing hypotheses. Researchers use mixed method

research when their research question can be best answered by an integrated qualitative and quantitative research than either of the two methods alone (Saunders et al., 2015). I chose a qualitative, single case study to explore strategies of the three PMRs working in the American Southwest who provided multiple forms of data to help address the research question. I chose a qualitative method because using an inductive approach; researchers use smaller numbers of participants to develop rich data and thick descriptions using multiple sources of data to identify patterns associated with phenomena.

Researchers typically use one of the four research designs when working on a qualitative study: (a) ethnography, (b) phenomenology, (c) narrative, and (d) case study (Saunders et al., 2015). Using the ethnographical method describes a cultural group's patterns where the researcher participates in the group to understand the phenomenon and the participants' social value commitments (Raman & Balakrishnan, 2020). I did not use an ethnographic design because I did not describe cultural group's patterns. Within a phenomenological study, researchers are generally interested in the lived experiences of a group of individuals who have all experienced the same or similar traumatic events and how it has affected their lives or well-being (Moustakas, 1994). I did not do a phenomenological study because I was not focused on the participants' lived experiences in my study because they will not help me address my research question. A narrative design was not appropriate because I did not focus on the experiences of individuals as told through their own personal life stories in the form of written or spoken information (see Saunders et al., 2015). Using a case study design allowed me to interview participants with open-ended interview questions and review archival records and participant

documents to help identify strategies to address the research question. I chose a qualitative single case study design because it helped me promote a knowledge-based atmosphere. Participants were encouraged to provide in-depth knowledge of their experiences that helped me address my research question.

Research Question

What strategies do some shipyard managers use to protect companies from liability claims associated with injuries and fatalities in dangerous work environments?

Interview Questions

1. How did you construct your policy to manage production and safety strategies?

2. What factors influence training with respect to safety and production strategies?

3. How do your employees react to the need for production and safety strategies?

4. What safety procedures are in place with respect to production and safety strategies?

5. What characteristics are conducive to safety and production strategies?

6. How does monitoring impact production and safety strategies?

7. What if anything else you can tell me about protecting your company from liability claims?

Conceptual Framework

Fiedler (1964), as the creator of the contingency theory, primarily used his theory in leadership applications. Fiedler conceptualized how managers construct a representation of the work environment and then use that representation when making decisions. The discipline involved in using this theory served as an excellent tool in initially assessing issues with production and safety. Tosi and Slocum (1984) presented the contingency theory as means for a purposeful conceptual framework. Centralization of authority, spans of control, procedures, and formulation of rules were the four broad categories associated with the contingency theory. I chose the contingency theory as my conceptual framework for this very purpose.

My goal as the researcher in this study was to identify the strategies that managers use to reduce the number of deaths, injuries, and litigation in shipyard safety incidents since shipyard environments can be viewed as systems where worker behavior is the primary cause of accidents (Gonçalves et al., 2019). A qualitative study is required to describe the underpinnings of the research for production and safety forces. The research is necessary because it delved into the knowledge of safety awareness and safety behavior; both concepts have been studied before and it provided insight into the dangerous area of the shipyard environment. The findings from this research may build on previous knowledge or substantiate findings from other studies. From my literature review, previous research on mine workers and construction workers research is in abundance; still, it is rare to find research on shipyard production and safety regarding serious injuries.

Operational Definitions

Cruiser Program: The cruiser program is a maintenance program to keep United States Navy ships operational (Naval Sea Systems Command, 2021).

Occupation Safety Health Administration (OSHA): The Occupation Safety Health Administration is a federal agency that tracks, regulates, and enforces laws on safety and safety-related issues (OSHA, 2019).

Safety Management System (SMS): Safety Management System is a program designed to ensure all employees are aware of their environment and use that knowledge for the safety of themselves and others (Yiu et al., 2019).

Assumptions, Limitations, and Delimitations

Assumptions

Assumptions are beliefs in the proposed research, which are necessary to conduct research but cannot be proven (Wolgemuth et al., 2017). My first assumption was that my PMRs in the American Southwest will provide true and honest assessments of their safety perceptions of shipyard environments. My second assumption was that even a small number of these knowledgeable and experienced safety experts will provide responses that allow me to answer the primary research question being addressed in this study. As I delved more in-depth into the research problems of production and safety, the intent was to provide concrete strategies that help eliminate or reduce litigation costs.

Limitations

The limitations are constraints which are largely beyond a researcher's control; this may affect study outcomes (Greener, 2018). Generalizing the findings to other areas is a

research limitation (Marshall & Rossman, 2016). Spelling out in detail my research methods so other researchers could replicate this study would help to offset this first limitation. Marshall and Rossman (2016) also suggested that reaching data saturation could be a limitation especially when the pool of participants is so small and narrow. However, member checking with knowledgeable and experienced participants during and in follow-up to the interviews and triangulation of data can offset this problem by including (a) workplace documents, (b) government documents, and (c) semistructured interviews (Fusch & Ness, 2015). I was able to reach data saturation as a result of using these methods. As I delved more in-depth into the research problem of production and safety, the intent was to provide concrete strategies that helped eliminate or reduce litigation cost.

Delimitations

The delimitations are defined as the boundaries and scope of the research by conscious and unconscious decisions (Greener, 2018). The environment in the American Southwest has a small number of PMRs slated under the cruiser program. The Cruiser program is a maintenance program to keep United States Navy ships operational. The expertise of these employees or members was not debatable. Management encourages information sharing to the public. Some leaders may have not dealt with production and safety to a higher understanding that is required to participate in the study.

In a qualitative study, there must be sufficient data to meet transferability of data requirements (Daniel, 2019). Design limitation was noted by the small sample size from which to choose. The small sample size limitation was offset by thoroughly spelling out

the steps and methods that I carried out this research study with participants with expert knowledge and experience in both production and safety.

Significance of the Study

Safety is of the upmost importance in a shipyard environment. There are 165,000 workers employed in shipyards in the U.S., spread across 26 states bordering coastal and inland waters. Per my review of the literature, other industries such as mining and construction have been studied extensively for their inherent danger to employees. This study provided some of same intensity that the other studies have provided. In my findings, I may advance future knowledge and substantiate previous knowledge. A common policy may be to have zero tolerance for safety mishaps. All too often, programs fall short of delivery. In this-study, I identified study findings regarding key strategies to help eliminate or reduce fatalities, litigation, and injuries. The implications for social change are that I may provide more safety managers with ideas and protocols on how to lower safety risks and reduce liability claims.

Contribution to Business Practice

The results of this study may provide safety managers knowledge for understanding strategies for mitigating employee litigation claims. The findings could identify strategies business leaders can implement to help address company safety issues. Results may show different techniques to reduce safety concerns. The intent of this study was to identify strategies to protect companies from liability claims associated with the high number of injuries and fatalities in dangerous work environments. Understanding these strategies can assist employers in knowing why they have high number of injuries

and fatalities to address liability claims. Employers must be willing to go the distance by providing timely briefs, walk throughs, written process control procedures, and check sheets to mitigate employee concerns with safety and production issues. By maintaining good employee safety records, employers can retain experienced employees, and not lose employees to time off for injuries, fatalities, and to reduce liability claims.

Implications for Social Change

The importance of this study in relation to social change lends to how it could help save lives and reduce injuries. From 2017 to 2019, in the shipyard industry, there was an estimated 24,600 injuries/accidents occurred during this same period. Twenty of these injuries resulted in deaths to shipyard workers (USBLS, 2021). Often safety practice indicates management may be failing the public and the workers that work in the shipyard industry (USBLS, 2021). The more aware employees are of the practices and procedures, the better they are prepared to deal with contingencies. The shipyard is a vast community when one takes into account the many hazards on construction sites. Reducing injuries and saving lives may also have important implications for social change in awareness of safety concerns, community behavior, and appreciation of increased workplace safety.

<div align="center">

A Review of the Professional and Academic Literature

</div>

Human resources are important for stakeholders to increase safety (Sarkheil et al., 2020). All of the sources provided in this summary were analyzed for the noteworthy contributions to this study. The purpose of this qualitative single case study was to identify strategies that shipyard managers use to protect companies from liability claims associated with the high number of injuries and fatalities in dangerous work environments. The

conceptual framework theory strengthens the literature review. One hundred and twenty

current peer reviewed articles published within the last 5 years will help lend to the

credibility of research, of which only 22 articles were dated before 2017. A critical

analysis and synthesis of the literature provided the context and framework for the

research (Saunders et al., 2015). In the literature review, I identified knowledge gaps,

provided a foundation to legitimize the research question, and justified the current study

and research objectives. The review helped provide up-to-date strategies on how best to

address production and safety concerns.

The literature review consisted of government documents, journals, books, and

published dissertations. The Department of OSHA website was used to gather many

numbers and statistics. Deaths, injuries, and liability claims are the most important in the

review of the literature. Prior studies on safety awareness, safety behavior, safety

monitoring, and safety climate will make this study viable. The research conducted using

the Walden University Library provided many databases to locate only specific

information, which impacted this study. The databases used for this study included

ProQuest, Business Source Complete, Sage Journals, Science Direct, and EBSCO. The

following search terms were used: contingency theory, *shipyard safety, safety*

management, safety climate, safety awareness, and *safety culture*.

A plethora of peer-reviewed journal articles were revealed to the researcher that

can provide excellent information on safety and safety disposition. I found only a few

articles about safety and production, and the fatal four. The use of these few articles

became a focal point of reference used in this study. I filtered the search results to include

peer-reviewed sources published after 2018 to meet the doctoral study's literature review timeline requirements. If a listed resource's website did not access the full content article, I searched Google Scholar for the full article.

I used a total of 136 total references for the review of the professional and academic literature section. Six of the 142 references were books dated before 2018. Sixteen of the remaining 120 (12%) peer-reviewed articles were older than 5 years. The remaining 120 peer-reviewed articles were in the date range of after 2018-2022 amounting to 88% peer-reviewed sources. Based on the Walden University Doctor of Business Administration (DBA) program requirements, 88% of articles were dated within 5 years (see Table 1)

Table 1

Source of Data for Literature Review

Source of Data	Review of the literature- before 2017	Review of the literature after 2017	Total
Peer-reviewed journals	16	120	136
Books	6	0	6
Non peer-reviewed article	0	6	6
Total	22	126	142
Percentages (%)		92%	88%

Note: One hundred and forty-two total references were used in the Review of the Literature. Eighty-eight percent were peer reviewed articles after 2017 and 92% were all references that were peer reviewed.

Contingency Theory

Fiedler's (1964) contingency theory (CT) is the conceptual framework for this study. Fiedler's contingency theory is a situational approach, which distinguishes leadership behavior from style. Fiedler believed that leadership behavior is a specific response a supervisor can make with an employee in a particular situation (Fiedler, 1964). CT of organizations can be noted for its optimum organization structure that is primarily dependent on the external environment of the business. Stable environmental conditions are normally centralized structures, while a dynamic environment such as shipyard require a decentralized structure (Negandhi & Reimann, 1972). Motivational make-up is related to leadership style with consistencies in the patterns of responses across different situations where a pattern of fixed features can be identified in the leadership behavior of a supervisor or manager (Fiedler, 1964). Fiedler's CT shows that effective organizational units have strong structure-environment interrelationships and there are indeed effectiveness-induced constraints on the choice of an organization's design (Pennings, 1987). Fiedler proposed a framework of different situations, which could be identified by analyzing three major elements: leader group, task structure, and position power.

Leader-Group Relations

If the leader-group relations are good, the leader is accepted, group members are loyal, and communication will be easier and better (Fiedler, 1964). Leader-group relations in the shipyard are very difficult to define since there are several different loyalties a leader may have in having authority over the employees. Ellyson et al. (2012) focused on

how power can be evaluated in the relationship of task-oriented leadership as it provides personality and goal-oriented style effect on job performance.

Leaders develop policies for frontline employees to follow. Training must be readily available to ensure employees are aware of the policies (Wright et al., 2020). Fiedler (1958) suggested leaders that have been oriented with good personal relation can be matched to a poorly structured task environment. Employee safety is a challenge for all organizations, especially in the shipyard. A shipyard may lose staff members who are critical to the successful operation of their business. Past researchers have shown that leadership effectiveness, leadership adaptability, and employee turnover are key factors to situational contingency theory leadership. Reed (2021) found that as leadership effectiveness increases, employee turnover intentions decrease. For leaders who are impersonal, they are associated with good structural environments. This is because not all strategies are employable in a safety environment (Fiedler, 1958). Which leads us from leader group relation to task structure.

Task Structure

Fiedler (1964) suggested a task structure in which he proposed both supervision and autonomy for frontline workers. This structure for frontline worker is necessary because hierarchy of the shipyard with government oversight that likely to be overly bureaucratic. The ability to make a decision can be cumbersome but decisions still need to be made at the lowest level possible to enhance safety and production. Structure gives middle managers authority to support ideas from frontline workers for getting the job done in a timely fashion (Safari & Saleh, 2020). Understanding that some issues are not middle

management concerns, especially when budget decisions may be overriding, can also come into play. Matta et al. (2021) found common effective management practices in successful organizations at the frontline worker level. In order to be most efficient decisions, need to be made at the lowest level possible. If the frontline workers are familiar with a problem or a risky situation, they should report this problem and provide any instructions to other workers to make sure that injuries or accidents could be prevented from taking place. If they are not familiar with a problem, they should notify their safety manager to ask for clarification on safety instructions. The frontline employees must have a good understanding of workplace safety dynamics. These safety dynamics by the frontline employees are for them to keep themselves safe as well as others. Engagement between frontline workers and supervisors must satisfy regulatory codes of policies and practices with respect to notifications and communications to lower risks and reduce injuries (Chipulu & Vahidi, 2020).

Position Power

When underlying most single-business contingency research, it is important to note the degree to which management influences contextual variables and the nature of the casual relationship between contextual and organizational variables (Pitts, 1980). Position power is indicated by the legitimate authority of the leader. Fiedler (1964) stated that the effectiveness of a leadership style depends on the situation and this view is still upheld by most of the leaders and leadership trainers. The structure of a typical organization for shipyard position power, from a PMR perspective, includes a project manager who is on par with, the director who works for the ship commanding officer. De

Souza (2020) argued the best researched example is an integrative approach because it considers variable and the nature of the situation. Fiedler (1958) discussed the relative strength of two distinct leader orientations. Task-oriented is one consideration and the other is the degree to which the leader is relationship-oriented.

The authority and ability to delegate at each level is substantial. Each position plays a key role in delivering an operational ship with the upmost advancements in technology back to the fleet. However, even with all the power in each one of the above individual positions, the key to accomplishing tasks safely is how frontline workers perceive their power. If they perceive their power as one that can make decisions to get work accomplished, the frontline worker will do so. If they are hesitant because they feel management does not have their backs, the process will take longer because every issue must be addressed at a higher level. Power is about giving people the authority to make decisions through whatever means that motivates them to do their jobs and get their jobs done in the right way. Most of the time, economic issues dictate one's power. However, if someone is motivated to get the job done in the right way, then your power may also rest in getting the job done safely.

The CT relates to construction safety management and has become an important issue for stakeholders to secure human resources. Few researchers have contemplated mapping this global research. Liang et al. (2020) indicated that the U.S. took leading positions in contractor safety management (CSM) research. Three themes together with 14 specific topics were detected to allow researchers to track the main structure and temporal

evolution of CSM research. Future research trends noted in CSM research's direction

reduce safety incidents (Liang et al., 2020; see Figure 1).

