

**A STUDY ON THE PROBLEMS FACING BY  
G1 AND G2 CONTRACTORS IN MALAYSIA**

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A STUDY ON THE PROBLEMS FACING BY G1 AND G2 CONTRACTORS IN  
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## ABSTRAK

Peningkatan bilangan kontraktor semakin ketara selari dengan pembangunan di Malaysia. Pada 2016, jumlah kontraktor berdaftar telah meningkat dan menjadi 74,188 berbanding 2015 hanya 71,799 kontraktor yang berdaftar di Malaysia (CIDB, 2016). Peningkatan ini telah meningkatkan lagi persaingan antara kontraktor dan meningkatkan lagi risiko untuk mengalami gulung tikar. Terdapat banyak faktor yang mempengaruhi peningkatan jumlah kontraktor di Malaysia, antaranya adalah hasil usaha kerajaan meningkatkan pembangunan Malaysia melalui Rancangan Malaysia Ke-9. Oleh itu, objektif kajian ini adalah untuk mengkaji pertumbuhan ekonomi dalam sektor pembinaan di Malaysia, untuk mengenal pasti faktor-faktor yang menggalakkan peningkatan jumlah G1 dan G2 kontraktor di Malaysia dan untuk menganalisis masalah yang dihadapi oleh kontraktor dalam mengendalikan perniagaan mereka. Selain daripada kajian literatur mengenai isu itu, beberapa soal selidik telah dihantar kontraktor berdasarkan Kelas G1 dan G2. Semua data yang dapat dikumpul melalui soal selidik akan dianalisa menggunakan kaedah indeks purata untuk menjawab objektif kajian yang ketiga iaitu menganalisa masalah yang dihadapi kontraktor dalam mengendalikan perniagaan mereka. Bagi memudahkan proses menganalisa, perisian Statistical Package for Science Social (SPSS 16.0 for Windows) dan perisian Microsoft Excel telah digunakan. Hasil dari analisa yang telah dilakukan menunjukkan bahawa peningkatan bilangan kontraktor berhubung rapat dengan pembangunan industri pembinaan. Antara faktor peningkatan industri pembinaan adalah prestasi ekonomi negara, kemudahan kewangan, pertumbuhan demografi and kadar inflasi. Selain dari itu, kajian ini menunjukkan bahawa antara aspek masalah yang dihadapi oleh kontraktor adalah kewangan, bahan bina, ekonomi, kemudahan kewangan, pekerja dan jentera berat. Secara keseluruhannya, pihak responden berpendapat bahawa masalah yang paling besar adalah melibatkan aspek pekerja dan jentera berat dengan indeks purata paling banyak iaitu 3.09. Namun, kajian mendapati masalah ini masih lagi boleh dikawal.

## ABSTRACT

The increase in the number of contractors substantially parallel to the development in Malaysia. In 2016, the number of registered contractor have increase and become 74,188 compared with 2015 only 71,799 registered contractor in Malaysia (CIDB, 2016). These improvements have enhanced competition among contractors and increase the risk of having to close down. There are many factors that affect an increasing number of contractors in Malaysia, which is the result of government efforts to improve the development of Malaysia through the 9th Malaysia Plan. Therefore, the objective of this study was to investigate the economic growth in the construction sector in Malaysia, to identify factors that encourage an increasing number of G1 and G2 contractors in Malaysia and to analyze the problems faced by contractors in handling their business. Apart from literature review on the issue, several questionnaires have been sent out based contractors of Class G1 and G2. All data can be gathered through the questionnaire will be analyzed using the average index to answer the third research objective of analyzing the problems faced by contractors in the conduct of their business. To facilitate the process of analyzing, Statistical Package for Social Science (SPSS 16.0 for Windows) software and Microsoft Excel software were used. The analysis shows that the increasing numbers of contractors is closely link to the development of the construction industry. The factors increasing the construction industry is the country's economic performance, financial facilities, demographic growth and inflation. Besides that, this study showed that there are a few aspects of problems faced by the contractor which are financial, construction material, economic, financial facilities, workers and heavy machinery. Generally, the respondents believe that the biggest problem is related with workers and heavy machinery aspects with an average index of at most 3.09. However, the study found that this problem can still be controlled.



