EVALUATING THE FACTORS AFFECTING HEALTH AND SAFETY PRACTICES IN CONSTRUCTION AND OIL AND GAS INDUSTRIES IN NIGERIA

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Abstract: Construction and oil and gas industries are two of the riskiest industries in Nigeria based on the number of accidents recorded in these industries, the majority of which are linked to poor health and safety practices. Therefore, this study is set to evaluate the factors affecting health and safety practices in both industries in order to improve health and safety practices. To achieve this, a closed-ended survey questionnaire was designed and administered to professionals working in both industries, and the completed questionnaire was analysed using descriptive statistics. The study revealed that several factors affect health and safety practices in both industries, and at the top of this list are poor management commitment, high work pressure when deadlines are approaching, insufficient financial allocation for safety management, a lack of safety awareness among workers, a lack of attention from the government, and a lack of enforcement of safety rules and regulations. The study also revealed that there was no significant difference in the factors affecting health and safety rules and regulations, and not giving adequate safety orientation to new workers. The study concludes that in order to improve health and safety practices in both industries, save for management's focus on profitability over safety, a lack of enforcement of safety rules and regulations to new workers. The study concludes that in order to improve health and safety practices in both industries, save for management's focus on profitability over safety, a lack of enforcement of safety rules and regulation to all these challenges.

Keywords: accident, injury, health, safety

1. INTRODUCTION

Both the construction and oil and gas industries play a major role in the economic development of many countries, and their importance cannot be overemphasised, as they both contribute greatly to the gross domestic product (GDP) and employ a greater percentage of the workforce. Despite their economic importance, these industries are still marred by various degrees of accident, making them one of the riskiest industries. The construction industry is known to be a high-risk work environment. The industry is characterised by various hazards, ranging from falls from heights, electrocution, and fire to exposure to dangerous chemicals, among others. According to the International Labour Organisation (ILO, 2019), the construction industry has a higher fatality rate than any other economic sector, accounting for about 30% of all work-related deaths worldwide. Similarly, the oil and gas industry is known to be a hazardous work environment with numerous risks associated with its operations. The industry is characterised by highpressure equipment, dangerous chemicals, and explosive materials, among others. The oil and gas industry is a major employer and has grown significantly over recent years, highlighting the need to implement meaningful changes to maintain workers' safety (Lui et al., 2020). Hazards arising from petroleum products are inherently dangerous and can be categorised as physical, mechanical, biological, chemical, and psychosocial (Agata and Rafa, 2015). Among other risks, workers are exposed to high levels of work-related accidents and injuries due to the inflammable nature of petroleum products, reliance on highly sophisticated machinery and equipment (Edwards and Love, 2016), heavy metal toxicity, and environmental health hazards (Esswein et al., 2016). Undoubtedly, the oil and gas industry is characterised by hazards and accidents that result in significant damage to human life and property, as well as loss of productivity and financial penalties that may arise.

Research has shown that the majority of the accidents in these industries are due to poor health and safety practises. Health and safety are integral components of workplace culture and practises, as employers, labour unions, and others engage in policy implementation and training to ensure compliance with safety standards and outcomes (Edwards et al., 2020). Industries should internalise and design appropriate safety measures to minimise adverse health consequences for the workforce (Ahmed and Newson-Smith, 2010). The health and safety practises in the construction and oil and gas industries are varied, and they include policies and procedures that are designed to protect workers from harm. Some of the common health and safety practises in the construction and oil and gas industries include the provision of personal protective equipment (PPE), the use of safety signs and labels, proper training, and the supervision of workers, among others. Studies have shown that the implementation of health and safety practises in both industries has numerous benefits, including reduced injuries, fatalities, and illnesses. According to Hallowell et al. (2018),

implementing safety measures can reduce the number of injuries by up to 80%. Furthermore, effective health and safety practises can improve productivity, reduce absenteeism, and improve the overall well-being of workers.

