

**PROBLEM AND DILEMMA FACED BY  
MALAYSIA CONTRACTOR WHEN  
HANDLING INTERNATIONAL PROJECT**

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**B. ENG (HONS.) CIVIL ENGINEERING**

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PROBLEM AND DILEMMA FACED BY MALAYSIA CONTRACTOR WHEN  
HANDLING INTERNATIONAL PROJECT

MARHAZLIN BINTI MOHAMAD

Thesis submitted in fulfillment of the requirements  
for the award of the  
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## **ABSTRAK**

Hampir malangkaui 20 tahun kontraktor Malaysia meluaskan pasaran dalam industri pembinaan ke antarabangsa bermula dari tahun 1970. Hal ini rentetan berpunca daripada signifikan peningkatan jumlah kontraktor Malaysia yang berdaftar dengan CIDB iaitu 77,799 pada tahun 2015. Peningkatan ini memberi impak yang besar dalam persaingan untuk mendapatkan kontrak projek diantara kontraktor di Malaysia. Walaupun kontraktor berjaya dalam meluaskan industri pembinaan ke luar negara namun beberapa masalah dan dilema yang wujud ketika melaksanakan projek internasional. Masalah ini memberi kesan terhadap hasil kerja yang dilakukan oleh kontraktor Malaysia. Oleh itu, kajian telah dilakukannya bagi memastikan masalah dan dilema yang dihadapi oleh kontraktor Malaysia apabila mengendalikan projek antarabangsa dan membantu mereka untuk mencari alternatif dalam menyelesaikan masalah dan dilema untuk kajian yang seterusnya. Melalui kajian ini, soal selidik yang berkaitan tentang masalah dan dilema telah diedarkan kepada 50 kontraktor Malaysia yang terlibat dengan projek antarabangsa. Berdasarkan keputusan daripada responden, metodologi nombor indeks (N) telah digunakan untuk menganalisis data dan membentuk kedudukan setiap faktor dalam setiap masalah dan dilema dinyatakan. Berdasarkan data yang dianalisis, faktor ekonomi dan budaya merupakan carta tertinggi dalam masalah dan dilemma.



## **ABSTRACT**

The exploration of Malaysian contractors into the international construction market is now more than 20 years old which is from 1970. This is due to increase of Malaysia contractors in domestic market which caused number of contract imbalanced. Although Malaysia contractor gaining success in international project, the problem is exportation of these Malaysian contractor services to the international market cannot avoid them from facing the diversion and differentiation of host countries' which causing problem and dilemma for them. This research, will determined the problem and dilemma faced by Malaysia contractors when handling international project and help them to find alternative in solving this problem and dilemma for the next research. In this research, 50 questionnaires about problem and dilemma had been distributed toward 50 Malaysia contractor which involved with international project. Based on the result, index number, N method had been used to analyse the data and rank each factor in each of problem and dilemma stated. The study has identified that economic and financial aids are the main problem them while construction related risk is main dilemma toward Malaysia contractor.

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## **LIST OF ABBREVIATIONS**

GDP	Growth Development Population
CIDB	Construction Industry Development Board

## CHAPTER 1

### INTRODUCTION

#### 1.1 Introduction

The excellent performance of Malaysian's contractor in many Malaysia's mega projects has nurtured the competencies and capabilities of their expertise. However, the competitive and saturated of domestic market has driven many Malaysian contractors to make significant inroad into global market as a means to effectively capitalize on special expertise. Moreover, by expanding the construction market into the international market also affect the relationship between Malaysian countries with the other country. According to Wong (2007) Internationalization channels the flow of information and resource allocation, bringing people, organizations and countries closer.

Furthermore, Malaysian companies have been investing abroad since the mid-1970s (Ariff, 2006). This will inspired and urged the contractor in expanding their market into the international market. Malaysian construction companies have also started to follow the world economic trend, to globalize their business internationally (WIR, 2006). In addition, construction sector remained significant following the success of Malaysian companies in bidding and on-going work of several large infrastructure, roads and highway projects abroad, especially in the Middle East, South Asia and ASEAN (Bank Negara Malaysia, 2007).

According to Ragayah (1999), there are few reasons on involvement of contractor in international project. The first reason contractor investing abroad is to expand and to find new markets for growth. Moreover, the transaction of cost like the money value in Malaysia with another country is huge which make them carry lot of advantage in payment and experienced that they will gained in other country.

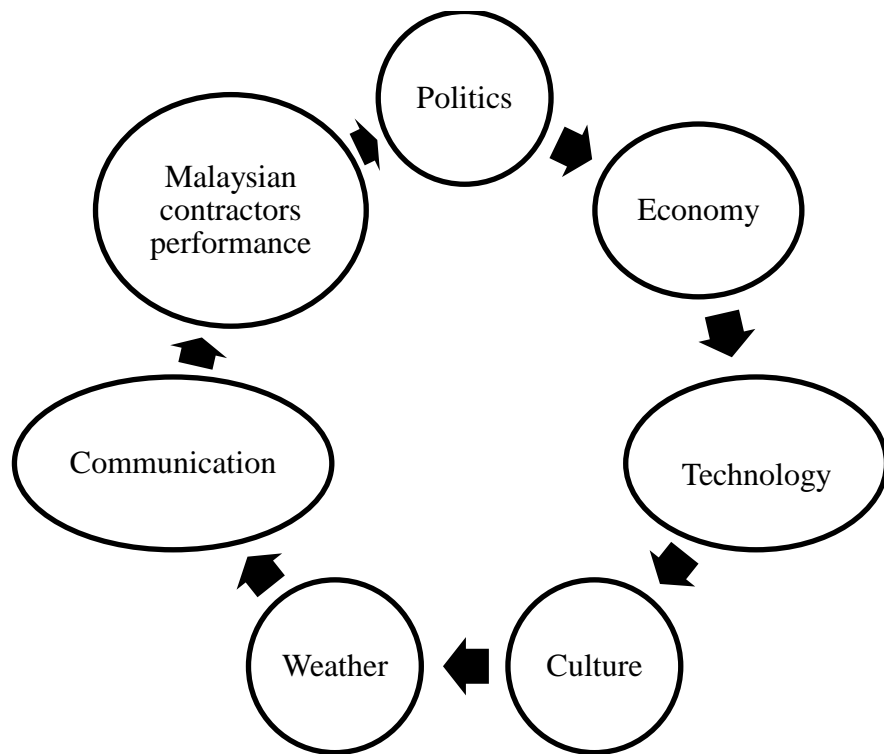
However, before involving or handling the international project, the contractor need to be understand of the three concept which are a) cost as resource commitment; (b) control as level of owner-ship and (c) risk related to the level of resources committed and the complexity of the environment entered (Chen and Mujtaba, 2007).

## **1.2 Background of study**

For centuries, the construction industry has played major roles in the socio-economic development by providing infrastructure support to manufacture products for other industries around the world especially, the developing countries which require basic needs such as roads, bridges, water, sewerage, electricity, telecommunication and housing. In recent trends, the world economy is experiencing major changes due to globalization and liberalization, resulting in an increasing integration of economies around the world. This phenomenon is most evident in construction industry where, in the search for efficiency and lower cost resources many construction-related firms have merged and globalized their operations (Nagar, 2008).

The construction industry is well known for its risky and unpredictable business environment especially in the international market. Hence, the firm's planning to expand into a new unfamiliar environment is not only difficult but necessary due to many factors. Despite the worldwide trend towards globalization which drives huge research efforts on this subject matter few decades ago, not many of Malaysian construction firms are actively involved in the international market. Most construction firms tend to concentrate on the home market. There are obviously factors which contribute to the reasons behind the slowness of Malaysian construction firms to realize the opportunities in the international market. The construction firms may be facing of problem and dilemma that may be experienced during handle in this project. This will lead the project in delayed from a few months to a few years. Hence, this problem will be the barrier for the contractor's choice to expand their service to the international. Hence, the study aims to determine the problem and dilemma for contractor when handling the international project and how this problem will influence their performance in construction industry.

### 1.3 Problem statement



**Figure 1.1** Current issues that related to the research

Based on the Figure 1.3 showed the current issues that related with problem and dilemma that will be discussed further in detail in chapter 2. Involving in construction project either international or local state, contractors will be exposed themselves in problem and dilemma. There will be different kind of problem and dilemma when involving in construction project in local state or international project. Type and level risk that faced by contractor depend on the type of project that had been awarded to them (Aslila, 2005). Thus, construction phase is difficult phase because the contractor is responsible to realise on what client imagined. Thus, contractor need determine the difficulties that will challenge themselves when involving in international project.

There are big differences when involving international and local state project. This will create unusual problem and dilemma when taking international problem such as 1) What are type of problem and dilemma that faced by contractor in Malaysia when involving international project? 2) How this problem effect the contractor performances in construction phase?. Research had been made to determine the problem and dilemma that faced by contractor that involved international project.

#### **1.4 Objective**

- 1) To study the dilemma and problem of contractor facing when involving international project
- 2) To identify and design the question based on the study of problem and dilemma that faced by contractor when involving international project
- 3) To analyse the problem and dilemma that influence the contractor performance.

#### **1.5 Scope of study**

This research mainly focusing on the Malaysian's contractor dilemma and problem when handling the international project and how this problem may influence them. Moreover, in this research, a case study on the performance of contractors and problem occur during construction all around Malaysian states also included.

Firstly, this research is to carry out to ensure and determine the problem and dilemma faced by contractor when handling the international project. Besides that, investigate the impact of this problem toward the contractor performance in construction activity.

Secondly, this research is carrying out by questionnaires to the relevant respondents that have the skills and knowledge regarding to the research topic. Not all respondents has the knowledge that can contribute to the research topic due to not many respondents had the experience and knowledge regarding role of contractor and construction activity.

The targets of the respondents are mainly focus on who have the experiences and knowledge regarding to the contractor's role and construction activity around Malaysia.

#### **1.6 Significant of research**

Based on the knowledge obtained from the study, will able to aware the contractors on obstacles faced by them when involving international project. Contractors will not hesitant to spread their own marketing into international market if they know the problem and dilemma when involving international project.

Moreover, this study also realized the contractors on how to dissolve this matter when involving international project. By knowing the matter occurred during handling the international project, contractor will able to find the solution or alternative to dissolve this problem and dilemma. In addition, if the contractors knew and solved the problem, construction industry might be one of the largest resources incomes for Malaysia if the contractors take this opportunity to expand their construction market into the international market. The other significant of this research listed below:

- I. Defined problem and dilemma that will occur if contractor involved international project
- II. Prepare the resources to continue research on finding the solution for the problem and dilemma

## 1.7 Planning and Scheduling Of Research

ID	ACTIVITIES FOR PSM 1	Start	Finish	Duration	Sep 2016			Oct 2016				Nov 2016				Dec 2016					
					9/11	9/18	9/25	10/2	10/9	10/16	10/23	10/30	11/6	11/13	11/20	11/27	12/4	12/11	12/18		
1	DEFINE THE TITLE OF RESEARCH	9/20/2016	9/27/2016	1.2w	■																
2	MAKING PROPOSAL FOR THE RESEARCH	9/28/2016	10/12/2016	2.2w	■																
3	DETERMINE OBJECTIVE AND CURRENT ISSUES RELATED WITH RESEARCH	10/13/2016	10/20/2016	1.2w	■																
4	CASE STUDY OF CONTRACTORS PERFORMANCE AND PROBLEM OCCUR IN CONSTRUCTION SITE	10/21/2016	11/4/2016	2.2w	■																
5	DEFINE THE METHODOLOGY USED TO DETERMINE THE PROBLEM AND DILEMMA FACED BY CONTRACTOR	11/7/2016	11/14/2016	1.2w	■																
6	WRITING THE CHAPTER 1	10/24/2016	11/16/2016	3.6w	■																
7	WRITING CHAPTER 2	10/26/2016	11/22/2016	4w	■																
8	WRITING CHAPTER 3	11/23/2016	11/25/2016	.6w	■																
9	PREPARATION OF SLIDE FOR PRESENTATION	11/21/2016	12/2/2016	2w	■																
10	ALTERATION OF CHAPTER 1,2,3	10/21/2016	12/7/2016	6.8w	■																
11	PRESENTATION OF RESEARCH	12/19/2016	12/20/2016	.4w	■																

**Figure 1.3** The Gantt chart for activities that occur for PSM 1

ID	Task Name	Start	Finish	Duration	Feb 2017				Mar 2017				Apr 2017				May 2017	
					2/5	2/12	2/19	2/26	3/5	3/12	3/19	3/26	4/2	4/9	4/16	4/23	4/30	5/7
1	DEFINE PROBLEM AND DILEMMA TO MAKE QUESTIONNAIRE	2/13/2017	2/17/2017	1w	■													
2	DESIGN THE QUESTIONNAIRE	2/22/2017	3/8/2017	2.2w		■	■	■										
3	DISTRIBUTED THE QUESTIONNAIRE	3/9/2017	3/22/2017	2w				■	■									
4	PRESENT THE RESULT IN BAR CHART, PIE CHART, ETC	3/27/2017	4/3/2017	1.2w						■								
5	CHAPTER 4	3/28/2017	4/10/2017	2w						■	■							
6	CHAPTER 5	4/12/2017	4/17/2017	.8w								■						
7	PRESENTATION OF FINAL RESEARCH	5/8/2017	5/9/2017	.4w													■	

**Figure 1.4** The Gantt chart for activities that occur for PSM 2



## **1.8 Layout of thesis**

Chapter one contains the introduction and problem statement of the research. The objective, significance and scope of research were also highlighted to describe the purpose of research. Chapter two elaborates about the detail of this research. In this stage, all the information or data will be collected about problem and dilemma that faced by contractor when involving international project.

