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# A Critical Analysis of Compliance and Safety Standards in the Petroleum Plant: Case Study Petroleum Depot

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**Abstract**

Safety is paramount in every organization and company because it ensures that employees are taken care of to minimize accidents. This study aimed at analyzing compliance and safety standards in the petroleum industry, the study targeted Petroleum deport. The study was informed by the following specific objectives: to investigate the common psychosocial risks experienced in a petroleum depot, to determine the level of awareness and compliance to the safety standard, to investigate challenges faced in ensuring safety standards for employees and, to determine factors associated with compliance to safety practices. The study adopted a descriptive case study research design and targeted workers as well as staff from management. The sample size was 50 and data were collected randomly and purposively. The study has revealed a number of psychological risks experienced in working places and among the most common ones are: risks associated with workload, work pace, work schedule, time constraint, job demand, role ambiguity and job insecurity among others. It was also revealed that the compliance level from management was found to be high while from workers it was moderate to high and this proves that the company has placed safety as a priority. Concerning factors influencing compliance to safety measures, a number factors were highlighted and among them are employee's education level, management commitment ensuring safety of workers, nature of the Job influences the compliance level, work experience, employee motivation, availability of safety rules, communication and feedback, safety training and employee involvement in promoting a safe and conducive environment. Finally, it was discovered that the challenges such as balancing employee safety and profitability, ignoring of safety rules by some workers and inadequate training were noticed. Others were insufficient safety supervision as well as unsafe work practices and lack of employee engagement. In line with findings, it was recommended that management must emphasize on providing intensive training to new employees concerning safety and should also monitor the implementation of safety guidelines by every worker as a way of avoiding unnecessary accidents.

**Keywords:** Analyze, Compliance, Safety Standards, Petroleum Depot

## 1. Introduction

### 1.1 Background

The safety of workers stands as an indicator of success in every occupation and can also show the life expectancy of employees. Workers are expected to be in an environment that is free from hazards such as accidents and diseases that may threaten their survival (Neema, 2013) [15]. Nonetheless, accidents and diseases still occur and currently the leading contributor to safety risks workers face in the occupations (Vwila *et al*., 2015). Occupational safety and health (OSH) ensure the promotion and maintenance of social, physical and mental well-being of employees in all workstations (International Labour Organization, 2014). Statistics have shown that globally, over two hundred and seventy million accidents and one hundred and sixty million occupational diseases occur at the workplace annually, with 2.3 million resulting in deaths and over 2.8 trillion dollars' worth of losses incurred (Iraj *et al*., 2016).

The concern for safety and health in industry dates back to the 18th century; the era of 'Industrial Revolution', when machines were invented and manufactured, and were installed in factories. Production of goods shifted from homes and farms to factories. The machines were in their crudest form, with exposed cutting blades, gear wheels, and moving shafts, and conditions in the factories were squalid, with poor lighting and inadequate ventilation. Serious injuries and deaths resulted from the poor environment and health conditions prevailing in the factories (Captain, 2012) [4]. Legislation required an employer to provide a safe and healthful place of employment, and also medical care for employees who were ill as a result of the job they performed. Where death or disability occurred, the employer was under obligation to pay compensation. There was concern for accidents and the need for their prevention. Industries became concerned because of the obligation to comply with legislation, and desire to avoid the cost of medical care and compensation. Besides, accidents at work lower the morale of employees, and this reduces production, whilst having accidents frequently impacts adversely on the reputation of the employer. Both factors have economic consequences.

Crude oil and natural gas will continue to play an important role in the future world energy balance for decades to come. The Nigeria economy is supported by oil which is the major non-renewable energy source (Dike *et al*., 2013) [8]. The importance of oil and gas cannot be overemphasized. However, their recovery, transportation, processing and use, are all fraught with hazards to human health and earth's ecology. Exploration, drilling and production use poisonous chemicals that can pollute the environment and endanger the health of workers. Processing produces products that are not only toxic and noxious (Nkwocha *et al*., 2015) and affect the health of workers, but risk fire, explosion, more pollution and other hazards. Accidents do occur from time to time (Moklatah and Speight. 2018) [9].

Causes and Prevention Research showed that accidents are caused by unsafe acts and unsafe conditions, and could thus be prevented through Engineering, Education, Enforcement and Encouragement (Captain, 2012) [4]. The Oil and Gas industry is a leader in the development and application of advanced technology. Engineering would ensure proper and safe physical structures, equipment, materials, and maintenance. Education would provide training and instruction. Enforcement, through effective supervision, would ensure compliance of employees with set procedures and standards, and Encouragement would boost morale and bring about ready compliance and willingness of employees (Nkwocha *et al*., 2017) [10].

According to Nkwocha *et al*., (2018) [2] there are risks associated with every workplace. Oil and Gas extraction, transportation, processing and handling are associated with hazards which pose threats to the life, health, and wellbeing of workers as well as the public and environment. Hazards can be reduced by the application of improved technology. Industrial accidents create not only personal grief and distress but also huge financial costs and unwelcome negative publicity for the organization and industry concerned. A well-articulated HSE management system can reduce risks, hazards and accidents to the barest minimum in the oil and gas Industry. When assets, employees and work environments are properly secured and operations are not unduly disrupted, then objectives and targets can be achieved.