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## LIST OF SYMBOLS

GDP	Gross Domestic Product
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)
CPI	Consumer Price Index

## **LIST OF ABBREVIATIONS**

CIDB	Construction Industry Development Board
GDP	Gross Domestic Products
Perkobj	Malay F Class Contractor Association of Malaysia
PKK	Pusat Khidmat Kontraktor
KLCC	Kuala Lumpur Communication Centre
RMK9	Rancangan Malaysia Ke-9
ECER	East Coast Economic Region
SPSS	Statistical Package for Social Science

## **CHAPTER 1**

### **INTRODUCTION**

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

Residential, industrial, commercial and marketing sectors are activities in construction industry that listed as the main contributor towards economy of Malaysia. The importance of construction industry is proven by the involvement of construction in variety of industry and covered wide range of area. Government contracts with construction industry to develop infrastructure related to health, transport as well as education sector. Besides, construction industry activities are vital to the achievement of national socio-economic development goals of providing shelter, infrastructure and employment which clearly show that construction activities affect nearly every aspect of the economy and vital to the continued growth of the economy (Oladinrin, Ogunsemi, & Aje, 2012). Construction industry not only focus on construction phase but also in phases of pre-construction and after construction.

There are a few numbers of parties which directly involve with the construction industry. They are, client, consultant, contractor, supplier and local authority. Most of the construction projects rely on the contractor that involved. Generally contractor are divided into two which are contractor for labour works and contractor on supplying material. Contractor on labour works is a contractor that only manage on all works that involving supplying man power, machineries involve for the construction and all technical matter until the project is finish. In the other hand, contractor on supplying material only involving in supplying tools and material that needed for the construction works such as bricks and cement.



Contractors are classified into a few grades which is G1, G2, G3, G4, G5, G6, and G7. Every grades manage different classes of project. In this study will focused on G1 and G2 contractors. The G1 and G2 are contractors with small company where G1 can only handle a tender with cost not more than RM200, 000.00 while G2 can only handle project with cost range RM 200,001.00 to RM500, 000.00 and the specified works is only construction of building. The grades of project are sorted as below:

Table 1.1: Classification of Contractor according to grade for grade G1 and G2

<b>GRADE</b>	<b>RANGE OF TENDER COST (RM)</b>	<b>CAPITAL (RM)</b>	<b>TECHNICAL/ INDIVIDU APPROVAL</b>	<b>CATEGORY</b>
G2	Not more than 200,000.00	5,000.00 (10,000.00 for SPKK)	Technical certificate (if any)	Building Construction
G1	Not more than 500,000.00	25,000.00	Technical certificate (if any)	

Source: Construction Industry Development Board, 2016

All contractors should be registered under Construction Industry Development Board (CIDB) according the requirement stated by CIDB following the grade. CIDB is establish through Act Construction Industry Development Board 1994 (Act 520) to control, enforcing and implement duties related with construction industry (CIDB annual report, 2014). The functions of CIDB are:

- To develop and boosting the development and growth of construction industry
- Catalyst and conduct a study related with construction industry
- Gives consultation on construction industry
- Improving the quality of works in industry
- Control the standard on quality of work and material
- Handle in registration of construction personnel

- Manage the training related with construction industry

Today, the number of registered contractor keep increasing parallel with the development in Malaysia. In 2016, the number of registered contractor have increase and become 74,188 compared with 2015 only 71,799 registered contractor in Malaysia (CIDB, 2016). In 2016, the total registered G1 contractors is 34,480 which showing 46.48% percent of the total contractor in 2016 is a G1 contractor while the G2 is 13,504 18.2% of the total G2 contractors. The total G2 contractors in 2016 shows a huge increase in number which is 13,504 compared to 2015, the total G2 is 12,407 registered contractors. This proving that mostly of the new registration of contractor in 2016 is G2 contractors.

In 59 years, Malaysia manage to achieve a good position of economy that can be proud of where 'Gross Domestic Product' (GDP) stated increase of 6.3 percent a year for almost all the 59 years Malaysia's freedom. However, the value of GDP has slowing down become 3.1% of increase from 2015 (Berita Harian, 2016). The value of GDP following industry has shown that the slowing down on construction industry which is 8.7% compared to 2014 which is 11.7% increase (Bank Negara Malaysia, 2016). The slowing down of GDP indicates on the slowing down of economy in Malaysia. This situation will causing a bad impact towards contractors to survive in construction industry.