Chapter three describes the research details. The methodology begins with the elaboration on the problem and dilemma that had been collected based on the previous chapter two. Chapter three also elaborate more on the method that had been used for chapter 1, 2 and 3. At the end of this chapter, the discussion of the method that had been used to carry this research.

Result obtain from the experiment conduct will be discuss and analyse in chapter four. The result will be presented in the appropriate form for example bar chart, flow chart and others. Lastly, the chapter five will conclude based on the result obtained from chapter 4. In this chapter also include the recommendation for this research.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

In this chapter will briefly explained term of construction industry and construction industry toward international market. The most important part of this chapter is definition of construction industry and important of construction industry toward Malaysia economy development. After that, few of statistics about growth development population (GDP), production sectors and Malaysia contractors involvement in international project had been taken in order to explain on how construction industry relate with these statistics. In addition, term of globalization construction industry and encouragement of Malaysia construction industry determined in relate with the Malaysia construction industry penetrate international level Furthermore, previous study of challenges faced by Malaysia contractors involved in international project had been identified in order to know factors that affect performance of Malaysia contractor when handling international project.

Construction industry become on part of big contribution in Malaysia economy development. As population growth increased, there will be lot of requirement in household or another building required in order balancing the quality of life. It can be seen significantly in building development between years 1994 to 2016. Lot of skyscraper building had been built due to increases of population in Malaysia. As the construction of structure increased as bridge, building, damn, highway and others required, amount of contractors in Malaysia registered in CIDB which is 77,799 in year 2015. Thus, Malaysian economy has to perform efficiently to play effective role in making true the dream of developed nation status. The study from (Khan, 2010) examined the role and performance of construction sector of Malaysia during the last two decades of Vision 2020 from 1991 to 2010. Based on results exhibit that there is a strong correlation between construction

sector and economic growth of Malaysia. The construction sector has been playing a significant role in aggregate economy of the country in term of its contribution to revenue generation, capital formation and employment creation which ultimately support the gross domestic product (GDP) and the socio-economic development of Malaysia. Considering the substantial role of construction sector in economic development of Malaysia, it is necessary for Malaysia government to give due attention and focus on construction sector for qualifying the title of developed nation.

## **2.2 Construction industry**

Malaysia as a developing country to rapid economic development. Thus, the construction industry plays an important role in realizing the aspirations of the next meeting basic needs of the people. Construction industry sector consist of planning, design, conservation, demolition and repair various types of buildings and all types of civil engineering, mechanical and other areas of work involved (Ofori, 1990). Construction Industry Development Board Act 1994 (Act 520) stated that construction works refer to the construction, extension, installation, repair, maintenance, renewal, removal, renovation, alteration, dismantling or demolition of:

- a) Any building, erection, edifice, structure, wall, fence or chimney, whether constructed wholly or partly above or below ground level;
- b) Any road, harbor works, railway, cableway, canal or aerodrome;
- c) Any drainage, irrigation or river control works;
- d) Any electrical, mechanical, water, gas, petrochemical or telecommunication works; or
- e) Any bridge, viaduct, dam, reservoir, earthworks, pipeline, sewer, aqueduct, culvert, drive, shaft, tunnel or reclamation works,

### 2.3 Construction industry in Malaysia

$$\text{Economic Growth Rate} = \frac{GDP2 - GDP1}{GDP1} \quad \text{Equation 2.0}$$

$$\text{Economic Growth Performance, } GDP = C + G + I + NX \quad \text{Equation 2.1}$$

Where;

*C = private consumption or consumer spending*

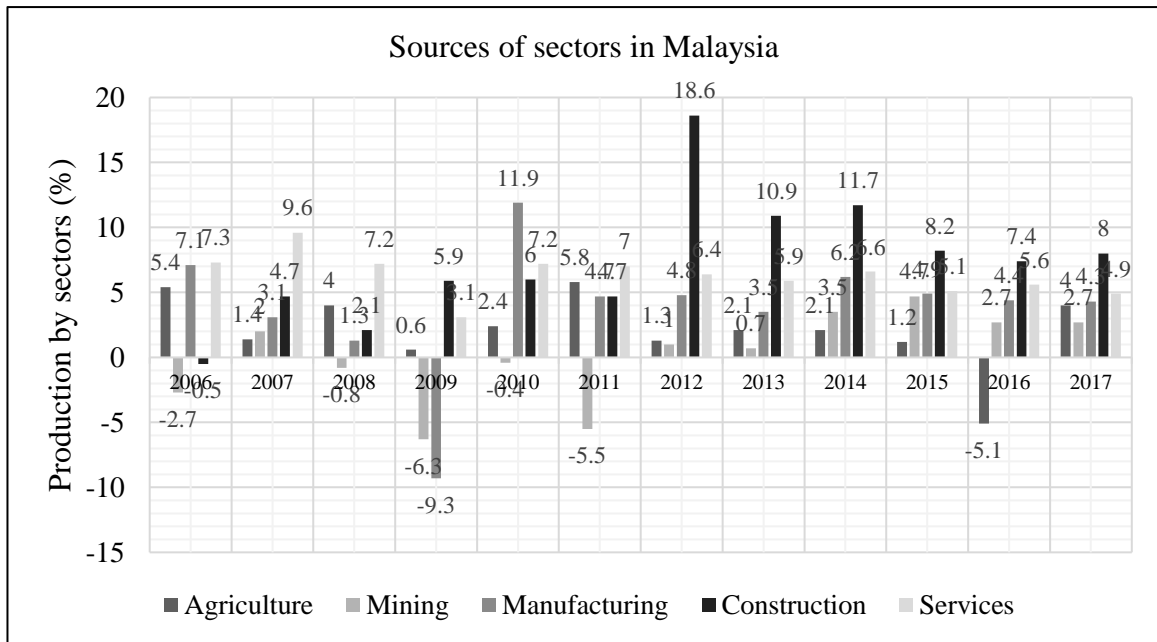
*G = sum of government spending*

*I = sum all the country's business spending on capital*

*NX = net exports (exports- imports)*

Based on equation 2.0 and equation 2.1 showed relationship with economic growth rate in state. As The growth of population increases, consumption and consumer spending also increases which might impact toward growth of economy rate. Thus, government should able in understanding sum of cost spending in enhancing the quality life of netizen. Thus, government will be more focusing in development of household, facilities and other structure to provide a comfortable life for netizen.

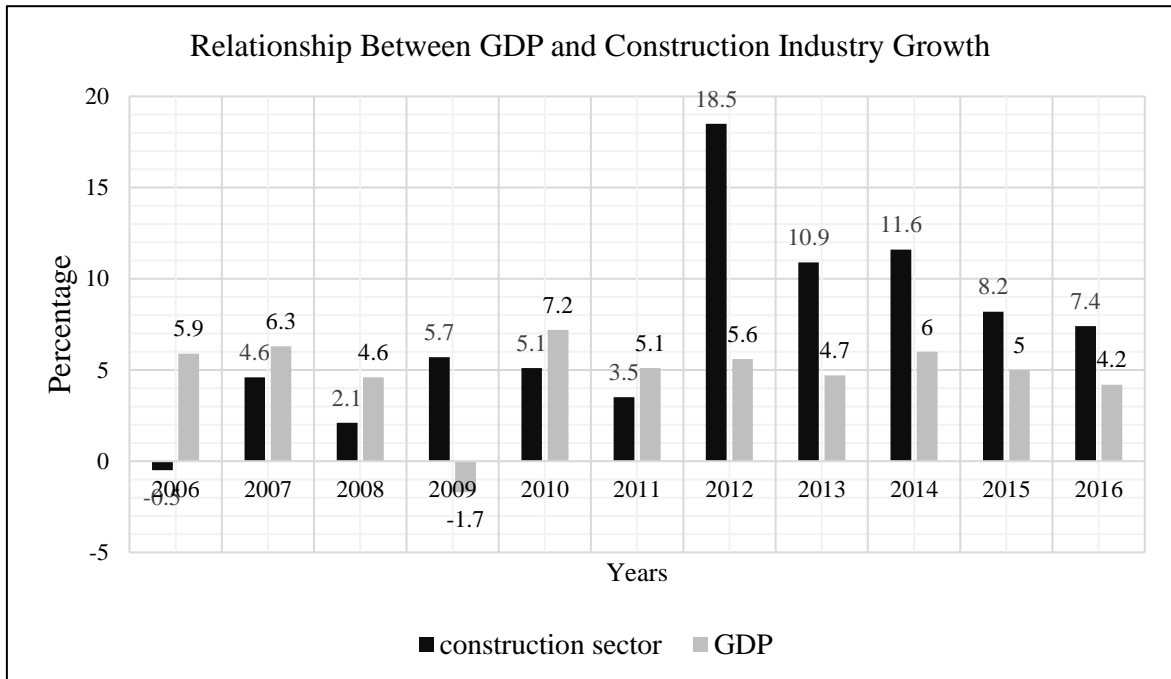
Economy condition gives an impact to growth of construction industry where a good condition of economics performance will boost up the growth of construction industry. When the economy in a good condition, the users demand where users willingness to purchase a particular product or service is increasing. This will lead to the increase of demand for construction industry products for new fixed capital formation.



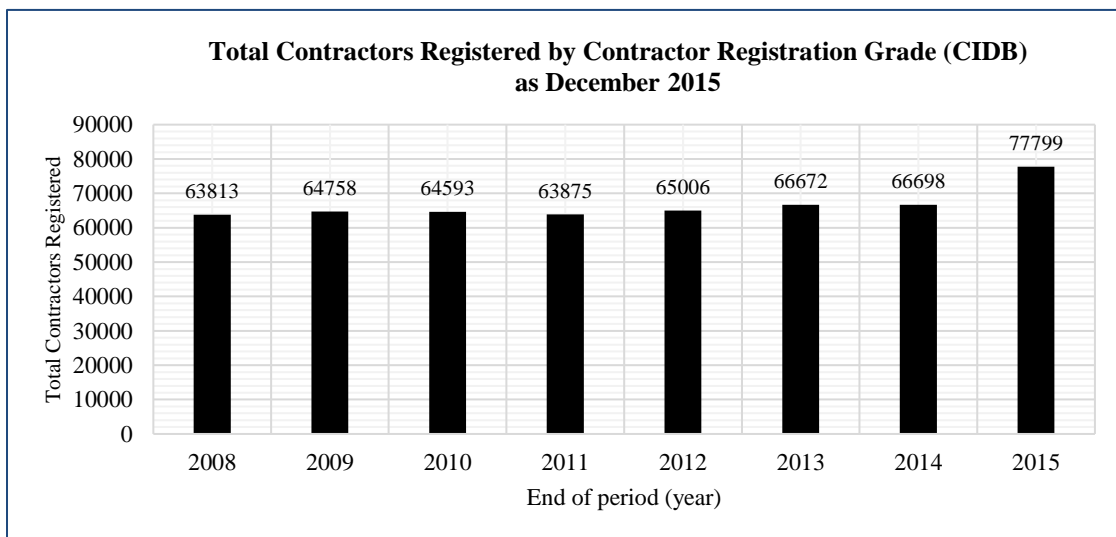
**Figure 2.1** Production of Malaysia by sector year 2006-2017  
 Source: Bank Negara Malaysia, Penunjuk Ekonomi 2006-2016

In Figure 2.1 showed improvement of construction sector in economy development in Malaysia. In past year 2005, construction sector is lowest compared to other year which is -0.5% since Malaysia economy are more focusing in services and manufacturing sector. Moreover in year 2005, services sector is also driven by tourism, business and assisted by trade-related activities, which increased in the second year with the increase momentum in manufacturing production and exports. However, in year 2012, construction increased significantly in 18.6 % followed by services which is 6.4%. The highest growth since 1995 (21.1%), driven mainly by civil engineering. This reflects the efforts that had been taken in improving access roads and rail, improve the capacity for generating electricity, and increases the oil and gas production in Malaysia compared with the rapid growth in 1995, the existing major project is more comprehensive in terms of sector and geographic location. In year 2017, construction sector dropped to 8.0%. The construction sector increased moderately in 2016 (7.4%, 2015: 8.2%). This is due to the faster growth in the civil engineering and residential sub-sector was partially offset by a reduction in non-residential sub-sector. The growth in the civil engineering driven by increased activity in existing long-term projects, particularly in the petrochemical, transportation and utilities. The residential subsector supported by the launch of a large property in the years ago, while the sub-sector special trade continued the work activity early and late. In contrast, sub-

sector is not residence was affected by slower activity in the segment of commercial real estate due to excess supply office and grocery.



**Figure 2.2** Relationship between GDP and Construction Industry Growth 2006-2016  
Source: Bank Negara Malaysia, Penunjuk Ekonomi 2006-2016



**Figure 2.3** Total Malaysia contractor registered with CIDB from year 2008 to 2015  
Source: CIDB, Laporan tahunan 2015

Figure 2.3 showed total of Malaysia contractors which from G1 to G7 that had been registered with CIDB. In year 2008 until year 2015 showed clearly increasing number of Malaysia contractors registered with CIDB. In year 2008 showed that 63,813 contractors registered with CIDB. In year 2015, amount of contractors registered increased to 77,799 which registered with CIDB.



