

e-Proceeding

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MANAGING ISSUES ON RISK MANAGEMENT IMPLEMENTATION AMONG SUB CONTRACTORS IN NORTHERN AREA

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Abstract

The construction industry is known as a high-risk activity as their work of nature. The risk should be managed crucially by any level of multidiscipline. Construction activities involved with hazard situations and an unpredictable incident during construction. This would contribute to the failure or delay in the projects. There is a main issue triggered by sub-contractors tasks, i.e. failure to manage effectively the risk management provided by main contractors. There are many factors that contributed to the ineffective risk management implementation among sub-contractors, including lack of skills and expertise, lack of experience, and communication breakdown with the team. This situation reflected the main contractor responsibilities to the client. Hence, this paper aims to assist sub-contractors to overcome this situation. Therefore, this study has developed two (2) objectives. First, to identify the factors that contribute to ineffective implementation among Sub-Contractors. Next, to propose the strategy to overcome the ineffective implementation of risk management. The research methodology adopted was the online questionnaire survey analysis based on 120 respondents from selected sub-contractors among G1 to G4 in the northern state of East Malaysia. Findings indicated that there are a number of sub-contractors agreed that lack of knowledge, communication issues among parties involved and frequent design changes are among the factors causing ineffective risk management. To improve the effectiveness of risk management among sub-contractors, this study suggests that there must be enforcement of strategies and guidelines on sub-contractors' activities and responsibilities.

Keywords: *risk, risk management, sub-contractors*

1.0 INTRODUCTION

Construction industries are one of the industries that naturally involve high risk and high uncertainty. In construction projects, the three primary targets which are the cost, time and quality are very subjective. The main cause problem occurs in construction projects are due to ineffective implementation of risk specifically the ineffective risk analysis which could put any construction projects in danger. Implementation of a good risk management is very important in the construction industry because it will lead to project successfulness or failure. Thus, the purpose of this study is to provide a better understanding of the effective implementation of risk management practice by sub-contractors in Malaysia.

The main problem to be highlighted in this paper is that the lack of risk management, specifically the ineffective risk analysis could put construction projects in danger. Risks cannot be eliminated, but by applying the principles of risk management, practitioners can improve, minimize or mitigate the ineffective implementation of risk management. Implementation of good risk management is very important in the construction industry because it will lead to project successfulness or failure. Construction projects are inherently complex and involving multiple feedback processes. Due to the rapid change in technology, environment and inflation, effective risk management implementation is a management tool that the construction industry cannot afford to ignore. According to Sawczuk (1996) he stressed that no matter how small or simple the project is, it still can go wrong. Risk cannot be avoided but must be

recognized, assessed and well-managed. Construction Management Practices | IRMI.com. (2018), a successful construction project must meet the expected level of quality, time and cost. The effective implementations of risk management have to be integrated and aligned so that the people will perform their work efficiently, effectively, and safely.

This paper aims to provide a better understanding of the effective implementation of risk management practice by sub-contractors in Malaysia. To achieve the aims, two (2) research questions have been developed. There are:

- What are the factors causing the ineffective implementation of risk management in sub-contractors organisations?
- How ineffective implementation risk management among subcontractors does contribute to the construction projects impact?

This study is significant because it helps to identify, several factors that cause and impact the construction projects towards ineffective risk management by sub-contractors. This paper determines those factors and makes recommendations for future research.

1.1 Risk Management Approach

Ward and Chapman (2003), defined 'risk' as "hazard, chance of bad consequences, loss, exposure to chance of injury or loss ". According to Edgerton (2008), the risk is quantified as the combination of the probability of the event occurring and the impact of the resulting consequence. Risk can give impact to organisations in the short, medium and long term. Risk regarding the possibility of loss can be especially problematic. If a loss is certain to occur, it may be planned for in advance and treated as a definite.

In constructions, the risk is defined as an unforeseen event (Smith et al., 2006). This was supported by Menard (2017), construction projects are very complex and can pose various internal and external risks. A strict set of codes, laws, and regulations must be followed during the construction process to best avoid these risks. Sources of risks can be divided into two which are internal risk and external risk. Examples of internal risk are Site possession delay caused by subcontractors, the problem between subcontractor and main contractor, quality of work done and availability of labour and equipment and examples for external risks are earthquake and landslide. Type of risk is divided into technical risk, operating risk, environmental risk, management risk, financial risk and socio-political risk. Risk management is a process that is underpinned by a set of principles. Also, it needs to be supported by a structure that is appropriate to the organisation and its external environment or context (McCaig, 2010).

