# A STUDY TO INVESTIGATE THE FACTORS AFFECTING CONSTRUCTION WORKER PERFORMANCE

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Worker performance is highly significant in the construction industry since it affects the project's productivity, safety, and quality level. Construction activities are considered labour-intensive as they heavily rely on human effort. This study aims to evaluate and rate the impact of the factors affecting construction worker performance in the Sri Lankan construction industry. After the construction worker performance background study, 25 research papers were chosen based on the number of citations, number of factors and categories, and applicability, yielding more than 200 factors. A structured approach was then used to narrow down the factors. The appearance and relevance of each criterion were used to narrow down the list to 123 factors. A factor was chosen if it appeared in more than one paper. The number of factors was then reduced by considering their ranking in the research paper and the frequency which they featured in research articles. i.e., For factor selection, a ranking below 40 was chosen. Eighty-seven factors were selected from this process. Certain factors were merged because of their similarities, resulted in 67 factors of 13 categories. A questionnaire was developed for a pilot survey to reduce the factors further. Forty-two (42) responses were collected from various construction industry professionals, including directors, managers, engineers, engineering assistants, technical officers, quantity surveyors, etc. The Relative Importance Index technique was used to analyse the responses independently, and based on the total results, 44 factors were chosen for the final questionnaire survey. According to the responses, the final questionnaire was designed with the corrections. A total of 108 responses were obtained, 47 via site visits and 61 from an online survey. There were 29 firms and 13 professions represented in the responses. The online survey was conducted using the Lime survey platform.

All the gathered data were analysed and were ranked using the Relative Important Index (RII). Based on overall ranking and category ranking, labour and management factors play a significant role in worker performance. Experience of workers, manpower skills, and training and skill improvement are the most critical relating to labour factors, while leadership skills and site management are the most vital within the management factors. Supervisor experience also affects the worker performance. Lack of experience reduces performance. Technical factors such as rework, application of technology, and construction methods also impact the performance. So, the utilisation of new methods and techniques can improve worker performance and productivity; however, they should be very convenient for the workers. Design and drawings issues should be considered for better performance of the workers. Since the material and equipment factors are next to the labour and management factors, better equipment and material management can improve the performance. A framework for the improvement has been developed based on these findings. Improvement strategies were also proposed, and a framework was developed for improving worker performance. The results of this study will be valuable information to enhance the performance of the project as part of the research was involved in investigating the interaction relationship of the critical factors affecting worker performance to improve the labour productivity in the Sri Lankan construction industry.

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