**Figure 2.4** Growth of Construction Sector year 2006-2016

Source: Bank Negara Malaysia, Penunjuk Ekonomi 2006-2016



**Figure 2.5** Number of Contractors involved in International Project year 1970-2015

Source: CIDB, Laporan tahunan 2014-2015

## **2.4 International Construction**

Ngowi *et al.* (2005) described international construction where a company, resident in one country, performs work in another country. Extensive projects in housing, industry, transport and city development that followed the advent of modern construction materials formed the background of what emerged as modern construction industry. Most building construction remained in the hands of small and medium sized local contractors, whereas the major civil engineering projects which required much large scale operations and hence formed a launching pad for international construction. Sebesteyen G. (1998) stated that the first ever international construction company was built up by Pearson in Great Britain where the owner itself accepted a 1 million acre oil drilling concession in Mexico as part of the payment of his services. This situation is one of the examples which later become common among the large construction companies. The appearance of international contractors was the first move in the globalization of construction.

### **2.4.1 Globalization of Construction industry**

A research conducted by Abdul Aziz (1994) determined that the two prime factors for “going global” are long term profitability and balance of growth. It is also supported by others three factors that determine the entrance of construction industries into the international market which are as following details:

- (i) Technological advantages that are associated with possessing formidable construction technologies.
- (ii) Sophisticated management system of scheduling, material tracking and organizing contractors.
- (iii) Financing capability that enables a company to arrange for favourable project financing schedules from international financiers.

## **2.5 Malaysia contractor involvement in International Project**

### **2.5.1 Criteria and requirement of Malaysia contractor going international project**

CIDB had introduced a new registration category, the International Contractor, as the newest category to be included in the CIDB Registration System. CIDB latest initiative is focus to encourage and facilitate the construction industry to formally recognize a listing of Malaysian companies who capable of undertaking construction works and its related



services internationally. Selected contractors who have fulfilled the specified criteria will be included into the international listing. CIDB believed that the new registration which has been introduced will add value to the company and provide the required branding of Malaysian capabilities to ensure continuing success in the international arena as past experiences. All the companies registered will obtain and gain priority to involve in overseas construction missions organized by CIDB. CIDB had clearly defined that the mission are to explore in nature and will focus on targeted markets that CIDB has identified earlier to be viable for Malaysian construction companies to venture into. The objectives of involving in the missions are as following:

- (i) To familiarize the Malaysian construction companies and professional service providers with the business environment in other countries.
- (ii) To explore construction business opportunities and collaboration between Malaysian and others countries counterparts.
- (iii) To promote the exports of Malaysia construction related services.
- (iv) To strengthen the existing business networking.

Malaysian construction companies stand to gain a great deal of benefit from this new registration exercise. Among the benefits accorded are inclusion in the CIDB's Malaysian Construction Industry Directory for International Projects and the CIDB's Going Global publications. This endorsement of the company's achievements will become one of the valuable and informative publications in addition to providing a link for interested parties to network with Malaysian construction industry players. Information and data in this publication is updated on a continual basis to reflect the most current status. CIDB's hope to achieve the objective of enhancing the involvement of the Malaysian construction industry players in the global market, thus contributing to developing the construction industry to be one of the major contributing sectors to the national economy. Further to that, the registered companies will gain priority to participate in overseas construction missions organized by CIDB. These missions are normally exploratory in nature and will focus on targeted markets that CIDB has identified to be viable for Malaysian construction companies to venture into. CIDB has identified the entry level criteria which it has to be based as per the following criteria:

- (i) Registered with CIDB for not less than 3 years under active status.
- (ii) Proven track record in at least one completed project either local or overseas in the related field.

- (iii) Locally incorporated company with minimum of 70% local equity for private companies or in the case of Public Listed companies (PLCs) it has to be Malaysian controlled.
- (iv) ISO 9001 certified.

As stated by CIDB in Construction Industry Master Plan (2007), CIDB received various numbers of requests from international clients, foreign embassies and consulate offices on the information of Malaysian contractors who possessed specific skills and specialization and having such experience operating construction project in international levels. Through this registration and criteria, the registered companies will then entitled to be promoted by CIDB to the local banks and financial institutions, international funding bodies, the foreign high commissions, embassies and international clients potentially. Furthermore, those contractors could be promoted to international clients during the international exhibitions which been participated by CIDB all over the world.

### **2.5.2 Statistics of Malaysia Construction involvement in international project**

Over past 5 years, the total number of contractors that had been registered in CIDB increased to 77,799 in year 2015 compared to 63,816 in year 2008 in table 2.3. Malaysia External Trade and Development Corporation (MATRADE) described construction services as a services which includes general construction works (building and civil engineering construction) and specialist trade or works (mechanical works, electrical and air-conditioning works, plumbing, sewerage and sanitary works, painting works, carpentry, tiling, flooring works and glass works). In the year of 2005, following data finding represent the statistics established by MATRADE based on 2005 Malaysia Real Sector Statistics by them as shown in Table 2.5.

Table 2.1 showed that 76 companies had involved in international project while 127,916 foreign construction personnel. This showed that many of Malaysia Construction Company take an opportunity in spread their construction market in international level to make a significant achievement or milestone of their company.

**Table 2.1** Statistics on Malaysia Construction Services by MATRADE year 2015  
Source: MATRADE, Malaysia Construction Services 2015

Description	Total number
Total number of contractors registered (CIDB)	77,799
Number of construction companies (above RM500,000)	4328
Overseas Malaysia companies	76
Local construction personnel	470,346
Foreign construction personnel	127,916

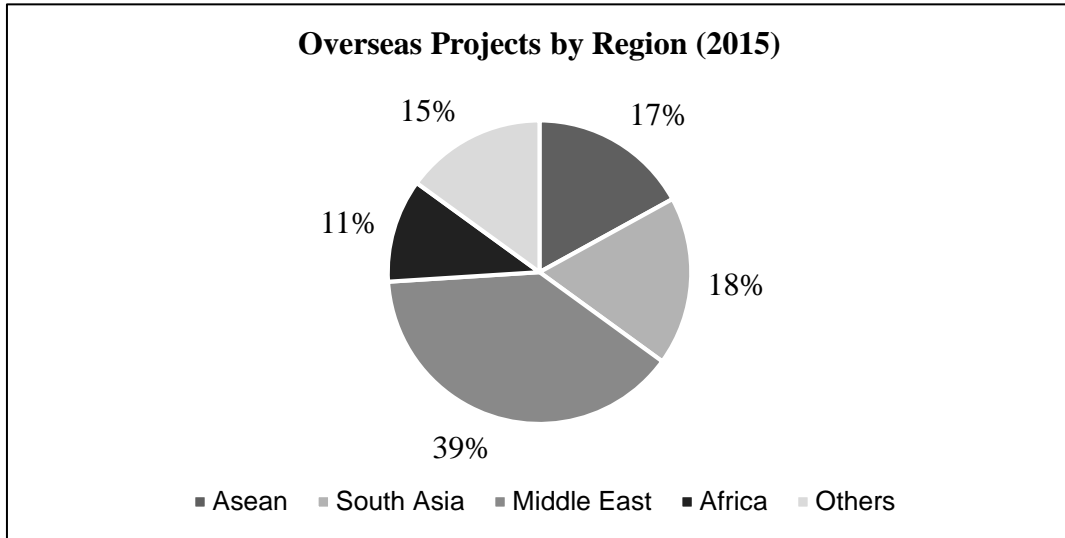
Table 2.2 showed total projects and project valued in year 2015 in each region. Asian region showed that almost 294 projects involved by Malaysia contractors which valued 19,102.06 million. It is followed with Middle East which is RM 43,879.37 million and Middle East consist of higher project which is 166 projects.

**Table 2.2** Total Project and project value in regions year 2015  
Source: CIDB, Laporan tahunan 2014-2015

Segmentation	Total projects	Project Value(RM Million)
Asean	294	19,102.06
South Asia	161	20,889.96
Middle East	161	43,879.37
Africa	46	12,692.53
Others	133	17,431.84

**Table 2.3** List of project progress and project valued (RM Million)  
Source: CIDB, Laporan tahunan 2014-2015

Status	No of projects	Project Value (RM Million)
Completed	721	83,895.86
On going	46	22,262.32
Miscellaneous	28	7,837.58
Total	795	113,995.76



**Figure 2.6:** Overseas Project by region in year 2015

Source: CIDB, Laporan tahunan 2014-2015

**Table 2.4** List of Iconic Overseas Project undertaken by Malaysian Contractors

Source: CIDB, Laporan tahunan 2014-2015

Item	Project title	Contractor	Contract Value (RM Mil)	Started date	Completion Date
1	the Gate District Tower 3 to 8 , Abu Dhabi, U.A.E	Eversendai Corporation Bhd	84.82	Mach-2010	Sep-12
2	Diplomat Commercial Office Towers	Chase Perdana Sdn Bhd	212.8	Jun-08	Feb-12
3	City International Hospital (Ho Chi Minh City, Vietnam)	Ireka Engineering &Construction Sdn Bhd	112	Dec-10	Mar-13
4	The Bahrain City Centre in Manama Bahrain	WCT Engineering Berhad	555.89	Feb-06	Jun-08

The growing number of contractors registered with CIDB cause fierce competition in getting the project. It can be seen through Figure 2.3 which almost 77,799 Malaysia contractor registered with CIDB. Therefore, several major construction in Malaysia take an initiative to get out of the country for involving international project in order to gain a major advantage compared to projects in Malaysia. Some Malaysian construction companies managed to get projects abroad. Based on Table 2.4 showed an achievement of some Malaysia construction company which involved in constructing iconic overseas project. Figure 2.5 showed an increases of Malaysia Construction Company which involved in international project. In year 2012 to 2015, almost 123 Malaysia contractor which involved in international project. This might causes of the good relationship between Malaysia with other government in international project.

Based on Figure 2.6 clearly showed that most of Malaysia contractor involved in region of Middle East which is 39% followed with south Asia 18%. Thus, in this study will more focusing of problem and dilemma faced by Malaysia contractor involving in Middle East region.

## **2.6 Problem and dilemma faced by Malaysia Contractors in International Project**

### **2.6.1 Problem and dilemma definition**

There are different between a problem and dilemma. Usually problems can be solved with single discrete solution while dilemma do not present a clear solution and in most cases are unable to be solved but have to be managed over time toward a resolutions.

## 2.6.2 Challenges faced by Malaysia Contractors in International Project

Several study and research on international projects had identified the dilemma or potential problems that might be occurred during the project life cycle. Some of researchers has identified some of challenges faced by contractor when handling international project. A numbers of 25 challenges and potential issue determined by Zou *et al.* (2007) in a construction projects in China. A parallel survey was also conducted by the researchers in the Australian construction industry to highlight the unique challenges and potential problems occurred.

**Table 2.5** Challenges and potential problems occurred in international ventures projects

Source: Patrick et al., (2007)

Project Aspects	Challenges and problems related
Related to clients	(i) Tight project schedule
	(ii) Project funding problems
	(iii) Variations by the client
Related to designers	(i) Design variations
	(ii) Inadequate programme scheduling
	(iii) Inadequate (site information) soil test and survey report
	(iv) Incomplete or inaccurate cost estimate
Related to contractor	(i) Contractor's poor management capability
	(ii) Contractor's difficulty in reimbursement
	(iii) Poor competency of laborer
	(iv) Unavailability of sufficient professionals and managers
	(v) Without buying insurance for major equipment
	(vi) Without buying safety insurance for employees
	(vii) Inadequate safety measures or unsafe operation
	(viii) Lack of readily available utilities on site
	(ix) Unavailability of sufficient amount of skilled laborer
	(x) Prosecution due to unlawful disposal of construction waste
	(xi) Serious air pollution due to construction activities
	(xii) Serious noise pollution caused by construction
	(xiii) Water pollution caused by construction
Related subcontractors	(i) Low management competency of subcontractors
	(ii) Supplier's in competency to delivers material on time
Related to government agencies	(i) Excessive procedures of government approvals
	(ii) Bureaucracy of government
External issue	(i) Price inflation of construction materials (cost impact)

**Table 2.6** Challenges and potential problems occurred in international ventures projects  
 Source: Zou, et al. (2007)

Technical Challenges	(i) Design failure
	(ii) Estimation error
	(iii) Collision
	(iv) Accidents
Cultural Challenges	(i) Differences in religion
	(ii) Differences in culture and custom
	(iii) Respect of seniority and hierarchy especially among Asians

In this research, Zou *et al.* (2007) stated that most of the problem mainly related with the clients, designers, contractors, subcontractors or suppliers, government agencies and external issues. It is concluded that in order to overcome the obstacle in international project, strategic strategy are needed managing in the perspective of the project stakeholder and life cycle under the Chinese industry background and culture itself. Client, designers and government agencies should work in team from the early of feasibility stage effectively and in time. Meanwhile contractors and subcontractors are equipped with management knowledge and skills to reduce all the potential problems at the construction project.

Moreover, previous research by Zou *et al.* (2007) supported the same study by Ling et al. (2006) which is Singapore firms did faces some challenges and problems when they undertaking construction project at international level especially in India. Besides typical challenges that domestic projects face such as regulatory, design and construction problems, the main challenge that international architecture, engineering and construction (AEC) firms face in India include as following:

- (i) Political and social risks
- (ii) High cost of financing
- (iii) Fluctuating currency exchange rates
- (iv) Huge cultural difference between foreigners and Indians.