1.2 Risk Management Process

Then, the main purpose of the project's risk management is to identify, examine, select risk management techniques, implement the techniques and monitor the results for project success. Overall, risks management process includes the following main steps:



Figure 1: Risk management process

Source: Ramachandran (2013)

There are two basic types of approach to the management of risk in the project which are informal and formal approaches. Many organizations implement an informal approach because it is so convenient that they do not realize they are operating this kind of risk management procedure. One of the most widely used techniques in the informal approach to the management of risk is the provision of contingency funds and these are lump sum contingencies and percentage contingencies. A lump sum contingency is a sum of money put aside, in the project budget, in case any extra money is required during the project (Tadayon et al., 2012). Contingency funds can be used as a risk management technique because the amount of money allocated to a contingency fund should be representative of the cost of risks thought likely to occur in a particular project. Other informal procedures for the management of risks involve talking to experts or people with experience on similar projects and gaining their views as to the possible risk in a project, then reviewing the project in the light of these possible risks. The formal approach consists of an asset of procedures laid down by an organization for use in the management process. These procedures are structured and give guidelines to be followed, so that they can be used by any member of the organization

2.0 FACTORS CONTRIBUTE TO INEFFECTIVE RISK MANAGEMENT

The most common factors for the disaster of a project must be identifying. It is very important because we can find the ways to remedy them. Also, it is very important to know the causes from the start of the project, in order to develop methods to prevent the problem.



Figure 2: Factors causing ineffective implementation risk management in construction project

Based on the literature review on the study, a good implementation risk management practice is needed to manage the construction project from the early stage of construction, during construction stages until the project objectives are achieved. There are a lot of suggestions and solutions that have been shown in previous research to overcome problems in risk management. There are some suggestions to minimize the risk in risk management to ensure that the project is successful. Important to minimize the cost overruns, provide good quality and finished within stipulated time in a construction project.

However, there are still ineffective factors that lead to bad risk management. It can be seen that many researchers have found out the cause of ineffective implementation risk

management from a different scope such as from the view of construction resources, type of construction, procurement, etc. This study will help sub-contractor in Malaysia to overcome their weaknesses in risk management in order to have successful projects.

Table 1: Factors causing ineffective implementation risk management in construction projec

NO	AUTHOR	YEAR	DETAIL STUDY
1.	Abdul Rahman et al.	2012	Most frequent causes are ineffective skill levels, ineffective reviews of the design and engineering drawings and lack of site layout studies. Whereas, the second factor which is cash flow and financial difficulties are concurrently matched with the finding on Vietnam construction industry (Le-Hoai et. al., 2008), cited by Abdul Rahman et. al., (2013) The third most crucial factor can result in late compliance with the statutory body's requirement, poor communication with subcontractors and material suppliers, significantly thus affecting the progress of the project
2.	Smallman	1996	The most common causes for a project disaster are ineffective information or resources, external events, unclear goals, untested technology, ineffective communication and management and lack of planning in a project.
3.	Abdul Aziz et al.	2013	Although information and communication technology gives much influenced on economic development, but unfortunately such advance technology is not properly being used in construction project and it is found to become the main cause of ineffective implementation risk management
4.	Chan et al. .	2004	Support from all levels of management and the consistent endorsement by top management especially communication between the main contractor and subcontractors lead to the project success
5.	Nguyen and Ogunluna	2004	It was found that the associated success factors in communication were related to the community's involvement, clear information or communication channels and frequent progress meetings.

3.0 RESEARCH METHODOLOGY

This paper adopts a quantitative approach as a method to get the findings. Among the quantitative methods, a survey method had been choosing to study the sample of population. Thus, a questionnaire had been formed and distributed among the subcontractors in the northern area of Malaysia. In the questionnaire there are 4 sections for the respondent to answer it in achieving all the objectives of this paper. Section A is the general question to know the background of the respondent. In section B, C, and D, multiple choices answers had been made and respondents needed to answer it in Likert scale. Then, the questionnaires were distributed using the google form. According to CIDB Malaysia (2017a), nowadays, there are more private sector projects than public sector projects. Based on this data, this research focuses on private sector projects due to accessible and richness of data regarding risk management implementation. 150 targeted respondents were selected among G1 until G4 grades of contractors in the northern states. However, only 120 respondents gave their feedback and were analysed based on it. These will cover ineffective implementation of risk management during construction projects.

4.0 DATA ANALYSIS AND DISCUSSION

This paper consists of 3 sections in this discussion section. Section A focuses on the demographic of the respondent. There are 120 respondents in which class of contractors respond to the questionnaire. Figure 3 below shows that about 46.7% of 120 respondents are

from G4, 19.2% respondents are from G1, 18.3% respondents are from G3 and lastly 15.8% from G2.