Figure 1

Main Process of Bibliometric Analysis on CSM Research

Data Screening   Data Analysis   Data Trends
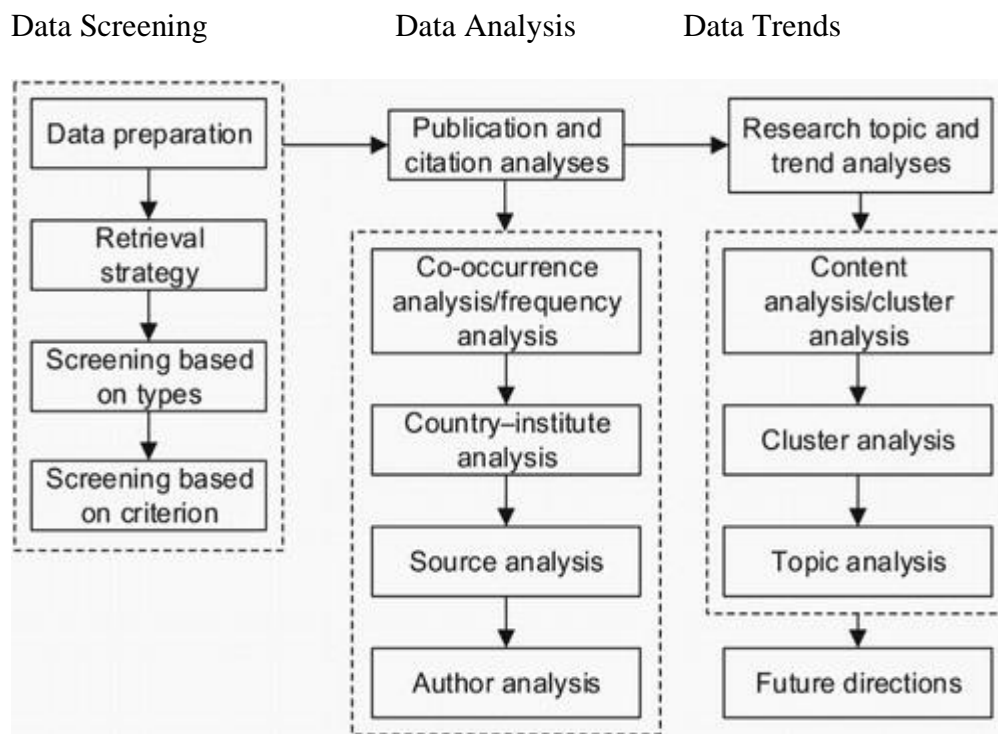
Note: Figure 1 describes the components of Biometric Analysis of CSM Research

Involving Data Screening, Data Analysis, and Data Trends.

CT can be used to demonstrate the impact of what safety and production can do

working together in the past, present, and future. In exploring the conceptual theory, the

shipyard environment's safety management system's framework leads to this ever-

evolving construct that has enhanced safety innovations, increased production efficiency,

and saved lives. Research in this area serves to benefit communities, organizations, and

companies.

Contrasting Theory

As the researcher, I researched various contrasting theories to understand safety and production in dangerous work environments. Victer (2020) developed a contrasting theory called the contingency theory of fit or the theory of fit. Connectivity knowledge and the degree of structural formalization have been found to work in tandem with Fielder's (1958) CT to enhance the organizational capability to address production and safety considerations. Fielder's CT, which provides a foundation on which to prepare for and reduce accidents or mishaps with the contingency theory of fit to establish that an outcome is a fit or result of the use of multiple factors and it is also an important part of the framework to address safety-related issues (Victer, 2020). The elements fit when internal and external strategies are consistent with safety perspectives and structure to establish feasible structural alternatives and formulations to solve safety concerns (Koster, 2021; Safari & Saleh, 2020).

Mitigating safety issues and risk is an essential component of the total risk management strategy of an organization. In the context of Victer's (2020) contingency theory of fit, theorists have posited that the appropriateness or effectiveness of risk mitigation strategies is contingent on the internal and external structures and that there is no one-size-fits-all strategy. Even though there are risk management areas with different tools and techniques for effectively evaluating and managing safety and production, most are not detailed. In applying the contingency theory of fit model, the researcher understand how different strategies can fit mitigating safety risks to achieve the best performance (Chipulu & Vahidi, 2020).

Because there is no single best way of mitigating safety and production issues to manage uncertainties and risks, comparisons are necessary for demands and attributes in the environment that tend to be specific to the organization. The framework is helpful in safety management systems intrusive unplanned events, where theorists have focused on the management of safety processes linkages and monetary flows in addition to managing material flows to gain sustained competitive advantage and business performance (Chaib Lababidi et al., 2020). I contend that practitioners can use the contingency theory of fit in developing a framework for improving short-term resolution on safety-related issues. The contingency theory of fit is essential in mitigating safety-related consequences and minimizing the residual effect of the unplanned safety events to gain competitive advantages (Rosini et al., 2020). Under such a premise, the contingency theory of fit is the basis for building a collaborative communications network to manage efficiently and mitigate unplanned safety events to minimize the impact on business performance (Rosini et al., 2020). Because safety management integration is an essential strategy for dealing with risks issues on safety and safety related services and equipment, safety outcomes are less devastating (Nair et al., 2021). As there are contingency effects for safety and production, the contingency theory of fit is essential because the theory aids in ascertaining if the mitigating risk in safety-related operations demands different strategies in different situations, which promote safety structure (Geng et al., 2021). The concept underlying the contingency theory of fit is that safety and production use different sets of strategies at various times to minimize risk (Safari & Saleh, 2020). The concepts of selection, interaction, and systems may help in understanding these strategies. Selection is

associated with the organizational context and the available response strategy since the root causes of risk determines the selection, interaction, response, and alignment to the strategy (Nair et al., 2021).

Both safety and production elicit strong results on the selection and interaction alignment strategy in a work setting. Liang et al. (2020) presented the notion that production and safety are worthy of being studied and are critical to increasing public awareness on this subject. The idea is production and safety provide a safety climate, safety culture, safety compliance, and risk mitigation to companies who are interested in improving their safety program. Amplification of this critical topic will only attenuate litigation costs, funeral costs, injuries, and fatalities with viable safety programs (Liang et al., 2020).

The contingency theory of fit is embodied in this study because it provides concrete evidence of addressing both production and safety in a good safety management program. Vinodkumar and Bhasi (2010) measured employees' perceptions of four safety management practices: self-reported safety knowledge, safety motivation, safety compliance, and safety participation. Safety management practices have improved working conditions and positively influence employees' attitudes and behaviors about safety and reducing workplace accidents. In a related study, Vinodkumar and Bhasi (2010) indicated safety management practices, directly and indirectly, affected safety performance components, namely safety compliance and safety participation.

Construction industry advancements have high accident rates even with occupational health and safety initiatives. Alkaissy et al. (2020) found the contingency

theory of fit, and its "no one size fits all" strategy indicates the shipyard industry has a huge injury and fatality rate. A systematic review of risk-based literature has been conducted and shows system modeling reveals correlations between improving project performance metrics such as quality, productivity, cost, and safety optimization efforts (Alkaissy et al., 2020). The contingency theory of fit and Fielder's (1958) contingency theory as a conceptual framework can be used to analyze how subcontractor and general contractor safety differ in an intra-organizational manner.

Safety performance for a project can be managed against actual performance. General contractors and subcontractors working on a project manage the safety management practices together. Upon using survey data, I found safety management gaps within an organization and between organizations, which are probably the reasons for stagnant safety performance. Regarding workplace safety, management practices consistently showed head offices are more effective than construction sites in managing overall safety performance (Choe & Leite, 2020).

Shipyard workers must apply both the contingency or fit theory in this highly volatile environment. I have compared the expected results from the conceptual framework and literature review with my study's actual results to understand its findings. As I moved forward in this study, I reviewed shipyard safety, safety climate, safety culture, safety awareness, and safety management as potential themes for this study.

Topic Themes for this Study

Shipyard Safety

Shipyard safety is enhanced by workers commitment to safety and safety training which include worker behavior towards safety in the shipyard industry. Shipyard work doubles construction and general industry with hazardous injury rate (Shaw, 2019). Extreme working conditions such as confined spaces, considerable heights, and surroundings are very much a part of the working environment. Workers are exposed to a multiplicity of hazards that can be potentially hazardous for many injuries that pose a health risk to workers in close vicinity to one another. Even with better technology people are still being hurt and injured at alarming rates in the maritime industry. A good way to discover means of reducing injuries is to study past incidences and accidents to lower risk (Damanhuri, 2020).

Risks for occupational accidents are significantly associated with individual and workplace factors (Barlas & Izci, 2018). In Istanbul, Turkey, a workplace survey was conducted among workers and foremen. The survey revealed five major classifications of hazards; falling from higher elevation to a lower level, exposed to electric shock, fire or explosion, being struck by or struck against objects and caught in between, and drowning. Barlas and Izci (2018) indicated that substandard low education level of -shipyard workers, housekeeping at workshops, lunch effect, bad weather conditions, improper use of PPE, being tired and sleepy, overcapacity ship production, hectic work, overtime, being a subcontractor worker, and strenuous work are main risk factors for contributing to

accidents and injuries in the shipyard workplace. To conclude, safety is paramount and should be exercised in training in a multifaceted method.

Safety Climate

Construction projects vary at an organization and group level with safety climate and safety performance. Rare is the comparison between supervisors and construction workers. Safety climate, behavior, and outcomes are unsafe events, and stress between these two social groups is monitored. Safety climate and safety behavior need to be designed to resolve workplace risk and positively associated with both groups. Safety intervention measures pay more attention to supervisors and their psychological wellbeing on group-level safety performance research (He et al., 2020). Additionally, according to Dale et al. (2020), safety climate and safety behavior were designed to resolve workplace risk. Safety managers need to evaluate the relationship between contractors' safety management program and workers in small and medium-sized construction subcontractors.

A safety management program should assess the subcontractors' safety climate scales; however, quality and content indicate significant differences by employers' size; larger companies tend to have better safety records (Dale et al., 2020). Future works should determine the best way to measure construction companies' safety performance and determine the factors leading to improved safety performance. A better understanding of the similarities in perceptions of safety climate across construction personnel such as (a) construction workers, (b) field supervisors, and (c) site managers make it possible to design comprehensive safety intervention measures that involve managers, supervisors,

and workers. Results differed positively in overall perception across safety climate for construction workers, improving safety climate (Marin et al., 2019). In assessing safety climate in the workplace, supervisors are considered more knowledgeable of safety, and employees are considered less significant. This perception may or may not be accurate. The need for further investigation into this critical gap is necessary. Upon further review, Marin et al. (2019) asserted the development of a new policy regarding safety.

Construction companies develop safety management through their policies, strategies, and procedures to control occupational accidents and injuries and significantly improve construction safety made over the last decade. Safety incentives, subcontractor involvement, and safety accountability significantly positively affect safety performance (Kim et al., 2019). Construction companies need to provide safety incentives to enhance company safety management programs (Kim et al., 2019). Catastrophic safety incidents are categorized by poor hazard recognition and underestimation of safety risk (Kim et al., 2019). Underestimation of safety risk is a widespread issue in the construction industry (Pandit et al., 2019). A risk assessment tool is required to help identify risk and improve risk performance. Two hundred eighty workers were evaluated for the effect of safety climate on safety performance by four researchers (Pandit et al., 2019). More specifically, workplaces with a more favorable safety climate demonstrate higher hazard recognition and safety risk perception levels. Findings helped practicing professionals seek to improve the construction industry (Pandit et al., 2019). An assessment of safety provides for more policies and strategies related to safety which supports my theory that we can benefit from a study on safety and production.

Construction companies' subject matter experts assess their safety climate maturity level and receive a composite score benchmarked by separate indicators on eight safety climate factors identified by the construction industry. Probst et al. (2019) discussed how companies could use the rubric descriptors to strengthen their safety management systems and improve their safety climate maturity. Also, safety culture, safety climate, and safety performance have a close relationship. Since these relations differ among attitudes toward safety, it is hard to define (Probst et al., 2019). Safety culture and safety climate are improving safety performance. The researchers found that reactive criteria and safety compliance are more consistent with safety climate and safety culture (Probst et al., 2019). Increasing the safety climate and safety culture could effectively reduce incidents and improve safety performance indicators (Kalteh et al., 2019). An assessment of the maturity of subject matter experts lends to how safety management can improve safety climate scores. Basically, by lowering safety mishaps in the vital safety environment, safety climate can be viewed globally.

Occupational safety climate still represents a relevant problem at a global level in the construction industry. An effort is required to go beyond normative complex working activities. Unsafe behavior in an empirical sense needs an argument. Investigating a bottom-up approach to the relationship between human factors and safety management, an easy-to-use tool that better addresses workers' safety needs, augmenting its safety climate and supporting safety management issues, was developed. Based on the assessment of human reliability factors, verified such an approach in an actual case study concerning the users of concrete mixer trucks (Fargnoli & Lombardi, 2019). The majority of errors were

retrieval, indicating simple training was a successful fix to a simple problem. Hence, lack

of safety knowledge was a leading indicator of safety mishaps (Fargnoli & Lombardi,

2019). In contrast, construction worker's safety communication is fundamental to effective

safety management. Poor communication is fundamental to construction workplaces.

Research has unveiled systemic barriers to effective safety communication. Without an

enhanced safety communication program, mishaps and hazards arise in the construction

workplace. Fargnoli and Lombardi (2019) conducted this research to evaluate the effect of

safety climate and crew cohesion on the demonstrated safety communication levels. The

data analysis suggested that a positive relationship exists between safety climate and

safety communication levels. As safety climate rises, safety communication rise. An

assessment of safety clearly shows how training and good communication can lower

safety concerns. Vital to any operation is the need for proper training and communication

through briefs, classroom training, or job training. Increased communication can lead to

effective safety outcomes.

Safety climate is a robust predictor of safety-related outcomes based on prior

research. Safety climate is difficult to measure because some think measures should be

universal or industry-based. Jiang et al. (2019) analyzed both universal and industry-based

tools. Their analysis found that the industry-specific safety climate measures were better

suited to assess safety climate. The universal safety climate measures displayed better

predictive power when predicting other adverse events (Jiang et al., 2019). In addition, the

safety concept and safety assessment in an organization based on the safety climate needs

improvement, and its contribution to organizational safety should be documented. A

number of empirical research studies exist on the topic of organizational safety; however,

specific safety climate interventions need to be formulated. Jiang et al. (2019) delved into

the trends of safety climate data interventions. Predominantly, data are centered on the

classification of intervention strategies, and all studies are categorized as interventions;

focusing on improving the organizational and managerial structure and the personnel

safety subsystem (Lee et al., 2019). Safety climate is in close relation to safety culture, as

we look at safety culture. To conclude, safety climate is centered on safety performance.

The more one prepares workers for incident avoidance, the less likely litigation will avail

itself.

Safety Culture

Safety culture has been highly promoted, advocated, and debated for three

decades. Le Coze (2019) differentiated between two types of studies. The first important

distinction between interpretive and functionalist views of safety cultures was predicated

on interpretive studies that take inference from management studies, which have taken

input from academics, consultants, and industries. Le Coze approached safety culture

through functionalist terms, which offered this angle to question safety research from an

un-biased safety framework. Therefore, a mature safety culture is necessary to ensure

reasonable safety performance, particularly in reducing accidents. Little empirical

evidence has arisen in the literature on safety culture maturity and actual safety

performance metrics. Le Coze used a safety culture framework to explore the relationship

of cultural maturity with accident rates. The researcher found that mines with lower

incidence rates had higher safety culture scores. There was also a strong correlation

between the incidence rate and safety of the culture framework. The correlation benefited both employees and management (Stemn et al., 2019). Analysis indicates the functionalist and interpretive have a similar conflicting interest. The two ensure good safety performance, particularly lowering risk. Stemn et al. (2019) showed how best to reduce risk, which would help provide strategies for this study. These types of studies can help identify factors that can help assess safety culture.

An organizational safety culture demonstrated key factors in safety culture development. Safety culture in organizations has shown its importance. In construction, safety culture is unclear how organizational systems function to influence safety culture, limiting the practical utility research findings (Bisbey et al., 2019). The researcher advances a framework on organizational culture, social identity, and social learning to facilitate a unified approach to studying and supporting safety culture (Bisbey et al., 2019). This framework lends researchers a foundation for advancing theory on the complex dynamic processes involved in safety culture development (Bisbey et al., 2019). Despite this, construction workplaces are ignored by much of the research work in the construction literature that evaluated safety culture and safety climate. Construction practices where the upper management, such as project managers and safety coordinators, often manage several construction projects promote an existing safety culture and climate models. Upper management does not always capture the true nature of safety development.