Ashwin et al. (2001) also stated that global construction projects that involve collaboration between participants from multiple countries result in unique challenges that

are not faced on intra-national projects. There are evidences and case studies shown that institutional differences such as differences in work practices, legal regulations and cultural values contribute to increased costs on international projects. Three incidents were then describing the challenges encountered on international projects. Table 2.8 clearly described the three incidents which happened in China, Sri Lanka and Germany.

**Table 2.7** Identification of Challenges Category in International Projects

Source: Ling, F.Y.Y and Hoi, L (2006)

Categorize	Challenges and problem related
Natural challenges	(i) Weather systems (hurricane, typhoon, flood and others)
	(ii) Geological systems (earthquake, volcanic eruption, geotechnical issues)
Political challenges	(i) War
	(ii) Civil disorder
	(iii) Industrial relations actions that affect the progress of the project
	(iv) Expropriation and force majeure
	(v) Change in law
Economic challenges	(i) Materials supply
	(ii) Labor supply
	(iii) Equipment availability
	(iv) Inflation
	(v) Tariffs
	(vi) Fiscal policies and exchange rates
Financial challenges	(i) Interest rates
	(ii) Credit ratings
	(iii) Capital supply
	(iv) Cash flows and rentals
Legal challenge	(i) Contract clauses
	(ii) Regulations and codes
	(iii) Building procurement
Managerial Challenges	(i) Productivity
	(ii) Quality assurance and quality control
	(iii) Cost control
	(iv) Human resource management



**Table 2.8** Incident happened in International Projects.

Source: Mahalingam, A and Levitt , R.E,(2004)

Incident	Institution	Regular Behavior
New Chinese Hotel	Design practices	Architects supply shop and working drawings in China but only working drawings in USA
Factory in Sri Lanka	Normative work methods	Irregular bricks and bricklaying techniques in Sri Lanka but regular bricks in China
Glass façade on high rise building	Aesthetic values in façade design	Operable windows in Germany but non operable windows in USA

**Table 2.9** Types of risk in international project

Source: Nieto *et al.*, 2011, Construction Risk in different phase

Discipline	Planning programmed	Preliminary Engineering	Final Design	Construction
Planning	●	●	○	
Environmental	●	●	○	
Funding Approval	●	●	○	○
Project Management	●	●	●	●
Engineering	●	●	●	●
Civil Structural Systems	○		●	●
Cost Estimating	○	●	●	●
Schedulling	○	●	●	●
Budget Controls	○	○	●	
Real Estate/Right of Way	○	●	●	○
Construction Management Oversight	○	○	●	●
Constructability/contractor	○	○	○	●
Other Technical		●	●	●
Risk Facilitation	●	●	●	

- Highly desirable
- Desirable but optional upon circumstances

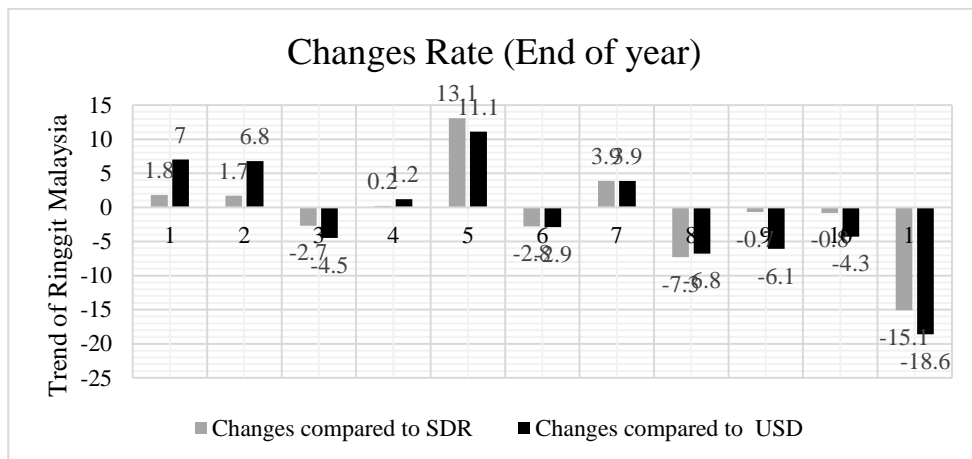
Table 2.9 showed type of risk in construction project. Most of risk frequently happened during final design. Responding risks is involved in developing options and/or

actions to enhance opportunities to achieve the project objectives. Thus, monitoring and reviewing risks revert to implementing a risk response plan, to keep tracking of the risks identified, to monitor residual risks, to identify new risks, and to evaluate the effectiveness of the project risk management process (Nieto *et al.*, 2011).

### 2.6.3 Economy Risk

Year 2016 showed the growth of world (GDP) lowest since global financial crisis. This is due to investment activity slowed in most economy and weak in commodity prices. Inclination of commodity prices affect the pace of recovery in some regions such as Latin America and the Commonwealth Independent States (CIS). Resistance against growth, particularly private consumption activity still exist reflect the adverse effects of the implementation structural reforms, including those related with energy, taxation and pricing.

Foreign exchange rate of a currency relative to other currencies is influenced by other currencies influenced by fundamental and technical factors. Chart showed drop of Malaysia Ringgit higher in 2016 which is -18.6 compared to other years due to effect of commodity prices. This will causing huge gap in trade deficit. In year 2010 having highest rate of Malaysia Ringgit value 13.10 compared to other years.



**Figure 2.6** Changes rate of Malaysia Ringgit with SDR and USD

Source: Bank Negara Malaysia, Penunjuk Ekonomi 2006-2016

Inflation known as a sustained increase in general level of prices for goods and services. Cost of some item tends to increase over a time or in other way the same dollar amount buy less of an item over time. Increase inflation will effect the general level of prices for goods and services provided. Having increases in inflation will effect the management in cost required to purchase goods and services in labour work.

Based in table showed the relationship of GDP with rate inflation faced by whole world in 2015 and 2016 excepted United States since it inflation core is supported mainly service such as medical treatment. India also having high inflation in 2016 which is 4.9 due to it high GDP, 7.5%. Overall inflation moderated in area euro, at an average of 0.3% in 2016 while 2015 is 0%. The same trend is seen in some economic Asia, including Thailand and Korea.

### **General inflation rate**

$$fn = \frac{CPI_n - CPI_{n-1}}{CPI_{n-1}} \quad \text{Equation 2.2}$$

Where;

$fn$  = general inflation rate

$CPI_n$  = consumer price index at end period n

$CPI_{n-1}$  = consumer price index at base period

n = end period

### Specific inflation rate

$$f_j = \left( \frac{CPI_n}{CPI_o} \right)^{\frac{1}{n}} - 1 \quad \text{Equation 2.3}$$

$f_j$  = Specific inflation rate

$CPI_n$  = consumer price index at end period n

$CPI_o$  = consumer price index at base period

**Table 2.10** Growth development population with rate of inflation year 2015-2016

Source: Bank Negara Malaysia, Penunjuk Ekonomi 2006-2016

	Pertumbuhan KDNK Benar (Perubahan tahunan, %)		Inflasi perubahan	
	2015	2016a	2015	2016a
Pertumbuhan dunia	3.2	3.1	-	-
Perdagangan dunia	2.7	1.9	-	-
Ekonomi Maju				
Amerika Syarikat	2.6	1.6	0.1	1.3
Jepun	1.2	1	0.8	-0.1
Kawasan Euro	1.9	1.7	0	0.3
United Kingdom	2.2	1.8	0	0.7
Asia Sedang Pesat Membangun	<b>5.8</b>	<b>5.7</b>	<b>1.7</b>	<b>1.9</b>
Korea	2.6	2.7	0.7	1
China Taipei	0.7	1.5	-0.6	1
Singapura	1.9	2	-0.5	-0.5
Hongkong SAR	2.4	2	3	2.4
Republik Rakyat China	<b>6.9</b>	<b>6.7</b>	<b>1.4</b>	<b>2</b>
ASEAN- 4	<b>4.6</b>	<b>4.8</b>	<b>3.6</b>	<b>2.4</b>
Malaysia	5	4.2	2.1	2.1
Thailand	2.9	3.2	-0.9	0.2
Indonesia	4.9	5	6.4	3.5
Filipina	5.9	6.8	1.4	1.8
India	<b>7.5</b>	<b>7.5</b>	<b>4.9</b>	<b>4.9</b>

#### **2.6.4 Technology Risk**

In each country, the technologies applied are diverse, starting from simple construction which the construction is traditionally used until to how the construction build in complex way and required high technology. In each construction project, the construction method can be selected from various combinations of technology that is likely to comply with the terms of such factors as cost, resources and building laws that must be followed. Competency in using mobile technology in most of the projects will make easy the construction industry involved with lower investment. According to Moavenzadeh (1978), using of another contractor which had knowledge in advanced technology is compulsory since the development of certain country which required skill worker in build high riser building.

The presence of technology in everyday life no longer severity toward of a human. In fact, the human relationship with technology is becoming increasingly important in 2017. One of branch, which also focused on implementing technology into a project are construction sectors. By implementing technology in construct a building, the requirement for labor work will be less and save cost. When approaching the technology, the technology is divided into two categories, either in the form of virtual or physical. In construction, these two aspects are applied to complete the project as directed by the client.

BIM (Building Information Modelling) software is one of the new approach, which is still widespread in Malaysia, but it has long been used in other countries. Building Information Modelling (BIM) is an intelligent 3D model-based process that equips architecture, engineering, and construction professionals with the insight and tools to more efficiently plan, design, construct, and manage buildings and infrastructure (Houston, 2014). By using this software will able to show buildings in 3D. This will easier the worker to understand on each part of the building since the building in 3D. In construction, they will need to hire a skilful and experienced worker in BIM software which also need some cost. Contractor will faced with dilemma with if taking the project in other country since Malaysia still currently not similar in this technology.

There are few of advance device and machine that had been created since 2014. By using this device will enable the work easily and save the time for carrying some certain work. As example, Pegasus Two that used for surveying work (Morano, 2015). By

introducing of Leica Geosystem's Pegasus: Two vehicle-mounted HDS scanning system, it capable of performing 360-degree corridor surveys at more than 50 miles per hour. Since surveying work is complicated work in order to produce a chainage and levelling drawing. By making some mistake will effect the building and cut and fill work which relate with cost required. Hence, applying Pegasus Two will generate the result appropriately and precise but for Malaysian contractor, it will be more costing for them since they will need specialized to handle this device.

Drone surveying also device that used in construction site. It is in small size, remotely operated multiple-rotor aircraft. Drone have come to the AEC industry, and they are providing a revolution in surveying of our world. They had been armed with high-resolution digital cameras and advanced software, these little aircraft are set to take surveying to new heights. It is suitable to use for surveying a wide area. In automobile industry, technology had been developed toward the mobile to help the worker carrying their work and save time required to finish their job. However, in managing this equipment, the worker need to gain some skill and maintenance work. As example, the machine used to fill the concrete without using the labor energy. The device had been attached to the machine to make it easy to be controlled.

#### **2.6.5 Geographical Risk**

The different weather also one of the challengers part for contractors during construction phase. The different temperature and humidity will affect the building structure and time for finishing it. Contractor need to have specific knowledge of construction building's technique when facing with different temperature and humidity. Will the different temperature effect the term of project and how the contractor able to overcome this situation? Furthermore, each of different country also had their own season and disaster. Contractor had to consult with the expert before starting build the structure.

Malaysia known as the best country since it located nearest equator which is between latitude 1°N - 7°N and longitude 98°E – 119°E (Online, 2016). Malaysia is tropical climate which having humid weather all year. So, it is easy for contractor to predict the material and technique for building structural since Malaysia only have spring and rainfall all the year. There are few types of disaster which occur in Malaysia as example

flood, wind typhoon and landslide. This matter not affect them since they know on how to handle this matter compare to different country.

Japan is one of the country that consist of four types of season which are spring, autumn, winter and summer. Japan also experienced with natural disaster like earthquake, T-tsunami and others. The material and structure design will be different since it need to consider the other vertical load impact on the structural. The material of structure also must able to withstand with four season in year. Safety of worker also need to be focused more since they are exposed to the dangerous disaster and different type of temperature which effect their health. One of large disaster happened on Japan is large earthquake with depth of 30km at Fukushima (BBC, 2016). Malaysian contractor need to prepare themselves when it comes to disaster.

Rajgarrh, Rajasthan located in India also one of the city which experienced with extreme temperature (Pioneer, 2017). During May and June, this place will continues to roll under heat waves in May and June. The heat soars up to 50 degrees in afternoons. This will be a problem for contractor to ensure the humidity of concrete before achieving it strength and considering of the labor worker due to hot temperature. This matter will be continue due the winter which sometimes experiences temperature below the freezing point.

Oymyakon is the coldest village on Earth which the temperature can hit -71.2C (O'hare, 2013). This place located at Russian which has the lowest temperature for any permanently inhabited location. The locals need to ensure their own cars keep running all day for fear of them not starting again if turned off. Hence there will be lot of thing need to be considered during construction phase as example fuel for generating the mobile and machine, time for finishing the project and others. This is because of lowest temperature, contractor need to know and act during building the structure.

The problem may arise if contractor had not given the information of site condition as example the soil condition and previous disaster which happened on the site construction. This problem will give an impact toward performance of structure and effect of decision made for foundation work.

### **2.6.6 Communication Risk**

Communication is simply the act of transferring information from one person to another. Communication can come in two way, whether in speak or body language. In construction, it important for both parties understanding the information channelled toward them. This is to avoid any mistake error during construction phase which can cause the cost predicted. Thus, communication strategies should be based on a thorough understanding of the ways that humans co-operate in joint undertakings, the key principles of social dynamics and learning theory plus the ways in which people deliver, accept and understand words and pictures.