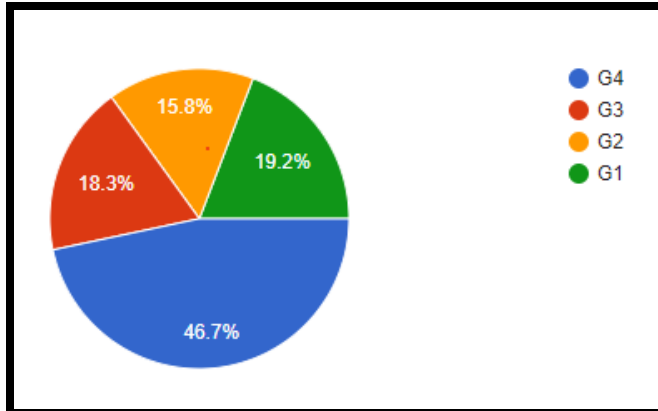


Figure 3: The class of contractors among the Respondents

Next are the factors that contribute to ineffective risk management. Among 14 factors, Figure 4 below shows that respondents agreed that these four factors are the most common problems among subcontractors that are causing ineffective risk management.

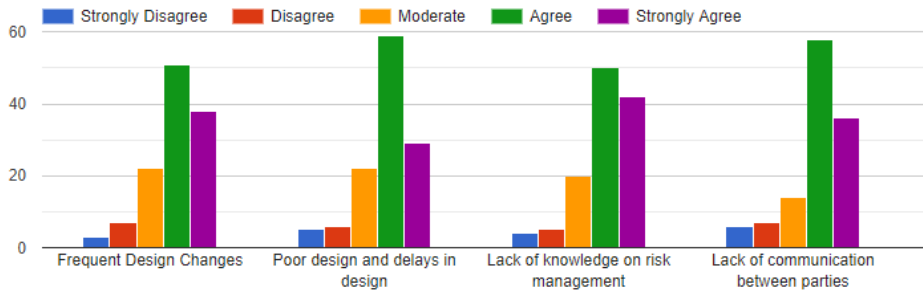


Figure 4: Factors that contribute to ineffective risk management

Based on studies by Abdul Rahman et al. (2012), Abdul Aziz et al. (2013) and Smallman (1996), there were a number of subcontractors who agreed that lack of knowledge, communication issues among parties involved and frequent design changes are among the factors causing ineffective risk management.

The respondents also have been asked to rank the ways to improve risk management in Malaysia construction industry. Figure 5, its clearly shows that the most of the respondents agree that the effective site management and supervision, use of experienced subcontractors and suppliers, follow the appropriate construction methods and good feasibility study are the ways to improve infective risk management. Kluwer (2016) also agree that effective supervision and using appropriate method in construction can improve implementation risk management while Mwanzoni (2015) stated that a good feasibility study will give the correct answer before money, time and resources are spent whether the project is viable. According to Raeden and Dainty (2006), hiring experienced subcontractors can mitigate the risk in construction.

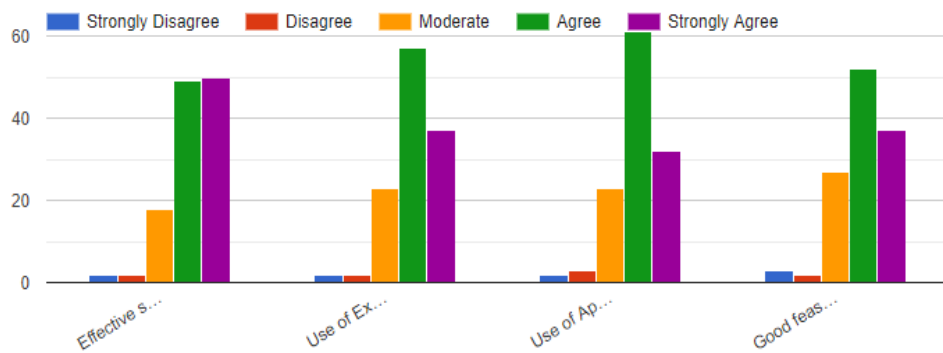


Figure 5: The ways to improve risk management in Malaysia construction industry

5.0 CONCLUSIONS

This study reveals factors that cause ineffective implementation of risk management by sub-contractors. Types of projects, grades of contractors and location are mainly focused in this research. The internal risks, external risks and types of risks are reviewed in this research to get a better understanding on the importance of risk management. By understanding the causes of ineffective construction management practices, the subcontractor may reduce or avoid some of the problems related to risk that occurs in construction projects. The effective implementations of risk management in construction projects leads to people performing their work efficiently, effectively, safely and make any construction project become a success.

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Kelulusan daripada pihak tuan dalam perkara ini amat dihargai.

Sekian, terima kasih.

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Saya yang menjalankan amanah,

SITI BASRIYAH SHAIK BAHARUDIN
Timbalan Ketua Pustakawan

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Setuju.

27.1.2023

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