## **1.2 Problem Statement**

Based on a few earlier observations, the number of registered contractor in year 2016 have increased about 74,188 contractors (CIDB, 2016). The increase in number of contractor gives a bad impact especially during downturn of economy in Malaysia. With the slowing down of economy will slow down the development in Malaysia which will causing the dropping number of project to develop. With the lack number of project will gives a burden to contractors especially G1 and G2 as they have the largest number of contractor compared to the other five grade of contractors. The competition between contractors become stiffer and harder for contractors to survive in construction industry. This situation will forcing some of the construction company to close their business as they cannot run the business anymore after failed to get any project. This phenomenon has happen recently where 20% of 2000 G1 and G2 contractors in Pahang

having a financial crisis due to lack of project (Berita Harian, 2016). It also stated that there are contractors that still did not get any project since last year and if the situation keep continue there are possibility that they no longer can run their business due to financial problem.

In Selangor also faced the same problems where 24,000 class F contractors (same level with G1 contractors) of Malay F Class Contractor Association of Malaysia (Perkobjf) faced a risk on losing their company due to the problem of lack of project (Utusan, 2016). It stated that the number of contractors decrease from 30,000 contractors and become 24,000 where the other 6,000 of the contractors cannot make it. It also stated that more than 70% of Perkobjf members still did not get any project until today.

### **1.3 Objective of Study**

This study is conducted to analyse the problem faced by contractor in construction industry in Malaysia. To achieve the target of the study, a few objectives of study should be done. They are:

- i. To study the economy growth of construction sector in Malaysia.
- ii. To identify the factors that encouraging the increasing number of G1 and G2 contractors in Malaysia.
- iii. To analyse the problem that faced by the contractors in handling their business.

### **1.4 Scope of Study**

Construction industry is a combination of knowledge and engineering management. The growth of construction industry that involving with direct or indirect resources always become the material of a research. Therefore, an introduction to construction industry and it role in growth of economy should be studied. This study will be focused on the problem that been faced recently in 2016 by contractors with license G1 and G2 that registered with CIDB and PKK. They faced the problem of lack of project which causing them to have a financial crisis. To find the cause to the problem, the economy growth of construction industry should be explore and find the

relation between construction industry economy with the lack of project among G1 and G2 contractors.

The three important aspect in this study are economic growth of construction sector in Malaysia, factors encouraging number of contractors in Malaysia and problems faced by them. Therefore, all concept, principle, information, report and data related with this three aspect will be analysed and understand. The Gross Domestic Products (GDP) will be used to present the condition of economy during the year to be studied. Since the output of the industry and engineering works are varies, therefore the measures should be fixed according to the expenditure to make the comparing works with GDP become easier. A detailed analysis should be done on the pattern of construction industry from 2006 to 2016.

To achieve the listed objectives, a study should be limited to:

- The growth of the construction industry in Malaysia 2006-2016
- The economic condition in Malaysia 2006-2016

## **1.5 Significant Of Study**

This study is conducted to identify the factors that encouraging the involvement of contractors and their achievement in construction industry. A lot of information on contractor can be obtained from this study through their respond in the questionnaire.

Besides, from this study will develop an awareness towards public about the difficulties that been through by the contractors. This research can be as a source of information for existing contractors about their achievement and a guide for who interested to involve in construction industry as a contractor.

The result of the data analysis from this study can also be used to help the contractors to improve their management and operation system of a contractors' company. As a result, will boost their confident in facing varies of situation and problem then ready to compete with other competitor.

## **1.6 Methodology**

To achieve the objectives of this study, the study should be conducted following an organized plan so a complete data for the study can be collected. The methodology for the study involving a few phase which are identify problem, determine objective, literature review, collecting data and analysing data.

### **1.6.1 Literature Review**

For the first phase of a study, the literature study should be done in order to get written information or data related with the title of study. The data can be collected by referring the data of the previous thesis, books, magazine, journal, local newspaper, web site and any article that related with the topic.

### **1.6.2 Collecting Data**

Collecting data is the most important phase in conducting a study. Without data analysis of the study cannot be done. In this phase, the data will be collected by giving out questionnaire to the targeted respondents. In this study, the targeted respondents are the contractors with license of G1 and G2 class of contractors

### **1.6.3 Analysing Data.**

Data analysis are conducted after all the data and information have collected completely. The data will be analysed accordingly without any mistakes so the objective of study can successfully achieve. The data that have been analysed will be presented in form of graph, chart and table for an easier understanding.