Language is one of the barrier when channelling the information to other person by speaking. There will be difficulties and take time explain back to other person. There is no need to worry if both understanding English as the main language. It will be another matter if one person does not able to speak English. In Malaysia, contractors are more comfortable to use Bahasa Melayu to communicate with their worker although Malaysia consist of different racists. Although the workers are from Bangladesh, Nepal, India and others, they also speak in Bahasa Melayu to channel the information to contractor since they are fast learner in this particular language.

However, the problem will be exist if Malaysian contractor involved in international project. As example in Japan, they need to learn Japan language first to ensure the worker know on what the contractor instruct them. Japanese people lack in English language due to inadequate practice and reinforcement of lesson. Hence to communicate with worker or deal with Japanese, need to be more precise and slowly pronounced to ensure they understand. So, it will take time and some error information might exist during presenting the information toward them. It will be problem for contractor to pronounce each word which need some interpreter to communicate with Japanese.



### 2.6.7 Culture Risk

**Table 2.11** Types of culture factor with problem

Source: Lumeno, S.S, *Masalah Budaya Dalam Proyek International Joint Venture 2011*

No	Culture Factor	Problem
1	Language	- The level of understanding of the instructions - Mastery of the international language
2	Communication	- Submission of information - Acceptance of information
3	Work ethic	- Level of commitment in work - Desire to work - Motivation, hardworking, diligent, tenacious - Team work - Discipline
4	Social environment	- Level of understanding of work environment - Employee environment
5	Trust	- The level of trust between employees - Level of confidence in acceptance and assignment

Based on the Table 2.11 defined types of factor in culture problem. These factors create a problem which might giving a dilemma toward Malaysia contractor while carry out international project. In construction the studies relating to culture have concerned:

- Impact of nation's culture on construction activity (Rwelamila et al, 2000)
- Culture of construction firm (Liu and Fellows,1999)
- Culture of construction site (Applebaum,1991)

According to Zaadiah (2008) culture comprises values that may never change because they have been internalized by people and are emotionally held. Thus culture plays an important role in the people's way of life. Based on result obtained from interviewee (Zaadiah, 2008), the unique and specific culture risk faced is the unfamiliarity with the local culture but all experts responded that there is no big different to compare with

Malaysia culture. Although the peoples in Middle East are modernizing, the people are still very attached to culture and tradition. The experts suggested that in order to make the venture successful, it is important for new firms to understand and respect their culture and way of life by becoming a good corporate citizen. Compliance with local culture and tradition is the best way to win trust and receive friendly treatment from the local population. Besides that Malaysia contractors need to know more about the country and to establish relationship with the locals. Through the understanding of their culture, communications becomes more effective and foreigners are more certain of the true intentions of the local party.

Communication should start from top beginning with the client, architect, consultant and contractors. As construction undergo a long period of work, it is necessary to have a staff from Malaysia to manage business operations in Middle East. It was found that it is difficult in stationing staff especially those who are more senior and experiences which have commitment on the family. Experiences and senior staff are required to work in challenges projects and to solve prompt technical problems. It is difficult to persuade the staff to stay in longer period. To address to this risk, firm should decide by giving the staff with high paid salary plus necessary allowances and necessities needed by them.

## **CHAPTER 3**

### **METHODOLOGY**

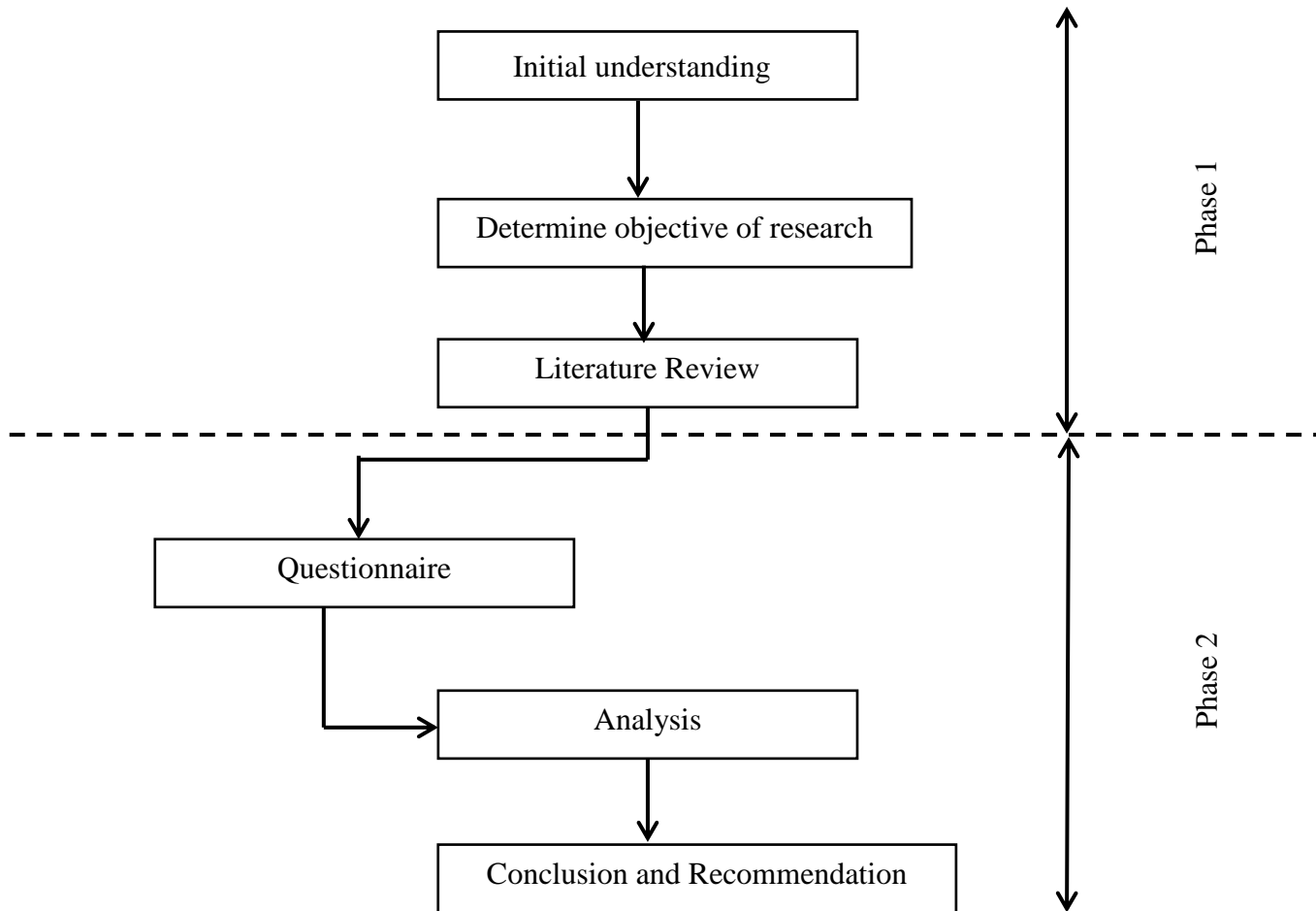
#### **3.1 Introduction**

In order to achieve the objective stated in chapter 1, a few method was taken in finding sources. Sources are including of primary data which collected from respondent which answered the questionnaire and secondary data which obtained from literature review.

In chapter 2, the problem and dilemma that faced by Malaysia contractor when handling international project were identified. Some resources taken from journal, web, case and others. In chapter 2 also elaborated each of research taken in relating the problem and dilemma which faced by Malaysia contractor involving in international project.

In chapter 3 are being discuss each phased of this research in detailed. Furthermore, this chapter explained on how the data obtained in achieve the second objective which are designing the questionnaire to distribute to Malaysia contractor around Malaysia.

### 3.2 Research methodology



**Figure 3.1** Flow chart of the whole activity in this research

Two phases had been created to achieve the objective of this research. Illustration of each phase in this research showed in Figure 1.1. Each phase elaborated based on the listed below.

### **3.2.1 Phase 1**

Phase 1 consist of three stage which are initial understanding, determine the objective of research and literature review. Methodology of the stage of this research will begin with the stage of the literature review to obtain an appropriate research. Moreover the literature review is carried to obtain the background of research. By obtaining the problem statement of this research, objective and scope of the research can be stated. Literature review carried by study the journal, newspapers, internet, thesis and books. Data collected from the resources will be referenced when designing the question in questionnaire of this research. The points below showed the purpose of literature review.

- I. Obtained the information and knowledges of issues that related with the research
- II. Determine problem and dilemma that faced by contractor involve international project

### **3.2.2 Phase 2**

Phase 2 consist of designing questionnaire, analysis of data that obtained from respondents and conclusion and recommendation. In this phase the question will be designed based on the data obtained from latest issues and other resources. After designing the question, the question will be distributed to the contractors in Malaysia. The result obtained from the questionnaire will be discussed and analyse. Based on the result analysis, recommendation and the conclusion of this research will be made.

### **3.3 Questionnaire**

Questionnaire will be the primary data collection which was selected as survey method for this research. The data collection is based on the "open-ended" questionnaires will be given out 20-50 respondents to relevant person who has the experience and knowledge in contractor's role in handling project. The questionnaire was designed in several sections and categories, the questionnaires will be distribute to the construction industry companies located in city area of Kuantan and other area. The target respondents to distribute the questionnaire are mainly focus on the person who has knowledge

regarding to the dilemma that will occur during handling construction project and how it will affect the performance of contractor.

### **3.3.1 Designing questionnaire**

In each part of question had been ranked from rate 1 to rate 5 of difficulty that faced by Malaysia contractor when involving international project. Rate of difficulty is from lowest to higher difficult which is from 1 to 5.

#### **3.3.1.1 Section A**

Section A is general information about Malaysia contractor which are their gender, age, experience involving international project, amount of international project that had been carried out.

#### **3.3.1.2 Section B**

Section B is data of problem stated from previous literature review. A few factor that taken as questionnaire in section B which are

- Economy problem
- Politic
- Technology
- Contract Risk
- Procurement Risk

#### **3.3.1.3 Section C**

Section C is question which relate with dilemma experienced by Malaysia contractor faced when handling international project. A few of dilemmas taken as point of question in section C which are

- Construction Related
- Culture

- Design Risk
- Communication

### **3.4 Other resources**

Secondary source can be collected through journal articles and journal review. In this secondary source, carry out study as much journal articles as possible in order to understand and provide help on this research topic. Other than that, other secondary source in including books, newspapers, magazines, internet sources, senior dissertation will also be carried out to conduct this dissertation. The information that has been review or study must relate to the research topic in order to carry out this research efficiently.

### **3.5 The Result of Analysis and Findings**

The data can be collected through surveying in questionnaire method. The structure of the questions is based on the research topic which is dilemma and problem that will be faced by contractors during handling the project and how this matter effect the contractor's performance. Approximate 20-50 sets of questions are send to the relevant respondents who has the experience and knowledge with the construction project and responsibilities of contractors at the construction site. The respondents are mainly targeted on the contractors, project manager, specialists, professionals, and others.

After the data of questionnaires has been collected and gathered, the analysis result will be analysed and present into bar charts, pie charts or histogram form with explanations in details regarding to the data collected. Form the data that had been collected, writing up of the content of the dissertation is used in this stage to write up the result of analysis and findings that cover the chapters proposed in every each of the following section.

### 3.6 Method of analysis the data

$$\text{Average Index} = \frac{\sum (a X)}{N}, X = n / N \quad (\text{equation 3.1})$$

Where;

a= amount of respondent that respond to the rate given (1-5)

X=Rate that had been given (1-5)

N=Total respondent

Based on the equation 3.1 used to rank each element in each of problem and dilemma that had been identified in questionnaire. Symbol of a represent as amount of respondent which thick the rate of difficulty faced by Malaysia contractor when involving international project. Moreover N represent as total amount of contractor which answered the questionnaire which distributed toward them. X showed as the rate of difficulty which provided in questionnaire.



## **CHAPTER 4**

### **RESULTS AND DISCUSSION**

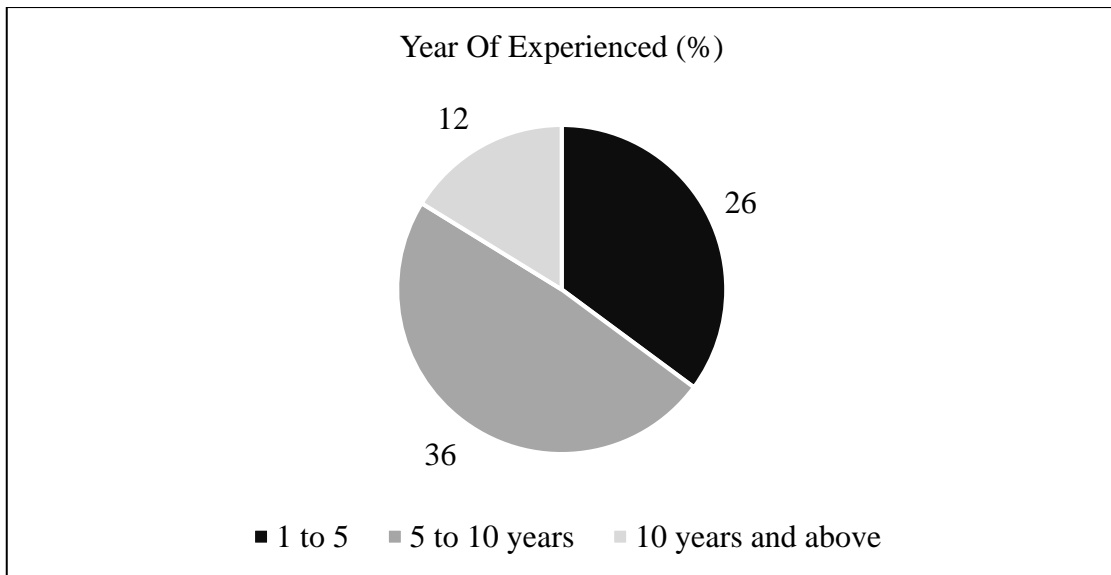
#### **4.1 Overall Result of Questionnaire Distribution**

Out of 65 questionnaires mailed to selected respondents, a total of 50 had been replied where data findings. These questionnaires will then support the previous data findings through the interview session that has been conducted earlier. Respondents comprise with experience of handling international project which had knowledge of management in construction.