### 1.2 Problem Statement

According to Nkwocha *et al*., (2018) [2] there are risks associated with every workplace. Oil and Gas extraction, transportation, processing and handling are associated with hazards which pose threats to the life, health, and wellbeing of workers as well as the public and environment. Hazards can be reduced by the application of improved technology. Industrial accidents create not only personal grief and distress but also huge financial costs and unwelcome negative publicity for the organization and industry concerned.

Oil and gas employers claim that they are aware of worker fatigue and protective schemes have been put in place. Most oil and gas companies, however, lack the processes needed to effectively monitor and manage worker fatigue. Organizations that do have internal controls and/or proactive monitoring systems estimate their fatigue-related cost per worker to be lower (ILO, 2016). A recent study reports that shift work is linked to a heightened risk of developing Type 2 diabetes, with the risk seemingly greatest among men and those working rotating shift patterns. This heightened risk rose to 37 per cent for men. In addition, fatigue-related errors made by workers working these kinds of demanding schedules can have serious and adverse repercussions for safety and health. It is therefore against this background that the study is being conducted to critically analyze compliance and safety standards in a petroleum depot.

### 1.3 Specific Objectives

1. To investigate the common psychosocial risks experienced in a Petroleum Depot
2. To determine the level of awareness and compliance to the safety standard
3. To investigate challenges faced in ensuring safety standards for employees
4. To determine factors associated with compliance to safety practices

### 1.4 Research questions

1. What common psychosocial risks are experienced in a Petroleum Depot?
2. What is the level of awareness and compliance to the safety standard?
3. What challenges are faced in ensuring safety standards for employees?
4. What factors are associated with compliance to safety practices?

## 2. Literature review

In the oil and gas industry, psychosocial risks can have a significant impact on the outcomes of health and safety; hence, it is crucial to handle these risks in a similar way as other operational risks (Bergh *et al*., 2018). Psychosocial risk factors were referred to by Dormann *et al*. (2018) as factors that may influence employee's psychological responses to their work and workplace conditions. In recent years, findings from research and studies about occupational accidents show that psychosocial risks do not only affect an individual's health and safety but as well affects the safety culture of the organization (Idris and Dollard, 2011; Tang *et al*., 2018). It was revealed by (Huang *et al*., 2010; Nielsen *et*

*al*., 2013) that a safety culture /climate survey is not complete without the measurement of these factors.

According to Walters *et al*. (2021) the OSH regulatory standards in Europe apply to all sectors of work activity (public and private) and to all risks arising from ergonomic, psychosocial, chemical, physical and biological hazards at work. They cover risks relating to repetitive work, manual handling of loads, awkward or prolonged positions and movements, excessive workloads, conflicting demands, a lack of role clarity, harassment, violence, harmful and dangerous chemicals and substances, noise and vibration, ionising and non-ionising radiation, microorganisms that cause infection, allergy and toxicity, among many others. These potential causes of work-related injury, disease and death are regulated through standards that are, for the most part, constitutive (Levi-Faur, 2017) in character, as they aim to create the architecture for managing OSH and preventing or minimizing OSH risks, while also providing opportunities to pursue best practice (for more information on recent directions in OSH regulatory standards. These standards seek to establish systems, routines and practices to sustain compliance as part of everyday activities (Hutter 2001).

The study by ILO (2014) in Nepal revealed that the regulatory compliance cost in Nepal is reported to be very high and has deeply affected cash flow of MSEs. The World Bank (2006) also estimates a very high compliance cost of these provisions. The LPA obligations have mostly affected budgeting and production activities of firms. Similarly, some of the obligations like minimum wage, paid time off, social security, workers' compensation, protection against unjust dismissal, advance notice, leave provision, family leave, and employee consultation have had an adverse effect on the management of human resources, in addition to the effect on budgeting and production.

Li and Van (2022) in their study indicated that studies of regulation and regulatory compliance seek to understand how regulatory laws can best influence organizational conduct to help reduce risk. A key focus in such studies is that legal rules somehow are transmitted into and received within the regulated organization. This can be seen clearly in traditional approaches that focus on command and control and deterrence, where it is assumed that once organizational managers and employees come to learn what the rules are and what the consequences are of violating them, they will come to comply (Parker and Nielsen 2009b; Schell-Busey *et al*. 2016). This can also be seen in the study of responsive regulation, where regulators are supposed to escalate which legal instrument they use to ensure compliance based on the extent to which they can trust the regulated actor.

Nwiyii and Amanawa (2023) [13] carried out a study on compliance to labor laws and employee resignation. Based on the study's findings, it was concluded that labor laws compliance among companies has not been high but low, they further revealed that labor laws are tools organizations can utilize to reduce employee resignation, especially in terms of forced resignation, inclusive resignation, and frustrated resignation. Additionally, it was found that in Rivers State electrical engineering firms, remuneration, health/safety compliance, and maternity compliance significantly reduce employee resignations in terms of frustrated, forced, and inclusive resignation.

## 3. Research methodology

This study employed a descriptive case study, the target population composed of employees in a Petroleum Depot. The study involved collecting data using simple random and purposive sampling techniques. Simple random sampling was used to collect data from other staff while purposive sampling was used to collect data from management. A sample size of 50 respondents were chosen which comprises 45 employees and 5 staff from management. Data were collected from both primary and secondary sources; primary source comprised participants and the instruments used in this study were questionnaires. Collected data were processed using SPSS.