Despite the benefits of implementing health and safety practises in these industries, there are various challenges that hinder their effective implementation. One of the challenges is the lack of awareness and knowledge among workers and employers. Some workers may not be aware of the dangers they are exposed to, and employers may not be familiar with the best practises for managing safety in the workplace. Another challenge is the lack of adequate funding for safety programmes. Implementing safety programmes in the construction industry can be costly, and some employers may not be willing to invest in such programmes. In addition, some workers may not comply with safety regulations due to factors such as cultural beliefs or a lack of motivation. The complexity of these industries operations also poses a major challenge. The industry involves multiple stakeholders, including contractors, suppliers, and regulators, which can make it challenging to implement safety practises consistently across the industry. Another challenge is the lack of a safety culture within the industry. Some companies may prioritise profits over safety, leading to a disregard for safety regulations and standards. In addition, the high turnover rate in the industry can make it difficult to implement safety practises consistently. Therefore, there is a need to understand all these challenges in order to improve health and safety in these industries, hence the need to carry out this research. With regards to the vulnerability of workers to hazards, the situation in developing countries like Nigeria is described as being worse than what prevails in developed countries (Idoro, 2008). The reasons adduced for it are given as lack of concern, non-availability of accurate records, and lack of statutory regulations on H&S. Moreover, Okoye & Okolie (2014), who corroborate Idoro (2008), express that unsafe conditions exist on many sites (both large and small) and that labourers are subjected to numerous hazards for reasons that include lack of training programmes for the staff and workers, lack of medical facilities, lack of orientation for new staff and workers, inability to point out hazards, and failure to hold safety meetings.

2. METHODOLOGY

The primary aim of this study is to evaluate the factors affecting health and safety practices in construction and oil & gas industries. To achieve the study aim, a cross-sectional survey research design was adopted in solving the research problem. This according to Bryman (2016) is a technique in quantifiable research where researcher distribute a survey to a representative sample or the whole population of people in order to define the attitudes, thoughts, behaviours, or features of the population.

The primary data were based on convenience sampling. The method is appropriate where sufficient information on population size and sample frame is not available. While the findings may not be generalizable, the conclusion can be representative of the population with many respondents. This is consistent with the central limit theorem (CLT).

Based on the CLT principle, the distribution of sample means approximates a normal distribution as the sample size increases (Olanrewaju and Idrus, 2020). For the CLT principle to be valid, a sample size of 30 or more is statistically required.

In order to collect data questionnaire was designed and administered to professionals working in both construction and oil & gas industries with focus limited to Lagos, Abuja and Port Harcourt this is because this cities has the highest number of construction and oil & gas activities, the questionnaire was divided into 2 parts. Section A relates to the background of respondents while Section B contains the identified factors affecting health and safety practices. Respondents were asked to rate based on the experience their level of agreement on the identified factors affecting health and safety practices affecting health and safety practices on a five likert scale where 5 represents strongly agree", 4 agree", 3 represents partially agree", 2 represents disagree" and 1 represents strongly disagree".

Descriptive statistical tools such as means and standard deviation and Mann-Whitney U Test was used to analyze the collected data. For interpretation purposes the category of Likert Scale is divided into five specific weightages as indicated in Table 1.

3. MANN-WHITNEY U TEST

The Mann-Whitney U Test was used to examine differences on

Table 1: Likert scale and their average index

Likert Scale	Average Index	Weightage
Strongly disagree	1.0≤Mean<1.5	1
Disagree	1.5≤Mean<2.5	2
Partially agree	2.5≤Mean<3.5	3
Agree	3.5≤Mean<4.5	4
Strongly agree	4.5≤Mean≤5.0	5

the nonstop measure between two independent groups. As an alternative to the t-test for independent

variables, there is the f non-parametric test. In the T-test, the Mann-Whitney U Test compared the means and medians of the two groups (Pallant, 2013). It modified the locations of the two groups' scores on the continuous variable. At that moment, it determines whether there is a noticeable contrast between the two groups' positions. If the Figure 1 (2-tailed) segment on the dependent variable for each of the two groups is equal to or less than 0.05, there is a notable difference (e.g. .03, .01, .001). Even though there isn't much of a difference between the two groups if the value is greater than 0.05 (e.g.06,.10) (Pallant 2013).

An effect size can be calculated by dividing the absolute (positive) standardised test statistic z by the square root of the number of pairs. ${f Z}$

 \sqrt{N}

where N = Total number of respondents in each group

Z = value of z generated in the output box

The outcome is deciphered as follow: 0.1= small effect, 0.3 = moderate effect, 0.5 = large effect (Cohen, 1988; Pallant 2013).