#### **4.2 Section A (Background Analysis)**

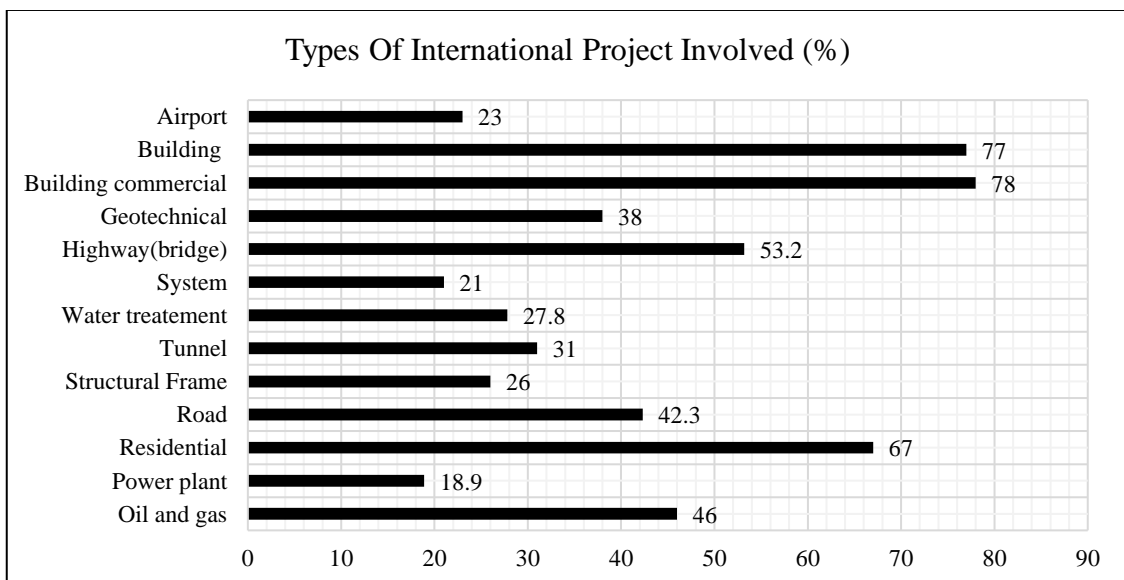
For question A which knowing the detail of Malaysia contractor background, a few aspects had been asked to analyse and related with study of research. This section divided in a few elements which are

- i. Know year experiences of Malaysia contractor involving international project
- ii. Know number of international projects that handled by them
- iii. Know on how many project that had been completed and still on going
- iv. Know types of international project which taken by Malaysia contractors



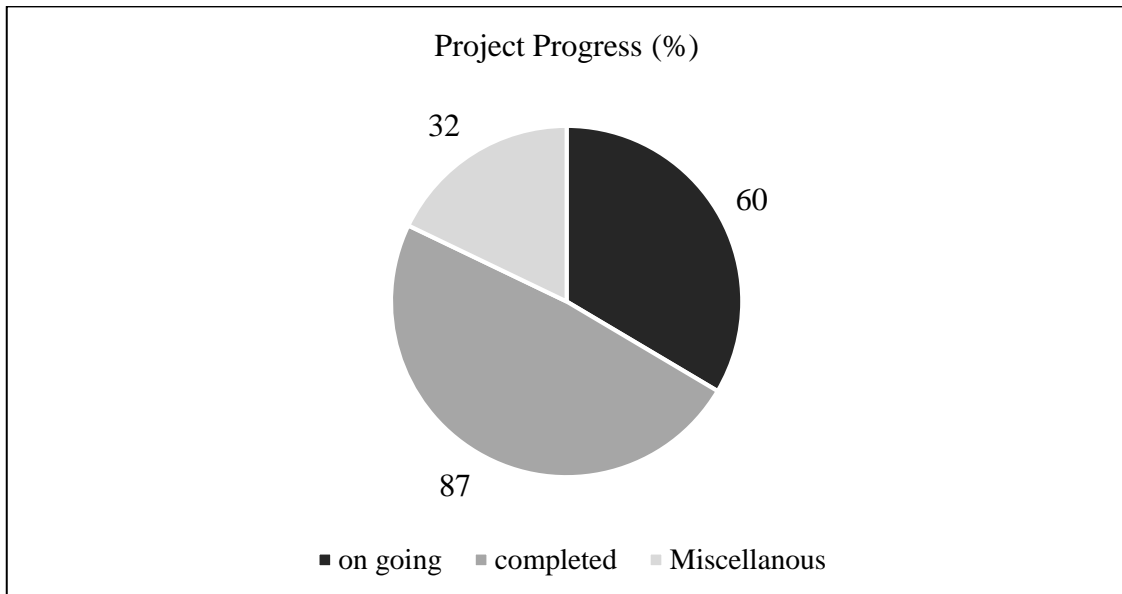
**Figure 4.1:** Year of experienced which Malaysia contractor involving international project

Figure 4.1 showed on data obtained from respondent which years of involving in international project. Almost 12 % of respondent had been contributed in international project above 10 years. Moreover, most of the Malaysia contractors involved international project between 5 to 10 years which are 36%. Lastly, there are 12% of respondent involved international project between 1 to 5 years.



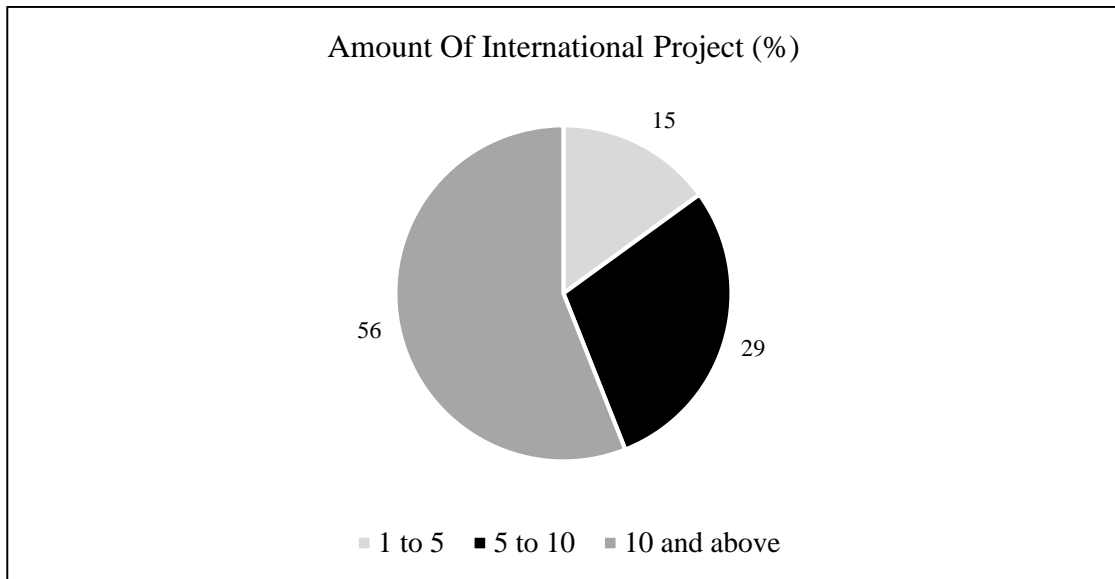
**Figure 4.2:** Types of international project involved

Figure 4.2 showed types of international project which had been involved by Malaysia contractor. Among type of international projects participated by Malaysia contractor, building commercial is the highest project involved by Malaysia contractor which is 78% followed by building 77%. Power plant was the least project involved by Malaysia contractor which is 18.9%. Oil and gas also showed high percentage which is 46%.



**Figure 4.3:** International Project Progress which involved by Malaysia contractors

In Figure 4.3 showed the international project progress which involved by Malaysia contractors. Almost 60% of project that still ongoing while 87% international project that completed. Moreover, 32% miscellaneous project. Miscellaneous project is considered high as an unsuccessful project which related with Malaysia contractor might face with problem and dilemma when carrying international project.



**Figure 4.4:** Amount of international project participated by Malaysia contractors

In figure 4.4 showed that almost 56% of respondent having international project 10 and above. This is showed that Malaysia contractors willing to take a risk involving in international by taking in large amount of international project. Moreover, 29% of respondent having international project between 5 and 10. Lastly, 15% of Malaysia contractor having least international project which is between 1 and 5.

### 4.3 Section B (Problem analysis)

Question in section B is focusing in problem faced by Malaysia contractor involving international project. Each of problem consist of few factors and scaled from 1 to 5 in level of difficulty. The scale of difficulty had been rate from lowest to highest which is from 1 to 5. This section is analysed to know the highest factor in each of problem stated in each question.

**Table 4.1:** Economy problem

Rate Economy	1		2		3		4		5		Average Index	Rank
	N	%	N	%	N	%	N	%	N	%		
a) The risk of currency fluctuation of construction projects managed	0	0	0	0	15	30	8	16	27	54	4.24	3
b) Malaysian contractor found difficulty in raising fund and high cost of financing for international project	0	0	0	0	8	16	28	56	14	28	5.52	1
c) Client might sometimes faces cash flow problem and this should be ascertained prior to signing the contract	0	0	1	2	17	34	26	52	6	12	3.74	4
d) Problem in dealing with other bank in other state	0	0	0	0	20	40	25	50	5	10	3.7	5
e) The differences of value in Malaysia Ringgit with Dollar U.S	0	0	0	0	0	0	35	70	15	30	4.3	2

**Table 4.2:** Politic problem

Rate Politic	1		2		3		4		5		Average Index	Rank
	N	%	N	%	N	%	N	%	N	%		
a) faces political instability due to the failure of any party to win an absolute majority in parliament	0	0	0	0	9	18	16	32	25	50	4.32	2
b)Current political conditions in overseas could give an impact on foreign investment	0	0	1	2	17	34	17	34	15	30	3.92	3
c) Business laws practices and law may not always be in accordance with established standards due to political issue	0	0	1	2	23	46	14	28	12	24	3.74	5
d)Investor may faces political instability due to the failure of any party to win an absolute majority in parliament	0	0	2	4	21	42	13	26	14	28	3.78	4
e) To cooperate and maintain good relationship with the local government to response to the problems	0	0	0	0	0	0	0	0	50	100	5	1
e)Most difficult to mitigate where it is not easy to predict the political changes	0	0	0	0	24	48	18	36	8	16	3.68	6

**Table 4.3:** Technology problem

Rate	1		2		3		4		5		Average Index	Rank
Technology	N	%	N	%	N	%	N	%	N	%		
<b>Software</b>												
a) Difficulties in handling advanced software and device	13	26	19	38	12	24	6	12	0	0	2.22	5
b) Required skill worker that able to used advance software which costing lot	3	6	8	16	20	40	6	12	13	26	3.36	3
c) Lot of cost required to purchase the software	0	0	0	0	26	52	21	42	3	6	3.54	1
<b>Device and machine</b>												
a) Faced in cost in maintenance and operate the new device and machine	3	6	1	2	17	34	14	28	6	12	2.84	4
b) Advance machine and device help lot in construction activity	0	0	0	0	24	48	22	44	3	6	3.5	2

**Table 4.4:** Contract risk problem

Rate	1		2		3		4		5		Average Index	Rank
Contract Risk	N	%	N	%	N	%	N	%	N	%		
a) Malaysian contractor protected with the Conditions of Building Contract of other countries	23	46	7	14	12	24	8	16	0	0	2.1	1
b) The protection as stated in the contract are adequate	21	42	8	16	20	40	1	2	0	0	2.02	2

**Table 4.5: Procurement Risk**

<b>Rate</b>	<b>1</b>		<b>2</b>		<b>3</b>		<b>4</b>		<b>5</b>		<b>Average Index</b>	<b>Rank</b>
<b>Procurement Risk</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>		
<b>Labour worker</b>												
b) Difficulty in finding labour worker on other state	0	0	15	30	20	40	7	14	6	12	2.96	9
c) Low Production level of labour worker	0	0	7	14	18	36	23	46	2	4	3.4	8
d) There is measure taken since the lower production of skill worker	0	0	1	2	14	28	15	30	20	40	4.08	2
e) Difficult in handling with illegally worker in other state	3	6	4	8	23	46	10	20	10	20	3.4	7
<b>Materials</b>												
a) Materials – Price inflation of construction materials (given a cost impact to the project)	0	0	0	0	10	20	15	30	25	50	4.3	1
b) Difficulty in finding construction material on other state	0	0	0	0	19	38	21	42	10	20	3.82	4
c) Good quality of material in other country	0	0	0	0	15	30	17	34	18	36	4.06	3
a)Materials - Levies will be imposed on imported materials where it would jack up the cost of construction	0	0	0	0	20	40	13	26	15	30	3.74	5
<b>Plant and equipment</b>												
a) Difficult in obtaining plant and equipment in other state	0	0	3	6	18	36	19	38	10	20	3.72	6
b) Well proper in maintenance and regular check	18	36	8	16	16	32	10	20	0	0	2.44	10



#### 4.4 Section C (Dilemma analysis)

Question in section C is focusing in dilemma faced by Malaysia contractor involving international project. Each of problem consist of few factors and scaled from 1 to 5 in level of difficulty. The scale of difficulty had been rate from lowest to highest which is from 1 to 5. This section is analysed to know the highest factor in each of problem stated in each question.