## 4. Results

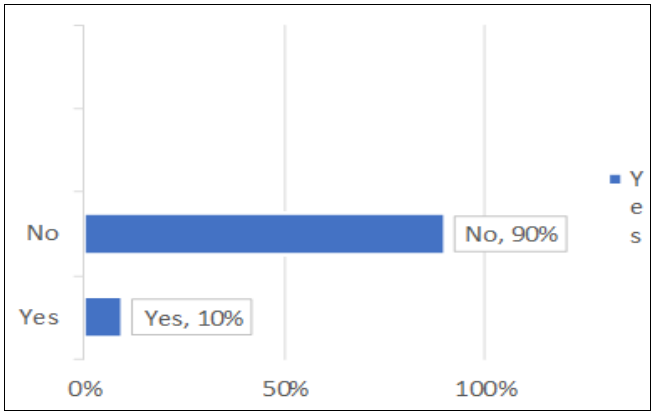


**Fig 1:** Employees having experienced psychological risks at work

The study sought to establish whether employees have ever experienced psychological risks since they stared working. The study showed that 45 which is 90% have experienced it while 5 as 10% said they have not experienced it.

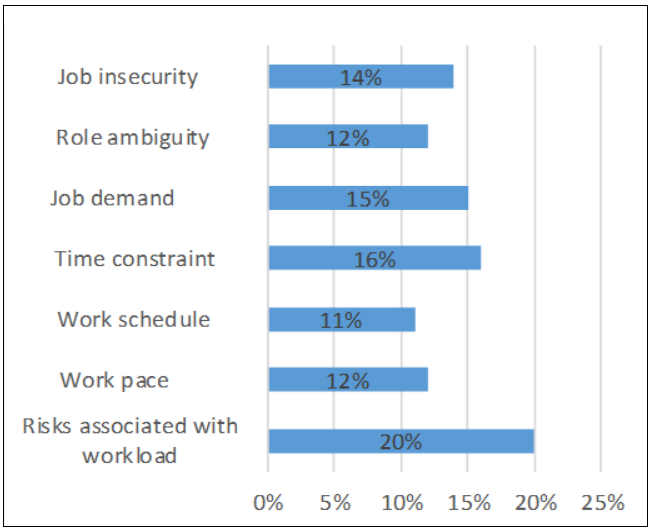


**Fig 2:** Psychological risks experienced by employees

The study has revealed a number of psychological risks experienced in working places and in this study the following are some of the common psychological risks, 20% stated that risks associated with workload are among the psychological risks, 12% mentioned work pace, 11% indicated that work schedule leads to psychological risks, 16% mentioned time constraint, 15% said job demand is likely to cause psychological stress while the other 12% mention role ambiguity and the rest representing 14% job insecurity causes psychological risks.

**Table 1:** Extent to which psychological risks influence compliance to safety measures

| Risks | Very low extent | low extent | High extent | Very high extent |
|---|---|---|---|---|
| Risks associated with workload | | 5% | 80% | 15% |
| Work pace | | 2% | 30% | 68% |
| Work schedule | 4% | 30% | 50% | 16% |
| Time constraint | | 23% | 40% | 37% |
| Job demand | 2% | 5% | 40% | 53% |
| Role ambiguity | | | 75% | 25% |
| Job insecurity | 3% | 8% | 80% | 9% |

Various psychological risks were subjected to rating and they were rated as follows, concerning risks associated with workload, 5% indicated the extent to which such influence psychological risk is low, 80% said the extent is high while 15% said its extent is very high. Concerning work pace, 25 said the extent is low, 30% said it is high while68% indicated that it is very high. As for work schedule, 4% stated that it influences psychological risk to a very low extent, 30% said the extent is low while 50% said extent is high while 16% indicated that its influence is very high. 23% stated that time constraint influences psychological risks to a low extent, 40% said the extent is high and 37% mentioned that it is very high. With regards job insecurity, 3% mentioned that this can lead to psychological risks but to a very low extent, 8% said it can but to a low extent while 80% said its influence is high and the rest representing 9% said the influence is very high.

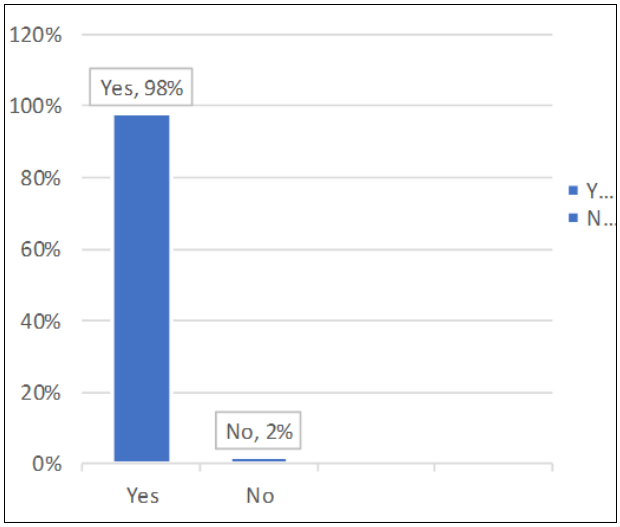


**Fig 3:** Employees understanding all safety measures

Participants were assessed whether they are aware of all safety rules and measures and 98% were found to be acquainted with safety measure and rules while 2% were not fully knowledgeable about safety measures.

