

# PRELIMINARY STUDY ON THE IDENTIFICATION OF SAFETY RISKS FACTORS IN THE HIGH RISE BUILDING CONSTRUCTION

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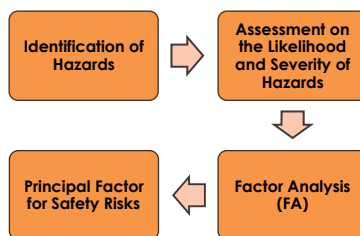
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## Graphical abstract



## Abstract

The construction industry is one of the risky workplaces attributable to its complexity and dynamic nature of construction activities. High rise building construction remains predominant for high accident rates counted yearly. A site-specific assessment tool that considers the characteristics and changeable conditions of the currently managed construction site is necessary to precisely assess safety risks. Therefore, this study aims to address the significant safety risks and principal factors associated with the high rise building construction projects in Malaysia. Responses obtained within the construction management personnel are evaluated using factor analysis to understand the latent critical risk factors. Preliminary findings suggest that all safety risks are significant and working environment is identified as the most critical principal factor which consists of diverse underlying safety risks with high loading factors. Successful investigations of the study will lead to the development of a high rise building construction safety and health risk model. From the practical view, these findings should assist the high rise construction project participants to be more attentive to health and safety issues.

**Keywords:** Construction safety, high rise building construction, safety risk factor

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## 1.0 INTRODUCTION

The continuous growth of economy promotes interaction relationship with construction industry. In response to economic development, construction industry at present took a new turn towards high rise construction encompasses hotels, commercial buildings, office complexes and high rise dwellings. The necessity of high rise construction mostly concentrated in many large cities coupled with central business attraction and dense population. A high rise structure varies between 75 feet and 100 feet or about seven to ten stories depending the slab to slab distance between floors [1].

Due to increasingly dynamic and complex lifecycle of a construction project, it is positioned as a dangerous or highly hazardous industry [2]. The nature of construction industry is derived from several fragmentations of the involved parties throughout the various phases of construction projects [3]. It requires harmonization of different interdependent contractors, sub-contractors and operations that may result in increased risk of injury [4]. Construction industry is recorded as the third leading cause of occupational accidents in Malaysia [5]. Statistics on occupational accidents revealed that high rise building construction is as one of the riskiest workplaces [6].