

RISK MANAGEMENT PROCEDURES FOR  
PHYSICAL DEVELOPMENT PROJECTS IN THE  
MINISTRY OF EDUCATION

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To my beloved parents, families and friends.

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## ABSTRACT

This research is focused on the importance of Risk Management (RM) to be implemented in the Ministry of Education (MOE) and aims to identify the level of problems of the current practice as well as level of awareness towards RM in MOE. Apart from that, it also aims to examine the relationship of RM implementation towards successful process of project management in *Jabatan Kerja Raya* (JKR). Questionnaire and interview sessions were carried out in order to obtain a better view on the above situations. It was found that the level of problems with the current practice is at moderate level thus contributed to the awareness of having RM to be implemented. A survey done in JKR also shows that RM does influence the smoother process of project management. Based on the findings of both tools, important phases of project management were also determined and contributed to the drafting of the proposed format of RM Procedure. It can be concluded that RM is important to be implemented as JKR did, thus MOE should consider implementing it to reduce issues in managing project by starting with the format propose.

## **ABSTRAK**

Kajian ini memberi tumpuan kepada kepentingan pengurusan risiko yang dicadangkan untuk dilaksanakan di Kementerian Pendidikan Malaysia (KPM) dan bertujuan untuk mengenal pasti tahap masalah pada amalan semasa dalam pengurusan projek serta tahap kesedaran pegawai terhadap kepentingan pengurusan risiko di KPM sendiri. Selain itu, ia juga bertujuan untuk mengkaji hubungan pelaksanaan pengurusan risiko ke atas kejayaan pengurusan projek di Jabatan Kerja Raya (JKR). Soal selidik dan temuramah telah dijalankan untuk mendapatkan pandangan yang lebih baik pada situasi di atas. Didapati bahawa tahap masalah dengan amalan semasa di dalam pengurusan projek adalah pada tahap sederhana yang menyumbang kepada timbulnya kesedaran untuk mengaplikasikan kaedah pengurusan risiko yang dicadang untuk dilaksanakan. Satu kajian yang dilakukan di JKR juga menunjukkan bahawa pengurusan risiko mempengaruhi proses kelicinan pengurusan projek. Berdasarkan penemuan kedua-dua kaedah, fasa penting dalam pengurusan projek juga telah ditentukan dan menyumbang kepada penggubalan format cadangan prosedur pengurusan risiko di KPM. Ia boleh disimpulkan bahawa pengurusan risiko adalah penting untuk dilaksanakan sebagaimana yang dilaksanakan oleh pihak JKR, dan dengan itu KPM harus mempertimbangkan untuk melaksanakannya bertujuan bagi mengurangkan isu-isu dalam pengurusan projek dengan bermula daripada format prosedur yang dicadangkan

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## LIST OF ABBREVIATIONS

MOE	-	Ministry of Education
JKR	-	<i>Jabatan Kerja Raya</i>
EPU	-	Economic Planning Unit
ICU	-	Economic Planning Unit
JTPK	-	<i>Jawatankuasa Tindakan Pembangunan Kementerian</i>
JKPS	-	<i>Jawatankuasa Projek Sakit</i>
PMBOK-		Project Management Book of Knowledge
RM	-	Risk Management
RMP	-	Risk Management Procedure
IV	-	Independent Variable
DV	-	Dependent Variable