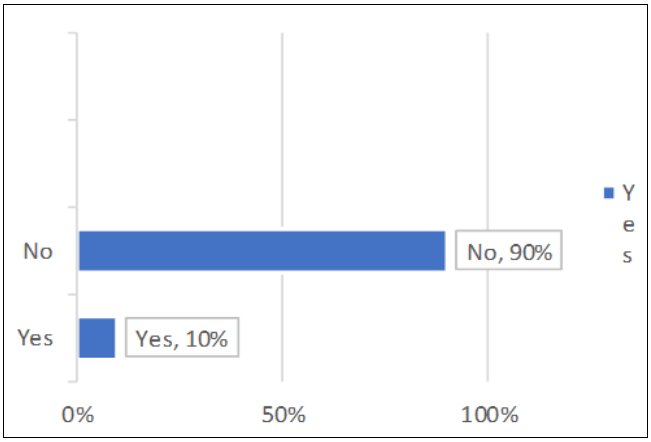


**Fig 4:** Employees experienced any violation on safety rules in your company

Participants were asked to indicate whether they have experienced violation of safety measure and rules by the company or their supervisors, 5 which is 10% confirmed that they have experienced that while 45 which is 90% indicated that no violation of safety measures or rules was experienced.

**Table 3:** Level of agreement to statements regarding management commitment in ensuring safety

| Management Commitment | S. A | A | N | D | S. D |
|---|---|---|---|---|---|
| In my organization safety is as important as quality of the work and getting the work done on time. | 20% | 70% | 5% | 5% | - |
| Workers and management work together to ensure the safest possible conditions | 10% | 60% | - | 20% | 10% |
| No major shortcuts are taken when worker safety is involved. | - | 40% | 10% | 23% | 40% |
| The safety of workers is a high priority for my organization. | 2% | 50% | 10% | 23% | 15% |
| My organization acts quickly when a safety concern or problem is raised. | 30% | 50% | - | 20% | - |
| My organization listens carefully to workers' ideas about improving safety. | 5% | 55% | - | 23% | 17% |

The commitment of management to ensuring safety and compliance is key in any industry, various statements were subjected to test on the level of agreeing or disagreeing and with regards safety being important just as quality of the

work and getting the work done on time, 20% strongly agreed, 70% agreed, 5% were neutral, the other while the 5% disagreed. Workers and management work together to ensure the safest possible conditions, to this statement, 10% agreed strongly, 60% agreed, 20% disagreed and the rest 10% strongly disagreed. Concerning the statement that no major shortcuts are taken when worker safety is involved, 40% agreed, 20% took a neutral position, 23% disagreed while 40% strongly disagreed which shows that respondents had different opinions on this statement. To the statement which says: safety of workers is a high priority for my organization, 2% strongly disagreed, 50% disagreed, 20% were neutral while 23% disagreed and the rest representing 15% strongly disagreed and finally on management listening carefully to workers' ideas about improving safety, 5% strongly agreed to this statement, 55% agreed, 23% disagreed and 17% strongly disagreed that the organization carefully listens to workers' idea on improving safety.

**Table 4:** Level of agreement to statements regarding leadership style and safety measure

| Leadership style | S. Agree | Agree | Neutral | Disagree | S. Disagree |
|---|---|---|---|---|---|
| My supervisor talks more about safety than production | 10% | 20% | 5% | 35% | 30% |
| My supervisor accept responsibility for my safety | 10% | 40% | - | 40% | 10% |
| My supervisor encourages safe working by setting good example | 30% | 50% | - | 20% | - |
| My supervisor has difficulty motivating the team to work safely | 10% | 30% | - | 20% | 40% |

Participants were asked to express their statements regarding leadership style and safety measure and to the statement which says my supervisor talks more about safety than production, 10% strongly agreed, 20% agreed while 5% were neutral, 35% disagreed while 30% strongly disagreed. 10% strongly agreed that their supervisor accept responsibility for my safety, 40% agreed while the other 40% disagreed and 30% strongly disagreed. Regarding the statement that their supervisor encourages safe working by setting good example 30% strongly agreed, 50% strongly agreed while 20% disagreed. As for the supervisor putting pressure workers to get the job done on time, 20% strongly agreed, 70% agreed while 5% disagreed and the rest representing 5% strongly disagreed to the statement. Finally concerning the statement which says my supervisor has difficulty motivating the team to work safely to this statement, 10% strongly agreed, 30% agreed while 20% disagreed and the rest representing 40% strongly disagreed to the statement.

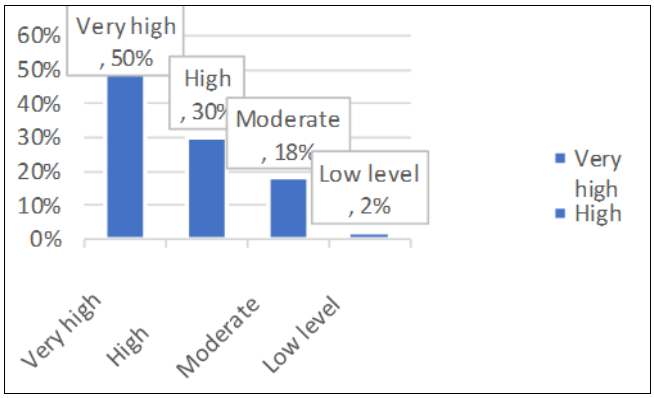


**Fig 5:** Level of compliance to safety measures by the company

Participants were asked to indicate the level of compliance to safety standards and safety measures, 30% of the total respondents indicated that the level is high, 50% said the level is very high while 18% indicated that the level is moderate and the rest 2% said the level of compliance is low.

