METHODS TO MINIMISE INEFFECTIVE RISK MANAGEMENT IMPLEMENTATION IN PUBLIC WORK DEPARTMENT OF MALAYSIA

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INTRODUCTION

PUBLIC WORK DEPARTMENT POLICY ON RISK MANAGEMENT

According to PWD Director Of General Referral Letter (Surat Arahan Kpkr Bil 10/2012, 18 April 2012)

1. Compulsory to Projects with Contract Value 50 Million and Above
2. Below 50 Million Projects – Encourage to implement risk management

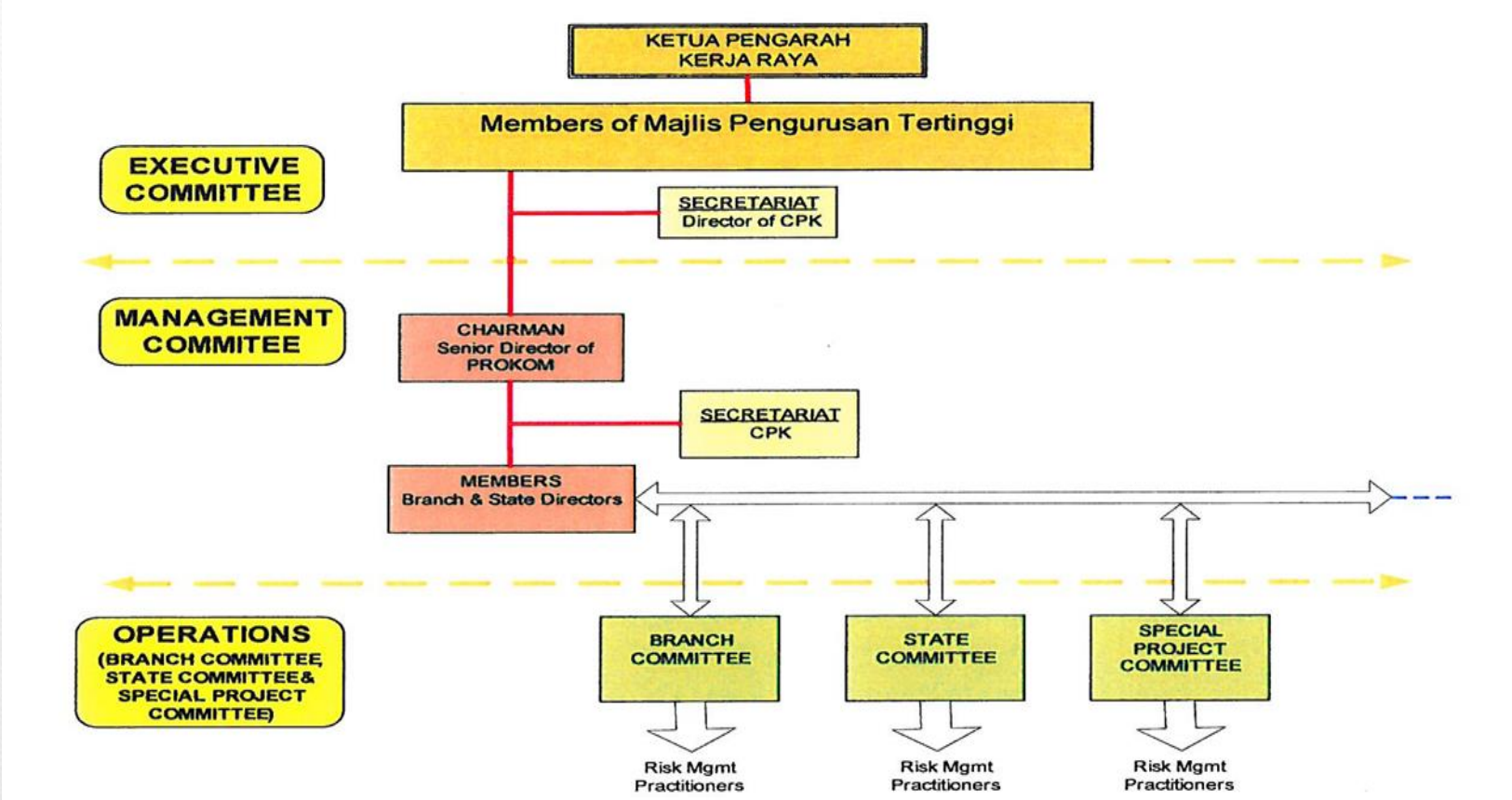
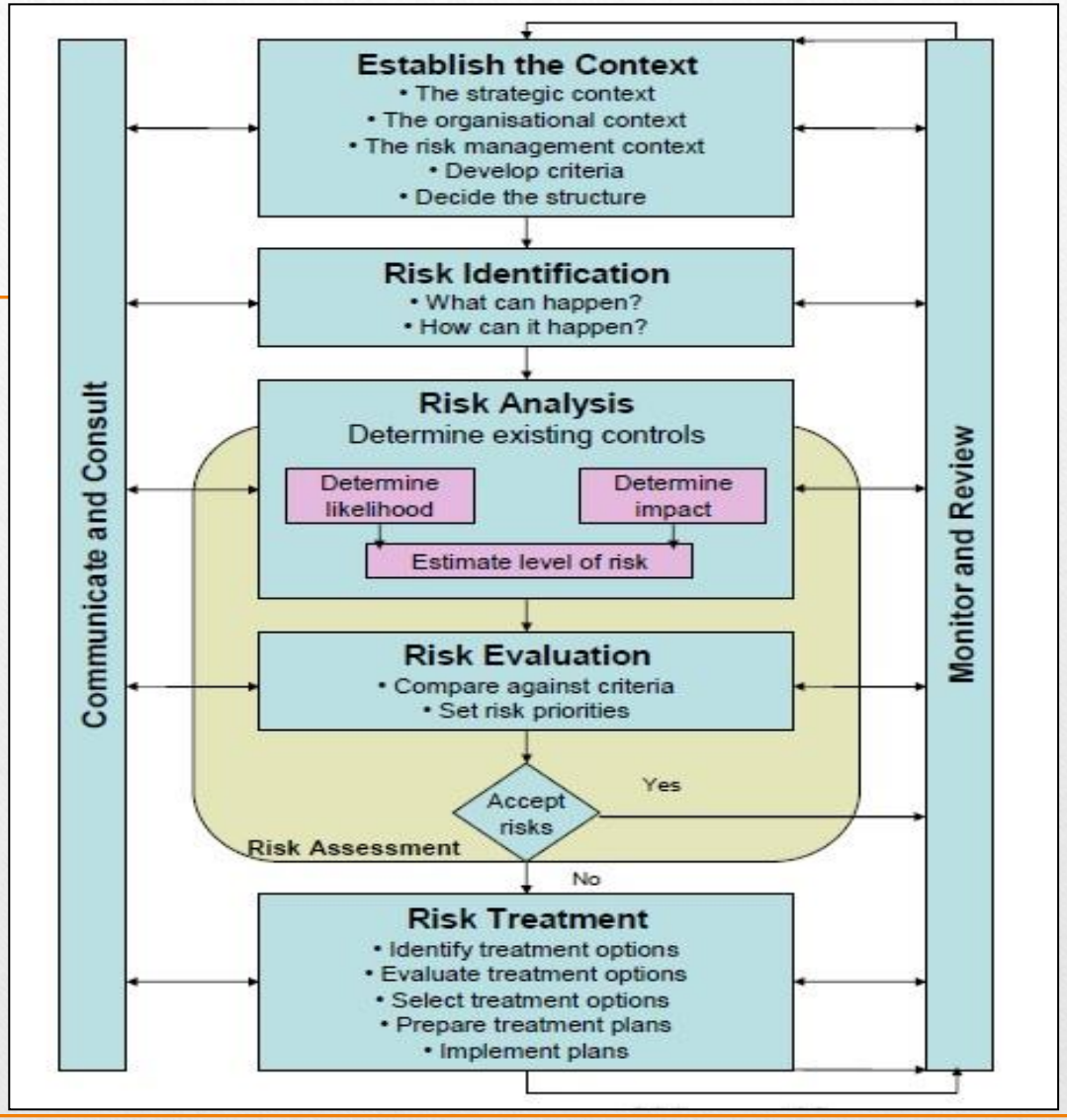