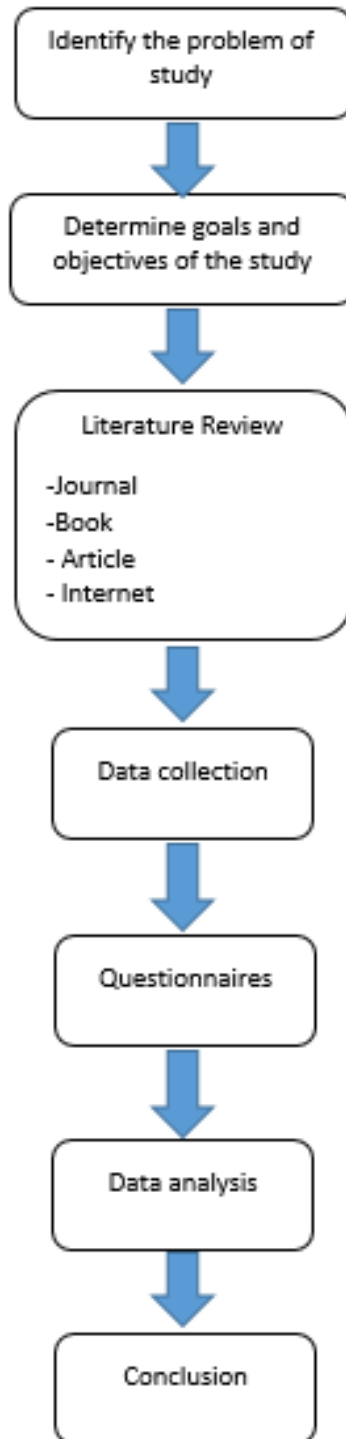


Figure 1.1: Flow chart of methodology

## **CHAPTER 2**

### **CONSTRUCTION INDUSTRY IN MALAYSIA**

#### **2.1 Introduction**

In this chapter, will discuss on construction industry and the contractor itself. In construction industry will discuss on the definition of construction industry, the main component of construction industry, factors that encouraging the growth of the construction industry in Malaysia. Then will discuss about the contractor including the definition of contractor, the contractor classes, factors increasing contractor number, problems that faced by contractor and issues that arise in construction industry in Malaysia.

Construction industry gives a huge contribution towards development and economy growth as can be seen physically such as residential area, sky crapper, road network, and others contribution to Malaysia. With these huge development in Malaysia will raise Malaysia image and become a well-known country in the world. In 1996, Petronas Twin Tower (KLCC) is one of the huge development that have raised up Malaysia to be well-known internationally. KLCC is a tower that consist 88-storey with 451.9 meters height and become the tallest building in the world in 1998 until 2014 which preceded by the Sears Tower and surpassed by Taipei 101. One of the former Malaysia's Prime Minister, Tun Dr. Mahathir Mohamad has stated that Petronas Twin Tower is an internationally recognized landmark and it is symbolize the courage, ingenuity, initiative and determination, energy, confidence, optimism, advancement and zest of a nation (Petronas, 2015).

## **2.2 Definition of Construction Industry**

Construction industry is one of the industries that gives huge contribution in a development of a country. It plays an important role in main industry sector of a country in providing fixed capital, services, residential and others.

The construction industry is a sector of the economy that transform various resources into constructed physical economic and social infrastructure necessary for socio-economic development. According to Construction Industry Development Board Act 1994 (Act 520), construction works means 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, harbour 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,

It also includes any works which form an integral part of, or are preparatory to or temporary for the works described in paragraphs (a) to (e), including site clearance, soil investigation and improvement, earth-moving, excavation, laying of foundation, site restoration and landscaping (CIDB, 1994).

The industry comprises of organizations and persons who include companies, firms and individuals working as consultants, main contractors and sub-contractors, material and component producers, plant and equipment suppliers, builders and merchants. The industry has a close relationship with clients and financiers, regulator and operator.



### **2.3 The Economic Growth of Construction Industry in Malaysia**

The development of the other developed and developing country have forced Malaysia to enforce power by planning the Eleventh Malaysia Plan (2016-2020). The Eleventh Plan is the next critical step in Malaysia to become an advance nation that is inclusive and sustainable. In the last five years, although Malaysia encountered headwinds from a global economic slowdown, economy of Malaysia has done extremely well with GDP growth among the fastest in the region. The quality of life of Malaysian has also improved as reflected by the increase in both per capita income and the average household income. This was made possible by the numerous reforms that were put in place by the Government Transformation Program and Economic Transformation Program, underpinned by the Tenth Malaysia Plan (Eleventh Malaysia Plan, 2016).