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## **CHAPTER 1**

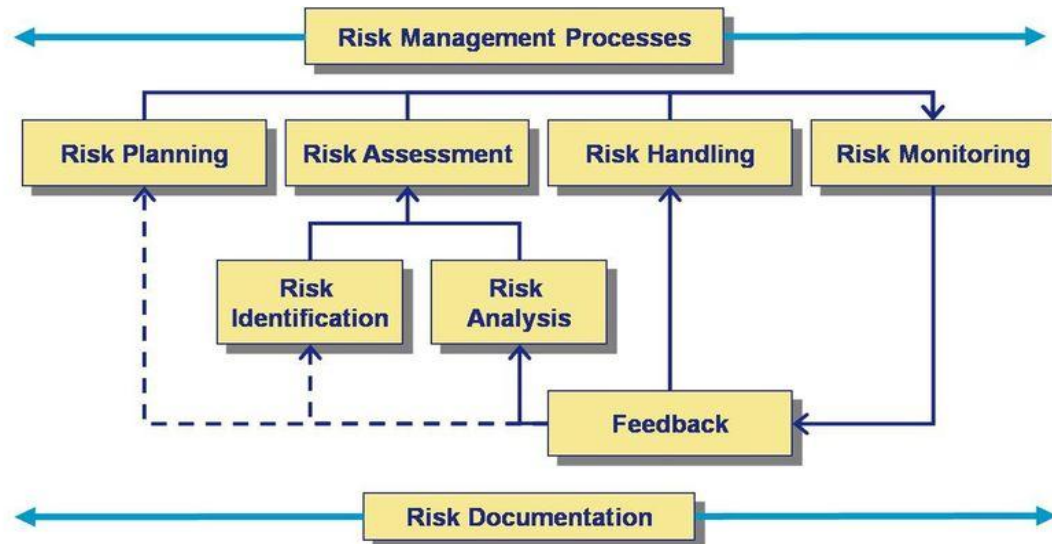
### **INTRODUCTION**

#### **1.1 Background of the Study**

Risk is the chance of something to happen that will have an impact on business's or organization's objectives. Risk Management (RM) is the culture, processes, and structures that are directed towards realizing potential opportunities while managing adverse effects (Australian Standard RM-Standard Australia, 2004). It is a process of identifying, assessing, and prioritizing risks of different kinds. Its main goal is to minimize or eliminate the positive or negative effects to the particular events. It is fundamental to accomplish business or project objectives, and not only has to keep away bad results but also acting as a guide to maximize positive results (Monetti, da Silva, Rocha, 2006). Therefore, having a standard procedure of RM in organizations in handling a construction projects will help to secure the successful delivery of a project.

According to Zou, Patrick, Yong Chen, Tsz-Ying, (2010), implementing RM procedure in construction projects and organizations is beneficial and therefore it is necessary to have RM as an essential part of an organization's management practice.

The negative impacts of lack of RM processes can include increased of uncertainty to project outcome, financial loss, liabilities that may have been overlooked, and ineffective decision making (Loosemore, Raftery and Higgon, 2006).



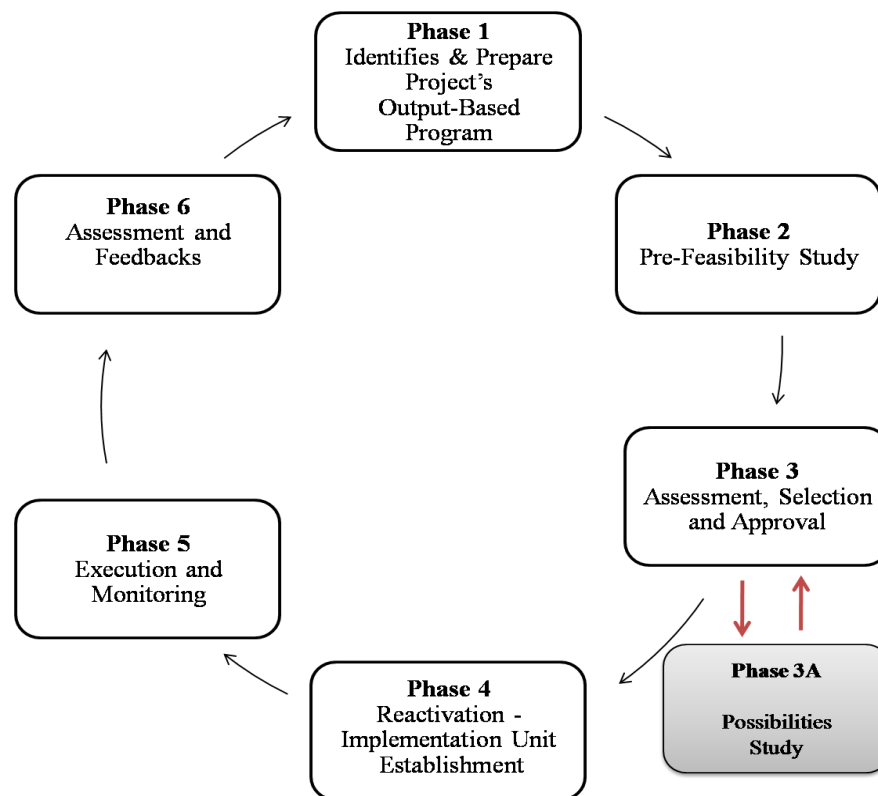
**Figure 1.1:** Risk Management Processes