A survey was conducted on perceptions of construction practitioners and site personnel regarding the indicated variables of control factors (Al-Bayati et al., 2019).

Findings of these researchers suggested the construction safety culture and the

construction safety climate were prevalent when safety culture leads construction workers

to cognizant thought processes (Al-Bayati et al., 2019). An evaluation shows several

concepts for developing a good safety culture, organizational culture, social identity, and

social learning. These concepts support a climate that will help reduce safety culture-

related issues, enhancing safety culture pros and cons.

In 2018, safety culture assessments revealed four industrial sectors: refineries,

chemical warehousing, logistics, and petroleum. The refineries with the highest ratings

have shown two chemical warehousing and logistics companies whose safety culture

maturity score was below acceptable. Zwetsloot et al. (2020) identified the pros and cons

of safety culture at each company and sector level. Each company recognized and

acknowledged the outcomes that showed normalcy in safety culture levels to be

satisfactory (Zwetsloot et al., 2020). Safe work environments are instrumental to creating

safe working cultures. Publicly administered human service organization learn more about

the organizational and workplace conditions that contribute to a safety culture. Findings

revealed that safety culture were defined by values and attitudes associated with safety and

structured mechanisms that promote workplace safety (Shier et al., 2019). Safety culture

and safety outcomes were documented across industries. Safety culture is a new regulatory

concept. Safety knowledge is lacking on the pros and cons of expected outcomes.

Knowledge strategies on regulatory authorities can improve the safety culture. Some

found regulatory influence on safety culture in companies, of whether it is possible to

regulate safety culture. Nævestad et al. (2019) identified and discussed regulations that

may be utilized to influence organizational safety culture. An appraisal of safety culture indicates how attitudes play a key role in raising safety culture ratings, the greater the attitude, the lesser the chance of incidents. Safety culture lends to how people approach and understand construction research development.

Jin et al. (2019) adopted a three-step holistic review approach to understanding the research development in construction safety. For example, simulation and falls from height-related topics; although, not with the highest occurrence of being studied, had the highest impact on average citations received per year (Jin et al., 2019). A follow-up discussion targeted three main objectives: research topics, research gaps, and future research. Two main categories aligned, namely safety climate and safety culture. A framework and future research directions proposed on both the academic community and practical fields in multiple themes within construction safety. Applying information technologies in safety management were linked to workers' cognitive models, which promote safety climate and safety culture perceptions and behaviors; must incorporate artificial intelligence into safety management programs (Jin et al., 2019). Safety culture and safety climate help us understand safety awareness. To conclude, safety culture is centered on employee maturity, the more mature the worker the less likely incidents will avail itself.

Safety Awareness

Safety awareness is an important aspect of safety management systems. Yiu et al. (2019) introduced in the construction industry a safety management system (SMS) to reduce risk during the 1980s. A considerable number of resources were reserved for

executing a safety management system. Obstacles to implementing safety management

systems identified various benefits via survey. These benefits indicated four concrete

factors, which are reduced harm to workers, better project management, reduced turnover

rates, and increased interactive participation amongst workers. By focusing on these

benefits, the researchers increased current knowledge of safety management systems in

the construction industry. The findings enhance the industry standards and helped deliver

an understanding of safety management systems to improve the implementation of SMS in

construction industry workplaces (Yiu et al., 2019). For instance, the construction industry

was stigmatized as "dangerous" for its high number of blue-collar foreign workers

incidents.

Public perception of safety awareness was undermined for poor safety

performance. The researchers evaluated safety awareness in construction to determine

what is the significant factors affecting safety performance. In addition, Yiu et al. (2019)

evaluated measures for improving the construction workers' safety awareness. Yiu et al.

found the primary safety issues are: personal protective equipment (PPE), working

environment, working attitude, communication, and equipment maintenance. An

exploratory factor analysis revealed the most effective preventive measure were the-

following: install a failure protection system, effective communication, and regular safety

inspections. Yap and Lee (2020) provided insights into construction safety performance

and recommended feasible measures to raise safety awareness among the construction

personnel. In my judgement, safety awareness is centered on the working environment

attitude, communication, and knowledge. Each when done well provide avenues to lower risk which in turn can lower injuries and fatalities.

Recorded fatalities yearly in the construction industry make it one of the world's most dangerous industries. Even with established safety programs, the situation is not resolved. A risk assessment approach will serve only to enhance the safety performance of construction projects. Sanni-Anibire et al. (2020) revealed falling incidents to be the highest risk score. An on-going car park construction project showed slips, trips, and falls had the highest negative safety performance (Sanni-Anibire et al., 2020). Further, over the last decade, virtual and mixed reality (VR/MR) techniques revealed training, hazard monitoring, and preconstruction planning made for more safety awareness. Moore and Gheisari (2019) unveiled the recent trends in virtual and mixed reality applications in construction safety. Moore and Gheisari focused on virtual reality and mixed reality techniques as the two major types of computer-generated simulated experiences. A systematic literature methodology used to assess and publish articles over the last decade and demonstrate research trends in virtual and mixed reality applications for construction safety awareness. A study revealed fewer safety incidents (Moore & Gheisari, 2019). In my experience and estimation, falls create some of the most hazardous conditions in a shipyard environment. Even with programs designed to prevent falls, falls happen frequently. Also, trip hazards are prevalent in a shipyard environment. The truth is, the fall as a recordable event, should lead to employers posting instructions in plain sight.

The importance of safety instruction cannot be overstated on construction sites. Safety training and irregular inspections were the centered safety instructions methods

(Tang et al., 2019). Considering the harshness of construction sites and the slim amount of management, safety instructions are usually not timely and precise. The collected information was classified and transferred to particular workers according to their different awareness characters, including locations, duties, and working time. The safety instructions indicated important construction dynamics that can visualize both safety and activity in real-time field operations, thus offering benefits to reducing hazards, improving workers' safety awareness, and creating a safer environment (Tang et al., 2019).

Safety training improved the safety performance of construction workers. One size fits all training, does not suffice in the construction arena. Personalized training may offer a better solution for the construction sector. Evidence showed safety training motivation, established knowledge, and emotions during the knowledge acquisition process demonstrated that workers generally perceived safety training as a mandatory requirement (Tang et al., 2019). Tang et al. (2019) concluded construction workers had unique characteristics in their safety learning process, such as improved safety performance. When safety criteria are posted for all frontline workers to see but it needs to be updated so it updated so it will not become routine. After viewing material for several days, the material becomes mundane to the employee. Posted instruction should be changed regularly to keep it fresh in the employee toolbox. The concept will help lower injuries and economic loss.

A primary concern was introduced to the construction industry based on its experiences with the high rate of casualties and significant economic loss associated with accidents. In response to these accidents, safety managers have used state of the art

technology to develop new approaches for conducting autonomous safety surveillance of construction work zones vice vision-based monitoring. Real-time monitoring and human inspection are limited in event recognition of construction safety issues. Challenging is health and safety risk awareness in possible safety risks and hazards according to daily planned activities. To address the industry's urgent demand to improve worker safety, and audio-based event detection system was used to provide daily safety issues to laborers.

Using an audio-based detection system can contribute to emerging knowledge by integrating an automated safety surveillance system into occupational accident data (Lee et al., 2020). Besides, workers nonattention in detecting a hazard can lead to inappropriate decisions and unsafe behaviors. Previous data indicated worker past injury exposure contributed greatly to skill-based attention failure and perception-based failure in identifying errors (Lee et al., 2020). However, little research conducted on worker's personality affects, his or her attention, and hazard identification. The researcher delved into the concept of fall hazard conditions. Hasanzadeh et al. (2019) found that workers' personality dimensions relate to impact attentional allocations and the search strategies of workers exposed to fall hazards. An assessment of real time monitoring can help lower incidents in a shipyard environment. The idea that employees are being watched keep them in a constant state of readiness. The readiness state enhances several behavior skills, mostly positive, which lead to why we need to evaluate safety management systems.

A large proportion of industrial injuries and mortalities were assessed in the construction industry which noted the importance of evaluating its safety management system. The quality and level of achievement concerning safety performance was assessed

to a sizeable sample of construction accidents. However, a sizable sample is not available.

The structural model unveiled the relationship between the safety management system and

project safety outcome. The researcher's results showed the effects on project performance

and continued to show the need to reduce accidents and injuries at the end of the study

(Yiu et al., 2019). To add, worker safety and health data have produced real-time

opportunities with the advent of wearable sensing technologies. Proactive safety

management has created opportunities to have wearable sensing technologies from motion

sensors, inertial measurement units, and physiological sensors. Many of these efforts are

the piecemealed approach for those who wish to fully understand these developments.

Ahn et al. (2019) delved into the state-of-the-art wearable applications in construction

safety and health. Five applications were identified in the literature: preventing

musculoskeletal disorders, preventing falls, assessing physical workload fatigue,

evaluating hazard recognition abilities, and monitoring workers' mental status.

Besides the identified applications are the challenges that further impede the

wearable application's deployment to include signal artifacts and noise wearable sensors

(Ahn et al., 2019). An analysis of wearable sensor technology has shown to reduce safety

incidents in construction. Using this technique can also help lower risk in shipyard

environments. Understanding nuisances of the program to use signal artifacts and noise

wearable sensors should provide excellent insight for shipyard managers.

The wearable sensors lend to how manufacturing and transportation effect the

shipyard environment. Little evidence that the role of coworker support has given

prominence in the manufacturing and transportation field for its positive effect on

individual workers' safety in the construction workplace. Ji et al. (2019) found two distinct coworker safety support actions on the safety performance of a construction project. The risk theory used in a construction site where steel bars with the likelihood of suffering crane-related incidents occurred. The results indicate coworker support can lower injuries but has little effect on fatalities. Personal protective equipment provides a fresh insight into coworkers' safety-related roles to reveal how the local level effects of coworker's safety assistance lowered consequences with mishaps (Ji et al., 2019). Additionally, the nature of the construction industry is to work collaboratively. Hence, workers' interpersonal traits play a critical role in building and forming construction workers' safety behaviors. Social learning indicated that there are two opposing ways, and they are positive and negative reinforcement by demonstrating preferred behaviors. There is disagreement on construction safety in the literature regarding whether the two actions affect safety awareness and training (Shi et al., 2019). Shi et al. (2019) used a virtual reality simulator to investigate people's social learning behaviors in a hazardous construction situation. Shi et al. showed positive consequences arise when people follow demonstration and maintain normal walking in a dangerous condition. Adverse effects showed participants who walk faster and more irregularly led to more mistakes and unsafe behaviors (Shi et al., 2019). An assessment of coworker support and collaboration of worker can lower safety incidents. The concept supports a team-oriented atmosphere. Many employers support a team-concept and the shipyard is no different with its two-man rule. The concept lends to how frontline workers work in support of supervisors.

A key to safety programs and techniques is frontline employees' implementation on maintaining onsite safety. Most of the time, supervisors tell the story on the effectiveness of safety efforts. Chang et al. (2019) delved into the effectiveness of intervention safety at the frontline level. The data collected from frontline workers revealed performance measures and incident records; to consider confounders and effect modifiers such as age, experience, and task types; and adjust the third variables' influence on the regression analysis. The results showed that content coverage rates, longhand description, and safety communication were statistically related to incident reduction (Chang et al., 2019). In addition, for the construction industry curriculum to be relevant, construction professionals must be at the forefront of the education sector. Revolutionizing the construction industry is the use of Building Information Modelling (BIM). Swallow and Zulu (2019) assessed the impact of 4D modeling on the management of site health and safety on construction sites used two groups one BIM taught, the other was not BIM taught. Factors that highlighted the awareness differences were significant. Swallow and Zulu indicated the perception of benefits regarding 4D for health and safety were in the planning phase showing logistics, visualization accuracy, and risk reduction. An appraisal of frontline workers to supervisors lends to how frontline workers assessment are not fully accepted on a research basis and is very important to how frontline workers view safety in the workplace. The more we see things from their point of view, I find it easier to implement training and instruction.

There are barriers to prevent construction projects from implementing lean construction techniques for safety improvement. A survey was used to determine this

objective through a deductive approach. Thirty-nine barriers were identified through an intensive literature review and grouped into six categories. The most substantial barriers to implementing lean construction techniques are governmental support for applying innovative construction projects. Enshassi et al. (2019) provided training to all construction practitioners to improve construction safety. Enshassi et al. offered stakeholders in the construction industry attention and resources on the significant barriers to lean construction. Enshassi et al. also provided strategies to overcome those barriers. In the construction industry, workers have been exposed to onsite hazards resulting in fatalities and serious injuries. Specific approaches have identified health and safety awareness training in the construction sector to improve safety outcomes, such as traditional tools and computer-aided technologies.

Computer-based learning in the construction industry has barely been explored (Gao et al., 2019a). To bridge this gap, Gao et al. (2019a) conducted a systematic review of studies in this area. Previous reviews of the literature revealed technology characters and challenges were at the forefront of most studies. Thus, the researchers evaluated training using traditional tools and computer-aided technologies on the wellbeing of individuals. The measures came from the review were knowledge acquisition, unsafe behavior alteration, and injury rate reduction. Gao et al. concluded that traditional tools' effectiveness is sufficient with the advent of statistical evidence and the use of computer-aided technologies. Gao et al. (2019b) also have evidence to support its effectiveness, but not with high degree of certainty (Gao et al., 2019b). Pedro et al. (2019) in the literature also stated, among the most dangerous workplaces, with fatalities, accidents, and injuries,

are construction worksites (Pedro et al., 2019). Safety awareness education is critical to fostering graduates capable of ensuring safe construction work safety knowledge and skills required in practice. Pedro et al. addressed the fact by proposing context-based learner assessment in construction safety education that construction management students did better on safety theory questions when tested on enhanced safety visualization. Pedro et al. found significant potential of the students with this innovative assessment tool for safety education and awareness. In my experience, the barriers to implementing lean construction in safety is centered on how governments accept regulations. Some see regulation as hindrance to employers. Others see a greater good concept where the government is saving lives. Many think that companies have too much of a conflict of interest when it comes to safety and doing the right thing is not always the cheapest as we delve into the concept of unsafe behaviors of construction workers.

Furthermore, a deep concern was also noted for accidents in the construction industry about safety awareness. Pervasive unsafe behaviors of construction workers are the primary cause of accidents on construction job sites (Zhang et al., 2019a). The workers' safety-related behaviors are subject to various factors, such as interactions with coworkers and management teams' interventions (Zhang et al., 2019a). The impacts of these factors have attracted considerable attention in academia when examined by researchers (Zhang et al., 2019a). Four managerial scenarios were simulated using the proposed approach. Based on the simulation results, the effects of several managerial factors were examined in relation to workers' safety performance. These factors include supervisors' duties, duties on strategy of safety officers' strategy and frequency of safety

training, senior managers' involvement in safety activities, and safety goals. The findings

provide evidence that agent-based modeling is an effective approach for analyzing

construction safety-related behaviors' characteristics and patterns (Zhang et al., 2019a).

An assessment of unsafe worker behavior in construction can cross connect with unsafe

worker behavior in a shipyard. Even with safety observers and management in the job site,

unsafe situation may rise to the detriment of employees mostly. Getting employees on the

same page with management can be a difficult process because of the conflicting goals.

The concept may lead to a more widespread safety awareness policy.