According to Bank Negara Malaysia, Economic Development Malaysia Report, construction sector used to have a negative growth for three years in a row which are in year 2004 is -1.6%, 2005 is -1.5% and 2006 is -0.5% (Bank Negara Malaysia, 2006). This is due to the slowing down of the civil engineering activity caused by the low allocation from government because of the investment on a few big projects for previous year. However, during these year, the activities of residential and non-residential still stand strong due to the high demand from consumer. The high demand is caused by the low rates of interest for loan and the interesting offer for loan. Figure 2.1 below showing the trend of construction sector growth.



Figure 2.1: Chart for Growth of Construction Sector  
 Source: (Bank Negara Malaysia, 2006-2016)

Starting from 2007, the construction sector start to encounter a slow positive growth compared to the three years before. The improvement of construction sector growth is caused by the implementation of projects under Ninth Malaysia Plan that gives positive impacts toward economy of Malaysia. Besides, the increase of the government expenditure on construction sector helps in increase the growth rate of this sector. The slow growth of the sector continue until the year 2011. However in year 2012, Malaysia has gain a drastic growth in construction sector with the percentage of 18.5% compared to the highest growth rate in 1995 with 21.1% and the rapid growth of this sector during 1995 are due to the endeavour of the government in upgrading the rail and road access, increasing the capacity of electrical generator and increasing the production of oil and gas by adding more rigs. Compared to 2012, the projects are wider in sector and geographical location that covering the area outside the Lembah Klang. Figure 2.2 below showing the list of project according to sectors and locations.

Sektor	Projek	Lokasi
Pengangkutan	MRT (Sungai Buloh–Kajang)	Lembah Klang
	Lanjutan LRT	Lembah Klang
	KLIA2	Lembah Klang
	Jambatan Kedua Pulau Pinang	Pulau Pinang
	Landasan Berkembar Seremban-Gemas	Negeri Sembilan
	Program Jalan Luar Bandar	Pelbagai negeri
Utiliti	Loji Kuasa Janamanjung	Perak
	Loji Kuasa Tanjung Bin	Johor
	Penyaluran Air Mentah Pahang-Selangor <sup>1</sup>	Pahang & Selangor
Minyak dan Gas	Terminal Regasifikasi LNG Melaka	Melaka
	Talian Paip Gas Sabah-Sarawak	Sabah & Sarawak
	Terminal Minyak dan Gas Sabah	Sabah
	Projek Laut Dalam Gumusut-Kakap	Sabah

<sup>1</sup> Tidak termasuk Loji Rawatan Air Langat 2

Figure 2.2: List of project according to sectors and locations

Source: Bank Negara Malaysia, Economic Development Malaysia Report for 2012

## 2.4 Factors Catalysing the Growth of Construction Industry

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, in 1998, the country had bad experienced of economic recession which was negatively growth. This negative phenomenon caused many large projects such as highway disrupted East West, Sarawak Bakun Dam and

others (The New York Times, 1995). Then, the economy started to recover and in 2004, the economics of Malaysia recorded the highest growth which is increase 6.3% a year in the Gross Domestic Product (GDP). This increasing was achieved in a low inflation environment and the full employment. Today, in 2016 the percentage of increase in GDP have slightly lower compared with 2007 where the GDP increase is 4.6% (Berita Harian, 2016).

There are a few factors that influencing the growth of construction industry in Malaysia (Ng & Sengh, 1991/92). They are:

#### **2.4.1 Economic Performance**

Economic performance is one of the factors that influencing to the growth of construction industry. Basically, economy is an activity that involving the production, exchange, saving, distribution and consumption of goods and services in a particular geographic region where the performance of an economy can be measure by looking at a widely used measure of total output called gross domestic product (GDP). The GDP can be defined as the market value of goods and services produced by the economy in a given year. In calculating GDP only involving goods and services produced domestically and those produced for final users (Collins, 2012). It can be simplified by using a formula of:

$$GDP = C + G + I + NX$$

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)

A country is considered in a good condition when the GDP value is high and the ideal value is two to three percent of GDP.

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. Manufacturer and trader will need a place for increasing their production and widening their business, therefore more commercial buildings will be needed. Besides, the increase of users' income will increase the demand of users in adding their personal asset or improving their life style by purchasing more decent house.

