

GOOD HEALTH & SEFETY (OHS) BARRIES SET TO THE GOOD OCCUPATIONAL HEALTH & SAFETY FIRMS

Nandini Sharma¹, Pushendra Kumar²

¹PG Student, School of Planning and Architecture, Vijayawada

²Asst. Professor, School of Planning and Architecture, Vijayawada

Abstract - The construction industry is notorious for having a high number of accidents and fatalities. Previous research on injuries, manhours, payroll, and firm size was reviewed by various authors. The statistical data clearly showed that fatality rates vary by firm size, with large firms having a lower number of injury rates. The purpose of this research paper is to identify the various factors that influence the performance of occupational health and safety in small and medium-sized businesses (SMFs). Smaller firms typically have 6-10 employees, while larger firms have 10-15 employees. The Literature study summarizes all of the potentially hazardous barriers to good OHS practice identified by SMFs and used in the questionnaire survey. The questionnaire survey would aid in determining their importance and measures for overcoming these barriers. Potential measures for removing barriers to good OHS practice in small construction firms are effective and aid in the prevention of accidents in small firms.

Key Words: health & Safety, Construction Industry, Accidents, Barriers, Small firms

1. INTRODUCTION

In India, the construction industry is regarded as the most important, having a significant impact on India's GDP as well as the safety of the workers who contribute to this industry. According to OSHA, there are nearly 7 million workers at 200,000 sites across the country. Data was compared to other industries, and it was discovered that construction sites have more accidents than the average of other industries. In the construction industry, occupational health and safety is regarded as the most important tool for preventing the large number of accidents that occur on the job site. But over the years the construction industry has reported one of the poorest occupational and health data as compared to other industries. Despite these accidents, the construction industry is constantly striving to improve its occupational health and safety records; however, those accidents continue to blame the industry. However, small and medium-sized businesses (SMFs) paid little attention to the health and safety of construction workers on the job site. These SMFs work as subcontractors and are at a high risk of being involved in an accident. OSHA and the CPWD handbook for safety provided some policies to protect against on-site accidents and challenges. Due to a variety of factors, SMFs are unable to execute or manage these policies as effectively as large firms.

As a result, SMFs have a higher risk of accidents than large firms. As a result, it is necessary to identify the factors that influence the performance of OHs in SMFs as opposed to large firms. Existing research is looking into the factors that contribute to poor OHS practices in small businesses. The matter most affecting good OHS practice is price. Purchasing personal protective equipment (PPE) and paying safety staff suffer additional project costs. Due to a lack of monetary resources and a small budget, good OHS practice cannot be adopted in SMFs. Furthermore, tenders and

competitive awards are given to the lowest bidders which lead to the contractors putting the lowest budget for construction which affects the health & Safety of construction. This cost-cutting process is passed down to subcontractors and ultimately results in the quality of work and safety problems. Sometimes, Deadlines of projects becomes a barrier in OHS management. This pressure of time affects safety because of poor planning, design details and errors in delivery time. There is always a lack of OHS drill and awareness regarding safety because of the budget of the project and the tight deadlines of the project. This program helps the subcontractors & workers to create a safe environment on-site and identify various hazardous activities. Lack of awareness regarding safety is also a concern for the poor performance of OHS. SMFs do not include the safety management in their system and feel that it is the responsibility of workers included during construction. Previous researches were mainly based on OHS performance in large firms. There is only a limited number of journals based on OHS practices in small Firms. Most of the studies show that means of implementing these measures and measures in the framework of SMFs remains a real-world problem. The factors that hinder the safety by SMFs are determined to allow the growth of advanced measures for the progress of the current OHS condition

2. LITERATURE REVIEW

One of the research papers identifies a few factors and barriers affecting the protection of workers in SMFs and put some methods to prevent these accidents. Factors like lack of safety commitment by clients and preference of Lowest bid price for the tender process and small organizations tend to avoid the necessary and safety requirement due to Lowest bid for the tender. Small SMEs usually have a personalized (non-formal) management of the proprietor, independence, a limited market proportion, high resource restrictions, extreme financial pressure (with high startup costs and tight profit ranges) and a high risk of failure. [1]