  A significant safety management role is more widespread, particularly in the big

data genre for safety awareness. The results showed that all the companies implementing a

safety awareness standard were exporters. Their main motivations were to guarantee

product safety and consumer welfare (Rincon-Ballesteros et al., 2019). Four components

that group the motivations have been identified: ethical, efficiency, legitimacy, and

commercial. In the case of barriers, Rincon-Ballesteros et al. (2019) found they are mainly

financial and related to the business environmental factors. The first of these barriers is

presented regardless of the country. The second barrier was linked to country-specific

conditions (Rincon-Ballesteros et al., 2019). In contrast, comparisons examined safety

management and human factors in which humans behave differently when watched on

near-miss occurrences. The process industry has made major advancements and is a leader

in near-miss safety management. However, organizational efforts to develop safe work

procedures and rules do not guarantee that employees will behaviorally comply with

procedures. Haas and Yorio (2019) sought to understand how mineworkers' risk avoidance

could affect their near-miss incidents on the job – a common precursor to lost-time incidents. Findings discussed from a near-miss safety management perspective in terms of methods to foster both risk avoidance and locus of control. The findings of this study reduced the probability of near misses and lost time at the organizational level within the process industry and other high-hazard industries (Haas & Yorio, 2019). An evaluation of safety leads to the fact the people behave differently when near misses of accidents occur. Employee's sense of survival enhance their awareness and it makes for a safer environment. The key factor in this is not to have any near miss situations if they can be prevented.

Safety management has been predicated on the fact that humans can change behavior. One way that safety has been conceptualized in hazardous industries is as a value. The researcher found that senior managers often claimed that safety behaviors were uniquely motivated by values or moral considerations such as performance agreements and incentives (Maslen, 2019). In addition, the evaluation methods served to manufacture a safety culture for students' awareness (Amaya et al., 2019). Further, the shortcomings of traditional safety addressed in machine learning in that learning behavior is positively reinforced with increased safety awareness. Developing a positive process safety culture is necessary for accident prevention in organizations with complex technological systems. Both governments and industries have issued regulations and documents to require and help companies establish safety culture in Chinese process industries (Gao et al., 2019a). However, this has not developed as expected, and barriers make process safety culture remain in the paperwork realm rather than actual practice. Safety management practices

have been considered solutions to address these barriers. All four-safety management practices have positive mediating effects on safety awareness, with inspection and monitoring presenting the highest mediating effect (Gao et al., 2019b). Safety climate, safety culture, and safety awareness are in support of safety management. To conclude, safety awareness in a manger sense can lower economic and litigation cost in dangerous work environments.

Safety Management

In safety, shipyard employees work in a collaborative format similar to construction workers. Given the nature of construction activities, construction workers usually work collaboratively. Thus, interpersonal influences among workers play a crucial role in forming and affecting construction workers' safety behaviors. Authors of the social learning literature indicated that interpersonal learning occurs in two opposing ways: positive reinforcement by demonstrating preferred behaviors and negative reinforcement by demonstrating negative consequences for inappropriate behaviors (Shi et al., 2019). In addition, the link between safety culture and maturity explored actual performance numbers. Shi et al. (2019) found that seasoned workers were less likely to have safety accidents. A mature safety culture has been regarded as an important means of ensuring good safety performance, particularly reducing accidents. This approach explored the relationship of cultural maturity with accident rates. The researchers found that mines with lower incidence rates consistently had higher safety culture scores for the elements than mines with higher incidence rates (Stemn et al., 2019). The bottom line in safety management was safety is negatively affected for construction companies by image,

financial constraints, and productivity (Stemn et al., 2019). An evaluation of safety

behavior in construction relates to how safety is promoted in the shipyard. The "can do"

concept is the mantra that most managers accept. The trick is can you do and be safe and

efficient at the same time? The manager wants the work done but does not want to

decrease the job safety numbers. The concept is a part of the traditional approaches to

safety management.

   Safety Risk. The probabilistic risk assessed in traditional approaches to safety as

supposed straight accident models show lower safety risk. Monitoring progress of accident

scenarios and effectiveness of control measures is a main goal of safety indicators. From

an overview of scientific literature, one may conclude that indicators do not logically

relate to current safety theories and models (Sultana et al., 2019). Their relationship with

accident processes is far from perfect, and a 'silver bullet' has not yet been identified.

Professional literature showed another picture, and divides indicators in to categories of

leading and lagging. Currently, many industry indicators generate a number, while the

relation with accident processes is questionable at best. The regulators of major hazard

companies will be asked to identify and implement both leading and lagging indicators in

a safety management system (Sultana et al., 2019). The researchers have found perception

and attitude cannot be dismissed regarding safety awareness (Swustea et al., 2019).

Complex responsibility-sharing relationships characterize the management of visitor

safety in protected areas. The results of this study offered conceptual guidance for

managing agencies to systematically establish higher-order responsibility parameters to

plan visitor risk management interventions. Swustea et al. (2019) found that safety

management was a leading indicator of higher risk and process safety included assessing hazards, risks, and industrial hygiene (Gstaettner et al., 2019).

Safety management is incidental to core business and often treated as less important. Hence, a growing number of organizations have begun to require safety professionals to use safety-related data to underscore their safety management practices. In this study, Ladewski and Al-Bayati (2019) focused on the potentially important value of safety-related data in safety management and aimed to give preliminary answers to fundamental data safety questions from a theoretical perspective. An assessment to traditional approaches to safety can be enhanced by the use of leading and lagging indicators. The employee was tired, so an accident happened. Did the employee seem inebriated? Did the employee have enough water available. Did he or she in fact get a break? These questions and more can be detrimental to management if they are not vigilant. The concept can be used to promote a safe working climate.

Use of Safety Related Data. The construction industry is known for its huge injury and mortality rates. To mitigate workplace injuries and create a safe working climate the use of safety management programs (SMPs) can be used. Understanding safety performance in construction companies can create a safe work environment to best measure safety performance (Dale et al., 2020). To conclude, Shi et al. (2019) found that seasoned workers were less likely to have safety accidents. A mature safety culture regarded as an important means of ensuring good safety performance, particularly reducing accidents.

In relation to the themes of safety climate and preventing injuries and fatalities in dangerous work environments, increased safety climate served to promote positive business strategies and technical solutions. A clear understanding of safety climate is needed for fit to work and basic safety needs. The topic served to provide strategies to lower liability claims. The following paragraphs support a dangerous work environment theme.

The unsafe behavior seen everywhere on construction sites is the biggest challenge for further improving construction safety performance. Focusing on the "human" related issues in construction safety, Fang et al. (2020) reviewed safety management research and practices. Fang et al. developed three key elements: safety leadership, safety culture, and safety behavior. Using China as an example, significantly improved safety leadership, safety culture, and safety behavior of the project stakeholders needs to take place at all levels. In the end, new directions and potential areas for future research of construction safety were discussed by the safety experts (Fang et al., 2020). With less of a safety management structure, developing countries demonstrated higher losses based on construction accidents. Identified injury-related factors in organizational improvement strategies, which focused on improving knowledge, protocols, and coordination of activities helped reduce the number of injuries. The number of injuries also were reduced by delineating an organization-specific profile by providing a detailed insight into risk factors, patterns, and trends in the organization and determining the best strategies for improvement by drawing lessons across events (Hooker et al., 2019). These concepts greatly reduced the magnitude of construction injuries under a well-defined safety

management system (Liu et al., 2020). An assessment of hospital safety for shipyard manufacturing provides excellent insight on trends and patterns that develop when safety incidents occur. These concepts support shipyard safety risk trends reduction and awareness.

Kim et al. (2020) introduced trends in safety and their influence on general management, in which enhanced safety trends lowered risk. Occupational accidents have a significant human cost and negatively affect construction companies' productivity, financial results, and public image. To control occupational accidents and injuries, construction companies developed safety management and integrated it into their policies, strategies, and procedures. The findings show that safety management systems have a positive effect on safety performance. Furthermore, safety incentives, subcontractor involvement, and safety accountability with safety management systems have significant positive effects on safety performance (Kim et al., 2020). The concept of near misses in safety mishaps and how best to track near misses are found less significant in construction incidents (Ladewski & Al-Bayati, 2019). Congruently, safety behavior and how it affected China's safety climate negatively affected safety mishaps. Safety is a key objective of construction management. However, construction safety management is complex due to various technical and management factors. In such a case, it will be more direct and effective to improve safety performance. In 2008, Zhang et al. (2019b) conducted a safety framework of construction safety management based on system thinking and used a tool for identifying risks. Safety management also addressed job stress and job turnover, which negatively affected productivity (Zhang et al., 2019b).

In relation to the themes of safety culture and preventing injuries and fatalities in dangerous work environments, increasing safety culture served to promote positive business strategies and technology solutions. A clear understanding of safety culture fit to work and basic safety needs increased the safety culture of a work environment. The topic served to identify strategies to lower liability claims. The following paragraphs support a safety culture theme. The construction industry has one of the highest fatalities and injuries rates compared to other industries, despite technological advancements and implementations of occupational health and safety initiatives. Findings show that simulation and optimization techniques have advanced in the past 20 years. However, there is room for improvement in modeling safety-related risks (Alkaissy et al., 2020). In addition, the impact of accidents in construction has a high human cost for occupational safety in the construction industry which still represents a relevant problem at a global level. The complexity of working activities in this sector required a comprehensive approach beyond normative compliance to guarantee safer working conditions. In particular, empirical research on the factors influencing the unsafe behavior of workers needed to be augmented. An easy-to-use procedure to better address workers' safety needs augmenting the company's safety climate and supporting safety management issues was developed. Results contributed to augmenting safety knowledge in the construction industry, providing a basis for further investigations on the causalities related to human performances. These are considered a key element in preventing accidents (Kim et al., 2020). An analysis of safety advancements and innovation has not deterred the fact that safety construction still have some of the highest safety mishap rates. In the shipyard

industry, it is incumbent on the employer to be innovative, but innovation without a well-defined plan is fool's gold. The numbers will rise without a comprehensive plan. We delved further into safety by covering preexisting condition and quality management systems.

Preexisting Conditions. Preexisting conditions gather sensor and analyze risks to other equipment to lower risk (Fargnoli & Lombardi, 2019). Workers should incorporate safety measures in all phases of a quality management system (Kanade & Duffy, 2020). Safety policy is determined in the safety management system (Fargnoli & Lombardi, 2019). Safety awareness and good safety habits reduce safety-related job stress (Kim & Kim, 2019). A key to construction management is a safety management system (Dvorak & Chovancikova, 2020). Worker behavior is the primary cause of accidents (Gonçalves et al., 2019). The link between safety knowledge and management is minimal for employees in the construction environment. Occupational safety in the construction industry still represents a relevant problem at a global level. The complexity of working activities in this sector required a comprehensive approach beyond normative compliance to guarantee safer working conditions (Della et al., 2019). Detrimental to safety management is a centralized control mode in which organizations have a top-down approach to addressing safety concerns (Della et al., 2019). The safety management literature described two distinct modes through which safety is achieved. These can be described as safety management through centralized control, or safety management through guided adaptability (Della et al., 2019). Safety management through centralized control aimed to align and control the organization and its people through the central determination of what

is safe. Through guided adaptability, safety management aimed to enable the organization and its people to adapt to emergent situations and conditions safely (Della et al., 2019).

Provan et al. (2020) further moved the safety professional towards their fundamental responsibility to create foresight about the changing shape of risk and facilitate action before people get harmed. Evidently, Goldfein (2020) found several factors exist in decision making to add a safety management system. To understand the role that human factors play in major accidents, it is important to look at the organization that people work in and the management that they work under. This method can map out the structural relations among diverse factors in a complex system and identify the key factors in controlling safety management systems.

In relation to the theme of safety awareness and preventing injuries and fatalities in dangerous work environments, increasing safety awareness served to promote positive business strategies and technology solutions. A clear understanding of safety awareness fit to work and basic safety needs served to help identify strategies to lower liability claims. The following paragraph support a safety awareness theme.

Karkoszka (2020) found that manufacturing and handling dangerous materials are processed in new-generation, risk-based processes. Karkoszka's main aim was to present a concept of the risk-based process safety assurance. The fundaments of the described concept are risk management and systemic approach required by guidelines of environmental and occupational management systems and risk-based process safety (RBPS) management system. The need for safety to manage and address sustainability was the new safety management system (Luca, 2020). Further, Tamara et al. (2020)

suggested the highest risk of work incidents was associated with the construction work environment. Construction has now become an industry with the highest risk of work accidents. The risk of workplace accidents in construction can be caused by several factors, such as the work method, workplace environment, human factors, and poor safety management system. Employees' perception is an important part of the safety climate. Safety climate is one of the most important indicators for evaluating safety management and occupational health in the workplace. Tamara et al. evaluated the influencing indicators of workplace on safety climate and accidents in construction industry. Tamara et al. findings showed that workers' negative attitudes toward management commitment, workplace physical factors, and occupational disease influenced the incidence of work-related accidents. These factors indicate that industrial management commitment to provide a safe climate is necessary to prevent work related accidents and diseases in industry (Fouladi Dehaghi et al., 2020). Consequently, Krynke (2020) found safety strategy employed as a means to lessen losses but also as a means to create opportunities. The strategy designed so that risk management can operate as a system for avoiding losses and risk management to recognize and make use of occasions and create new opportunities for the organization. Risk management included both an evaluation undertaking and planning and control activities aimed at minimizing risk or maintaining it at an acceptable level.

Positive Business Strategies. To enable positive business strategies in a safety management theme, managers in dangerous work environments must be willing to use the contingency theory of fit as a means to lower liability claims. Innovative thought

processes by using what if safety management techniques spelled out in the literature review can make this cumbersome task much more efficient and effective. Managers have multiple options to implement safety solutions to adopt a leader or follower strategy in safety management.

The following paragraphs support a safety management theme. A dynamic vision for construction project managers is required to understand safety management (Mohammadi & Tavakolan, 2020). Construction accidents have unique features on the surface. Further investigation often revealed common underlying systemic patterns that lead to accidents. By identifying these patterns, organizations can better understand past accidents, monitor risk, and reduce the likelihood of future accidents. Construction project management is such a complex effort due to the construction industry's unique, dynamic, and temporary nature. The results showed that there are four archetypes of causes for injuries and accidents by construction workers: (1) blame on workers, (2) construction delays, (3) lack of incentive programs, and (4) subcontractors' financial status putting too much pressure on workers. Mohammadi and Tavakolan (2020) also provided a systemic vision for project managers, helping project managers understand construction safety management's dynamic complexity. Zainol et al. (2020) found safety culture, leadership standards, and training required for construction safety. The construction site has been found to be one of the most hazardous working places with numerous hazards and potentially high risks (Zainol et al., 2020). Typically, the main sources of hazards are unsafe condition and unsafe acts by humans. Eventually, sources related to human errors potentially affected the performance of the site. To reveal the underlying reasons, Zainol

et al. aimed to determine the influential factors that governed the success of a construction site's safety performance. They also urged management to get their workers better informed about safety matters.

Finally, mandatory safety standards are enforced by law and regulations (Im & Park, 2020). Im and Park (2020) examined extracting existing relevant safety standards, analyzing problems within the extracted safety standards, and proposing accident prevention measures. Im and Park analyzed provisions for problems of duplication, inadequacy, and conflict and suggested ways to prevent accidents due to problems of safety standards. The results of this study provided a foundation for future action plans and implementation of necessary measures to prevent accidents from occurring on a proactive basis. Four parts to safety management, policy, risk management, implementation, and inspection have been found to lower safety risks (Im & Park, 2020). Nikulin et al. (2020) focused on analyzing methods used to assess the efficiency and effectiveness of the occupational safety and health management system to document their compliance status. Effectiveness and efficiency indicators were determined and a generalized desirability coefficient calculated. Nikulin et al. offered practical approaches to enhance the company's systems-based occupational safety and health performance.

The literature review has served the purpose of this qualitative case study to explore safety and production strategies. In the review of the literature, I analyzed the literature relevant to strategies for reducing risk and lowering injury and fatalities in dangerous work environments. Each topic assessed several components that if used properly can serve my study purpose to lower safety related risk. Noted in the thorough

review of literature are the patterns, trends, and strategies that emerged to lower risk management. These patterns, trends, and strategies will be more apparent in the findings and recommendations sections. Please note the themes of shipyard safety, safety awareness, safety culture, and safety management all serve to lower risk in dangerous work environments.