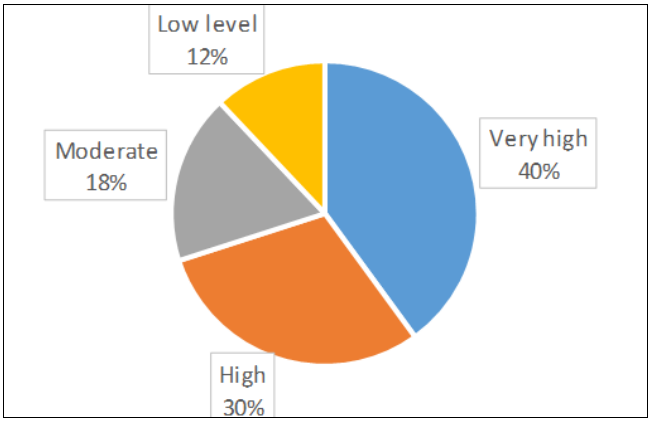


**Fig 6: Level of compliance to safety measures by workers**

With regards the level of compliance to safety measures and standards, 30% of the total respondents indicated that the level is high, 40% said the level is very high while 18% indicated that the level is moderate and the rest 12% said the level of compliance is low.

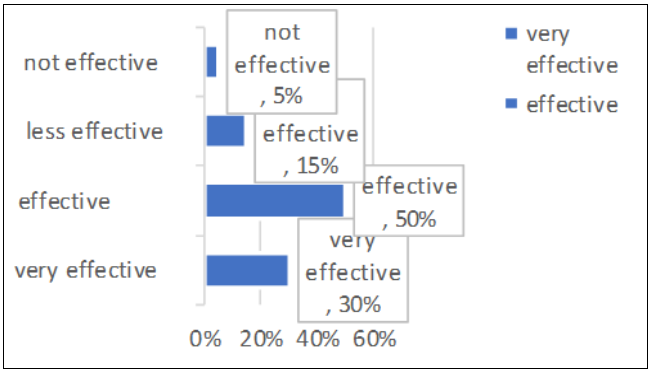


**Fig 7:** Effectiveness of safety measures put in place by the company in ensuring adherence to safety standards

With regards the effectiveness of safety measures put in place by the company in ensuring adherence to safety standards, 30% stated that the measures are very effective, 50% said the measures are effective, 5% said not effective while 15% indicated that the measures are less effective.

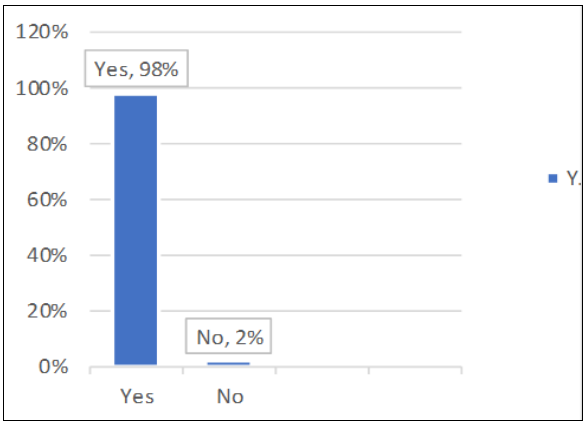


**Fig 8:** Employee awareness on factors that influence compliance to safety practices

Participants were asked to state whether they are aware of factors influencing compliance to safety measure and standards, 92% agreed that they are aware of the factors while 2% said they are not aware of the measures and safety standards put in place.

**Table 5:** Factors that influence compliance to safety at place of work

| | |
|---|---|
| Employee's education level | 20% |
| Management commitment | 15% |
| Nature of the Job | 10% |
| Work experience | 9% |
| Employee motivation | 5% |
| Availability of safety rules | 12% |
| Communication and feedback | 8% |
| Safety training | 15% |
| Employee involvement | 14% |

A number factors that influence compliance to safety at place of work, 20% mentioned employee level of education, 15% indicated that management commitment, 10% indicated that nature of the Job influences the compliance level, 9% mentioned work experience, 5% said employee motivation, 12% said availability of safety rules, 8% indicated that communication and feedback while 15% said safety training and 14% opined that employee involvement is key to compliance level.

**Table 6:** Extent to which factors influence compliance to safety measures

| Factors | Very low extent | low extent | High extent | Very high extent |
|---|---|---|---|---|
| Employee level of education | | 5% | 80% | 15% |
| Management commitment | | 2% | 30% | 68% |
| Nature of the Job | 4% | 30% | 50% | 16% |
| Work experience | | 23% | 40% | 37% |
| Employee motivation | 12% | 5% | 40% | 42% |
| Availability of safety rules | | | 75% | 25% |
| Communication and feedback | 3% | 8% | 80% | 9% |
| Safety training | | 5% | 80% | 15% |
| Employee involvement | | 2% | 30% | 68% |