Figure 1 : JKR Risk Management Governance

CURRENT RISK MANAGEMENT PROCESSES PRACTICE BY PWD

7 SUB-PROCESSES



PROBLEM STATEMENT

STATUS OF PUBLIC WORK DEPARTMENT OF MALAYSIA PROJECT WHICH IMPLEMENT RISK MANAGEMENT

SOURCE: PWD RISK MANAGEMENT UNIT & SKALA SYSTEM

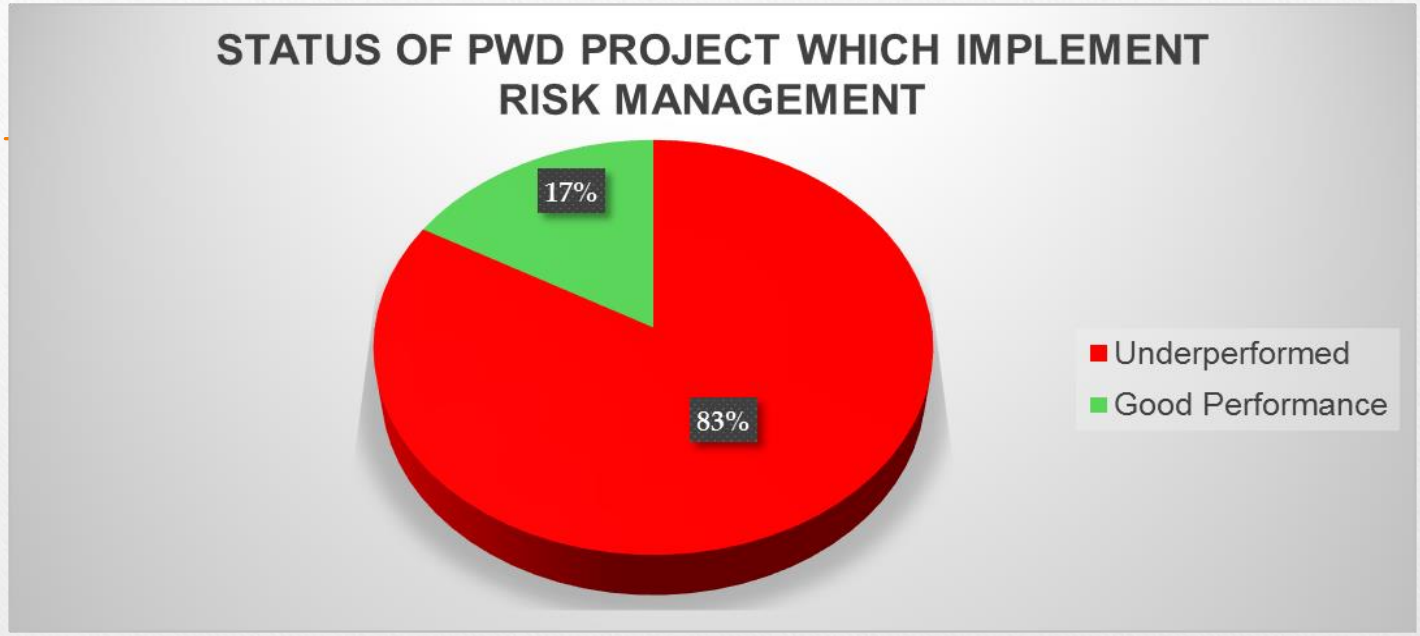


Figure above shows that 83% of PWD projects that implement risk management are underperformed. Only 17% manage to achieve good performance. According to Abdul Rahman Ayub, Nordiana Mohd Isa and Ilias Said (2007), one of the effects of failure of managing project's risks throughout the construction project lifecycle is ineffective project performance.

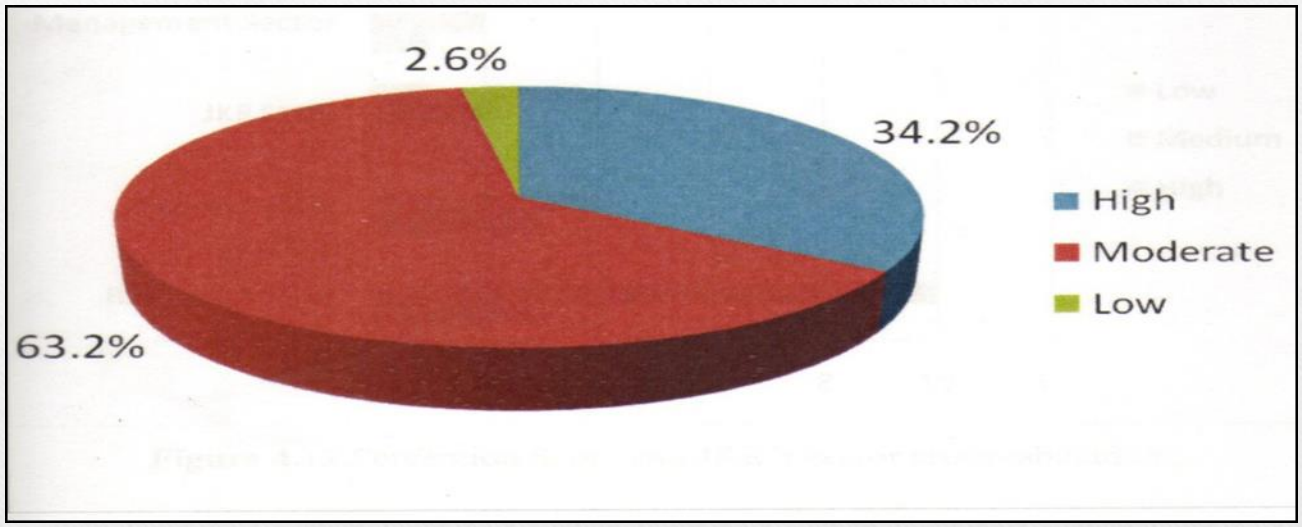
PROBLEM STATEMENT

EFFECTIVENESS LEVEL OF MONITORING AND CONTROL ON RISK MANAGEMENT PRACTICE

IN

PUBLIC WORK DEPARTMENT

SOURCE: Mohd Nazira Mohd Nasir, 2011



Respondent ranked JKR level of effectiveness of risk management
63.2% agree – MODERATE level