Transition

All elements of the rubric have been carefully mapped to produce a thorough review of the literature regarding all studies that have taken place on safety and production in the construction, mine, and shipyard business realm. The search criteria of safety management, construction, awareness, culture, and climate have been thoroughly reviewed. All of which may help deliver answers to the research question and help substantiate the findings. The elements of the nature of study have been reviewed. The research question has been laid out in alignment with the purpose statement.

Section 2 included a description of the data collection method of the strategies to identify strategies that shipyard managers use to protect companies from liability claims associated with the high number of injuries and fatalities in dangerous work environments. Additionally, the section included information concerning the data collection instruments and analysis techniques. Section 3 includes a Presentation of the study findings, Recommendations for Professional Practices, as well as Recommendations for Future Research.

Section 2: The Project

In Section 2, I provided an explanation of the participants, research method, research design, data collection, data analysis, and data validation to unlock the key concepts in response to the research question. Each topic played an incremental role in achieving the aim of the project.

Purpose Statement

The purpose of this qualitative single case study was to identify strategies that shipyard managers use to protect companies from liability claims associated with the high number of injuries and fatalities in dangerous work environments. The shipyard environment under review was located in the American Southwest. The targeted population was comprised of three program manager representatives who provided expert assessments of the research question under review. PMRs use successful strategies to enhance safety features and reduce liability claims. The implications for positive social change include the potential to improve worker safety by identifying successful strategies that reduce injuries and fatalities. Reducing the number of injuries and fatalities in regard to social change might help to create a work environment that requires less manager oversight, reduced financial liability, increased transparency, and increased safety awareness in business; thereby, improving worker safety outcomes and reducing worker turnover.

Role of the Researcher

I played a critical role in conducting this research because as the researcher I was the primary data collection instrument performing the data collection and analysis

activities in qualitative research. Data for case studies has six origins (Yin, 2018). Data were collected from company archival records, company documentation, open-ended semistructured interviews, and government archival documents.

I conducted the interviews safely and productively, giving close attention to the participant's needs. I worked with the individuals and formulated their assessments of safety and production in the work environment. The participants were asked, open-ended interview questions using a semistructured interview process. I mitigated my personal bias by using bracketing. Bracketing helped put a check on my personal views about the phenomenon in an attempt to minimize and mitigate bias and helped me achieve research integrity (Crick, 2021). Each of the participants were asked to answer the same interview questions taking into account their own biases.

As the researcher, the relationship I have with the topic and previous experience in working as a PMR has been to conduct safety inspections for 33 years in a shipyard environment. My expertise included conducting monthly safety inspections, managing daily safety operations, mitigating safety hazards, and determining safety potential. Having experience and working knowledge in the shipyard industry contributed to effective communication with the participants and it helped me to establish valid interview questions.

My role related to The Belmont Report was to use the ethical principles and application to guide and conduct their research. The Belmont Report contents included beneficence, justice, and respect for persons (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979). A researcher should

respect the participants, do no harm, respect autonomy, abide by justice, obtain informed consent, and be ethical in all my interactions (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979). I have completed my CITI training and I submitted my training certificate when I submitted my research application to the Walden Institutional Review Board (IRB). Once my proposal was accepted from my committee, the proposal was sent to IRB to ensure that I complied with all ethical standards associated with my study. I did not use any protected group in my study, so the process for approval was not that burdensome. I abided by The Belmont Report standards for conducting a study. The approved IRB research number 10-04-21-0290548 was placed in my proposal once the Walden IRB Board approved it.

To enable consistency and inform participants about their rights I followed the procedures from my interview protocol (see Appendix A) to conduct interviews in the same fashion with all my participants. I recorded the voice interviews and collected data from participants upon receiving consent from participants. I safeguarded all the data connected with my study and will destroy the data per Walden University requirements 5 years following the completion of my study. Researchers have been encouraged to follow these principles in conducting research.

It is important to understanding the ramifications of bias in a study. When conducting research, it is essential to mitigate bias (Cypress, 2018). To mitigate bias and reach data saturation, I secured accurate responses, reviewed transcripts, used bracketing, member checking, and listing of possible themes developed from my review of the literature. I recorded the voice interviews upon receiving consent from the participants. To

enable consistency and inform participants about their rights, I followed my interview

protocol to conduct the interviews in the same fashion with all my participants (see

Appendix A).

Participants

Participants were subject matter experts in the shipyard environment. PMR study

participants used successful strategies to enhance safety features and reduce liability

claims. I selected from the three PMRs in the shipyard industry who served as a sampling

frame. The number of participants always depends on the characteristics of the population

from which they are chosen (Saunders et al., 2015). The study PMRs all worked in the

American Southwest. The participants were accessed via request from professional peers

and by reviewing participants Linkedin websites. The PMRs played a vital role in

determining the direction the research took. Patton (2002) suggested that to gain an in-

depth understanding, purposeful sampling is an excellent tool for researchers. Qualitative

researchers who aim to explain a phenomenon in a specific context tend to use a purposive

sampling design (Sovacool et al., 2018). I only had voluntary participants and the

sampling size was small but sufficient for data saturation obtained through member

checking.

I established a working relationship with the participants by reassuring them of the

confidentiality that pertains to the study (see Marshall & Rossman, 2016). I built

trust by explaining to the participants the use of consent form with a strict academic code

of ethics. The consent form featured avenues for withdrawal, consent, and participation.

Research Method and Design

Research Method

The objective of this study was to identify strategies to reduce shipyard liability claims. A researcher has the opportunity to choose among three methods of inquiry: quantitative, qualitative, and mixed methods (Saunders et al., 2015). The quantitative study features variables and hypotheses that are not feasible to be used in this study. Quantitative research focuses on examining the relationship among variables and the testing of hypotheses (Creswell & Creswell, 2018). A mixed method study would require using a quantitative and qualitative method together in the same study (Schoonenboom & Johnson, 2017). Researchers use mixed method research when their research question can be best answered by an integrated qualitative and quantitative research than either of the two methods alone (Saunders et al., 2015). I did not use a quantitative or mixed method because I was not engaged in testing a hypothesis or exploring the significance of relationships among variables or testing hypotheses.

Research Design

Inappropriate designs for the researcher were the following: ethnography, phenomenology, narrative, or case study (Saunders et al., 2015). Using the ethnographical design means describing a cultural group's patterns where the researcher participates in the group to understand the phenomenon and the participants' social value commitments (Raman & Balakrishnan, 2020). I did not use an ethnographic design because I did not describe a cultural group's patterns in which reflexivity are called as marker for quality ethnographic studies that provide critical commentary on generated data (see Townsend &

Cushion, 2020). Within a phenomenological study, researchers are generally interested in the lived experiences of a group of individuals who have all experienced the same or similar traumatic events and how it has affected their lives or well-being (Moustakas, 1994). A phenomenological study researcher draws on sympathy and synthesis of data collected (Kelly et al., 2020). I did not use a phenomenological study because I did not focus on the participants' lived experiences in my study because they did not help me address my research question. A narrative design was not appropriate because a narrative design entails approaches focusing on experiences of individuals as told through their personal life stories in the form of written or spoken information (see Saunders et al., 2015). This design can elucidate data traction to make it easier for researchers to decompose a study (Cardona-Rivera et al., 2020). Each design fails in meeting the proper criteria that a qualitative single case study provides.

The single case study design appropriately incorporated how and why a phenomenon occurred (Yin, 2018). The case study design served to strengthen data collection to facilitate responses for safeguarding liability claims. A case study design helped explore strategies in a holistic understanding of phenomena. For the purposes of addressing my research question, I chose a single case study design. A case study design is dominantly a qualitative study and can help explore understanding of safety and production strategies from a frontline management perspective (Yin, 2018). A case study can also offer an in-depth analysis which will help provide a robust understanding of the phenomena under review (Halkias & Neubert, 2020).

Achieving data saturation in a case study does not pose a problem with even a small number of participants due to member checking and triangulation (Fusch & Ness, 2015). Data saturation was determined once no new information was forthcoming from the participants. Yin (2018) stated data saturation can be achieved with a small number of participants who are knowledgeable and experienced through member checking. The criteria for selecting participants were noted by the ability of the participants to provide rich data and thick descriptions because of their knowledge and experience.

Population and Sampling

The sampling for this study were three PMR personnel. They are considered experts in the field of safety and production. Their expert experience served to provide strategies for the analysis portion of this study. The study population was the total number of people within the organization eligible for sampling consideration in the interview study (Yin, 2018). The data gathering techniques included semistructured interviews, participant documentation, and company archival records. The format was separate face-to-face semistructured, open-ended interviews to gather information on the strategies they use and their personal body language, which was an indicator of whether the participants were distressed or relaxed and comfortable answering the questions (Yin, 2018).

A key to sampling is finding qualified participants through their knowledge and experience to help the researcher address the research question. A purposive sampling design was used when a particular phenomenon is studied in a specific context (Yin, 2018). Purposive sampling offered a better matching criterion to the aim and objectives of

the research, thus improving rigor and trustworthiness of the study. I conducted my study using purposive sampling.

Data gathering provided sufficient information to answer the qualifications of research participants on production and safety. The interview setting was a conference room with an internet connection, to allow the access to critical information while conducting the interviews. Semistructured interviews allowed the participant to be asked probing questions, not in a strict order, and allowed the interviewer to paraphrase questions as needed for member checking purposes in achieving data saturation.

Ethical Research

Regardless of methodology and context, all researchers experience various ethical issues when focusing on human experience needs, actions, and beliefs (Islam, 2019). The study was required to adhere to IRB requirements. These requirements helped provide participants with a greater ethical understanding of the research question. I met all requirements concerning the rights of participants in this study, meaning if a participant decided to withdraw for any reason, they would be immediately allowed to do so.

The informed consent listed in Appendix A describes the withdrawal process by any participant that feels uncomfortable with the questions being asked. The interview questions were not of a personal nature but did require knowledge of the workplace. The informed consent featured avenues for participation. The goal was to make the participant comfortable and relaxed to answer questions to the best of their ability, providing rich descriptions of the data. No document was taken from the work environment without the expressed permission from leadership. I used confidentiality procedures to protect the

participants and maintain their privacy by following the protocols defined in The Belmont

Report. To ensure confidentiality, I did not use the participants' names, organization

names, or identifiable information as a best practice recommended by Ennever et al.

(2019). Each participant was given a code, P1 through P3. No personal names were stated

in the interview and no company names was used in my findings.

Adherence to the ethical standards was accomplished when I obtained approval

from Walden University's IRB. The final doctoral study document included the approved

IRB research number 10-04-21-0290548. I will safeguard the records for 5 years to

comply with IRB requirements. Withdrawal requirements were made available to

participants in advance of actual participation if they felt pressured or had any reason to

withdraw from the study. I provided no incentives to participants because participation

was on a volunteer basis.

Data Collection Instruments

I gathered data via three methods. First, I used open-ended interview questions m a

semistructured interview process seeking robust and rich data description of strategies.

Second, the participants provided workplace organizational documentation to support their

answers to interview questions and provided supplemental information they thought

helped to identify concrete strategies to aid in answering my research question. Third, I

used publicly available information from the company's website to validate my findings.

As the researcher, I was the main instrument for gathering information using

semistructured interviews with open-ended questions to determine strategies to minimize

liability claims in a shipyard environment. Open-ended questions allowed the participants

to answer without yes/no replies. Other means of data collection was reviewing organizational documents, reviewing information that was publicly available in the company website, and reviewing relevant information from the articles in my review of the literature. Finally, I used government archival records to substantiate answers and data.

I recorded all interviews with a Samsung cellular recording device. The sessions were interactive to gain a sense of body language. I adhered to a strict interview protocol (see Appendix A) to be followed during all of my interviews.

Finally, I applied member checking to obtain study credibility, dependability, and data saturation. Member checking allows participants to take part in the research process by researchers giving participants the ability to fact check and authorize the researcher's interpretations of the data provided by the participants, which helped increase research credibility and validity (Iivari, 2018). Member checking is an interviewing process that is best done orally, either in-person while the interview is taking place or on the telephone in follow up to the initial interviews taking place to verify or confirm information that needed additional validation. This is an opportunity to discuss with the participant further about their data input in this proposed study. Increased trust and rapport were the goals for obtaining more data.

I conducted member checking by summarizing the interviews in a two- page document. I provided those summaries to the participants so that they could accept or reject my interpretation of what was said in the actual interviews. All participants noted the correctness of my translations (Marshall & Rossman, 2016). Reliability is also ensured through member checking, which involves the participants in the interpretation of data to

enhance the credibility of the results (Birt et al., 2016). Triangulation is a strategy used to reduce risks and remove systemic bias (Cypress, 2018). I used multiple data collection methods like semistructured interviews, documents, presentations, and the reflective journal to facilitate triangulation.

Data Collection Technique

I used the following data collection techniques: semistructured interviews, participant organizational documentation, and government archival records. The data collection technique used in this study consisted of conducting in-person with one participant and two online Zoom interviews. The main advantage of using the face-to-face interview is the ability to observe the participants body language as they are answering the question. I also reviewed company documents, which I retrieved from the company's website and study participants. The advantage of this source of information is it is already public.

Data collection techniques for this study centered on semistructured interviews. The semistructured interview was one of the most used techniques when collecting data for a case study (Yin, 2018). I used my Samsung cellular telephone as a recording device to record each interview. I developed an interview protocol (see Appendix A) in a reliable format. A key strength and advantage of semistructured interviews is interviewers can prepare questions beforehand to help guide the conversation and keep participants on topic (Yeong et al., 2018). The interview allowed for qualitative descriptive responses from participants for more in-depth information and it encouraged two-way communication, which helped me focus directly on the research topic of the case study (Yin, 2018).

Towards the end of the interview protocol, I asked an additional open-ended question that gave the participants a final chance to freely share any closing remarks or thoughts (Yeong et al., 2018). Review of transcripts on a voluntary basis allowed participants to further participate in the research process by giving them the ability to fact-check and authorize my record of the data through transcript review, which helped increase research credibility and validity (Iivari, 2018). Both member checking and transcript review were characteristics of the data gathering process.

By member checking, during the interview, I rephrased questions and answers provided to ensure I have an understanding from the participants of their intentions. If I needed to clarify a participant's response through member checking, I would paraphrase their response either during or after the interview and ask them if my interpretation was accurate and correct. I also provided all participants with a summary of the interview transcripts for their review and approval. I repeated answers and provided an explanation of the answer. I then confirmed with participants on whether or not I interpreted their answers correctly.

Data Organization Technique

Researchers utilize data organization techniques to rationalize the qualitative process and allows for a more robust data analysis (Castleberry & Nolen, 2018). Watkins (2017) indicated that the development of the internet enables researchers to share files remotely, organize data efficiently, and ease the movement of research files. During the data collection phase, Mostert et al. (2018) asserted that researchers collect information from interviews, discussions, company documents, websites, and research notes. The data

organization process for this study included using member checking and review of the transcripts to validate data transcription, maintaining interview notes, inputting data into Atlas.ti software, and comparing research notes to the interview questions.

The method of data collection for this study was face-to-face interview and online interviews via zoom video conferencing. The data transcription commenced immediately after completing the data collection process. I utilized fictional designations P1, P2, and P3 to maintain their confidentiality. Also, I used tools like Perrla, Word, and Excel to organize the data. I gathered the interview responses, interview notes, and other interview materials for safekeeping and confidentiality.

I used Atlas.ti software to organize the collected data and maintain a list of codes and keywords, including possible biases from my reflective journal, to compile, disassemble, reassemble, interpret, and conclude the findings. In addition, I established a case study database as recommended by Yin (2018) to track all the data collected and maintain a chain of evidence. The data was copied on a personal computer with a flash drive as a backup.