4. ANALYSIS AND DISCUSSION

As shown in Figure 1, only 22% of the respondents had worked between 1–5 years, while the remaining 78% had worked for over 5 years in the construction industry. Equally, in the oil and gas industry, only 20.8% of the respondents had 5 years' experience or less, while the remaining 79.2% had over 5 years of work experience in the oil and gas industry. This implies that the respondents from both industries had adequate work experience, which placed them in a better position to answer the questions correctly.



Figure 1: Respondents year of experience

The result in Figure 2 also shows that only 31.8% of the respondents in the construction industry had a diploma or less, while the remaining 68.8% had higher qualifications than a diploma. Likewise, only 25% of the respondents in the oil and gas industry had a diploma certificate or less, while the remaining 75% had higher qualifications than a diploma. This is also an indication that the respondents from both industries had adequate knowledge to fill out the questionnaire correctly.



Figure 2: Academic qualification of respondents

Figure 3 shows that the respondents from both industries cut across different designations, especially at the top of the hierarchy. This is an indication that the responses are a clear representation of the whole industry, and this will also help in generalising the result for both industries.



Figure 3: Respondents designation Table 2: Descriptive statistics

Codo	Codo Exctorr		Construction	Oil and	Oil and	Overall	Overall
Coue	Faciois	Mean	Std. D	gas Mean	gas Std. D	mean	std. D
FA1	Poor management commitment	3.74	1.16	3.85	1.08	3.80	1.12
FA9	Work pressure is high when deadlines are approaching	3.72	1.00	3.56	1.04	3.64	1.02
FA4	Insufficient financial allocation for safety management	3.59	1.11	3.66	0.97	3.63	1.04
FA3	Lack of safety awareness among workers	3.62	1.14	3.62	1.11	3.62	1.13
FA22	Lack of attention from Government	3.67	1.09	3.56	1.12	3.62	1.11
FA21	Lack of enforcement of safety rules and regulations	3.81	1.11	3.40	1.32	3.61	1.22
FA2	Lack of motivation on safety matters	3.50	1.12	3.58	1.08	3.54	1.10
FA12	Poor information flow	3.55	1.02	3.52	1.11	3.54	1.06
FA20	Insufficient health and safety rules and regulations	3.50	1.16	3.52	1.19	3.51	1.17
FA17	Management focus on profitability than safety	3.67	1.13	3.32	1.09	3.50	1.11
FA24	Unawareness of workers about their safety rights	3.57	1.10	3.43	1.07	3.50	1.09
FA26	Not giving adequate safety orientation to new workers	3.65	1.17	3.34	1.23	3.50	1.20
FA28	Poor accident record-keeping and reporting	3.55	1.25	3.44	1.20	3.50	1.22
FA27	Not engaging resident safety manager on construction sites	3.54	1.19	3.42	1.10	3.48	1.15
FA16	Extensive subcontracting and outsourcing resulting into poor safety control	3.52	1.07	3.42	1.08	3.47	1.08
FA25	Inadequate and lack of safety meeting	3.56	1.09	3.37	1.16	3.47	1.13
FA7	Non decentralization of safety responsibilities by management	3.51	1.05	3.40	1.08	3.46	1.06
FA11	Inadequate safety equipment at Work	3.50	1.20	3.42	1.16	3.46	1.18
FA14	Feedback loop is not close after accidents	3.55	1.13	3.37	1.08	3.46	1.10
FA19	Low educational level of workers	3.52	1.10	3.35	1.17	3.44	1.13
FA18	Insufficient staff for safety supervision and inspection	3.57	1.05	3.28	1.24	3.43	1.14
FA23	Lack of safety training	3.45	1.14	3.41	1.25	3.43	1.20
FA5	Language barriers between supervisors and workers	3.53	1.09	3.31	1.23	3.42	1.16
FA10	Safety violations were sometimes ignored in order to maintain the project schedule	3.43	1.12	3.34	1.03	3.39	1.08
FA13	Lack of technical guidance	3.44	1.24	3.34	1.17	3.39	1.21
FA15	Exploitation and corruption	3.42	1.18	3.36	1.15	3.39	1.17
FA8	Safety not considered while selecting the subcontractors	3.50	1.11	3.24	1.13	3.37	1.12
FA6	The training for safety officer is costly	3.26	1.09	3.45	1.08	3.36	1.08