OBJECTIVE & SCOPE

OBJECTIVE

The objectives of this study are:-

1. To determine the causes of ineffective risk management implementation in Public Work Department of Malaysia.

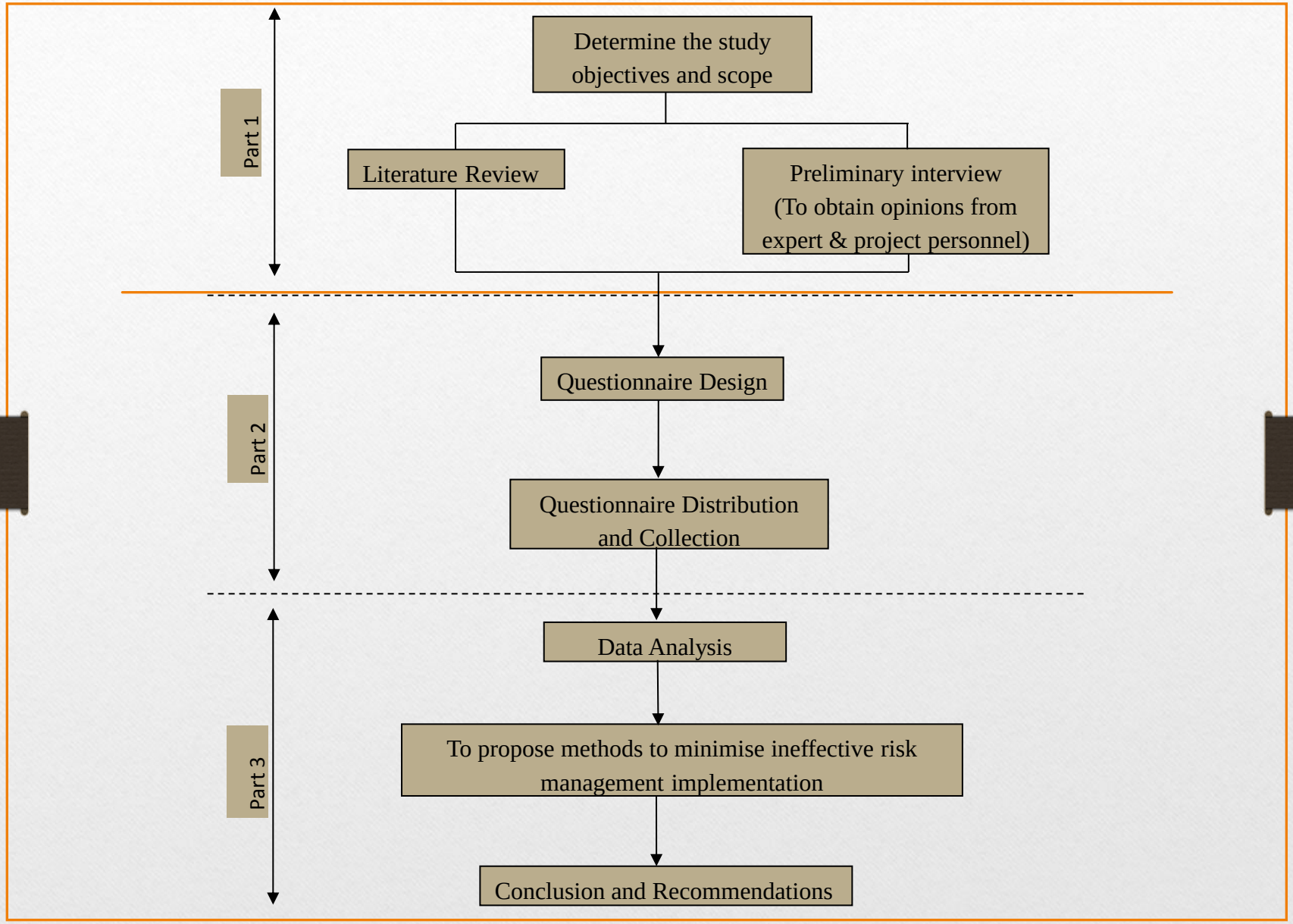
2. To investigate methods to minimise the causes of ineffective risk management implementation in Public Work Department of Malaysia.

SCOPE

The study will focus on the risk management implementation in PWD projects. The selected projects are that implemented risk management especially in construction stage.

The major respondent for data collection will be come from professional PWD staff of Business sectors in PWD. Additional data also collected from professional PWD staff at State, District and Special Projects.

RESEARCH METHODOLOGY-FLOW CHART



QUESTIONNAIRE

PART A RESPONDENT BACKGROUND	PART B CAUSES OF INEFFECTIVE RISK MANAGEMENT IMPLEMENTATION IN PUBLIC WORK DEPARTMENT OF MALAYSIA	PART C METHODS TO OVERCOME INEFFECTIVE RISK MANAGEMENT IMPLEMENTATION IN PUBLIC WORK DEPARTMENT OF MALAYSIA
Branch	Questions no. 1 – no. 17 (based on literature reviews)	Questions no. 1 – no. 17 (based on literature reviews)
Project Stage		
Roles in Risk Management		
Working Experience in PWD		
	Open Ended Question no.18	Open Ended Question no.18

Total of 36 questions are add into the questionnaire. 34 of the questions are put in to likert scale while 2 questions are open questions. Total of 17 causes (Part B) and 17 methods (Part C) was compiled after reviewing literatures.

The 5-point likert scale is use to measure the level of agreement of 1, 2, 3, 4, 5 which represent strongly disagree, disagree, neutral or undecidable, agree and strongly agree is use in this study. The value of 1 was assigned to negative and the value of 5 was assigned to positive (Edmondson, 2005).