I used the coding process of themes and categories to organize information in the study to track data (Yin, 2018). I organized the data in files identified by my conceptual framework and by themes and strategies. No identifying information was used to identify participants.

A reflective journal was kept with notes regarding possible biases and details as to what steps I took in the data collection process. I member checked to reduce bias. I also used bracketing information to also reduce research bias. Themes were raised because of

my interviews and analysis of data. I played close attention to new developments in the

data. I have conducted a thorough review of the literature; I have an understanding for

what might present itself as new data for the identification of themes and strategies.

After securing doctoral study approval from Walden's Chief Academic Officer

designee, I will move all digital information and interview transcripts from my laptop to

an external hard drive, which I will keep in a safe. A researcher should use precautionary

measures when converting any hard copies into an electronic format, which was password

protected and encrypted to store hard copies digitally, securely, and confidentially (Ross et

al., 2018). I will destroy all digital data and documents 5 years after Chief Academic

Officer 's approval.

Data Analysis

I used methodological triangulation with multiple sources of data to increase

validity. The data sources included information from the semistructured interviews,

company documentation, publicly available information from the company's website, and

information from my observations and government documental information. Documenting

the detailed procedures to be followed in this study should help to ensure dependability of

the study for other researchers to follow. Researchers' peer-reviewed articles have also

been found to serve as a solid foundation for conducting data analysis (Ashley, 2012).

Potentially, the detailed reviews of my methodology will allow other researchers to

replicate my study and have sufficient data to do so. The data evidence is in the findings

and recommendations of the study, which is in Section 3 of this document.

Thematic coding was used to expedite the classification of gathered data with Atlas.ti software and a logical sequence was used to conduct data analysis. I performed the following:

1. Read and listen to the recorded responses

2. Identify the themes that emerged and labeled them

3. Identify any links between themes

4. Categorize themes with proper headings from data

5. Construct a vivid structural description of participants' strategies

6. Evaluate the themes and strategies for clear understanding

7. Tabulate themes and strategies (Qu & Dumay, 2011).

I used the interview questions to elicit responses to gain insight and perspectives on safety and production behavior. Participant documentation was used to supplement answers and support their answers. Government archival records were also used to support and substantiate answers. The contingency theory and the contrasting contingency theory of fit was used to provide the direction for a holistic, multi-leveled investigation of this complex social phenomenon.

I conducted an audit of the responses to explore true or false answers to help ensure the reliability and validity of this information and identify themes and strategies (Kyngäs et al., 2020). Yin (2018) identified four principles of data collection to ensure high-quality case studies:

1. Use multiple sources of evidence.

2. Use a case study database.

3.   Maintain a chain of evidence.

4.   Exercise care using electronic sources of evidence.

These principles of data collection were used throughout my study. The primary data collection technique I used was face-to-face semistructured interviews guided by the interview protocol (see Appendix A). I also reviewed publicly available information or documentation shared by the participants related to this study. To focus on a particular phenomenon, I used the purposive sampling design recommended by Yin (2018) that is not intended to offer a representative sampling but rather allow the researcher to focus on particular phenomenon and or processes related to my research question. I met the participants at a predetermined time and location to conduct interviews. Upon receiving permission from the participants, I audio recorded the interviews using the voice recorder application installed on my Samsung mobile phone.

Reliability and Validity

Reliability and validity within a qualitative method are different from the quantitative method, but are still important issues for a researcher to contend with in their research study (Bell et al., 2018). Trustworthiness of data is related to both reliability and validity. Trustworthiness of data is found in the degree of confidence that researchers have in their data, in the interpretation of their data, and in their methods of doing research. If their confidence level is high in these areas, their reliability and validity of data in their qualitative study should also be high. Homogenous and consistent data shall be collected in the categories of credibility, dependability, confirmability, and transferability of the data produced by a study (Ghauri et al., 2020). Authenticity and genuineness of these

variables will be confirmed throughout the research process when I ensured reliability and validity in a study's actual strategies (Ghauri et al., 2020). These strategies can reasonably confirm all results that truly reflect the phenomena under investigation.

Reliability

Reliability referred to replication or repeatability to achieve consistent findings (Yin, 2018). Reliability also referred to the reliability of instruments, processes, and to the method of the study itself. Since the researcher is the primary instrument using open-ended questions from their research protocol, this could help to ensure the consistency of participant answers throughout the study (Bell et al., 2018). Researchers are then better able to fully comprehend participants' experiences, which allows researchers to produce, comprehend, and analyze data more reliably (Ghauri et al., 2020). To ensure dependability, repeatability, and consistency during data collection, I used the interview protocol (see Appendix A) and administer the same protocol to all participants. When the interviewing process occurs, I used a bracketing process for controlling bias throughout the research process (Ennever et al., 2019). The interview process included an initial discussion with the participants to ensure that they understood the purpose of a research study and ask any questions they might have about a particular research study (Castillo-Montoya, 2016). The interviews focused on asking all participants the same questions to ensure consistency within the interviews and the research study. Utilizing notes from recordings of phone and interviews and the coding of the interview transcript allowed the participants' interviews to be analyzed and identified in an accurate and trustworthy fashion.

Dependability

Dependability was the consistent nature of the analytical procedures (Noble & Smith, 2015). Dependability enables other scholars to replicate the process of the research project. This includes factors of addressing personal research bias or other factors that may have altered the findings (Noble & Smith, 2015). I took multiple steps to ensure dependability. I inputted in my research journal my listing of possible biases and accounted for any biases. In addition, there was in-depth recordkeeping to show a clear data trail. To ensure dependability, I reviewed and verified the data collection process; use bracketing in my data analysis, and then use member checking to help ensure and support that participant are satisfied with their answers and achieve data saturation to ensure dependability. Member checking was done by fact checking responses and verifying interpretations of the participants. I provided participants with transcripts of the interview conducted.

Validity

The research process was rigorous and ensured the study was thorough, consistent, and honest. Validity could be either external or internal (Ghauri et al., 2020). External validity refers to how results from a study can be applied (generalized) to other situations, groups, or events. I used a coding process to ensure statements from the participants were recorded properly and transcribed accurately. To enhance stability, the researcher promoted validity to the research by documenting a well-audited trail of the findings.

Reaching data saturation helped assure credibility, transferability, and confirmability in a qualitative research study (Yin, 2018). I used semistructured

interviews, organizational documentation, and a review of academic literature as the data sources for the research study. Reaching data saturation also supported dependability.

I connected the reoccurring themes to triangulate the data to increase the study's credibility. Methodological triangulation is a process of authenticating information using multiple sources of data or methods concerning the same phenomenon to decrease bias and increase the study's validity (Fusch & Ness, 2015). I used both triangulation and member checking as methods to reach data saturation. Triangulation was done by using multiple sources of data collection. Member checking was done by fact checking participant's responses. Data saturation occurred when there was no new information or themes and the information used to replicate the study, making it capable of generalization (Saunders et al., 2015). I reviewed organizational documentation as well as the interviews to increase the validity of the study. The research included member checking to improve the reliability, validity, accuracy, and credibility of the subject by reflecting on the accuracy and precision of the findings based on collecting data.

Credibility

Credibility referred to the extent to which qualitative research results were credible and believable (Venkatesh et al., 2016). Researchers used member checking to increase the research's credibility because participants were an integral part of the study, and the researcher needs to be certain the participants have understood the questions to provide an accurate and knowledgeable answer to each question (Iivari, 2018). Qualitative researchers may maximize credibility by engaging in the study for a prolonged period, sharing data and interpretations with participants through member checking. Researchers

using the qualitative methodology must use various sources and triangulate them to increase credibility (Varpio et al., 2017). Researchers use triangulation and data saturation to establish credibility (Mazerolle & Eason, 2018). I ensured the study's trustworthiness through methodological triangulation and performing member checking of the interpreted data.

Transferability

Transferability referred to the extent to which the study findings or the methods used in a study can apply to other situations or groups concerning future research (Thurairajah, 2019). Transferability was the degree of use for research findings in future research (Moon et al., 2016). The researcher avoided a one-time phenomenon that could decrease the study results' validity and transferability (Fusch & Ness, 2015). Researchers use triangulation to increase the transferability of qualitative research because researchers use multiple sources of data to view outcomes (Fusch & Ness, 2015). I increased transferability by keeping a reflective journal and by using multiple forms of triangulation. To ensure validity, I interviewed PMRs who successfully implemented successful safety strategies in a dangerous work environment such as the shipyard. Using descriptive data can help readers determine the extent to which the study supports their investigation (Thurairajah, 2019). Therefore, I used descriptive data to ensure other researchers can make an objective determination of transferability

Confirmability

Confirmability is other researchers' ability to replicate the methods used in a study (Alonso-Díaz & Yuste-Tosina, 2015; Moon et al., 2016). Researchers use confirmability

and triangulation to reduce bias and ensure the research study has been done in a replicable fashion (Abdalla et al., 2017). I ensured the data's confirmability by comparing data with results to ensure the research findings come from the participants rather than my personal biases. To ensure confirmability, assumptions, and bias from my scheduled reflective journal, I strived to surface questions to enable follow-up interviews with my participants during the transcription of the interviews. I shared the interview transcripts and interpretations with my participants to confirm the accuracy of the transcription and analysis understanding. I maintained detailed handwritten notes and document introspection to help facilitate objectivity and researcher bias. I used triangulation of at least three other sources of data to ensure confirmability. I reviewed organizational documentation and my reflective journal as well as the interviews to increase the validity of the data.

Data Saturation

Credibility, transferability, and confirmability are all elements of quality qualitative research (Moon et al., 2016). Data saturation has been met when the researcher finds no new information or themes (Fusch & Ness, 2015). When the researcher has completed data saturation and the results were credible, transferable, and confirmable: they have met the criteria for a valid research study (Yin, 2018). While analyzing data, I derived themes to ensure that no new information emerges, thus reaching the point of saturation (Shaw & Satalkar, 2018). I achieved data saturation when no further emerging information exists to address the phenomenon (Yin, 2018). I also used methodological

triangulation, such as in-depth semistructured interviews, and document analysis, to achieve data saturation.

Transition and Summary

In Section 2, my research process and justification were presented to collect data and use ethical practices in doing so. Then, I recruited participants and collected the data after IRB approval. I collected data using at least three collection methods to substantiate collection techniques. I analyzed the collected data using thematic coding and themes emerged to ensure alignment with my strategies. I used triangulation of other company records and documents and member checking to ensure dependability and credibility.

In Section 3, I will discuss any previous studies and substantiate studies from various authors that will feature the data findings. Recommendations will be made for further research and the positive social change potentials of the research. The explanation will end with an overview of the conclusions and recommendations.

Section 3: Application to Professional Practice and Implications for Change

Introduction

The purpose of this qualitative single case study was to ascertain strategies that shipyard managers use to protect companies from liability claims associated with the high number of injuries and fatalities in dangerous work. Data analysis resulting from interviews and analyzing publicly available company documents resulted in three key themes (a) safety incentives, policy, and training; (b) safety actions, procedures, and innovation; and (c) safety production, controls, protocols, assessments, significance, monitoring, and mishaps. In Section 3, I will feature the data findings, and discuss and substantiate previous study results with the results of this study. I described (a) three themes, (b) how the findings come from all the data through methodological triangulation, (c) how I used the data in addressing the central research question, (d) how I aligned the findings with existing research, and (e) how I supported the choice of contingency theory as the conceptual framework for this research. Recommendations will be made for further research and the positive social change potentials of the research will be discussed. The explanation will end with an overview of the conclusions and recommendations.

Presentation of the Findings

The research question for this study was: What strategies do some shipyard managers use to protect companies from liability claims associated with injuries and fatalities in dangerous work environments? The empirical data were collected using open-ended questions in a semistructured interview process and substantiated via journal reviews, government documents, and company documents. The Samsung 10 cellular

telephone was used to record information during each interview. Member checking was applied to each participant by orally taking their responses, rephasing interpretation, and verifying that each interpretation was correct; then, reverified with transcript reviews to accurately accept data that was transcribed correctly. Data saturation was achieved with three themes emerging from semistructured interviews and the overall data collection.

Through the data collection, analysis, and reporting process, I properly protected participants by using pseudonyms, such as P1 for Participant 1, to name participant folders where I stored data documents to protect identities of participants. Upon completion of interviews, I inputted transcripts into ATLAS.ti so I could code and analyze data to identify themes that emerged from interviews. Table 2 reflects the summary, denoted by a percentage of the three key themes that emerged from the interviews with all three participants.

Table 2

Themes and Participants

Themes	P1	P2	P3
Safety Incentives, Policy and Training	100%	100%	100%
Safety Actions, Procedures, and Innovation	100%	100%	100%
Safety Production, Controls Monitor, Assessments, Significance, and Protocols	100%	100%	100%

Note: Themes and Participants percentage of agreement.

Theme 1: Safety Incentives, Policy, and Training

Safety incentives, policy, and training in this study have been a focus point similar to safety awareness in the literature review. The empirical data and findings from previous research on safety awareness have been accepted; safety awareness and good safety habits reduce safety-related job stress (Kim & Kim, 2019). Safety procedures—whether orally or written—have noted that the impact to safety is minimal except for the case of a long period between operations (Kim et al., 2019). I found during interviews that attention to detail is a contributing factor for decreased safety incidents. Attention to detail is prone for employees to be more alert to surroundings and potential dangers, limiting safety incidences. Safety affirmation is summed up as being a checklist to note particular dangerous operations that can be minimized by its practical application of using a checklist. According to the holistic collection and analysis of the data from this study, safety affirmation techniques such as checklists are excellent tools for conducting safety and production operations that have not been used within a 30-day time frame, especially, because the manufacturing industry requires workers to engage in high-risk activities such as soldering, welding, metal cutting, raw material assembling, and heavy lifting and rigging. Apart from causing irreparable damage to workers, occupational accidents cause indirect losses to machinery and the environment and have a negative effect on workplace productivity. It is vital to identify potential occupational hazards and take measures to minimize workplace accidents.

I mitigated production and safety concerns from the study data to develop strategies that identify and determine the cause of safety incidents. When safety and

production are separated, they show negative evidence that they create more injuries, more liability claims, and fatalities. I have found three themes that have direct relationships with mitigating accidents and injuries with safety and production. I interpreted the themes and strategies and correlated the themes and strategies to the conceptual framework and literature review. I presented a conclusion based on my interpretations of the themes and correlated them back to the research question for analysis. The analysis of this data reflected significant positive information to help me address and answer my research question. In summary, safety incentives, policy, and training provide in depth information to help address my research question.

Safety Incentives

Safety incentives are programs that reinforce employees with monetary or tangible rewards for an expected level of safety performance. Safety incentives seem to focus on two strategies (a) safety training and (b) safety performance (Shaw, 2019). Scaling each of these strategies may create a problem in a business, getting safety initiatives started but after initial impact, the concept could promote an engaging safety environment.

Shipyard occupational accidents are similar to those that occur in the construction industry, generally with the modification created by the characteristic requirement to work in restrained spaces and or conditions (Shaw, 2019). Safety incentive programs do not always work the way managers think they should work because they tend to cause underreporting, particularly when the performance is related to lagging indicators like reduced incidents or severity rates. Managers and employees alike confirm this, no matter the industry (Shaw, 2019). Some managers think safety incentives are harmful especially

the ones that drive underreporting of incidents and drive apathy in the shipyard. Safety

incentives are helpful when they drive down injuries, for example no incidents took place

over the past month, so the department gets some praise for doing a good job or a financial

award. The point about safety incentives is they tend to be short term and they do not

change attitudes. Damanhuri (2020) determined that some reasons accidents occur at

shipyards are falls from height, sandblasting, inexperience due to age or maturity, and

welding. Safety incentives in a shipyard program may require new policies that focus on

these issues to address these specific types of accidents.