The Cronbach's alpha coefficient was higher than the necessary cut off of 0.70 at 0.892 for the construction industry and 0.786 for the oil and gas industry. As a result, it can be said that the data collection tool was quite trustworthy. According to the respondents' experiences, Table 2 shows how much they agree or disagree with the elements that have been identified as influencing safety and health practises in the oil

and gas and construction industries. The table indicates that all the factors in the construction industry are consistent with what was described in the methodology. On the other hand, as described in the methodology, all the factors in the oil and gas industry also fall within this agreement. This suggests that numerous factors in both industries have an impact on health and safety measures. The average value demonstrates that all the variables are consistent. 3.50 was the average overall mean, and 1.13 was the average overall standard deviation. This further proves that every factor has an impact on health and safety procedures. Due to space limitations, only variables with means higher than the study's average overall mean will be explored.

Poor management commitment can have a significant impact on health and safety practices in the workplace (Zaira and Hadikusumo, 2017). For instance, it is the responsibility of management to provide adequate resource towards health and safety. Without sufficient resources, such as funding and staff, it may be difficult for employees to implement health and safety practices effectively. Poor management commitment can lead to inadequate budgets and staffing levels, resulting in a lack of safety equipment, training, and safety procedures. Similarly, poor management commitment can lead to a lack of accountability for safety issues. If management is not actively involved in safety practices, employees may feel less accountable for safety as well. This can lead to a lack of reporting of safety incidents and an overall culture of complacency. Similarly, high work pressure can also have a significant impact on health and safety practices in the workplace (Li et al., 2018). When employees experience high levels of work pressure due to approached dead line it can lead to fatigue, which can increase the likelihood of accidents and injuries. Fatigue can impair judgment, reaction time, and decision-making abilities, making it more difficult for employees to identify and respond to hazards. High work pressure can also lead to reduced attention and focus, which can increase the likelihood of mistakes and errors. Employees may be more likely to overlook hazards and safety procedures when they are under a high level of pressure. When employees are under high work pressure, they may make poor decisions that can lead to accidents and injuries. For example, they may rush to complete tasks without considering safety procedures, or they may take shortcuts that increase the risk of accidents.

Likewise, insufficient financial allocation to safety can have a significant impact on health and safety practices in the workplace (Olanrewaju et al., 2021). For instance, when there is not enough funding allocated for safety, it can lead to lack of safety equipment, such as personal protective equipment (PPE), safety harnesses, or safety goggles. This can increase the risk of accidents and injuries in the workplace. Equally, without sufficient funding, it may be difficult to provide adequate safety training to employees. This can lead to a lack of knowledge about safety procedures and hazards, making it more difficult for employees to protect themselves. Insufficient financial allocation to safety can also lead to reduced maintenance of safety equipment and facilities. This can increase the likelihood of equipment failure or malfunction, leading to accidents and injuries. Similarly, lack of safety awareness among workers can have a significant impact on health and safety practices in the workplace. For instance, without awareness of safety hazards and procedures, workers may be more likely to engage in unsafe behaviors or fail to take necessary precautions. This can increase the risk of accidents and injuries in the workplace. Equally, when workers are not aware of safety procedures, they may fail to follow them or may not take them seriously. This can lead to a lack of compliance with safety regulations and increase the risk of accidents and injuries. This can also lead to decreased efficiency. Workers may spend more time trying to figure out how to perform tasks safely or may avoid certain tasks altogether, reducing productivity and increasing costs.

Also, the lack of attention from the government can have significant impacts on health and safety practices, in the workplace (Uduakobonge et al., 2016). For instance, in the workplace, government regulations and enforcement play a crucial role in ensuring that employers prioritize the health and safety of their employees. When the government fails to adequately monitor and enforce these regulations, employers may cut corners and prioritize profits over the well-being of their workers. This can lead to unsafe working conditions, an increased risk of accidents and injuries, and long-term health problems for employees. The lack of enforcement of safety rules and regulations can also significantly affect health and safety rules and regulations become merely suggestions and are not taken seriously by employers and employees. This can lead to a culture where safety is not a priority, and workers may engage in risky behavior without fear of consequences. This can result in a higher incidence of accidents, injuries, and illnesses in the workplace. This is because workers hardly adhere to instruction unless they are coarse to do so. Likewise,

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the lack of motivation on safety matters can have significant negative effect on health and safety practices in the workplace. When employees or employers lack motivation to prioritize safety, they may take shortcuts or ignore safety protocols, leading to an increased risk of accidents, injuries, and illnesses. This can also lead to complacency, when workers or employers become complacent about safety, they may not take the necessary precautions to prevent accidents and injuries. They may feel that accidents are unlikely or that they have never experienced an accident, leading to a false sense of security.