Realizing the situation and the importance of risk management in handling projects, Ministry of Education (MOE) are considering taking a step in implementing it as the Public Works Department (JKR) officially did starting 2013.

## 1.2 Current Practice of Project Management

MOE under its Development Division (Education) has been handling construction projects mainly in building educational institutions on its own despite handing it over to JKR for execution. It is done under a close supervisory of its Cadre Officer from JKR itself but worked under the ministry. JKR is known to have its own RM Procedure (RMP) to handle its constructions projects but none for MOE.

The main reference for the government project handling was established by Economic Planning Unit (EPU) that is ‘Planning and Preparation Guidelines and Program of Development Project’, EPU Circular, Prime Minister’s Office, No. 1/ 2009. This circular is a set of guidelines to ministries and agencies in the preparation of proposals for programs and projects to be submitted to EPU for consideration and approval. **Figure 1.2** shows the Project cycle in accordance with the Malaysia Plan Preparation.



**Figure 1.2:** EPU’s Project Cycle

After the projects have been approved, the management of the project is based on the conventional project handling according to the project life cycle in ‘Project Management Book of Knowledge’ (PMBOK) as shown in **Figure 1.3** below. Planning and Preparation Guidelines and Program Development Project by EPU are provided in the *Appendix C*.



**Figure 1.3:** PMBOK Project Life Cycle

### 1.2.1 Medium of Problem Solving in Current Practice of MOE

As per normal practice, there were several medium at MOE that basically held in monthly basis mainly *Jawatankuasa Projek Sakit (JKPS)*, *Jawatankuasa Tindakan Pembangunan Kementerian (JTPK)* which are both chaired by Secretary General of MOE and *Pra-Jawatankuasa Projek Sakit (Pra-JKPS)* which are done in the division level chaired by the division's Undersecretary, to discuss the details on the problems faced by the particular projects and to decide the next step to be taken in order to overcome the problems. That particular project will continue to be in the meeting on a monthly basis until the problem is totally overcome and settled. In other words, this procedure is taken when and only when the projects have got into the mess. Basically, the main function of *JKPS* as stated in *Pekeliling Kerajaan Bab 4 Tahun 2013* is as follows:-

- i) for problematic projects that the identified contractor was **still able** to complete its work, the committee may recommend remedial measures to be taken by the ruling officials to help contractors in completing their works; and

- ii) for problematic projects that the identified contractor is **unable** to complete its work, the committee may recommend to the officers named in the contract that is the project manager, for the termination of the contractor in accordance with the terms of the contract and the committee shall appoint a new contractor to complete the remaining of the project, subject to the rules in Para 9 that is the terms and regulation of the appointment of a new contractor.

In addition, *JTPK* is actually the main medium of discussing all issues regarding development projects including the problematic projects and as mentioned above, a must have meeting held every month for each ministries and agencies. It is stated in *Arahan No. 1, 2010 of Majlis Tindakan Negara (MTN)* on the regulations, terms and condition.

