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Construction Safety

In the USA nearly 6.5 million people approximately work in 25, 2000 construction sites each day. At construction sites accidents can be life-threatening as they lead to fatal injuries or even death. The rate of fatal injury is high than the national average in this construction category. Thus, construction is a highly hazardous industry and it comprises a variety of activities. Constructors involve themselves in activities that may expose them to dangerous hazards. Recently, there has been increased construction in undeveloped and developed nations over a few years and this has resulted in increased individuals that die while doing construction-related tasks. They are referred to as occupational fatalities. According to research, there are about 6% of the total workers in the USA work in construction sites (Abubakar, 2015). This paper will discuss the construction safety culture, measures and risks and solutions to clearly understand the aspect of construction safety better.

Safety Culture

In 2014, there were 4, 679 workers who got occupational injuries. In the same year, it was recorded that one in five deaths was related to construction. Hence, constructions can present great numbers of possible risks. The most potential hazards that workers are prone to fall from heights especially for those who are not well trained and equipped, falling of trenches, collapsing of scaffold, electrocutions and failure to apply common protective equipment. The Occupational Health and Safety Organization is an agency in United States whose main role is protecting employees against safety and health hazards in their various occupations. It also sets out worker's rights and the duties for all workplace individuals (Abubakar, 2015). Also, OSHA

establishes the procedures on how to handle various workplace hazards and it provides law enforcement where compliance has not been achieved voluntarily.

Safety culture is more than measuring results and having procedures. Safety culture is the beliefs, attitudes and values that are shared by the entire company in correlation to safety. To achieve culture that is safe for every constructor, some elements should be followed. First, for a safety culture to be achieved, it has to begin from the leaders. The managers and supervisors should demonstrate behavior that can be copied by other workers. They should be role models for their fellow workers. Secondly, for this culture of safety to be achieved, there should be also the value of responsibility. Each employer should be ethically and morally responsible for the good of fellow workers. Third, every worker should be accountable starting from the superiors to the inferiors to meet the goal of achieving safety in the workplace (Friend, & Kohn, 2018). Safety culture expectations should be set and communicated to everyone in the workplace. This will help the workers to have a guide on how to do their work bearing in mind that safety is paramount. Fourth, employees should also make ethical decisions that not only satisfy the goal of safety but also moral. Moreover, for safety to be achieved there are safety management systems that also need to be adhered to getting along with four main pillars of the safety management systems.

First, there should be safety policy that contains a statement of accountabilities and defines clearly the roles of each worker's putting in place an emergency response program plan which ensures proper response to an emergency in the workplace. The second pillar is risk management that entails measures to make sure hazards noticed involving every operational activity are analyzed and communicated to other workers (Abubakar, 2015). Thirdly, there is also safety assurance whereby workers should be assured of their safety. This should be achieved

by assessing external and internal new hazards that might affect operational activities. Again, there should be processes in place that can manage responses to regulatory changes and ongoing improvement pertaining processes and procedures for every operational area. Lastly, there should be safety promotion where the workers get training and education on safety measures, safety responsibilities and safety procedures to equip them with skills to complete their work activities safely.

Safety Measures

To achieve construction safety, the construction industry leaders should strive to ensure that their employees are safeguarded. There are various ways construction firms can reduce workplace accidents and promote safety in the construction site. Before any worker steps into the construction site, they must be fully made aware of the potential hazards which are the duty of the construction manager to ensure that every worker knows the dangers correlated to working in a construction place and safeguard them from these perils (Pinto et al., 2011). Ignorance of workers is most dangerous in any firm since their ignorance mistakes can endanger other workmates' wellbeing in the workplace. Therefore, the best way of preventing accidents is by understanding the risk at hand and maintaining a state of alertness. Workers should familiarize themselves with the risks and how to avoid those risks at various construction sites.

The workers should not be allowed in construction sites whatsoever if they do not have any concept of site safety. The workers should also be well trained before accessing the worksites. ³ The Occupational Safety and Health Administration (OSHA) publish some resources that assist firms train their laborers on safety standards and security practices (Friend & Kohn, 2018). Also, there are books, videos and even on-site training opportunities that can help laborers

secure themselves from being involved in accidents while at the construction sites. For that reason, construction industries should be wise enough to equip their workers with accessories that enhance communication among them. Without proper communication in the worksite laborers will not know what to expect and hence communication in the workplace keeps each person informed and makes the project move even faster.

For site construction safety to be enforced there should be proper documentation of what everything that is going to be done on-site. Proper registrations should be earned before work commencing. This prevents firms' site accidents and protects the firm from public scrutiny and legal action. Moreover, construction industries should be well equipped with resources needed by the laborers to attain the project's goals. Without having proper equipment at work, laborers will be subjected to injuries since they will be using the wrong equipment (Friend, & Kohn, 2018). On the other hand, the construction firms should ensure that equipment suits the task at hand perfectly and be well maintained for them to work efficiently. Workers should also have enough and clean water on-site to prevent getting dehydrated and exposure to dehydration-related illnesses.