Similarly, when information doesn't flow smoothly and effectively, it can hinder the ability to conduct proper risk assessments (Yakubu and Bakri, 2013). This can lead to gaps in knowledge and understanding of potential hazards, resulting in inadequate safety measures being put in place. Poor information flow can also lead to a lack of awareness of safety issues and concerns. This can result in individuals not knowing how to prevent or avoid potential hazards, putting themselves and others at risk. In emergency situations, a delay in information flow can result in a slower response time, which can be critical in saving lives and preventing injuries. Insufficient health and safety rules and regulations can also affect health and safety practice. For instance, the lack of specific and detailed health and safety regulations can increase the risk of accidents, as workers may not have clear guidelines on how to perform their tasks safely. Insufficient health and safety rules and regulations can also create a lack of accountability among employers and employees, as it is not clear who is responsible for ensuring a safe workplace. This can lead to a culture of complacency towards health and safety issues. Also, when management prioritizes profitability over safety, they may cut corners on safety measures, which can lead to an increased risk of accidents and injuries in the workplace. This can put workers in danger and lead to decreased productivity due to lost time and increased absenteeism. Similarly, a focus on profitability can also mean that resources that could be used to ensure a safe workplace, such as safety equipment or training, may be reduced or eliminated. This can lead to a lack of resources for workers to effectively mitigate potential hazards, increasing the risk of accidents.

Likewise, unawareness of workers about their safety rights can also have a significant effect on health and safety practice (Okoye and Okolie, 2014). For instance, workers who are not aware of their safety rights may not know what types of hazards they should be looking out for in the workplace. This can lead to a failure to identify potential safety risks, which can result in accidents or injuries. Equally, workers who are not aware of their safety rights may not receive adequate safety training from their employer. This can result in workers not knowing how to properly use safety equipment or follow safety procedures, increasing the risk of accidents. Similarly, new workers who do not receive proper safety orientation may not have a thorough understanding of the safety policies and procedures of their workplace. This can result in a lack of knowledge about safety hazards and how to mitigate them. New workers who are not properly oriented to the safety procedures and protocols of their workplace may also be more likely to cause accidents or injuries. They may not be familiar with the proper use of safety equipment or how to identify potential safety hazards.

Poor accident record-keeping and reporting can also have a significant effect on health and safety practice (Liu et al., 2020). For instance, if accidents are not properly recorded and reported, it can be difficult for employers to identify trends and patterns in workplace accidents. This can lead to a failure to address underlying safety issues and mitigate potential hazards. Similarly, poor accident record-keeping and reporting can also make it difficult to track progress in improving workplace safety. Without accurate records of accidents and injuries, employers may not be able to assess the effectiveness of safety measures and make necessary adjustments. Overall, it is essential for employers to maintain accurate records of workplace accidents and injuries in order to ensure a safe and healthy workplace. Employers should have a system in place for reporting and recording workplace accidents, and should use this information to identify trends, track progress, hold individuals and departments accountable, and justify the need for additional safety resources.

The Mann-Whitney U-test was used to assess the level of significance between elements influencing health and safety practises in the oil and gas industry and the construction industry, as shown in table 3. According to the methodology, all variables with a level of significance less than 0.05 show a clear difference in workers' perceptions of factors influencing health and safety practises between the oil and gas industry and the construction industry, whereas variables with a level of significance greater than 0.05 show no such difference. According to the table, only 10.71% of the variance is notable, while the rest, 89.29%, have no notable variance. According to the table, the construction industry has quite different views on on

management focus on profitability than safety (Md = 4.0, n =141) from oil and gas industry (Md =3.0, n = 96), U = 5529.0, z = -2.477 p = 0.013, r = 0.2 the magnitude of effect is small. There was also significant difference on lack of enforcement of safety rules and regulations in the opinion of construction industry (Md = 4.0, n = 141) and oil & gas industry (Md =4.0, n = 96), U = 5610.0, z = -2.315 p = 0.021, r = 0.2 the magnitude of effect is small. There was also significant difference on not giving adequate safety orientation to new workers in the opinion of construction industry (Md = 4.0, n = 141) and oil & gas industry (Md =3.0, n = 96), U = 5754.5, z = -2.025 p = 0.043, r = 0.1 the magnitude of effect is small.