The performance index or the star rating of a ministry is also depends on its reporting of having *JTPK* on a monthly basis without fail and minutes that have to be properly documented. Figure 1.4 below shows the coordination of the implementation machinery.



**Figure 1.4:** Coordination of the Implementation Machinery of *Arahan No. 1/2010, MTN*



Both *Pekeliling Kerajaan Bab 4 Tahun 2013* and *Arahan No. 1, 2010 of Majlis Tindakan Negara* (MTN) are attached in *Appendix D* and *E* of the paper.

### 1.3 Problem Statement

Confronting problematic projects is considered normal in an organizations including MOE. Every project has its own issues to be resolve depends on its seriousness. As at 10 December 2014, there are **90** in total of sick projects in MOE (*Minit Mesyuarat Jawatankuasa Projek Sakit, Bil. 11/ 2014, Bahagian Pembangunan [Sektor Pelajaran], KPM*). In government agencies, project that is considered to be sick, is when the progress has been delayed more than two (2) months or 20% from the date or schedule whichever is earlier, and the contractor is unable to improve their performance (*Pekeliling Kerajaan Bab 4 Tahun 2013 [PK4/ 2013]*). The amount put on trying to solve this problem is time consuming.

This is because the project is treated individually in a specific committee session from trying to determine the original cause of the problem arouse, until the decision making. Therefore, the means of having an appropriate RMP is essential in order to have a systematic way of dealing with the problem. According to Monetti et. al (2006), to understand the RM of a construction organization, a useful starting point is to review current RM, processes, and cultures. **Table 1.1** shows the categories of projects that are determined as problematic as referred to the JKPS meeting's minute.

**Table 1.1:** Categories of Problematic Projects According to Sector  
*JKPS Bil. 11/2014*

Categories	Secondary	Primary	Infrastructure	Institution	Sabah	Sarawak	Total
Existing Delayed (JKPS)	3	8	1	0	2	2	16
Existing Delayed (non-JKPS)*	10	5	2	4	7	1	29
New Delayed	2	2	0	39	0	2	45
<b>Total</b>	<b>15</b>	<b>15</b>	<b>3</b>	<b>43</b>	<b>9</b>	<b>5</b>	<b>90</b>

\*have yet being discussed in the committee

In Pre-JKPS and JKPS meeting, the situation will become more crucial when the project manager have to submit application for the project to be in the committee itself. That means they have to queue in order to have a slot for the discussion in the committee. Effective risk management among others provides an increased awareness of the consequences of risks, a focus for a more structured approach to RM and more effective centralized management control (Edwards, 1995). Generally, the Implementation Coordination Unit (ICU) has established the execution of RM for government agencies in the Handbook for Physical Project Management (Chapter 8, page 74) updated in 2012. But, the enforcement on it is not done thus, making the public servants unaware of its existence.

JKR as a government technical body in Malaysia have their own systematic RMP. The JKR's RMP is formatted according to the ISO: 31000 and ISO: 31010 on Risk Management. Then, through a consultation lab under the Standard Australian 4360:2004, JKR amended the template to suit the needs of the agency. It is applicable to be referred to JKR's procedure since it is formatted based on the government's procedure of handling a construction project. The purpose of RM is to ensure levels of risk and uncertainty are effectively managed, so that the project is completed successfully on time and within budget.

The RM process will enable MOE to identify possible risks and the manner in which these risks can be contained and the likely cost of mitigation strategies. It involves all resources concerned in the organizations itself that is the project manager, project team, stakeholders and also technical support.

#### **1.4 Research Questions**

Following the statement of the problem, research questions are defined as stated below:-

- a) What is the level of problems of the current practice of project management at MOE?
- b) What is the level of awareness towards the importance of implementing risk management in MOE?
- c) What is the influence of the implementation of risk management procedure towards a successful process of project management?