Safety Policy

A safety policy should spell out that it is the responsibility of each employee that

all tasks be conducted in a safe and efficient manner complying with all local, state, and

federal safety and health regulations, programmatic standards, and special safety concerns

for use in a particular area like a shipyard. Although most safety regulations are consistent

throughout each department and program, it is the responsibility of employees to identify

and familiarize themselves with the emergency plan for their working areas.

Safety policies help deliver strong backgrounds for work issues. Workers, when

made aware of policy, tend to want to be on the right side of controversial situations when

it comes to production and safety strategies. P1 stated,

> Most who approach production and safety strategies embrace the following
>
> assumptions: Everyone, with no exceptions, has an obligation to move the project
>
> ahead safely, and we are all being paid to produce a product, and that product is a

fully operational ship that is ready to go to sea and engage in combat, and ensure

that ship is as safe as it can be for the sailors operating it.

According to P1, production goals have to be met; the Lead Maintenance Activity (LMA)

supervisor has to be held accountable for missing contract goals and should have to be

penalized monetarily for missing them regardless of where the impacting issues originated

from. Even if it is a government-side miscue—like not providing the right government-

furnished material at the right time—the LMA should still be held accountable but also

given enough other resources to overcome the problem. P1 stated, responsibility has to

rest somewhere, and most would think it needs to be on the LMA's shoulders. The LMA

should also be rewarded monetarily for meeting production goals on time and on budget.

Safety should be talked about daily, and it needs to include the entire maintenance team.

Safety should be incentivized similar to production goals. A ship's company should be

relentless in holding everyone to the stated safety standards. While safety performance can

be improved by continuous monitoring, measuring, review, and feedback to employees,

policy enforcement supports a team safety concept. P2 stated that some think the

Navy/Naval Sea System Command (NAVSEA)/ National Security Agency (NSA)

/Planning Yard (PY)/LMA have solid policies regarding production and safety. Safety

policy dictates many responses on how safety was addressed in the shipyard.

The problem is an enforcement of in-place policies that seems unique and variable

between projects. For most projects, some would say enforcement of production and

safety policies are not consistent and could be improved. P2 stated, "We don't need new

policies, but we do need to enforce those already promulgated. Others think the overall

level of knowledge concerning the existing policies is low. We certainly have many well-trained people, but in comparison to the number of people impacting a project, some think that percentage of well-trained people is low". Also, according to P2 more training on production and safety should be done to increase the base level of knowledge for everyone involved in the project.

According to P3, most accidents happen due to the lack of acknowledgement of safeguards and safety equipment, inadequate or inconsistent training to employees, or compromised safety. Additionally, P3 stated that workplace safety in a manufacturing facility is achievable, provided one know the potential sources of safety hazards and the ways to prevent them. An effective safety policy can help one stay cognizant of the hazards present in your workplace and shed light on the necessary equipment maintenance and repairs. P3 also stated that establishing a board of representatives composed of personnel of all levels to ascertain and develop a risk assessment plan that identifies all the hazards associated with work in an industrial environment can be an effective tool against hazardous situations. An effective risk assessment will also determine the risk level of the hazard, review the safety and working condition of the equipment, and recommend the necessary control measures.

Safety Training

Safety training is paramount to conducting efficient shipyard operations. Regarding training, P1 stated that the idea that time taken for training interferes with time for production is the biggest factor affecting training. P1 also said that some people think that time spent on training is time not spent on production and safety. However, shipyard

leaders believe the opposite is true. Training should be viewed as an enhancement to the project's production goals. Whereas the shipyard industry (usually) incentivizes the LMA to make production goals, the shipyard industry does not incentivize the meeting of training goals and safety performance goals, and sometimes provide disincentives to the LMA for not meeting safety goals. The shipyard industry does this by providing no positive reinforcement to achieving safety goals, but we do provide plenty of negative repercussions if the LMA fails to make safety goals. Most think it is always better to provide positive reinforcement of a desired behavior, rather than achieving the goal through the threat of negative actions.

Education and training are important tools for informing workers and managers about workplace hazards and controls so they can work more safely and be more productive. Additionally, P2 stated, the education and training aspect of learning require workers and managers to have a greater understanding of the workplace safety program. Education and training will allow workers and managers to help with its development and implementation. Regardless of whether the employee is an apprentice or an expert, they should be trained to follow the safety protocol; thereby, reducing the risk of onsite accidents and injuries. In a shipyard environment, factors such as the severity of a safety violation and the increasing frequency of occupational injuries should be important factors that will impact training. The findings were supported by company policies and training. The national safety guidelines for the shipyard industry keep changing; therefore, it is necessary to deliver periodic training to workers, ensuring that only skilled personnel operate the machinery.

Education and training provide managers, supervisors, and workers with knowledge and skills needed to do their work safely. Education and training help workers avoid creating hazards that could place themselves or others at risk. Having awareness and understanding of workplace hazards and how to identify, report, and control them with specialized training will alleviate their work-involved unique hazards. The findings were supported by company documents on training and interviews from participants.

Findings Related to the Conceptual Framework

The conceptual framework is predicated on the contingency theory. The theory has three principles that apply in the findings for this study: task structure, position power, and leader group (Fiedler, 1964). Fiedler (1958) also considered relative strength of two distinct leader orientations. Task-oriented is one consideration and the other is the degree to which the leader is relationship-oriented. Each orientation provides concepts that employees and managers must demonstrate their knowledge of safety and production by applying the strategies found in the findings and recommendations. Take for instance attention to detail—a military principle that can be applied using a multifaceted approach. Checklist, briefs, walk-throughs, and process control procedures all can reduce safety risk. Matta et al. (2021) found common effective management practices in successful organizations at the frontline worker level. In order to be most efficient in the shipyard, some decisions need to be made at the lowest level possible. The conceptual framework for this tends to show how the contingency theory can affect shipyard occupational accidents strategies and categories. The categories were centered on three central themes, 13 safety categories, and eleven safety strategies.

Findings Related to the Literature Review

In the literature review, theme one was substantiated from previous research (Damanhuri, 2020). All of the information that was brought up from prior studies was cited for its safety significance (Barlas & Izci, 2018). Safety awareness, safety climate, safety monitoring, and safety policy all had a vital role in assessing the shipyard production and safety factors. Important to note that very little new information arose in these study findings. Safety incentives and a compliant quality assurance (QA) workforce appeared to be new key terminology (Shaw, 2019). Although, these have been thoroughly studied in other industries, the application to the shipyard has not been thoroughly defined.

Theme 2: Safety Actions, Procedures, and Innovation

Safety Actions

Safety actions are generally addressed in the safety policy that sets out the organization's general approach to health and safety. The policy included how the employer will manage health and safety in the business. These findings were supported by reviewing company documents on instructions for risk assessment-The policy should clearly state who does what, when, and how. According to P1, the most common safety actions addressed in a safety policy on risk assessment were the following:

- STAY ALERT - and stay alive. ...

- WEAR THE RIGHT CLOTHES - work clothes should fit properly. ...

- USE THE RIGHT TOOLS - if you need a hammer, get a hammer. ...

- LEARN HOW TO LIFT - Lifting takes more than muscle; it is an art.

According to P1, the Navy does an excellent job promoting a climate of safety among its government and civilian work forces and makes it well known that safety trumps all other concerns in a nonwartime environment. Safety, however, from what some have experienced at most shipyards, does not always trump production with respect to precedence. Some safety managers believe this problem of safety is due to the cost driven influences that the civilian shipyards experience and their business model that mandates that being positioned as the most competitive bidder for the next contract determines their focus of effort.

Fostering a climate of teamwork and collaboration will go a long way towards creating and maintaining a positive working environment. Leadership and managers in the shipyard talk about working as a team towards a common goal but they are not very persuasive based on their actions. As acclaimed by P2 and P3, productivity is critical in a deadline-oriented industry like shipbuilding. As a result, an environment where team members feel compelled to compete against each other is unintentionally created. The bureaucracy and red tape creates a negative work environment, which make workers feel irritable, anxious, and defensive, leading to poor productivity, a lack of motivation and morale, and poor communication in the workplace. Their comments are reinforced by the fact that a shipyard is a broken environment that leads to higher turnover and a lack of connection to customers, which negatively impact a ship's bottom line (The Navy's warfighting capability).

Safety Procedures

The purpose of safety procedures is to guide and direct all employees to work safely and prevent injury, to themselves and others. All employees should be given a copy of the policies and procedures manual and be familiar with its contents. In regard to procedures, P1 stated that most effective safety procedures include graphic (quick, easy-to-read) postings of required PPE. Additionally, consistent procedures across platforms and departments, random safety visits by safety inspectors, and a sense that if a safety worker reports a safety concern, then that concern will be acted upon and reporting concerns are not a waste of time. Having PPE available at points of entry helps get people comfortable with using it. Although, some have not seen too much of it at the shipyards where they work, regular and structured safety training for all employees can really help.

As mentioned by P2 and P3 creating a safe work environment begins with a comprehensive risk assessment. By conducting a thorough risk assessment of all general hazards and the processes include respiratory irritation and systemic poisoning, confined spaces, paint fumes, fall protection, eye protection, docking/undocking, fabricating, and repairing large structural components, handling large materials, outfitting, painting, fire, flooding, and surface preparation and descaling all create a safe working environment for your employees. Education is essential for the development of positive attitudes of workers towards safety, especially when training is followed by active engagement of the workforce in organizational decision making for the development of safety rules. At a minimum, all shipyard leaders should address the following housekeeping, provide proper training of workers, hire specialized technicians, require workers to wear the necessary

safety gear, legal awareness (knowing the standards set by the government),

communication between workers to ensure workplace safety, and maintain/increase

productivity.

Safety Innovation

According to P2, the shipyard by current perceptions is always in search of

innovation. Computer aided simulation and technology were suggested by all three

participants to counteract problems with safety and liability. Imagine the ability to put

people in a simulated situation before putting them on the deck plates to do actual work.

For example, there are normally several places to get caught in between the crane and

another obstruction. Identifying these safety issues in orientation training could go a long

way toward making personnel aware of the safety hazards associated with this menace.

Findings Related to the Conceptual Framework

The conceptual framework aligns with actions and procedures that allow the

frontline worker to be more proactive. Fiedler (1958) emphasized the importance of two

distinct leader orientations. Task-oriented is one consideration and the other is the degree

to which the leader is relationship-oriented. Each provide concepts that employees and

managers must have to demonstrate their knowledge of safety and production by applying

the strategies found in the findings and recommendations. Frontline workers' proactive

characteristics allow the project as a whole to be more successful in lowering safety risk

and reducing hazards (Shaw, 2019). For example, a simple leader walk through of the

jobsite can put people minds at ease to make the would-be workers more aware of a

particular hazard. A quick brief can give someone unfamiliar with the potential hazard an idea on what to look for.

Remember look, listen, smell, touch, and report are always important in any environment from a safety standpoint. Opportunity for clarity of the work environment can be laced with incentives and promotions (Koo et al., 2020). For a shipyard to retain valued employees, the leaders must keep people safe.

Findings Related to the Literature Review

Managers who implement these leadership strategies can lower litigation and liability claims by ensuring the health of the employees (Xie et al., 2020). The success of a worker depends on management looking out for their personal welfare, by doing so this will provide employees inspirational motivation. Motivation that can produce tangible results with company safety (Eisenberg et al., 2019). Based on the findings from the review of the literature, the participants should be more likely to display positive characteristics that would help address the research question and document the importance of the employees -organization safety relationship.

The findings from the review of the literature were also found to be in alignment with management span of control to recognize employees for a job well done (Damanhuri, 2020). Tangible or nontangible rewards can be a benefit when the followers complete required safety tasks or achieve safety improvement (Poels et al., 2020). Active management can be used where the leaders observe the followers work and correct any mistakes that may occur can also help provide safe working environment (Shaw, 2019).

Theme 3: Safety Production, Controls, Monitoring, Protocols, Significance, Assessments, and Mishaps

Safety Production

In a shipyard workplace, production and safety are sometimes seen as two opposite ends of a spectrum. Every business wants to perform as quickly and efficiently as possible to maximize production and profits. Businesses also have a legal responsibility to keep their workers as safe as possible on the job, but safety procedures take time. Whenever a worker pauses to put on protective gear, buckle a seatbelt, or wipe down a piece of equipment, precious seconds of production can be lost. P1 talked about how safety is enhanced by: (a) enforcement from leadership, (b) easy access to PPE, and (c) an effective safety training program. Production is enhanced by incentives to meet stated goals; an interest shown by leadership in all production aspects that affect the maintenance availability, sharing of production information (metrics, goals, scheduling, manpower), and a general acceptance by the entire work team that the production metrics are accurate. P2 talked about the more familiar a worker is with the safety and production goals and objectives, the more effective the entire project will be. P2 suggested that safety production, controls, and monitoring were all needed to be focused on in a shipyard environment. P2 also said, the shipyard managers have a way of throwing people into the fray and expecting them to either sink or swim. Proper training and orientation to the new environment is a good start for all employees. Process control procedures serve not only to fill in spaces on a monitoring form but also have a better effect on helping to lower risk and improve safety in a shipyard environment.

Safety Controls

Safety controls minimizes risk and helps employers provide workers with measures to help employers provide workers with safe working conditions. Safety-control systems should emphasize a safety committee and self-inspection to control project safety (Poels et al., 2020). P3 talked about how effective safety controls protect workers from workplace hazards; it helps to avoid injuries. The safety control system can be properly designed to help lower incidents in a shipyard (Damanhuri, 2020). Controlling hazards should involve workers who have the best understanding of present safety conditions. This will allow the worker to help understand how to address issues that arise in unplanned events. Through daily and monthly safety meetings, a person can influence and prepare everyone on safety matters: discuss what went wrong, what was acted on, and what needs to be fixed, on all ongoing safety projects.

Safety Monitoring

Safety programs and production efforts that are not monitored are sure to disappoint the entire team and lead to mishaps and missed production goals. One of the critical requirements of a good safety management program is safety monitoring (Newaz et al., 2019). Safety monitoring reporting serves to lower safety incidents. In regard to monitoring, P1 mentioned that monitoring ensures effectiveness of safety and production. Safety monitoring has an extensive impact on safety and production for personnel. Monitoring serves to lower incidents because people feel they are being watched and will be punished if they create a safety mishap. According to P2, safety monitoring has to exceed and surpass production, so any and all safety measures that keep workers from

getting injured while fostering a sense that the employer cares more about the safety of the worker than production are necessary. Workers have to be provided the basics like PPE, and they have to know that they will be held accountable for safety violations. Additionally, workers need to know that violating safety regulations will be observed and acted upon by leadership.

Safety monitoring is vital to workplace safety dynamics, P3 mentioned, safety monitoring fosters an environment where workers know getting work done safely is the most important task they have and is paramount to accomplishing the project. Safety behavior has been thoroughly researched (Damanhuri, 2020). Positive safety behavior models include behavior that is productive to safety. Positive behavior serves to elicit positive safety and production climate. Negative behavior is often seen as a hindrance to safety and production, yet it can serve to elicit positive safety and production climate as well, when certain employees feel threatened, they respond positively for short periods of time.

Safety Assessments

When a safety monitoring program is established, it should be evaluated initially to verify that it is being implemented as intended. After that, employers should periodically assess what is working and what is not and determine whether the program is on track to achieve its goals. According to P2, safety assessments are formal risk assessment concepts, even when lives are lost and damage is suffered to equipment, safety assessment can be a great tool in lowering risk for decision making processes. This was supported by the shipyard quality assurance policy. In the decision-making process, criteria may be

used to determine if risks are acceptable, unacceptable, or need to be reduced to lower the chance of an incident (Newaz et al., 2019). Additionally, P2 stated, a safety assessment is designed to be applied to safety issues common to a shipyard such as elevator shafts, dry docking, crane drop incidents, and falls from height. Whenever these assessments identify opportunities to improve the program, employers, managers, and supervisors in coordination with workers should make necessary adjustments and monitor how well the program is performing. Sharing the results of monitoring and evaluation within the workplace, and celebrating successes, will help drive further improvement.