Because of this kind of tight budget, small organization do not prefer the use of PPE abut large Firms can influence stakeholders, government and client as well and fewer accidents happen on-site. Alert injury and death rates in the construction sector are closely related to the risks and hazards faced by building, including high-speed work, mobile and live traffic, and underground and off-the-shore services.[2] Barriers for self-safety during construction in Nigeria were identified by Umeokafor. This research paper did the case study of three sizes of firms i.e., large, medium & small to identify the cost spent by these types of Firms and it was concluded that Large and small-sized spent money on safety during construction but small firms did not provide money on Safety tools and programs. That's why there is always a lack of health & safety awareness and a lack of safety management in small firms. This study shows that medium and small firms are dissimilar for few factors like health & safety is not a burden, Health & Safety is not the accurate thing to do & lack of

involvement of third party. Another barrier for efficient SHO management is tight project deadlines. The industry aims to complete projects on time and disregards security. [2]

There is this study of Safety management in small firms in Brazil in 2018. The main barriers identified were lack of behavior of management towards safety, lack of information, lack of proper communication & lack of prioritization of safety. This research paper suggests to use valuable precautions and focus on government policies towards small organizations.

Based on the literature review, there are some factors which especially affect the safety and there are subcategories under the main categories as follows-

1. Cost barriers
 - nonexistence of expertise or incomes
 - lack of monetary advantage
 - lack of negotiating influence
2. Time barriers
 - lengthy drill and instruction period
 - tight plan targets
3. Lack of protection awareness and concern
 - The uneven nature of construction firms.
 - Incorrect awareness & underestimation of hazard.
 - inconsistency of regulation

3.METHODOLOGY

For the further study of this research paper, a questionnaire survey was conducted where responses were recorded to identify the factors which are obstructing the health and safety of workers in small firms. The targeted respondents were the architects, contractors, engineers, subcontractors, and professionals of SMFs. The Questionnaire survey was designed only for Small and Medium-sized firms where the questions were targeting the nerves of SMFs and opinions of respondents will be recorded. Respondents have to fill the multiple-choice questions on a scale of strongly Agree to Strongly Disagree. The questionnaire was sent through emails, LinkedIn and links were shared on various social media to reach these professionals. Out of 200, only 60 responses were received and the result is discussed in the Analysis section.

4. RESULT

60% of Respondents have 3-5 years' experience in the construction industry. The majority of respondents are involved in construction projects directly and the remaining respondents included Engineers, Architects, project managers, and Surveyors. After analyzing the questionnaire, it is concluded that there are three major barriers under which sub-barriers are identified. Three major barriers are Cost barrier, Time Barrier and Lack of awareness and programs barriers.

STATISTICAL ANALYSIS OF RESPONSES

	HIGHEST					LOWEST
COLOUR CODING SCALE						

STATEMENTS	STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE
COST BARRIERS					
Lack of availability of resources in Small firms	0%	9.3%	13%	59.3%	18.5%
Because of capital pressure, SMFs are less likely to put money into health and safety	1.8%	10.9%	9.1%	61.8%	16.4%
Strong authorities in construction industry often work against safety.	3.8%	11.3%	35.8%	37.75%	11.3%
Subcontractors have less power than main contractors.	3.6%	18.2%	14.5%	56.4%	7.3%
Low bid projects have high chances of accidents.	5.5%	21.85%	23.6%	47.3%	5.5%
MEAN TOTAL	2.94%	14.31%	19.2%	52.51%	11.8%

COST BARRIER

For the summarization of responses, everyone agrees that cost is the barrier for the accidents in small firms. 52.51 % of respondents agree that cost is the barrier because of low funds. Whereas, 2.94% disagrees with the fact that cost will hinder the safety factor. But 19.2% of the respondents were neutral to the fact that cost is one of the factors