Factors	Mann- Whitney U	Wilcoxon W		Asymp. Sig. (2-tailed)	Construction Median	Oil&Gas Median	R	Decision
FA1	6453.0	16464.0	-0.639	0.523	4.00	4.00	0.0	SE
FA2	6534.0	16545.0	-0.473	0.636	4.00	4.00	0.0	SE
FA3	6763.5	11419.5	-0.009	0.993	4.00	4.00	0.0	SE
FA4	6665.0	16535.0	-0.111	0.911	4.00	4.00	0.0	SE
FA5	6070.5	10726.5	-1.397	0.162	4.00	3.00	0.1	SE
FA6	6217.0	16228.0	-1.104	0.270	3.00	3.50	0.1	SE
FA7	6387.5	11043.5	-0.769	0.442	4.00	4.00	0.0	SE
FA8	5926.5	10582.5	-1.679	0.093	4.00	3.00	0.1	SE
FA9	6210.0	10866.0	-1.126	0.260	4.00	4.00	0.1	SE
FA10	6375.0	11031.0	-0.789	0.430	4.00	3.00	0.1	SE
FA11	6435.0	11091.0	-0.665	0.506	4.00	4.00	0.0	SE
FA12	6630.0	11286.0	-0.278	0.781	4.00	4.00	0.0	SE
FA13	6311.5	10967.5	-0.826	0.409	4.00	4.00	0.1	SE
FA14	6096.0	10752.0	-1.340	0.180	4.00	3.00	0.1	SE
FA15	6503.0	11159.0	-0.528	0.598	4.00	3.00	0.0	SE
FA16	6337.0	10993.0	-0.864	0.388	4.00	3.00	0.1	SE
FA17	5529.0	10185.0	-2.477	0.013	4.00	3.00	0.2	SE
FA18	5861.0	10517.0	-1.811	0.070	4.00	3.00	0.1	SE
FA19	6303.0	10959.0	-0.936	0.349	4.00	4.00	0.1	SE
FA20	6694.5	16705.5	-0.148	0.883	4.00	4.00	0.0	SE
FA21	5610.0	10266.0	-2.315	0.021	4.00	4.00	0.2	SE
FA22	6395.0	11051.0	-0.747	0.455	4.00	4.00	0.0	SE
FA23	6662.5	11318.5	-0.210	0.834	4.00	3.00	0.0	SE
FA24	6206.0	10862.0	-1.124	0.261	4.00	3.00	0.1	SE
FA25	6137.0	10793.0	-1.262	0.207	4.00	3.00	0.1	SE
FA26	5754.5	10410.5	-2.025	0.043	4.00	3.00	0.1	SE
FA27	6108.0	10764.0	-1.321	0.187	4.00	3.00	0.1	SE
FA28	6360.5	11016.5	-0.810	0.418	4.00	4.00	0.1	SE

Table 3: Mann-Whitney U-test

5. CONCLUSION

The importance of health and safety cannot be overemphasised in the workplace, especially in the construction and oil and gas industries, where the majority of accidents have been linked to poor health and safety practises. Therefore, in an attempt to improve health and safety practises, this study has successfully evaluated the factors affecting health and safety practises in the construction and oil and gas industries. The study revealed that several factors affect health and safety practises in both industries, and at the top of this list are poor management commitment, high work pressure when deadlines are approaching, insufficient financial allocation for safety management, a lack of safety awareness among workers, a lack of attention from the government, and a lack of enforcement of safety rules and regulations. All these factors make it difficult for health and safety to be effectively practised, thereby bringing about poor health and safety practises, which lead to an increase in the accident rate. The study also revealed that there was no significant difference in the factors affecting health and safety practises in the construction and oil and gas industries, save for management's focus on profitability over safety, a lack of enforcement of safety rules and regulations, and not giving adequate safety orientation to new workers. This is an indication that what affects health and safety practises in the construction industry also affects health and safety practises in the oil and gas industry. Therefore, to improve health and safety practises in both industries, there is a need to address all these challenges. The practical implication of this study is that it will help stakeholder groups in both industries know where to intensify efforts in an attempt to improve health and safety practises so as to reduce the menace of accidents ravaging their industries.

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