Safety Mishaps

A safety mishap has been defined by safety managers as any unplanned event that results in personal injury or property damage. As acclaimed by P3, if the safety mishap was severe or potentially severe, then the work should be canceled. The organization has to make known to its employees what level of mishap will result in termination. According to P3, conducting training and posting this type of information will help workers understand and exercise their judgment. Safety mishaps can be identified and addressed by an ongoing analysis of the research question: What strategies do some shipyard managers use to protect companies from liability claims associated with injuries and fatalities in dangerous work environments? People feel threatened by the fact that they will be fired or given time off without pay if they have a safety incident. Sultana et al. (2019) found behavior, perception, and attitude cannot be dismissed in regard to safety concerns. Worker's report being yelled at means one will be held accountable for missteps. Getting fired will generate several negative emotions, and no one is happy about

getting fired. However, if the firing was due to negligence, one should professionally

accept the consequences for their actions.

Safety Protocols

Safety protocols mean that rules and regulations need to be easily understood and

that written procedures are available to everyone involved in a project. P1 and P2

mentioned how liability claims are reduced by protocols and procedures. The term also

includes easy-to-access information and reporting metrics so workers can educate

themselves. Attention to detail is important for employees to be more alert to their

surroundings and potential dangers, limiting safety incidents (Newaz et al., 2019). For

example, workers note that management posts signs in visible areas demonstrating their

concern for the worker's wellbeing. The signs should be large enough to be clearly visible

and readable from a reasonable distant. Also, the signs provide a basis for procedural

knowledge that is overlooked because of common appearance meaning that safety signs

should be in both English and Spanish.

Safety Significance

Safety significance is not simply a matter of a difference in opinion. P3 described a

situation in which the team, when in the military, went through a whole 6-month

deployment without having a misfire on a gun that is prone for misfires. The Sailor was

told to go home 1 week early, and the commanding officer did not want to grant

permission. The captain said, "We have one more gun fire before we get home to see our

families. The chief convinced the captain to let him go home stating, he was not

essential." P3 said the junior, whom P3 had trained, could handle it. The captain had

created a system in which they would check, then double check each other before f,iring. The chief told the junior to not perform the check double check method; it was unnecessary. By not performing the double check, the gun misfired costing thousands of dollars and many hours of repair time, luckily no one was hurt. The method only took an extra minute. The chief's method was not perfect because someone thought attention to detail and safety was insignificant. Attention to detail plays a large role in a person's self-efficacy, which refers to a person's particular set of beliefs that determine how well one can execute a plan of action in a prospective situation. The amount of detail a person puts forth to accomplish a task is predicated on beliefs and training. If one trains a person on a given situation their beliefs seem to escalate to perform the task safely. Then, the person has the ability to look out for himself as well as others producing less injuries and fatalities.

Safety Standards

Standards that must be met should not only be seen as a manager or quality assurance problem; it should be noted at all levels of the workforce structure. Safety protocols should be used to report incidents (see the OSHA Recordkeeping Regulation 29 CFR 1904). Covered employers are required to prepare and maintain records of serious occupational injuries and illnesses, using the OSHA 300 Log. Protocols provide assurance and proof that the safety data is correctly promulgated with sufficient redundancy. Worker quality assurance will not realize its full potential unless intrinsic safety behaviors become a part of everyone's job, every day, in all parts of the safety program. Improvement in safety involves a substantial shift in ~~our~~ ideas of work in a shipyard, a challenging task

that can benefit most workers in a shipyard is the use of a wide variety of these listed strategies.

Findings Related to the Conceptual Framework

The findings from the interviews align with monitoring, protocols, and mishaps in the conceptual framework. Organizational leaders demonstrate how important safety is to the shipyard environment so workers can improve employee retention by offering opportunities for rewards, and displaying fairness among employees (Susomrith & Amankwaa, 2019). For instance, monitoring of the jobsite and following protocols for slips, trips, and falls ensure personnel are safe. The mindset that the employer cares about the worker play a huge role in uplifting morale. Frontline workers who can effectively engage their work environment and inspire safety participation can provide a greater sense of safety awareness, which can ultimately reduce employee turnover.

Findings Related to the Literature Review

When organizational managers fail to protect their employees, transparency can help address behavior concerns whether positive or negative (Lee & Queenie Li, 2020). P3 mentioned when leaders hold employees accountable, they show them that they care about their wellbeing, and they are not just providing lip service. Leaders will hold them accountable and if necessary, give them days off without pay or let them resign. This can be a consequence for safety negligence. Managers find it more challenging to effectively exchange ideas and information, which can negatively influence the safety performance of the shipyard team (Eisenberg et al., 2019). The findings from the interviews align with safety climate section found in my review of the professional and academic literature.

Frontline workers who participate and engage in their organization can influence safety

outcomes by having input in organizational processes (Zhou et al., 2019). Therefore,

frontline workers who proactively engage in their company safety program can positively

influence job satisfaction and thus reduce employee safety incidents and accidents.

Workplace safety starts from day one, which means hiring qualified people who

pay attention to detail. A safe workplace starts with employees who follow safety

requirements and perform their jobs per the established procedures (Susomrith &

Amankwaa, 2019). Having regular meetings to review safety rules and discuss prevention

keeps workplace safety a top priority so that when something does happen everyone

knows what to do. Labels and signs are a cheap and effective way to quickly communicate

important information. They are usually simple and rely on pictures to detail hazards and

proper procedures. These tools are good reminders and warnings for even the most

experienced worker. Having safeguards, written operating procedures, and comprehensive

training in place can help keep your employees safe and protected.

Applications to Professional Practice

The application for professional practice justification is centered on safety

management programs. The study design is necessary to limit injuries, fatalities, and

liability claims in dangerous work environments. The need for monitoring safety in

shipyards is vital for worker and management survival (Susomrith & Amankwaa, 2019).

A balanced approach to risk management can deliver safe working environments to

workplace personnel (Victer, 2020). Friendly standards such as PPE, signs, and proper

supervision go a long way towards delivering a safe shipyard community (Im & Park,

2020). The need for an independent safety structure that allow managers and workers to assess risk at any stage of a workplace process can only deliver suitable conditions for this dangerous work environment. Transferring power to both workers and management build on the community safety sustainability. When personnel are hurt on the job, the company may incur litigation costs, cleanup costs, administration costs, and funeral costs. To prevent liability costs, the company must have a viable safety/production policy to reduce costs. I have identified effective strategies that have been used to help eliminate the costs and promote professional awareness. The recommendations from this study are the following eleven-step strategies to address issues related to safety and production in a shipyard environment.

Strategies for Applications to Professional Practice

1. Communicate, communicate, and communicate: Employees should be fully informed of the inherent dangerous locations in a shipyard. The crane, the dry dock, elevators shafts, and electrical power are just a few potential hazards (Zhou et al., 2019).

2. Conduct training: Indoctrinate and orient employees and managers on OSHA requirements (Damanhuri, 2020).

3. Conduct monitoring: Daily walk-throughs to survey working conditions and check for proper personnel protective equipment (Susomrith & Amankwaa, 2019).

4. Develop a working safety policy: If a policy is zero tolerance, emulate those characteristics as leaders by showing positive characteristics and behaviors (Im & Park, 2020).

5. Develop safety protocols: Know your standards, codes, regulations, and laws (Susomrith & Amankwaa, 2019).

6. Use affirmation techniques: Use a checklist for operations that have not happened in some time (Sultana et al., 2019).

7. Pay attention to detail: Be thorough in your assessments of the workplace (Newaz et al., 2019).

8. Emulate both positive and negative feedback with your employees This balanced approach will instill confidence in employees to motivate them to want to do the right thing even when no one is looking (Victer, 2020).

9. Develop process control procedures: These should be used when an operation is dangerous, such as closing tanks, operating cranes, dry-docking ships, emptying and filling domes, and sandblasting. All are potential hazards (Poels et al., 2020).

10. Conduct practices: Drills have a way of familiarizing employees of surrounding that regular in classroom training does not provide (Shaw, 2019).

11. Modernize training by using computer aided simulations: This action serves to make employees aware of dangers before putting them in actual situations (Koo et al., 2020).

An 11-step process can be applied universally across all safety disciplines. Litigation could be counteracted by showing juries that all steps were taken to lower risk. Monitoring the environment with daily briefs and process control procedures, walk-throughs, or drills can help eliminate issues of safety. Checklists can be applied to reduce risk associated with inherently dangerous processes. Training to familiarize employees and managers should take place. Basically, one of these strategies is not enough to lower risk; but, applying them as a whole can reduce safety incidents.

Implications for Social Change

The community as a whole may be served by the research findings because there are so many industry workers in a variety of dangerous work environments similar to those of the shipyards. The study findings may help to save lives. Over 5,000 deaths per year take place at work according to OSHA, with 21% being from construction (USBLS, 2021). The loss of life and litigation costs are significant enough to warrant a thorough review of dangerous work environments. I provided several strategies to employ to the shipyard environment, which may be applicable to additional industries.

The applicableness of social change to safety and production may affect inherent dangers of the work environment in a manner that may reduce mishaps. The police, fire fighters, seafarers, and the military are all inherently dangerous professions. This fact opens up the need to have an alternative of social order to lead these institutions, behaviors, and relations in regard to safety. Social behavior can affect sound institutions like the construction and shipyard industry. A good monitoring program can influence behavior and relations for the betterment of all communities (Newaz et al. 2019). Safety

affirmation can help deliver fewer mishaps due to needed changes being made in the safety and production environment (Sultana et al., 2019). Understanding the significance of safety is paramount to wanting to be the agent of change that is required to be a safety professional. Congruence and compliance with of all the recommendations listed in this study would serve only to save lives and reduce safety mishaps.

Recommendations for Action

From my review of safety policy and risks assessment documentation including inspection data, I found that the following are types of workplace hazards that may be found in a shipyard environment or shop.

Confined Space Oxygen deficiency

Cuts and abrasions Using machinery

Electrical hazards Working on electrical boxes

Explosions Brazing material

Extreme temperatures Steam plant lighting off

Fires Oily material ignited while welding

Physical Hazards

Pinch hazard Equipment gears rotating

Radiation exposure Radiation leak on nuclear vessel

Trips and falls Lines crossing/walk-ways

Vibration and noise Turbines rotating

A recommendation for action is that the effectiveness of the safety process needs to be continually monitored through the analysis of statistics against company established

goals and industry-wide data for the hazards that have been identified in a safety manager's program. This is not "rocket science" but it does require a carefully designed plan, leadership support, team effort, addressing all OSHA requirements, and continuously making improvements in the program (Damanhuri, 2020)

I intend to publish this research study in ProQuest and in a professional journal. I shared the findings of this study with all the participants and with peers and executive management of my organization. Furthermore, I intend to attend an international conference to deliver communications on successful strategies for safety manager implementation and lead discussions and training on the study topic.

Recommendations for Further Research

The concept of attention to detail—a military protocol—could further the knowledge on safety and production. The U.S. military is a vital part of the shipyard community, and the military has a huge safety experience database that could be explored to find more knowledge on production safety issues. Further research could be obtained by food safety and healthcare safety studies. Food and health safety play a huge role in the disposition of workers. When malnutrition is prevalent in workers, they may be prone to more errors on the job. The same can be said about health safety, it may be a reason for having more or less safety incidents. Both play vital roles on safety and production. Food safety and healthcare safety researchers have noted that adequate nutrition can serve only to lower risks associated with litigation, injuries, and fatalities (Damanhuri, 2020). More quantitative or mixed method studies should be conducted. The results of research in this area will dictate exactly what direction further research should take.

The realization of this study has brought to mind several suggestions for modifying the study method and design. The first suggestion would be to note the number of qualitative studies to identify strategies to reduce shipyard liability claims need to be further expanded upon by other researchers. The dangerous work environments around the globe could benefit from participants such as a larger number of safety managers who have also developed successful strategies to mitigate against liability claims and unnecessary mishaps and accidents in shipyard settings. Many government websites have a plethora of data resources and information to address these concerns. In the future, it is my wish that other DBA students take on this vital analysis to identify strategies that not only work in their locations but are also needed to improve the safety of shipyard environments. By taking on the hard topics related to serious injuries and deaths, these safety procedures and strategies could be learned via computer training and increase the number of persons training to reduce accidents on a global level.

Reflections

This process and activities of this doctoral study were rigorous; it impacted my life in a huge way. Time away from family was well served in that the study findings provided a plethora of strategies to address the research question. The literature review was extensive. The literature review took up the most time. Conducting interviews was priceless. Body language told the story on many questions. The government documents and company documents provided a true range of data for the study. Participants supplied viable and efficient information that could not only go on to serve those in the shipyard environment, but also those in the construction and mining communities. Transparency

among managers and employees could be utilized to lower litigation. When management openly use the recommendations in this study, they could provide a shield against unwarranted litigation. My previous thinking was that safety only hindered production. After conducting the research, my views have changed. Production is well served by safety, especially if these strategies listed in the findings are properly applied.

Conclusion

Based on the findings and recommendations from this study, several safety categories emerged from the data collection effort to support the importance of this study: Safety monitoring, safety assessments, safety standards, safety procedures, safety actions, safety significance, safety mishaps, safety training, safety policy, safety incentives, safety production, and safety protocols (Damanhuri, 2020). All of the categories to a degree defined the strategies in answering and addressing the research question and limiting litigation. Unequivocally in the implementation of these safety categories helps to solve the question of what strategies do some managers need to use to lower injuries and fatalities in dangerous work environments. The strategies identified in the findings support this research conclusion. The research question is addressed in the study and is codified in the following statement: When safety and production are mutually exclusive, if an organization has one without the other, the organization can create more employee turnover and the bottom line is negatively impacted. There will be increases in lawsuits, higher fatalities, injury rates, and negative image. When safety and production are mutually inclusive, if one includes both safety and production, one has less injuries, reduce litigation, less turnover, greater employee awareness, trained workforce, compliant

QA workforce, more production, safer working dynamics, and better bottom-line financial results. The research question: What strategies protect some shipyard managers from liability claims associated with the high number of injuries and fatalities in dangerous work environments? was answered: strategies of job loss from management, which negatively impact personnel psyche, causing them to lose concentration on their environment. Job turnover causes negative reactions to safety and production. A well thought out plan for use of these strategies could serve to reduce litigation, administration costs, funeral costs, injuries, and most importantly, fatalities.

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Appendix A: Interview Protocol

Interview introduction:

1. Introduce the topic and objectives.

2. Explain the purpose and scope of the study.

3. Assure participants that their name and organization information will be kept confidential.

4. Ask to record the interview and let the participant know that the materials will be stored for a maximum of 5 years.

5. Let participants know they can stop if they do not wish to proceed.

6. Research Question. What strategies do some mangers use to protect shipyard employers from liability claims in workplaces?

Interview Questions

1. How did you construct your policy to manage production and safety strategies?

2. What factors impact training with respect to safety and production strategies?

3. How do your employees react to the need for production and safety strategies?

4. What safety procedures are in place with respect to production and safety strategies?

5. What characteristics are conducive to safety and production strategies?

6. How does monitoring impact production and safety strategies?

7. What if anything else you can tell me about protecting your company from liability

claims?

Wrap up interview Thank the participant for their time and information. Schedule a follow-up interview for member checking if necessary.

Procedure for follow-up member checking interview

Reminders to do during the interview: Introduction: 1. Reiterate and refresh the topic and objectives. 2. Introduction for follow-up. 3. Assure participants that their name and organization information will be kept confidential.

Watch for nonverbal cues. Paraphrase as needed. Ask follow-up probing questions to get more in-depth, rich data. 4. Ask to record the follow-up interview. 5. Let participants know they can stop if they do not wish to proceed. Follow-up Interview: 1. Share a copy of the interpretation and synthesis of answers for each question. 2. Walk through each question including the interpretation of answers to ensure information was not missed and include any additional information. 3. Ask any additional questions related to the initial interview to add clarity to the research topic. 4. Wrap up follow-up interview by thanking the participant.