RELIABILITY TEST

Reliability Statistics for Questions in Part B: Causes of Ineffective Risk Management Implementation in PWD

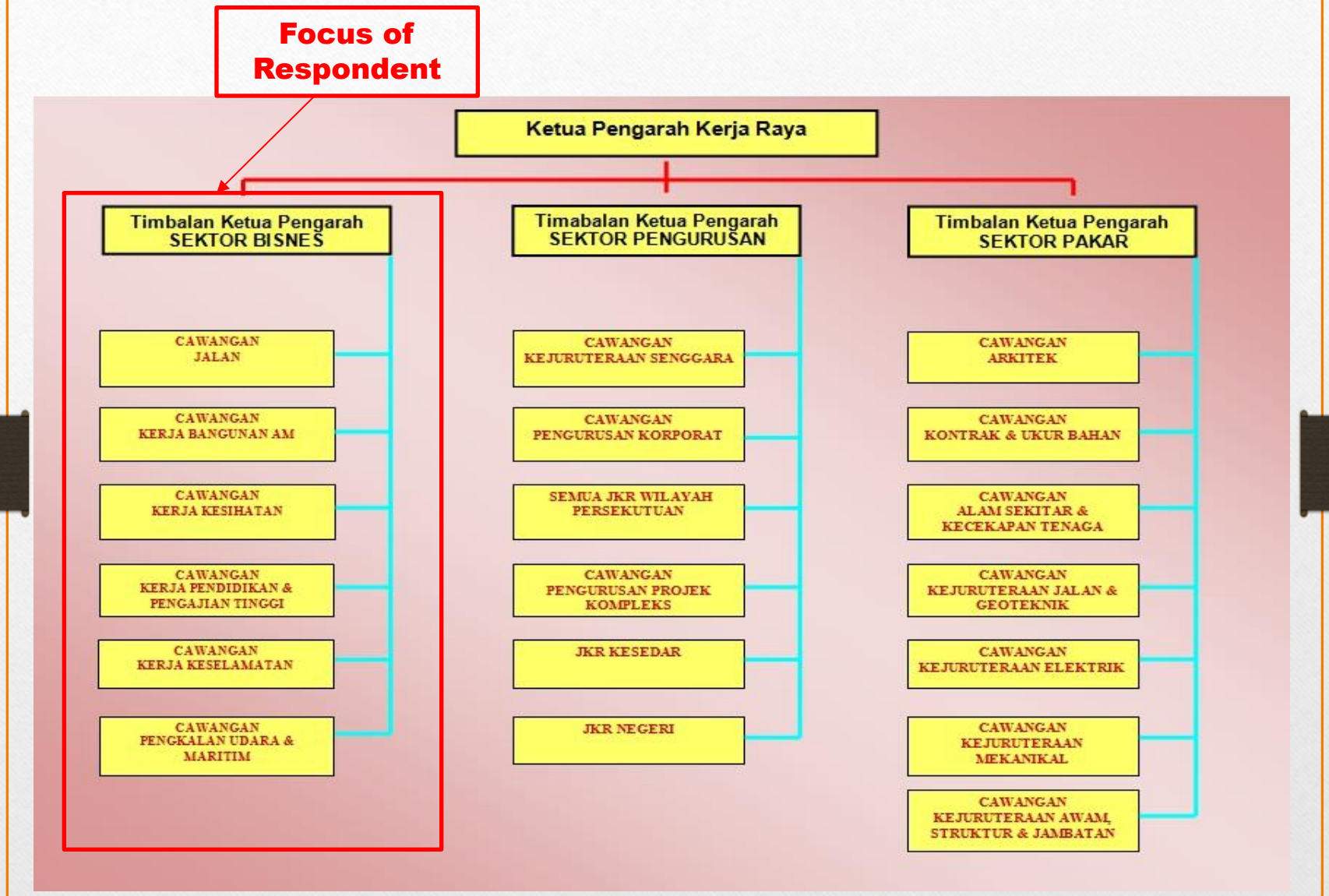
Reliability Statistics	
Cronbach's Alpha	N of Items
0.837	17

Reliability Statistics for Questions in Part C: Methods to Minimise Ineffective Risk Management Implementation in PWD

Reliability Statistics	
Cronbach's Alpha	N of Items
0.875	17

Referring to table above, the Cronbach's Alpha for questions in Part B and Part C are more than 0.60 and 0.70. Therefore, there is an internal consistency exist and revision on the questions is unnecessary.

