Implementation of Risk Management in Malaysia Design and Build Projects

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Abstract

Construction industry is an industry that cannot be separated from the risk of the future no matter how small or big impact. Risk management can be defined as the prediction tools to make sure the task or project are keeping aware of the risk and prepared with the solution by the capability itself that have been identified. Risk management actually able to create values to a project and improve project performance in terms of cost, time and quality. Design and build project well known as the big numbers of cost and huge project and usually exposed to the risks. This article focuses on the implementation of risk management in Malaysian construction industry and focusing in the design and build project. The data were obtained from interview and observation that have been conducted through the selective respondents. Finally, the findings conclude that the variations orders become the most risk occur in the design and build project. However, there were several alternative recommendations from respondents to minimize the risk.

Introduction

It is essential to understand exactly what is meant by risk before it can be managed. Risk and uncertainty are inherent in all construction projects, regardless its size [2]. Risk management involves appropriate handling of risks after evaluation and analysis to minimize the negative impacts risks have on the finance with the lowest costs [1]. In Malaysia, the construction industry is the main segments of economic growth besides the others industry sectors. The construction industry is a mover through which national physical developments are activated by initiating projects from the planning stage to the implementation. The implementation and materialization of such projects inevitably can bring about benefits to the people and the nation, thus satisfying the aspiration of national progress and growth and in uplifting the status of the nation economically.

At the implementation stages of developing a project the client has to make decisions on technical choices such as size, location and standard [1]. However, it is not simple to achieve effective and accurate risk management in a construction project. Effective and accurate risk management is the major challenges. Failure to indentify and manage the project risks throughout the life cycle of construction project will affect the poor project performance and profitably level of the project as well [2]. Risk management also faces a difficulty in allocating resources properly.

This statement further supported that the process of risk management may be defined as identification of risk, analysis of the implications, response to minimize risk and allocation to appropriate contingencies [3]. The process can be very difficult, and balancing between risks with a high probability of occurrence but lower loss versus a risk with high loss but lower probability of occurrence can often be mishandled. However, risk management should be carried out throughout the life cycle of the construction project, from initiation stage until the decommissioning of the project [4]. This paper aims to highlight on a current implementation of risk management applied in Malaysian construction industry by focusing on the design and build projects only.

Methodology:

The research methodology is important to guide in order to achieving the research objectives which consist with the data collection methods. A data collection method for this research was divided into primary data and secondary data. Primary data is achieved by get the information by doing some semi-structured interviews and secondary data is achieved by doing some interviews and structured interviews and narratives by doing some semi-structured interviews and narratives.
observation with ten top managements which have more than 10 years experiences involved in Malaysian construction industry, especially in Design and Build projects. The interview will be based from questionnaire and more detailed in discussion on that issue further with the respondent for a better understanding. Secondary data is refer the relevant literature such as journal, article, research and others including a computer assisted search be undertaken in order to develop an understanding of previous work of the similar topic research.

RESULTS AND DISCUSSIONS

(i) Method of risk identification:

Figure 1 below shows that about 48% of respondents agreed that types of method in analysis of historical data for similar projects is the most higher method used in identify the risk occurred in their selected Design and Build. This method seems the effective and accurate to identify the risk that possible be occurring in the next project based on the historical data collected rather than other methods.

![Types of method of risk identification](image1.png)

Fig. 1: Types of methods of risk identification used.

(ii) Parties that commonly dealing with the risk in Design and Build project:

As shown in the Figure 2 below, majority of the respondents choose the contractor as a party that usually encounter with risks in Design and Build projects. This is backed by the concept of this delivery scheme which apply single point responsibility concept. In addition, burden and risk that supposedly carried by the client have been transferred to the contractor once the contractor bind with the contract of project. Conversely, 20% of the respondents claimed that client who usually dealing with the risks due to a large number of money has been invested for a project.

![Parties Involved](image2.png)

Fig. 2: Parties that are commonly dealing with the risk.

(iii) Types of risk in Design and Build projects:

The respondents also have been asked to rank risks in Design and Build project according to level of frequency to arise. From Figure 3, about 60% of the respondents claimed that variation order is one of the risks that frequently happen in a project. It is because of several issues such as misconception among the players and changes due to the unexpected situation.
(iv) Risk control and management in Design and Build projects:

The respondent’s knowledge and information pertaining to risk control and management has been asked in order to identify the most appropriate way to control and manage the risks in Design and Build as well as in general Malaysian construction industry. After process of analyze, it can be summarized that most of the respondents suggesting the process of risk identification needs to be run from the very beginning stage of a particular project. The respondents also state that in order to control the risks, an organization needs to organize its risk management team and ensuring risks that associated with a construction project are managed in the most effective manner.

(v) Perception for risk management process in Design and Build projects:

Next question were asked to indicate the perception on the risk management process regard due to respondent’s knowledge and experience on risk management in their selected Design and Build project. The results are presented in Figure 4 below shows about 35% of respondents agree that risk management are integrated with cost and time management because the successful projects path are depending on the cost and time. This is because the time frame of the projects will drag the cash flow due to the project progress.

<table>
<thead>
<tr>
<th>Risk management process</th>
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<tbody>
<tr>
<td>The organization have a documented repeatable process for identifying project risks which fully implemented?</td>
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<tr>
<td>Documentation exist on all processes and standards for identifying risk events?</td>
</tr>
<tr>
<td>The process considered standard for large, highly visible projects?</td>
</tr>
<tr>
<td>Integrated with cost management and time management processes and the project office?</td>
</tr>
</tbody>
</table>

![Risk Management Process](image)

Fig. 4: The respondent’s perception on risk management process.

Summary:

This study reveal that risk management process is not being fully implement in the Design and Build project that is essentially influencing the successful of project performance. It is also agreed that the process is only implement for large, highly and visible project. Nevertheless, the variation order that caused by client related changes is the highest risk that been occurred in most of design and built project. Based on survey result and as the recommendation, it was noted that risk management is a tool that should be implement in design and built project in order for the construction and employer to achieve satisfaction in a project.

REFERENCES