**Table 4.6:** Dilemma in culture

Rate Culture	1		2		3		4		5		Average Index	Rank
	N	%	N	%	N	%	N	%	N	%		
a) Different attitudes towards time could interfere communication process, particularly during problematic period.	8	16	11	22	12	24	14	28	5	10	2.94	1
b) Cultural differences can create substantial damage to the people and organization involved in international construction project	13	26	7	14	26	52	4	8	0	0	2.42	5
c) Difficult to change the local people mindsets and the method of working	4	8	8	16	26	52	12	24	0	0	2.92	2
d) Failure to acquire language skills will lead to making wrong decisions	6	12	7	14	24	48	13	26	0	0	2.88	3
e) Difficult in dealing or handle the document in other language	5	10	8	16	30	60	6	12	1	2	2.8	4

**Table 4.7:** Dilemma in construction risk

Rate	1		2		3		4		5		Average Index	Rank
	N	%	N	%	N	%	N	%	N	%		
a) Low safety standard in the international projects where contribute to the construction accident	0	0	2	4	22	44	16	32	10	20	3.68	1
b) Continuous training needed especially to the largely unskilled worker	0	0	0	0	26	52	16	32	8	16	3.64	2
c) Natural risk such as bad weather, undetermined soil condition could contribute as a risk in construction project	0	0	2	4	28	56	16	32	4	8	3.44	3

**Table 4.8:** Dilemma in design risk

Rate	1		2		3		4		5		Average Index	Rank
	N	%	N	%	N	%	N	%	N	%		
a)The quality of design by architect was inconsistent even though the drawing are issued within time frame	2	4	4	8	20	40	15	30	9	18	3.5	1
b)Frequent meeting with clients to strengthen communication and meet client's requirements	5	10	4	8	23	46	14	28	4	8	3.16	3
c) The quality of design by architect was inconsistent even though the drawing are issued within time frame	0	0	2	4	28	56	15	30	5	10	3.46	2

**Table 4.9:** Dilemma in communication

Rate	1		2		3		4		5		Average Index	Rank
	N	%	N	%	N	%	N	%	N	%		
a)Mistake which common occur on site due to language barrier	0	0	16	32	20	40	9	18	4	8	2.96	1
b) Different language which be obstacle to communicate with worker	3	6	12	24	27	54	5	10	3	6	2.86	2

## **4.5 Problem faced by Malaysia contractors**

### **4.5.1 Economy Risk**

Based on Table 4.1 showed that problem in Malaysian contractor found difficulty in raising fund and high cost of financing for international project ranked first which is 5.52 in average index compared to other elements. It would be difficult especially to the new entrants where they had no previous business dealings with the local banks and had no suitable collateral for the loans. Special loan packages should be developed by the financial institutions for the loan period, foreign currency denominated loans, or attractive interest rates and others. These special loan packages could be structured with a requirement that contractors use Malaysian sub-contractors and products for example, building and construction materials, heavy equipment and machineries and others. This will help to spur the development of complementary industries.

Problem in dealing with bank is rank lowest among the other factor in economy risk which is in 3.7. High loan from international bank (Online, 2005) will charged for Malaysia Construction Company that applied the loan. Malaysian construction companies need government support because they are difficult to get funding for projects abroad even managed to obtain a contract (Hasan, 2005). Thus, most of Malaysian contractors who carry out international project had to rely on international banks or which imposes the loan in high. Construction firm that involve in new marketing for example India or other West Asian mostly having difficulties in obtaining currency trending. Until today, there is no existence of Malaysia's bank operate around West Asian or India whether in agencies or branch including Maybank which only had agencies at Bahrain.

Hence, construction's company in Malaysia which operate at oversea had to use two method which are deal in online banking with other country bank that operate in Malaysia or online banking with largest bank like Maybank that can deal with other country bank (Hamzah, 2005). Both method will charged higher cost compared to the same tender in Malaysia, due to different bank in both country which charge included. Thus, the contractor had to face problem with the high loan charged even the profit from the project will be not enough to back up the loan charged.

Moreover, the differences of value in Malaysia Ringgit with Dollar U.S in ranked 2 which is 4.3 in average index. , Malaysia Ringgit value is one of factor which become the problem for contractor when handling their project. The external factor lead to the weakness of Malaysia Ringgit and make the contractor take more cautious step when investing in construction phase. This will affect the quality of project and increase the risk for contractor delay the project due to lack of money.

#### **4.5.2 Political Risk**

International construction enterprises are likely to face a much broader array of political risks than ever before (Jakobsen, 2010), thus leading to significant and often unpredictable effects; this was confirmed by recent events, such as the riots resulting from the Jasmine Revolution in the Middle East and North Africa. Confronted by such risks, international construction enterprises have limited options.

Faces political instability due to the failure of any party to win an absolute majority in parliament ranked in 2 among the other factors which is 4.32. As referred to Ling *et al.* (2006), it's clearly stated that the specific and unique political risk faced by international participants is political instability where it could lead to weak leadership and makes it difficult to govern the country effectively as happened in other country such as India. It is not denied that political risk could as well affected the business in the future and political risk might be the most difficult to mitigate since it is not easy to predict political changes.

Based on Table 4.2 showed cooperate and maintain good relationship with the local government to response to the problems ranked first with 5.0. By producing good relationship with local government will enable Malaysia contractor reducing political risk that faced by Malaysia contractor when involving international project. Moreover, difficulty to mitigate which unable to predict the political changes is ranked in lowest compared to other factors in political risk. This is because they studied political first before mitigating to other place.

#### **4.5.3 Technology Risk**

Improved project outcomes can only occur through deep understanding the most significant of the individual applications and devices that are currently available and

realizing how those technologies are already synergistically working together and giving rise to emergent process. Table 4.3 showed the factors which ranked in technologies risk. First placed is cost required in purchasing technologies and skill person in handle which is 3.54. This matter is highest compared to other because of development of technology which always improving which replaced the old version. Thus it will difficult for Malaysia contractor in updating the latest version as example software since it will required cost.

#### **4.5.4 Contract Risk**

As in Malaysia, PAM 1998 is used as a form of contract which is found to be familiar within Malaysian contractors as well as consultants and architects who have been involved in the projects. However, when involving international project, Malaysia contractor will be used *FIDIC Red Book* (1999) 6<sup>th</sup> ed as the standard form of contracts in most of the project. Based on table 4.4, Malaysian contractor protected with the Conditions of Building Contract of other countries is ranked first with 2.1 followed by protection which stated in contract in 2.02.

#### **4.5.5 Procurement Risk**

##### **4.5.5.1 Labour**

It is difficult in obtaining labours since labour are mostly outsource from Indonesia, Bangladesh, Vietnam, India and others. Hence it will be difficult to get the skilled worker where usually suppliers appointed them as a skilled workers while they are not skill at all. Suppliers nowadays are more demanding in hiring skill labour in producing good quality in construction work and increasing rate of workers. Malaysia contractors also faced with a number of other problems with the unskilled labourers. Thus to overcome this risk, a series of on job training has been conducted to equip the workers with skills to achieve the quality standards, level of productivity as well as safety awareness and consciousness. Development of the construction industry human resource capabilities has become a necessity because productivity, quality and innovation are becoming increasingly important for the industry. The current practice of employing unskilled labour has restrained productivity growth in the sector. Even though some of the workers wage levels are being kept low, this has reduced the

incentive to migrate into newer construction technology and methods. Therefore, the industry should promote and enforce the use of skilled labour.

#### **4.5.5.2 Materials**

Table 4.5 showed that most of Malaysia contractor having problem with Price inflation of construction materials (given a cost impact to the project) which ranked highest compared to other procurement, 4.3. There are cases related with inflation of construction material which located in Abu Dhabi. According to CIOB 2008, stated that Abu Dhabi Planning Department and Planning and Economy showed that building materials suppliers are struggling to keep up with the expansion sparked by the profits from a seven fold rise in oil prices. There are projects in Arab Saudi that has been stopped due to steep rise in building materials

There are few methods in managing risk of price escalation in material purchasing. Firstly, purchase the material in early. Malaysia contractor should ensure that finishing design stage early in order to order the material early. If a project is heavy in a volatile material like steel, it may be advantageous to phase the design and get the steel package out early. This could permit the owner to save two to three months of steel escalation costs. Early contract awards may allow contractors to lock-in prices with their suppliers. If the material is supplied by a subcontractor, then the prime contractor must work with the owner to engage the subcontractor early enough to take advantage of lower pricing. Moreover, in Contract Allowances may cap the price for certain materials. Escalation Clauses use contract language to shift the risk or part of the risk of cost escalation to the owner.

#### **4.5.5.3 Plant and equipment risk**

Difficulty in obtaining plant and equipment in other state are ranked lower than other factor which is 6 in 3.72 while maintenance and regular check in rank 10 with 2.44. Thus it is believed that Malaysia contractor not having any problem in plant and equipment risk since all of plant and equipment are imported. Early planned had been develop by Malaysia contractor after awarded with international project. Malaysia contractor had planned the plant and equipment in early stage since it take long time for plant and equipment arrived to overseas. Moreover, Plant and equipment must had been checked and maintenance from time to time. Thus, to secure any risk in plant and

equipment, Malaysia contractor must have an insurance in probability of having problem with plant and equipment.

## **4.6 Dilemma in international construction**

### **4.6.1 Culture**

Culture play an important part in people's way life. Knowing each culture in each state are important in avoiding any understanding between Malaysia contractors with local. In previous study by Zaariah (2008) stated that most of Malaysia contractor that having project in middle east region not having any problem in culture. This is because of no big distance between Malaysia cultures with Middle East culture.

In Table 4.6 showed that dilemma in different attitudes towards time could interfere communication process, particularly during problematic period ranked in first which is 2.94 followed dilemma in difficult to change the local people mind sets and the method of working which is 2.92. Having long term of construction project, it is necessary in placing some of Malaysia staff in other state to easy the work. However, Malaysia staff need to be adapt with the culture faced by them while carry out their work at the construction site.

### **4.6.2 Communication**

Based on communication table 4.9 showed that mistake which common occur on site due to language barrier was ranked first in 2.96 compared to the different language which being as an obstacle in communicate in construction site. This is because of variation types of people comes in different state which work in site construction. Thus, it will take a long time in understand the command that had been made by Malaysia contractor.

### **4.6.3 Design Risk**

Design risk is high if frequent changes are made to the design and if drawings are not promptly issued. The majority of the interviewees responded that architects in Middle East projects could deliver the drawings on time but later, there are frequent changes made from time to time. Interviewees C5 and C6 highlighted that there are



projects where architects initiate design changes to improve their owned and design changes are predominantly initiated by clients. This risk does not pose a problem because clients bear the additional cost when changes are made by them. To avoid clients making too many changes in the design build contracts, it is suggested to insert contractual conditions to freeze design as early as possible. It can be controlled through frequent meeting to strengthen the communication. This could contribute them to prepare designs that meet client's requirements and reducing changes during construction.

## **CHAPTER 5**

### **CONCLUSION**

#### **5.1 Introduction**

Based on the research study, all of information data obtained from literature review and questionnaire that had been distributed toward respondents concluded .This research achieved an objective which finding factors of problem and dilemma which faced by Malaysia contractor when involving international project. In this chapter will concluded all each of objective stated in this research.

In conclusion, being participated in construction industry required willingness in facing of problem and dilemma to achieve good quality of project. Quality of project required in few aspects which are time, cost and good workmanship. Thus, Malaysia contractor which able to overcome this obstacle will be able on carry on the other international project in future.

#### **5.2 Achievement of an objective**

The main objective of this research is finding problem and dilemma which faced by Malaysia contractor when handling international project. Hence, the objective will be guided to determine whether this research achieve the objective or vice versa.

##### **5.2.1 First objective: Study of problem and dilemma faced by Malaysia contractor when involving international project.**

Large amount of Malaysia contractors which registered with CIDB showed and increasing amount of structural construction project that had been done in Malaysia. This scenario seen from figure 2.5 which increasing of construction sector among the other

sectors in production sector at Malaysia. It proved that, the quality of life of today, has much improved compared to the 59 years ago. After Malaysia gained independence in 1957, Malaysia started to develop and the economy growing rapidly. However, the huge competitive and saturated of domestic market has driven many Malaysian contractors to make significant inroad into global market as a means to effectively capitalize on special expertise.

There are few reasons on involvement of contractor in international project. The first reason contractor investing abroad is to expand and to find new markets for growth (Ragayah, 1999). Moreover, the transaction of cost like the money value in Malaysia with another country is huge which make them carry lot of advantage in payment and experienced that they will gained in other country.