Based on the Figure 2.3 below, the chart that showing the relationship between GDP and construction industry has proving that the economy condition does influencing the construction industry performances where the increasing of GDP also increase the growth for construction sector. However, in year 2006, 2009 and 2010 have shown a slight different pattern. In 2006, the construction sector facing a negative which is -0.5% while has high GDP value which is 5.9% because during the year 2006, government has allocate a small amount of allocation due to the huge infrastructure projects that have completed for the last a few years before that causing the slowing down of the civil engineering activities. During 2009, the GDP value showing a negative value which is -1.7%, however the construction sector showing a higher percentage with 5.7% compared to the previous years which is in 2008 the percentage is only 2.1% due to the implementation of project involving construction under Rancangan Malaysia Kesembilan (RMK9). A different situation had been shown during 2010 where the GDP value has drastically increase from negative value to 7.2% which is the highest percentage of GDP in the range of year 2006 until 2016.

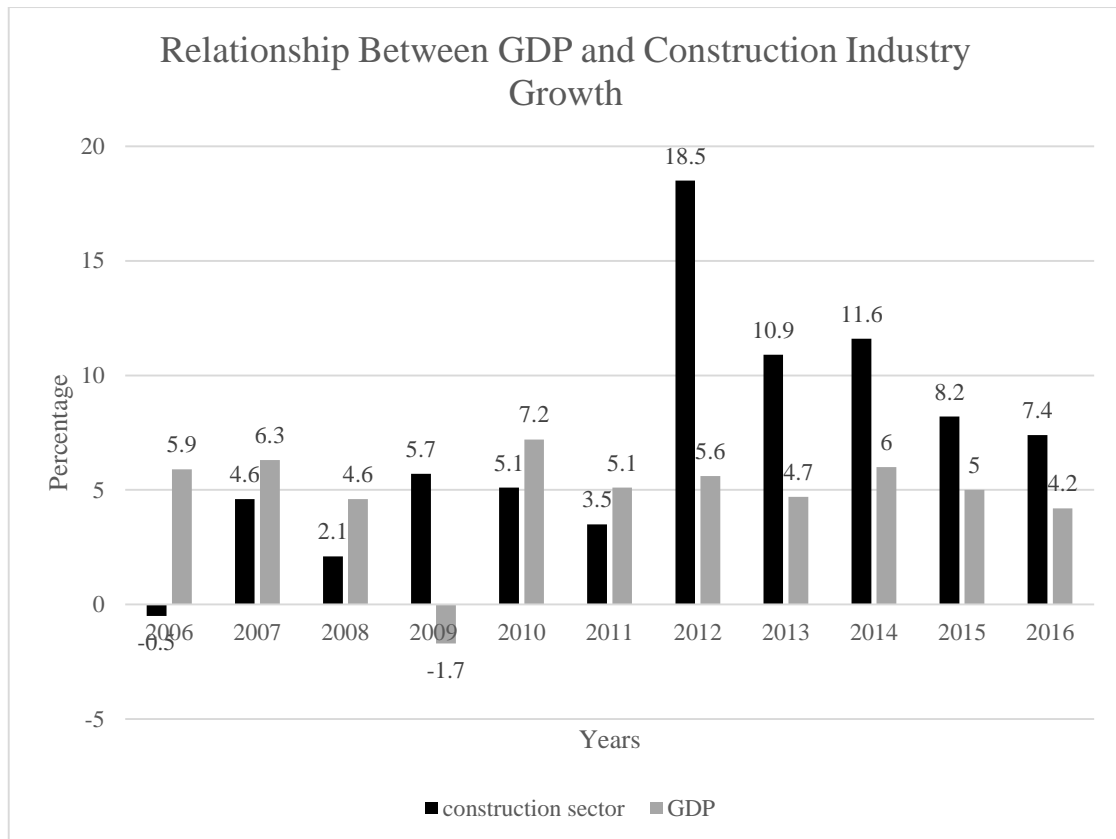


Figure 2.3: Relationship between GDP and Construction Industry Growth

Source: (Bank Negara Malaysia, 2006-2016)

### 2.4.2 Financial Facilities

Before starting any kind of construction project, money is the first thing should be considered because it will determine how big the project will be, the bigger the capital the bigger the project. There are a few sources of fund can be obtained which some of them are personal saving, financial institution loan and government allocation. Consumer tend to invest their money in order to adding more fixed asset such as house or increase financial worth by doing business. These situations will help in the construction sector growth as the consumer investment increasing and the country developing.