#### **1.5 Research Objectives**

The aim of the study is to propose a suitable draft of RMP towards a successful process of project management. In accordance to that, this study is undertaken with the following objectives:

- a) To measure the level of problems with the current practice of project management in MOE and the level of awareness towards the implementation of risk management;

- b) To examine the relationship between the implementation of RMP in JKR and a successful process of project management; and
- c) To propose an appropriate format of the RMP to be applied in MOE with reference to the JKR format.

## **1.6 Scope of Study**

This study is focused on the current management practice of handling physical development project in the Development Division (Education Sector), MOE. The analysis are done among selected parties involved in managing projects in the division that managed projects with a budgeted cost of RM25 million and above, since it is considered huge amount in the categories of educational institution (Education Sector). This amount is also considered appropriate for this research because MOE has been doing Value Management (VM) procedure with the Economic Planning Unit (EPU) for projects with this figure. The categories involved in the distribution of the questionnaires were the project managers involved, technical officers (MOE), and JKR's officers because they are directly involved in the government projects. On the other hand, for the interview session, the top management were included as well to incorporate their input on the importance of having the procedure in MOE as well as their views on appropriate segments on formats that will be taken from JKR's.

## **1.7 Significance of the Study**

As for MOE in general, it is hoped that the study will acknowledge the importance of having a standard format of a RMP as applied by JKR as a structured systematic tool to help monitor and reduce problematic projects hence to evade projects from being unsuccessful.

In the meantime, for the Development Division (Education Sector) specifically, it is hoped that the study will instil the knowledge of the needs in having the appropriate structured method of RMP for an easier reference in dealing with a project before and when it is in a situation and steps to be taken in making sure that the project can be deliver successfully. Thus, it will reduce time-consuming procedure as in the JKPS that is being practiced till to date. MOE as a government agency is bound to all government procedure in all official work management including project handling.

## **1.8 Limitation of the Study**

This study is limited to the projects with a cost of RM25 million and above in 3rd Rolling Plan 2013-2014 and 4<sup>th</sup> Rolling Plan 2014-2015. This is shown in Table 1.2 below:-

**Table 1.2:** Projects with a Budgeted Cost of RM25 Million and Above

No.	Rolling Plan (RP)	Total Project	Cost (RM Billion)
1	RP3 (2013-2014)	88	8.594
2	RP4 (2014-2015)	69	7.242

The respondents' groups are form between the top management of MOE, management team at the Development Division (Education), the Cadre Officer as a technical supervisory and the project managers involved. Since the majority of the management team at the Development Division (Education) is new to the department (less than a year experience managing project), it might be hard for them to actually make a comparison between applying RM and not.

## 1.9 Organization of the Study

This graduate project is structured into chapters as follows:-

### Chapter 1

Basically contains the project's introduction. The chapter caters an overview of the study which includes the background, problem statement, research questions, study objectives, the significance of the study, and the limitations of the study.

### Chapter 2

Here, the chapter provides the review of the literature. The chapter contains comprehensive review on previous literature, similar studies done in the same field of topic and previous findings of the topic.

It is focuses in the current practice of project management as a whole, awareness on the importance of risk management, risk management influence towards a better process of project management as well as the assessment concept of risk management plan and procedure.

### **Chapter 3**

Next, this chapter describes comprehensively on the methodology applied in the study. It consists of the discussion on research design, conceptual framework, population and sample, instrumentation, sampling method, data collection and data analysis procedures.

### **Chapter 4**

Then, the results and data analysis were presented. The chapter discussed the findings of the study, which includes survey response rate, descriptive analysis, frequency analysis, correlation analysis and the result of the matrix responses. The final part summarizes the findings in referring to all research objectives.

### **Chapter 5**

Finally, this chapter contains the conclusion and recommendation of the study. It discusses the findings in the previous chapters of the paper. It also considers the implications and limitations throughout the study and findings, thus provides suggestions for future research, and also recommendations for better up current condition in preparation of MOE to implement risk management as a whole.

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