### **5.2.2 To identify and design the question based on the study of problem and dilemma that faced by contractor when involving in international project**

Term of problem and dilemma are different. Problem is defined as a situation which requiring a choice between equally undesirable while problem is a logic argument that presents two alternatives each of which has same consequences. In this research, each of factors had been classified in two category which are problem and dilemma.

Based on the previous research that had been taken by Zou *et al.* (2007) when conduction an international project in China, there are few of problem that had been faced by Asian contractors which stated in table 2.5 and table 2.6. This problem had been considered since it also related with Asian contractors like Malaysia contractor. In this previous research also showed an impact of problem toward Malaysia contractors which causing a few accident during handling international project as showed in table 2.6.

The previous study and cases obtained in literature review had shown the major findings of problem and dilemma in study which are

- a) Contractual
- b) Political
- c) Procurement which is material price due to inflation
- d) Financial and economic intensity

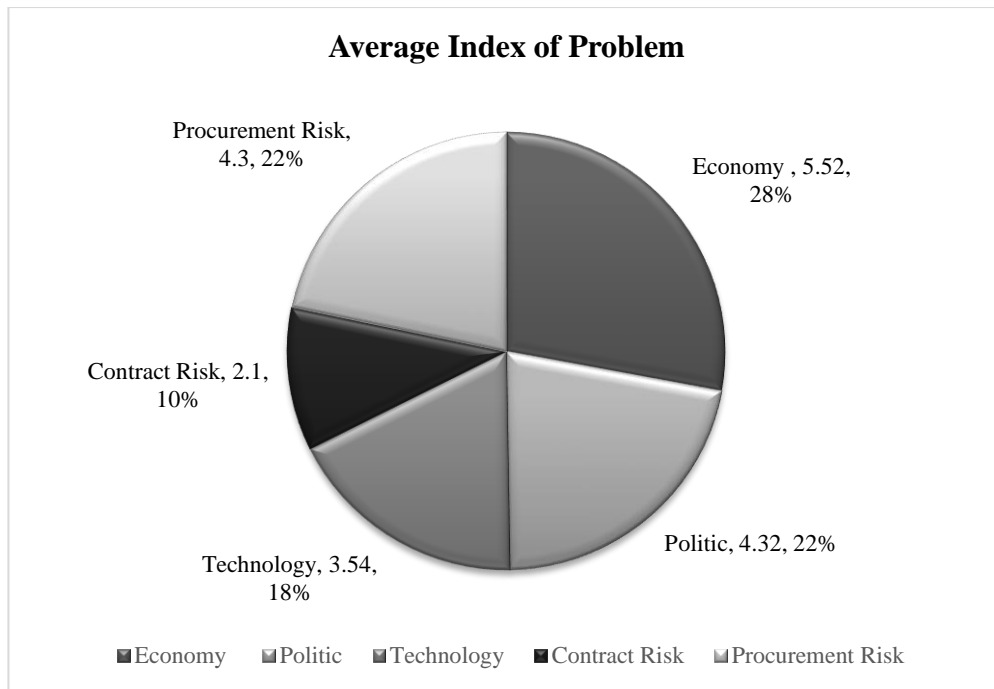
- e) Design problems
- f) Construction related which low safety standard in international project
- g) Cultural.
- h) Communication
- i) Technology

### **5.2.3 Analyzed problem and dilemma data obtained from questionnaire**

The problem and dilemma arise when handling international come from different term of aspects. Few aspects of problem and dilemma had been considered in questionnaire that predicted affects their improvement over work quality and time meet the dead line. Lack of experienced Malaysia contractor involving international showed huge reason which driven to lack in knowledge to overcome problem and dilemma situation.

#### **5.2.3.1 Summarizing problem faced by Malaysia contractor when involving international project.**

Based on Figure 5.1, showed that problem in economy is higher than other factors in problem faced by Malaysia contractor when involving international project which is in 5.52. It is proved that Malaysia contractors need to plan in strategic way to overcome this economy problem before accepting any international project. The higher factor in economy problem is difficulties in finding fund and high cost in loan charged for international is 5.52 followed by different amount of Ringgit Malaysia compared to US dollar which in 4.3. Least problem that faced by Malaysia contractors is contract risk which in 2.1. Most of Malaysia contractor claimed that the term and condition inside the *FIDIC Red book 1999* is cleared and able to protect them from any problem arise in international project.

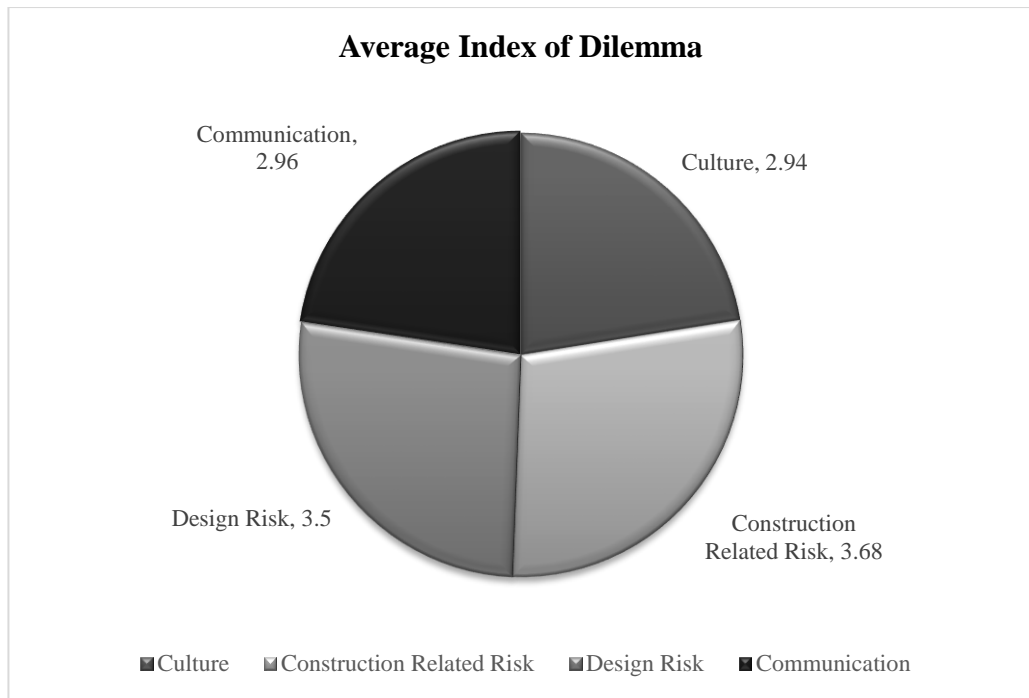


**Figure 5.1:** Summarizing factors in average index of problem

### 5.2.3.2 Summarizing dilemma faced by Malaysia contractor

Dilemma consist of four aspect which are construction related risk, communication, design risk and culture. Most of Malaysia contractors having dilemma in construction related risk dilemma compared to other dilemma stated. Based on figure 5.2 showed that construction risk is higher in average index which is 3.68 compared to other factors stated in dilemma.

Factors which higher in average index 3.68 in construction related risk is low safety standard in the international projects where contribute to the construction accident. It showed that labour worker does not have any awareness of safety when conducting their work in their own work station. Malaysia contractors need to be alarmed by hiring few of safety officers and trained the labour in important of safety in construction site.



**Figure 5.2:** Average index of dilemma faced by Malaysia contractors when involving international project.

### 5.3 Conclusion

In conclusion, construction sector plays an important part in economy development in Malaysia. The increase of construction industry is encouraged by the ninth Malaysia plan which has been implemented by the government to boost the development of Malaysia. Thus, spreading construction market penetrating international project will become huge impact toward Malaysia Company and increasing relationship between Malaysia with other government.

There are nine factors which categorized in dilemma and problem which faced by Malaysia contractor. These factors is believed in giving an impact toward performance of Malaysia contractor which carrying international project. The aspects in problem are economy, politic, technology, contract risk and procurement risk. Moreover, the other factors classified in dilemma are culture, construction related risk, design risk and communication.

## **5.4 Recommendation**

Malaysia contractor should find another alternative in solving this problem and dilemma in future. By solving this matter, would giving huge impact on their benefit. In this, the proposal had been stated below in resolving problem and dilemma faced by Malaysia contractor when involving international project.

### **5.4.1 Recommendation in solving problem faced by Malaysia contractor involving international project**

#### **5.4.1.1 Economy problem**

- Gained knowledge in finding any fund or loan for international project
- If inflation increases, contractors should secure design by finishing the design phase earlier to purchase the material more earlier than 5 months
- Finding any bank which able to transaction money with local bank in Malaysia
- Government need to support Malaysia contractors by increasing the amount money for PKS

#### **5.4.1.2 Politic problem**

- Study the politic trend and issues which effect the construction industry
- Avoid mitigate or take any international project in other state which faced with critical problem in politic issues
- Read and understand any insurances and law provided in *FIDIC Red book 1999* in order to avoid any losses of money due to lack knowledge of law

#### **5.4.1.3 Technology problem**

- Trained the worker in conducting new devices and hired skill worker in handle new software
- Remove of negative thinking and encourage to take risk in spreading construction market to international market

#### **5.4.1.4 Contract Risk**

- Understand term and condition inside of contract provided in order to protect the construction company from losing any money due to unnecessary problem faced

#### **5.4.1.5 Procurement risk**

- Import the labour worker from other state and providing facilities for them while carrying their work in construction site
- Provide training for unskilled worker to develop their abilities to carry skill work
- Always check the price rate for material and trend of inflation rate before carrying any purchase of material

### **5.4.2 Solving dilemma which occur during handling international project**

#### **5.4.2.1 Culture**

- Know the movement of culture in other state and understanding people which live surrounding of construction site
- Government should built good relationship with other state and exposing Malaysia with other culture by carrying the other culture inside Malaysia state
- Staff which placed to other state should able to comfortable themselves with different surrounding environment

#### **5.4.2.2 Communication**

- Contractor should attend course of language class to educate themselves with different language
- Government should teach Malaysia netizen about different language from middle school



- Hired people which able to understand language or known as interpreter

#### **5.4.2.3 Design risk**

- Client should attend the first phase which is design phase with Malaysia contractor
- Secured the design in contract to avoid any changes during the other phase

#### **5.4.2.4 Construction related risk**

- Gather an information of construction before carrying any construction activity
- Self-prepared with any disaster happened at construction site by taking risk in any losses cost and time.

Hence, it is important knowing all these factors in problem and dilemma and way to solve this problem which helped Malaysia contractor improved their construction market in international.

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**APPENDIX A  
QUESTIONNAIRE**



**UNIVERSITI MALAYSIA PAHANG**

**FACULTY OF CIVIL ENGINEERING & EARTH RESOURCES**

**(2016/2017)**

**PROBLEM AND DILEMMA FACED BY MALAYSIAN CONTRACTOR  
INVOLVING INTERNATIONAL PROJECT**

**Section A :( Background of respondent)**

**Age:**      (20-30)  (30-50)  (50 and above)

**Gender:**  (Male)  (Female)

**Experience (years):**  (1-5)  (5-10)  (10 and above)

**How many project had been finished?**  (1-5)  (5-10)  (10 and above)

**Gaining any international project?**  (Yes)  (No)

**Stated on total of international project involved based on types of international project provided**

<b>Types of project involved</b>	<b>Amount of international projects involved</b>
Oil and gas	
Power plant	
Residential	
Road	
Structural Frame	
Tunnel	
Water treatment	
System	
Highway(bridge)	
Geotechnical	
Building commercial	
Building	
Airport	

## Section B: Problem during handling international project

5-Many      4-Often      3-Sometimes      2-Rarely      1-Never

<b>Based On The Economy Perception</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1.The differences of value in Malaysia Ringgit between Dollar U.S					
2. High in payment on labour worker and rental machine					
3.High interest rates					
4. Problem in paying tax					
<b>Dealing with banks</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1.High loan from international bank					
2. Difficulties in finding Malaysian Bank					
3. Charged due to deal with different bank in different country					
4. Profit are not enough to back up the loan from bank					
<b>Technology</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1.New software that hard to use which required skilful person					
2.New advanced machine used in other country					
3. Skilful person required to handle machine or software					
4. Cost needed to rent advance machine					
5. Cost required to purchase the software					
<b>Weather</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1. Differential of Malaysian weather with other country					
2.Different material proportion to construct the structure					
3.Cost lost due to disaster					
4.Preparation in facing with different season and temperature during construction					

<b>Communication</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1. Language barrier					
2. Difficulties in speaking with worker					
3. Mistake which common occur on site due to lack of communication					
4. Interpreter required to communicate with other person					
5. Documentation in different language					
<b>Culture</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1. Due to different public holiday which causing lot of time wasting in construction activity					
2. Different culture which clash in understanding between local and contractor					
<b>Politics Dynamics</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1. Negative effect of Donald Trump being U.S president					
2. Strict law on immigrant worker					
3. Ban of Islamic person from passing U.S					
4. Drop of Malaysian Ringgit due to Donald Trump election					
4. Different temperature and humidity in other country					

### Section C: Dilemma

5-Many      4-Often      3-Sometimes      2-Rarely      1-Never

<b>Labour worker</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1.Choices in pick between undocumented worker which low pay or legal worker that hard to find					
2. Desire of contract worker in permanent position					
3. Difficulties in handling worker which in different background and culture					
<b>International project</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1. Project which offers low profit which may be opportunity to revenue near future					
2.Low margin project which risk profile more larger					
3. Different geographical in other country					
4.Lack in financial management due to different stock which available in other country					