QUESTIONNAIRE DISTRIBUTION



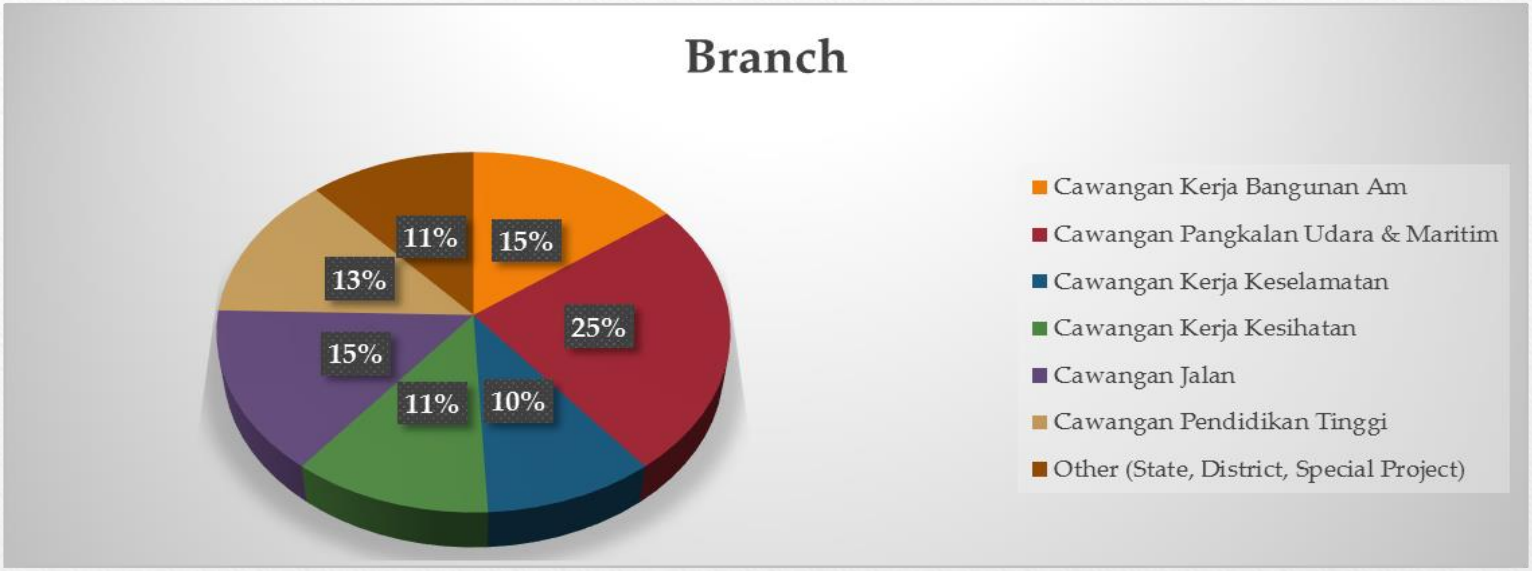
DETAIL QUESTIONNAIRE DISTRIBUTION

No.	Branch	Respondent
1.	Caw. Kerja Bangunan Am	30
2.	Caw. Pangkalan Udara & Maritim	30
3.	Caw. Kerja Keselamatan	30
4.	Caw. Kerja Kesihatan	30
5.	Caw. Jalan	30
6.	Caw. Pendidikan & Pengajian Tinggi	30
7.	Other (State, District, Special Project)	20
	Total	200

Total of 200 questionnaires are distributed. There are no missing values as the form has been design so that respondent are unable to proceed to another question before completing current question.

RESULTS & FINDINGS

FREQUENCY & PERCENTAGE OF RESPONDENT ACCORDING TO BRANCH/UNIT



Branch

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Cawangan Kerja Bangunan Am	9	14.8	14.8	14.8
	Cawangan Pangkalan Udara & Maritim	15	24.6	24.6	39.3
	Cawangan Kerja Keselamatan	6	9.8	9.8	49.2
	Cawangan Kerja Kesihatan	7	11.5	11.5	60.7
	Cawangan Jalan	9	14.8	14.8	75.4
	Cawangan Pendidikan Tinggi	8	13.1	13.1	88.5
	Other (State, District, Special Project)	7	11.5	11.5	100.0
	Total	61	100.0	100.0	

Majority of respondents are from Cawangan Pangkalan Udara dan Maritim with 15 personnel or 24.6%