Financial institution is the main contributor in funding for the developers in a particular country. It is rare for a private sector to funding all the capital without any other sources. A developer mostly handling a huge project that involving minimum around RM10 million. Therefore, the loan from financial institution such as bank is a crucial not only to developer but also to other consumer that want to build or buy a

house and those who want to open up or widening their business where they will need a place to run their business. Increasing number of consumer opening business will help in increasing the construction of shop lot or shopping mall. Generally, there are three phases of loan application process. They are business plan proposal, submission of loan application and assessment of loan application. Every phase of the process the application will be assessed according to the loan requirement. Financial dealings involving credit and loans where the developers need the loan to pay the contractors while the contractors need loan to pay for the material and labour cost before received interim from developer. The cycle is followed by the consumers that need loan to buy the products that the developer invested which the price is a few times bigger than the annual salary. However consumer always facing a problem in getting loan where the requirements are too strict and the interest is too high. These situation will reduce the consumer and developer interest in investing money, therefore slowing down the development of Malaysia.

Besides financial institution, government also play an important role in allocating for development of Malaysia. Government will allocate some amount of capital annually for every sector and construction sector also included for economic reason. For the sake of Malaysia's development, government has multi plans one of them is Eleventh Malaysia Plan which covering the development in range of year 2016 until 2020. In the plan for infrastructure will focused on developing the transportation medium such as road, rail and air services and in water and sewerage, Malaysia will continue to invest in new networks and treatment plant capacity. Focus will also be given to a holistic non-revenue water reduction program and improving the performance of the sewerage system (Eleventh Malaysia Plan, 2016). From this plan will increase the civil engineering activities where will give more opportunity to contractors in getting projects. The Figure 2.4 below showing the relationship between government allocation, and the growth of construction sector in range of year 2006 until 2012. From the figure showing that the government and private investment do influence the growth of construction sector where it helping in boosting up the construction sector's growth. When the investments are increase will increase the construction activity thus, helping in the development of Malaysia.

## Pertumbuhan dalam Pelaburan Awam dan Swasta berbanding dengan Sektor Pembinaan

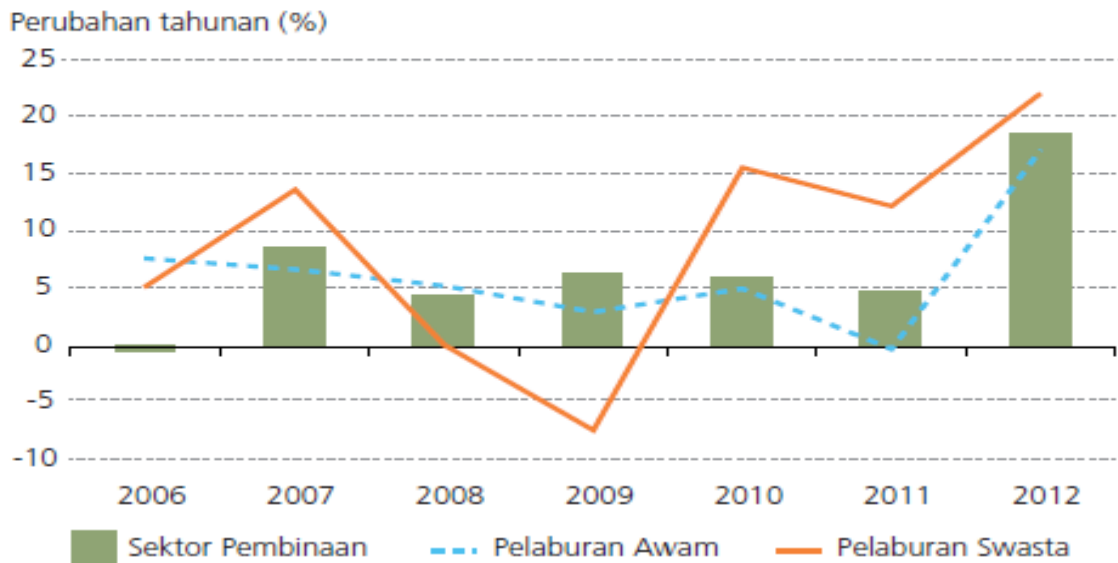


Figure 2.4: Relationship between investment of government and private with the growth of construction sector in year 2006 until 2012