The factors that are believed to have an influence on compliance to safety standards and safety measure and they were ranked depending on the extent to which they influence compliance and Employee's level of education was ranked as follows; 5% said the extent of its influence is low, 80% said the extent is high and the rest representing 15% indicated that the extent is very high. Concerning the influence that management commitment has on compliance, 2% indicated that the extent is low, 30% said it is high while 68% indicated that the extent is very high. As for the nature of the job, 4% said the extent of its influence is very low, 30% said it is low while 50% stated that the extent is high while16% said the extent is very high. The extent to which work experience influences compliance to safety measures, 235 said the extent is low, 40% indicated that the extent of its influence is high and 37% said its influence is very high. With regards the availability of safety rules as having an influence on compliance level, 75% said its influence is high while 25% indicated that the extent is very high. As for Safety training, 5% said the extent is low while 80% said its influence is high while 15% indicated that the extent is very high. And concerning employee involvement, 2% said the extent is low while 30% said its influence is high while 68% indicated that the extent is very high.

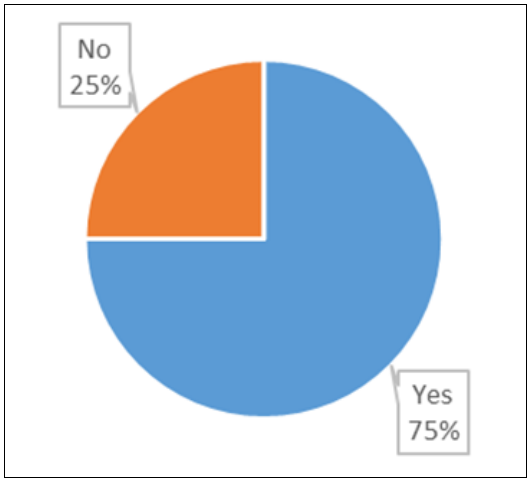


**Fig 9:** Employee facing challenges when implementing safety measures

Participants were asked whether they face challenges when it comes to ensuring compliance to safety measures, 75% confirmed that challenges are faced while 25% said they have not encountered any challenges.

**Table 7:** Challenges faced in promoting safety measures

| | |
|---|---|
| Balancing employee safety and profitability | 20% |
| Some employees ignore safety rules | 15% |
| Inadequate training | 10% |
| Inadequate safety resources | 2% |
| Lack of communication | 5% |
| Resistance to changing safety policies | 19% |
| Insufficient safety supervision | 8% |
| Unsafe work practices | 15% |
| Lack of employee engagement | 14% |

Concerning the challenges that are faced when ensuring compliance to safety measures, 20% indicated that balancing employee safety and profitability is one of the challenges faced by management, 15% mentioned some

employees ignore safety rules, 10% stated that inadequate training while 2% said inadequate safety resources is one of the challenges and 5% mentioned lack of communication, 19% said another challenge is resistance to changing safety policies while 8% mentioned insufficient safety supervision, 15% said unsafe work practices and the rest representing 14% indicated that lack of employee engagement is one of the challenges that affect compliance to safety measures.

**Table 8:** Extent do the following factors influence compliance to safety measures

| Challenges | S. A | A | N | D | S. D |
|---|---|---|---|---|---|
| Members of the management do not attend safety meetings | | 5% | 60% | 15% | 20% |
| I feel that management is willing to compromise on safety for increasing production. | 1% | 2% | 30% | 57% | 10% |
| In my workplace management do not show interest in the safety of workers | 4% | 30% | 50% | 16% | 4% |
| My supervisor puts pressure on me to get the job done on time | 20% | 23% | 40% | 17% | - |
| My supervisor does not involve work group in decision making | 12% | 5% | 40% | 42% | 12% |

Numerous factors are believed to be at the Centre of compliance to safety standards and these factors were subjected to various rating as a way of understanding their influence and with regards members of the management not attending safety meetings, 5% agreed, 60% were neutral, 15% disagreed and 20% strongly disagreed to the assertion. 1% strongly agreed that management is willing to compromise on safety for increasing production, 2% agreed, 30% took a neutral position while 57% disagreed and 10% strongly disagreed. Concerning the statement that in my workplace management do not show interest in the safety of workers 12% strongly, 5% agreed, 40% took a neutral position while 42% disagreed and 12% strongly disagreed. 30% agreed, 50% took a neutral position while 16% disagreed and 4% strongly disagreed that my supervisor does not involve work group in decision making

**Table 9:** Means of enhancing safety at work place

| | |
|---|---|
| Intensified training on safety measures | 15% |
| Close supervision of new employees | 25% |
| Promoting constant and effective communication among employees | 16% |
| Rewarding employees who fully comply with safety measures | 17% |
| Reducing work related stress | 22% |
| Reducing work overload | 15% |

With regards the means of enhancing safety at working places especially in oil industry, 15% indicated that Intensified training on safety measures should be put in place as a way of promoting safety, 25% said close supervision of employees especially new employees can help minimize accidents, 16% said there is need to promote constant and effective communication among employees, 17% mentioned Rewarding employees who fully comply with safety measures while 22% said Reducing work related stress and the rest 15% indicated that Reducing work overload.

## 4.1 Discussion

### *4.1.1 Common psychosocial risks experienced at work place*

The study has revealed a number of psychological risks experienced in working places and in this study the following are some of the common psychological risks that were highlighted: risks associated with workload are among the psychological risks, work pace, work schedule leads to psychological risks, time constraint, job demand is likely to cause psychological stress while others include role ambiguity and job insecurity among others. These psychological risks are believed to be among the factors that may lead to stress and subsequence accidents at places of work especially where injuries are likely to occur.