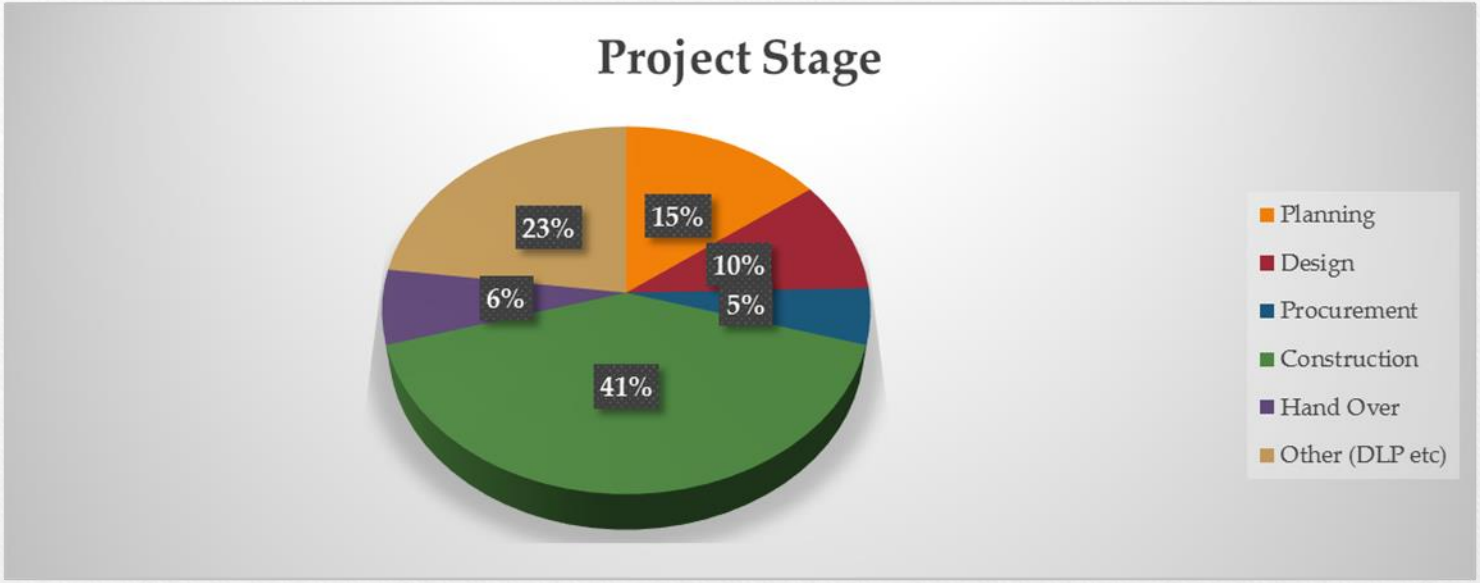
FREQUENCY & PERCENTAGE OF RESPONDENT ACCORDING TO ROLES IN RISK MANAGEMENT

Roles in Risk Management

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Project Manager	12	19.7	19.7	19.7
	Risk Manager	1	1.6	1.6	21.3
	Risk Officer	7	11.5	11.5	32.8
	Other (Project Team)	41	67.2	67.2	100.0
	Total	61	100.0	100.0	

Highest frequency of respondent is project team with 41 personnel or 67.2% while the lowest is risk manager with only one person or 1.6%.

FREQUENCY & PERCENTAGE OF RESPONDENT ACCORDING TO PROJECT STAGE

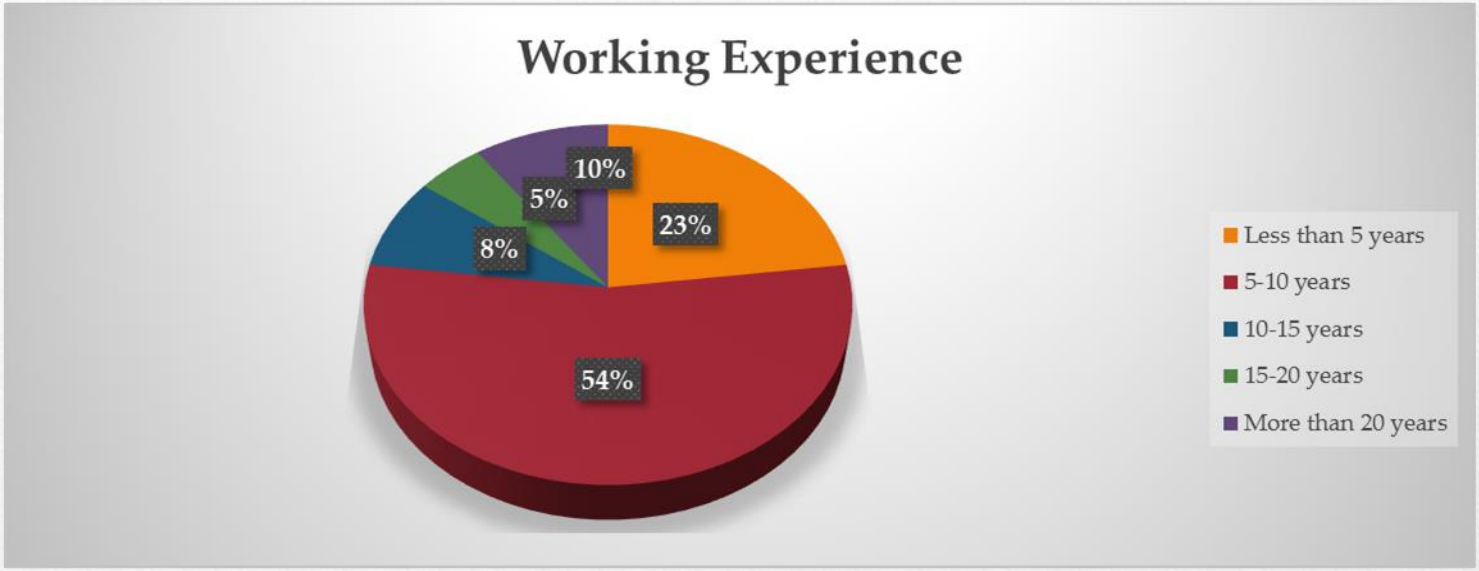


Project Stage

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Planning	9	14.8	14.8	14.8
	Design	6	9.8	9.8	24.6
	Procurement	3	4.9	4.9	29.5
	Construction	25	41.0	41.0	70.5
	Hand Over	4	6.6	6.6	77.0
	Other (DLP etc)	14	23.0	23.0	100.0
	Total	61	100.0	100.0	

The frequency of respondent from construction stage is 25 personnel with percentage of 41%. Lowest frequency of respondents are conducting project at procurement stage with only 3 personnel or 4.9%.