TIME BARRIER

TIME BARRIERS					
Lack of training and awareness increases high chances of accidents	0%	0%	3.6 %	34.5%	61.8%
Workers tend to go for short trainings as compared to long hours training	0%	3.6%	10.9%	54.5%	30.9%
Language is a barrier for workers which results in not attending safety programmes	0%	13%	7.4%	55.6%	24.1%
Tight schedule results in less focus on safety measures.	5.5%	20%	14.5 %	38.2%	21.8%
MEAN TOTAL	1.375 %	9.15 %	9.1%	45.7 %	34.65%

For the summarization of responses, everyone agrees that Time is one of the barriers for the accidents in small firms. In this 45.7% of the respondents were agrees the fact time is one of the barriers. And 34.65 % of the respondents strongly agreed the fact time is one of the barriers. 9.1 % of the respondents were neutral about it and 9.15 % of the respondents disagreed with the fact.

LACK OF AWARENESS AND EDUCATION BARRIER

LACK OF AWARENESS BARRIERS					
Awareness and management are linked to safety practices.	0%	0%	14.8%	68.5%	16.75
Uninterested subcontractors on site result in not having proper measures towards safety.	1.9%	11.5%	21.2%	53.8%	11.55%

High movement of subcontracted labour reduces the understanding of workers with the site situation, increasing the injury rates.	0%	17%	20.85	54.7%	7.5%
Workers with common sense can prevent the accident if proper training is given.	0%	15.1%	7.5%	52.8%	24.5%
Workers with over confidence might misjudge the risk.	1.8%	9.1%	3.6%	61.85	23.65
MEAN TOTAL	0.74%	10.54%	13.59%	58.33 %	16.79%

For the summarization of responses, everyone agrees that a lack of awareness and education is also a barrier to accidents in small firms. 58.33 % of the respondents agreed the fact lack of awareness makes it one of the barriers. Whereas 16.79% of the respondents strongly agreed the fact lack of awareness and education is one of the barriers.

4.PRECAUTIONARY MEASURES TO AVOID THESE BARRIERS

There are some opinions which were given by respondents are

- There is always this fear in employees that they might face resignation due to their opinions.
- There is always a high risk of accidents in the small construction industry
- Less focus is given to safety management
- Lack of inspection
- The communication gap between workers and employees.

5.CONCLUSION

From all the literature research and questionnaire, it was discovered that a lack of awareness and education is the first barrier that hinders good occupational health & safety in small firms. Cost becomes the second most barrier which becomes the hindrance in preventing accidents. And of course, time is the barrier that overlapping with the other barriers. There have to be some remedies that need to be taken and developed to improve the safety of workers in small firms. These barriers need to be taken under actions and work on these to prevent accidents, especially in small firms.

REFERENCES

Choe, S. a. (2016, 01). Assessing Safety Risk among Different Construction Trades: Quantitative Approach. *Journal*

of Construction Engineering and Management.
doi:10.1061/(ASCE)CO.1943-7862.0001237

Garnica, G. &. (2018). Barriers to occupational health and safety management in small Brazilian enterprises. *Production.*

OSHA. (2019). *Construction Health & Safety Manual.*

Small and medium sized enterprises as healthy workplaces. (2011). In A. Day, *Occupational Health and Safety for Small and Medium Sized Enterprises* (pp. 159-187).

Sunindijo, R. a. (2012). How project manager's skills may influence the development of safety climate in construction projects. *Int. J. of Project Organisation and Management*, 286-301.
doi:10.1504/IJPOM.2012.048220

Sunindijo, R. Y. (n.d.).

Umeokafor, N. (2017). Barriers to Construction Health and Safety Self-regulation: A Scoping Case of Nigeria. *Civil Engineering Dimension*, 19.
doi:10.9744/ced.19.1.44-53

Ying, J. a. (2015). Barriers to Good Occupational Health & Safety (OHS) Practices by Small Construction Firms. *Journal of Construction Management (NICMAR)*, 55-66.