The findings from other studies have also highlighted a number of issues as having influence on safety situation in working places. Therefore, the findings in this study were supported by different findings conducted in various parts of the country. For instance,

According to Bergh *et al*. (2018) job demands refer to psychological, physical, mental, and including psychological costs, while job resources refer to psychological, physical, social as well as organizational aspects of a job that supports the accomplishment of goals and objectives at work, minimize job demands and help in stimulating the growth and development of employee; Bergh *et al*., 2018). These psychosocial risk factors are all contained in the psychosocial work environment of an organization (Raslear *et al*., 2013). According to Bergh *et al*. (2016), the psychosocial work environment usually has a link with the organization management and design of work as well as its social and organizational context, which can cause physical and psychological harm that affects the performance of the organization. When employees are subjected to psychological stress, their concentration on work reduces and this affect their adhearnce to safety measures.

Psychosocial risk factors have also been found to be a leading cause of work-related stress and fatigue, which in turn result in major physical health problems for employees (Bergh *et al*., 2018).

### *4.1.2 Level of awareness and compliance to the safety standard among employees*

Compliance level varies from company to company as well as from individual to individual and in this study the compliance level by both the company and workers was found to be impressive despite some few lapses here and there emanating mostly from workers. The compliance level from management was found to be high while from workers was found to be moderate to high and this proves that the company has placed safety as a priority.

The study conducted in Nigerai River state by Nwiyii and Amanawa (2023) [13] on compliance to labor laws and employee resignation. Based on the study's findings, it was concluded that labor laws compliance among companies has not been high but low, they further revealed that labor laws are tools organizations can utilize to reduce employee resignation, especially in terms of forced resignation, inclusive resignation, and frustrated resignation. Additionally, it was found that in Rivers State electrical

engineering firms, remuneration, health/safety compliance, and maternity compliance significantly reduce employee resignations in terms of frustrated, forced, and inclusive resignation.

With regard to compliance with safe practices, Kakwi (2020) [7] reported that a large proportion (82.5%) of the respondents had a high level of compliance with the use of portable fire extinguisher in case of fire outbreak at the pump. Also, high proportions (72%) of pump attendants were making use of personal protective equipment such as safety uniforms, although only special uniforms were used for protection. This is quite different from the recent study on gas attendants in Brazil, where

#### *4.1.3 Factors associated with compliance to safety practices*

A number factors that are believed to have an influence on compliance to safety standards work place, among the factors revealed in this study are employee's education level, management commitment ensuring safety of workers, nature of the Job influences the compliance level, work experience, employee motivation, availability of safety rules, communication and feedback, safety training and employee involvement in promoting a safe and conducive environment. Training as well as employee involvement are critical in ensuring that workers are safe and free from unnecessary injuries.

Factors influencing compliance by both employees and employers have been researched on and different findings have been reported. The study by Kakwi (2020) [7] considered the level of education of pump attendants and according to Neema (2013) [15], individual level of education is a crucial element in determining an individual's perception of occupational safety and health. People with high levels of education have a good chance to secure their health and safety at workplaces. This means that higher educational attainment of pump attendants is associated with significant improvement in pump attendant's working conditions including securing his or her personal safety and health at the workplace. Findings from this study show that (63.2%) respondents had completed their education up to secondary school.

Natalia and Ola (2021) [14] suggest that safety management practices encourage workers to be safety conscious and make them comply with safety requirements while doing their job duties because the practices create the right environment for employees to participate in behaviors that contribute to the organization's safety culture. Furthermore, we contend that preventing workplace accidents involves a conscious decision of the employee him/herself. In this context, encouraging co-workers to work safely works as a facilitating mechanism that results in whether they will comply with safety standards and procedures while at work. Voluntarily helping the organization or the co-workers to promote a safe work environment is also known as safety citizenship behavior.

#### *4.1.4 Challenges faced in ensuring safety standards for employees*

Concerning the challenges that are faced when ensuring compliance to safety measures, participants listed a number of challenges which are faced by both management and workers, among the common challenges are balancing employee safety and profitability is one of the challenges faced by management, some employees ignore safety rules, inadequate training, inadequate safety resources, lack of effective communication, resistance to changing safety policies by both employees and the company itself, insufficient safety supervision, unsafe work practices and lack of employee engagement. At times workers feel like it is a sheer waste of time to be following all the safety rules while trying to meet the target given by supervisors as a result most of the tend to ignore the safety measure are focus on the job ahead, in addition to what has been discussed in this study, a number of studies have been conducted on this subject matter their findings are as follows:

Ehiaguina and Moda, (2020) reports that the absence of employee involvement is also another major issue that affects the development and implementation of safety culture in the oil and gas industry. The authors explained one of the main reasons that make workers in the oil and gas industry show less genuine participation and involvement when implementing safety culture is associated with the announcement of incentives which is usually based on the reduced cases of injuries and accidents. Workers get rewarded or receive incentives when fewer cases of injuries are reported, originating the feeling that safety culture assesses their performance in conformity with the number of injuries and accidents (Shirali *et al*., 2016).