FREQUENCY & PERCENTAGE OF RESPONDENT ACCORDING TO WORKING EXPERIENCE



Working Experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 5 years	14	23.0	23.0	23.0
	5-10 years	33	54.1	54.1	77.0
	10-15 years	5	8.2	8.2	85.2
	15-20 years	3	4.9	4.9	90.2
	More than 20 years	6	9.8	9.8	100.0
	Total	61	100.0	100.0	

Most respondent have 5-10 years of experience working with PWD or represent by 54.1% and followed by less than 5 years. The least respondents come from personnel that have 15-20 years of experience.

AVERAGE INDEX FORMULA

Rating scale (5-pts scale)	Average Index Range	Attributes of Indexes	
		Average Index (Abd Majid & McCaffer, 1997)	
1 = μ1	1.00 ≤Ai<1.50	Strongly Disagree	Less Frequent/Not Ever
2 = μ2	1.50≤Ai<2.50	Disagree	Less Frequent/Ever
3 = μ3	2.50≤Ai<3.50	Neutral/Undecidable	Fair/Sometimes
4 = μ4	3.50≤Ai<4.50	Agree	Frequent
5 = μ5	4.50≤Ai<5.00	Strongly Agree	Very Frequent

The average index formula is = $\frac{\Sigma(\mu \, x \, n)}{N}$

μ = Weighting given to each factor by respondent

n = Frequency of respondent

N= Total number of respondents

CONCLUSION

Study found that **six (6) critical causes** which have the highest average index score among all seventeen (17) causes in the list after the elements are ranked. These causes are chosen because they have the mean value more than 3.80.

The methods are ranked from the highest to the lowest. It can be seen that most respondent highly agreed on **five (5) methods** suggested in this study. These causes are chosen because it has the mean value more than 4.20 which are close to maximum range value, 4.50.

CRITICAL CAUSES SELECTED BY RESPONDENT

QUESTION NO.	QUESTION	AVERAGE INDEX	STD. DEVIATION
10	Special technique required for specific risk analysis especially for complex and high risk project.	3.95	0.845
14	The awareness on the importance of risk management is still low.	3.95	0.865
12	Different perception on risks resulted to discrepancies.	3.92	0.759
13	Lack of team maturity and competency on risk management.	3.89	0.777
17	Interference from external stakeholders such as public, politician and NGOs.	3.89	1.002
15	The negative attitudes and mistrust of risk management due to weak interpersonal relationship also affect on the interest to get involved with risk management training.	3.87	0.763

CRITICAL METHODS SELECTED BY RESPONDENT

QUESTION NO.	QUESTION	AVERAGE INDEX	STD. DEVIATION
3	Risk management will be effective if it is recognise and deal at the early project stage.	4.33	0.676
11	Increase training on actions to deal with risk.	4.26	0.575
12	The risk management training should also involve supporting staff, not only the professionals.	4.26	0.835
4	Top management should increase its project management involvement when the level of project risk arises.	4.23	0.716
16	Risk management will be more successful if client also involved proactively during the risk mitigation process.	4.21	0.798

RECOMMENDATIONS

FOR PWD

- **Increase practice on dealing risk at the beginning phase of project** rather than start managing the risk at the execution or construction phase. The **pre-risk management workshop involving the client, head of design team or consultant and head of project team can be held at the initiation or planning stage.**

- A great leadership is capable to stimulate motivation and team spirit of the staff. The **involvement of top management in risk management can be extended to financial and decision making support.**

- Increase training on actions to deal with risk. Continuous training on risk management is important. Most of PWD personnel that have experience in risk management are able to identify, analyse and evaluate risk but they **lack of knowledge on how to deal with the risk on the ground. So, focus could be increased on risk mitigation strategies** such as risk reduction or elimination, risk transfer, risk avoidance and risk absorbed or allocation.

RECOMMENDATIONS

FOR PWD

- **Involve supporting staff in risk management training.** An interactive online training on risk management that can be accessed by all PWD staff is one of the options. Another option is to **emphasize on coaching and mentoring where risk management is put as one of the aspect that must be included in the training.**

- Recently, most research on risk management is focusing on risk allocation as the construction industry are moving towards cooperative approach. The **risk allocation is included in the contract agreement so that client would participate actively in the risk management process** and avoid risk transfer to the party who has the least amount of control can be avoided. PWD may initiate the effort **developing risk allocation model thus improve the current risk management implementation and contract agreement.**

FOR FUTURE STUDY

- Establish **training modules for risk management that include tools and techniques needed to put theories into practical application** which may lead to effective risk management implementation in PWD.

- Further study on the **risk allocation in PWD contract agreement.** A clear risk allocation among the contractual parties in a project will most likely reduce dispute because each risk is assigned to the responsible party that have highest control capability on the risk.


Thank
You!