Every site of construction should have a competent supervisor who is capable and willing to enforce standards of safety without exceptions. The supervisor should correct workers who fail to adhere to proper construction measures. Construction firms should also come up with new practices that will ensure maximum security of workers. Also, transparency should be core in any construction site. Ultimately, everyone understands that accidents occur and as long as all the safety measures are followed, any accident that takes place only contributes to the growing urge of modernized safety techniques (Pinto et al., 2011). Hence, a safer construction firm is characterized by minimized accidents, fewer injuries and fewer occupational fatalities. The

major goal of construction firms is to reduce workplace accidents and if this goal is achieved then the firms will become more popular. However, there are no set ways to reduce accidents to zero but these discussed practices will help find the road to get there.

Risks and Solutions

The Occupational Safety and Health Administration came up with standards that should be attained to avoid unnecessary injuries and deaths at construction sites. The agency identified major hazards and analyzed the possible solutions to curb each. For instance, when scaffold is not used or erected properly falls may occur. Protecting these laborers from falls that are related to scaffolds would prevent many injuries each year. The solutions to scaffold falls include having sound, strong and appropriate scaffold to carry its weight and intended load, be erected on solid footing, be modeled with guardrails, toe boards and mid-rails, be erected under the supervision of a competent supervisor and be often maintained by replacing the weakened parts (Friend, & Kohn, 2018). Also, workers should be protected from falls from other construction-related causes like unstable surfaces of working, neglect to use equipment for protecting oneself and human errors.

Research has shown that ² fall arrest systems and restraint systems, safety nets and guardrails can help avoid deaths together with injuries that are caused by falls. Workers should consider using elevated platforms and also cover holes on the floors. Consequently, they should use safety nets or systems meant for personal fall arrest. Also, ladders combined with stairways are main cause of injuries in construction workers. Surprisingly, OSHA has an estimated number of 24, 882 injuries and 36 fatalities per year (Pinto et al., 2011). Most of these injuries require time off for the employees from the job. Therefore, constructors should use correct ladders to a

given task and ladders should be inspected by a competent supervisor for any defects. Again, ladders should be long enough to cover work area, never be overloaded and not be used near electrical work if metallic or overhead power lines. Stairways should also have treads to avoid sliding off and must be free of dangerous objects. On the other hand, slippery conditions on the stairs should be corrected with immediacy while those that have more than four risers should have handrails.

Consequently, trenches collapsing have also caused dozens of fatalities and hundreds of injuries yearly. Due to these deaths and injuries, it is recommended not to enter unprotected trenches and always use protective gear for deeper trenches. There should be an exit way provided out of the trench, for example, ladders or ramps. Soils should also be kept at least two feet back the edge of trenches. Again, the trenches should be inspected by competent persons before entry. If cranes lack inspection before being used they might cause significant and serious injuries. As a result, many crane fatalities occur when its load line contacts with a power line overhead. This can be solved by checking all crane controls to ensure they operate properly before use. On the other hand, the wire rope, hooks and chains should be inspected for any damage. The cranes should not be overloaded and all rigging should be checked before use at the same time load should not be moved over workers. Again, it is critical to communicate in case of hazard occurrence. This will help to recognize chemicals hazards among others since failure to recognize them can lead to respiratory problems, fires and explosions. It has also been noted that to avoid these perils, Material Safety Data Sheet (MSDS) needs maintenance respectively to every chemical in the site and train workers how to read and use it (Ko & Gray, 2010). Employees should be trained on the risks associated with hazardous chemicals used and also cleaning up the spills hence protecting themselves.

On the other hand, forklifts have caused nearly 100 fatal injuries and almost 95,000 employees get minor injuries yearly. To avoid these risks caused by forklifts, operators should be trained and certified to ensure they operate the forklifts safely. Besides, employees under 18 should not be allowed to operate forklifts at the same time properly maintained and inspection helps (Pinto et al., 2011). For that reason, safety operating measures should be followed and operators should not handle weights exceeding the required capacity. On the other hand, stunt driving and horse playing should be prohibited and the operator should be protectively equipped. Last but not least, workers must protect their heads with hard hats to avoid serious head injuries that can result from head blows, wear safety glasses and face shields and gloves should also be fitted snugly.

Finally, construction safety procedures should be undertaken by every worker at the construction site to ensure safety of each member. If the above procedures will be followed carefully, fatal and associated injuries will be reduced and safety of the laborers will be assured (Ko & Gray, 2010). The safety of the laborers is solely the role of the managers and supervisors who should ensure that safety policies are followed to the letter to avoid risks in the construction sites. Again, responsibility is one of the core values that every laborer in the construction sites should practice to ensure safety in the construction site.

In summation, having discussed the construction safety culture, measures and risks and solutions to clearly understand the aspect of construction safety better, it is evident that most unnecessary risks that are fatal and injurious can be prevented. The government requires maintaining safe and healthy working policies. Apart from the main reason for construction safety that is avoiding pain and suffering, it can also lead to downfall to a business. Thousands of Americans are killed yearly due to job accidents and many others suffer disabilities that are

work-related or occupational illnesses. On the other hand, co-workers who are mostly friends get affected by witnessing accidents that involve their co-workers and this can be so disturbing leading to poor productivity. Hence, it is true that the Occupational Safety Health and Safety Act has played a major role in reducing deaths and injuries associated with constructions by setting fines and other consequences that will be faced if one is found to have violated the applicable safety rules.

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