### 4.2 Conclusion

The study aimed at analyzing compliance and safety standards in the petroleum industry, the study targeted petroleum depot. The study was narrowed down to psychological risks, factors influencing compliance, level of compliance as well as challenges faced in ensuring compliance to safety measure and standards. The study has revealed a number of psychological risks experienced in working places and among the most common ones are: risks associated with workload, work pace, work schedule, time constraint, job demand, role ambiguity and job insecurity among others. These psychological risks are believed to have the ability to lead to stress and subsequence accidents at places of work especially where injuries are likely to occur. The study also revealed that the compliance level from management was found to be high while from workers was found to be moderate to high and this proves that the company has placed safety as a priority.

With regards factors influencing compliance to safety measures, a number factors were highlighted and among them are employee's education level, management commitment ensuring safety of workers, nature of the Job influences the compliance level, work experience, employee motivation, availability of safety rules, communication and feedback, safety training and employee involvement in promoting a safe and conducive environment. Training as well as employee involvement are critical in ensuring that workers are safe and free from unnecessary injuries. Finally, it was discovered that the challenges such as balancing employee safety and profitability is one of the challenges faced by management. Another challenge is that some employees ignore safety rules and inadequate training especially to new employees has been noted as one of significant challenges that must be taken so serious, lack of effective communication, resistance to changing safety policies by both employees and the company itself, insufficient safety supervision, unsafe work practices and lack of employee engagement. At times workers feel like it is a sheer waste of time to be following all the safety rules while trying to meet the target given by supervisors as a result most of the tend to ignore the safety measure are focus

on the job ahead.

### 4.3 Recommendations

In line with findings, it was recommended that:

- Management must emphasize on providing intensive training to new employees concerning safety and should also monitor closely the implementation of safety guidelines by every worker as a way of avoiding unnecessary accidents.
- The operators of oil terminals have the primary responsibility for ensuring the operational and process safety of oil terminals and the personal health of the operating staff.
- Competent authorities should introduce and enforce adequate measures to ensure that the operators are committed to safety

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## 6. References

1. Mukupo AB. The effects of social cash transfer on the livelihood of people living with disabilities in Lusaka. The International Journal of Multi-Disciplinary Research. 2019; 1. ISSN**:** 3471-7102
2. Nkwocha AC, Ekeke IC, Olele PC. Health, Safety and Environment in Oil and Gas Industry. International Journal of Engineering Applied Sciences and Technology. 2018; 3(7): 51-56. ISSN: 2455-2143
3. Nwachukwu NC. An Analysis of the Level of Awareness and Barriers to Effective Organizational Health and Safety Practices among Nigerian Public and Private Sectors Workers. IIARD International Journal of Economics and Business Management. 2016; 2(5). ISSN: 2489 0065
4. Captain-Briggs GL. Nigerian Institute of Safety Professional (NISP) Examination Preparatory lecture materials, 2012, 2012.
5. Tong R, Yang X, Parker T, Zhang B, Wang Q. Prevention in the Process Industries Exploration of relationships between safety performance and unsafe behavior in the Chinese oil industry. Journal of Loss Prevention in the Process Industries. 2020; 66:104167. https://doi.org/10.1016/j.jlp.2020.104167
6. Liu S, Nkrumah ENK, Akoto LS, Gyabeng E, Nkrumah E. The State of Occupational Health and Safety Management Frameworks (OHSMF) and Occupational Injuries and Accidents in the Ghanaian Oil and Gas Industry: Assessing the Mediating Role of Safety Knowledge. BioMed Research International, 2020.
7. Kakwi DJ. Compliance with occupational safety practice among petrol station pump attendants in Kaduna state, Nigeria. Master thesis, Kenyatta University, 2020.
8. Dike UI, Adoghe A, Ademola A. Impact of ICT in Oil and Gas exploration: A case study, International Journal of Computer and Technology. 2013; 10(7):1830-1835.
9. Moklatah S, Poe WA, Speight JG. Handbook of Natural Gas Transmission and Processing, Gulf Professional Publishing, Oxford, 2018.
10. Nkwocha AC, Ekeke IC, Kamalu CIO, Kamen FL, Oghome PI, Nkuzinna OC. Water quality impact of flow station effluent in a receiving creek, International Journal of Environment Agriculture and Biotechnology. 2017; 2(6):3166-3172.
11. International Labour Organization. Occupational safety and health and skills in the oil and gas industry operating in polar and subarctic climate zones of the northern hemisphere. TSMOGI/2016, 2016.
12. Li L. Social Exchange Theory: What It Is And How It Applies In The Workplace, 2020. [Online] Available at: https://www.tinypulse.com/blog/sk-social-exchange-theory-in-the-workplace [Accessed 21 March 2024].
13. Nwiyii BJ, Amanawa DE. Compliance with Labour Laws and Employee Resignations in Electrical Engineering Enterprises in Rivers State, Nigeria. International Journal of Academic Management Science Research (IJAMSR). 2023; 7(2). ISSN: 2643-900X
14. Natalia V, Ola A. Lifelong Education for Sustainable Environmental Development: Employees' Safety Culture in Oil and Gas Industry. Proceedings of the International Scientific and Practical Conference "Sustainable development of environment after Covid-19" (SDEC 2021). Advances in Social Science, Education and Humanities Research. 2021; 632.
15. Neema M. Assessment of Workers' Health and Safety at Workplaces: A Case of the Wentworth Resources Ltd and Olam InMtwara Municipality. Online student paper, 2013.