Source: (Bank Negara Malaysia, 2012)

### 2.4.3 Demographic Growth

Demography is the statistical study of population where in this case it focused on the population of human beings in Malaysia. The demographic of Malaysia are represented by the multiple ethnic groups. The domestic demand will be determined by private consumption as the increased income and the demographic factor. Demographic factor confirming the tendency of high rate of consumption in Malaysia where relatively has high rate of employment among the youth. One of the main factors influencing the growth of a country is the population that experiencing dynamic growth process every year. The increasing number of consumer will increase the economic activities in Malaysia including civil engineering activity where huge number of houses and shop lots will be needed because of the increasing of spending among consumer and the needs to have larger house since the family members have increase. High spending of consumer will attract people to open up new or widening their business. This condition will increase demand of place for running their business. This will contribute to the rapid growth of the construction industry where the growth of



construction industry will increase the requirement to the workforce in construction field. Therefore, this condition will increase the employment rate in country.

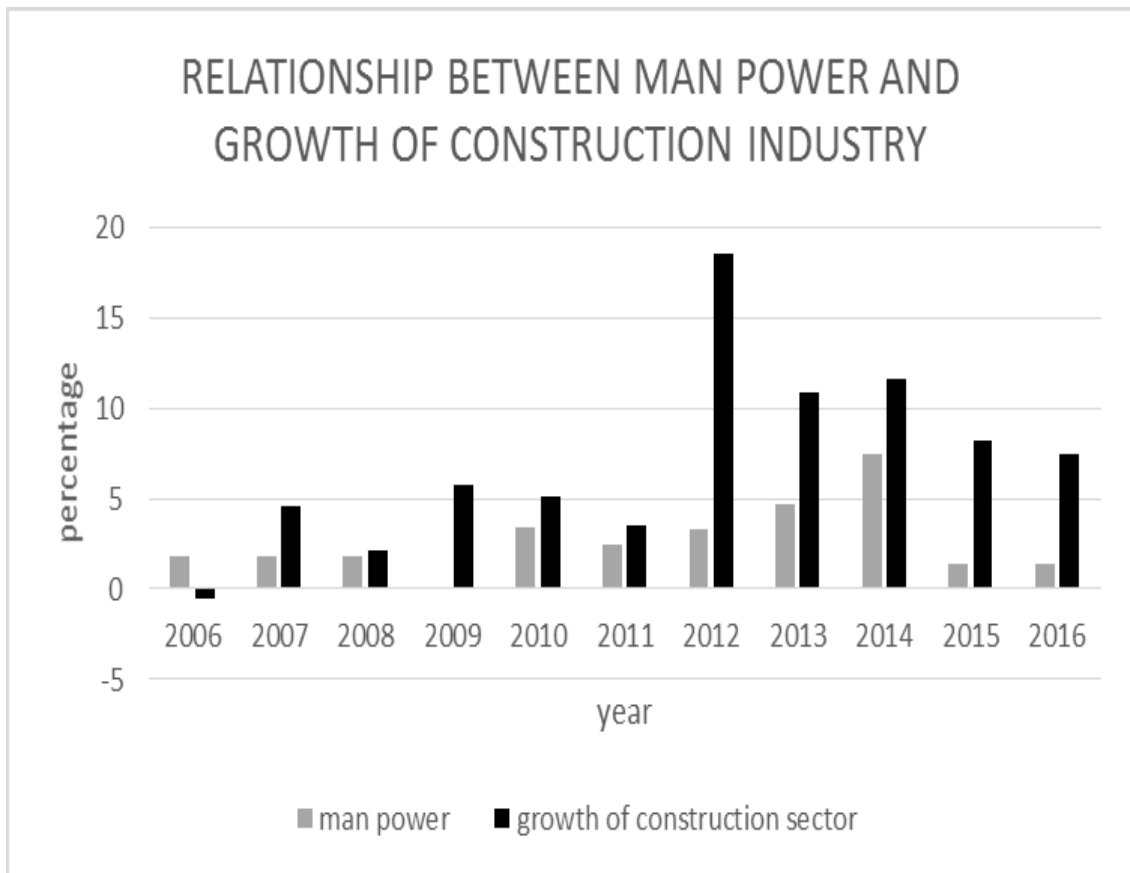


Figure 2.5: The Relationship between man power and growth of construction industry  
Source: (Bank Negara Malaysia, 2006-2016)

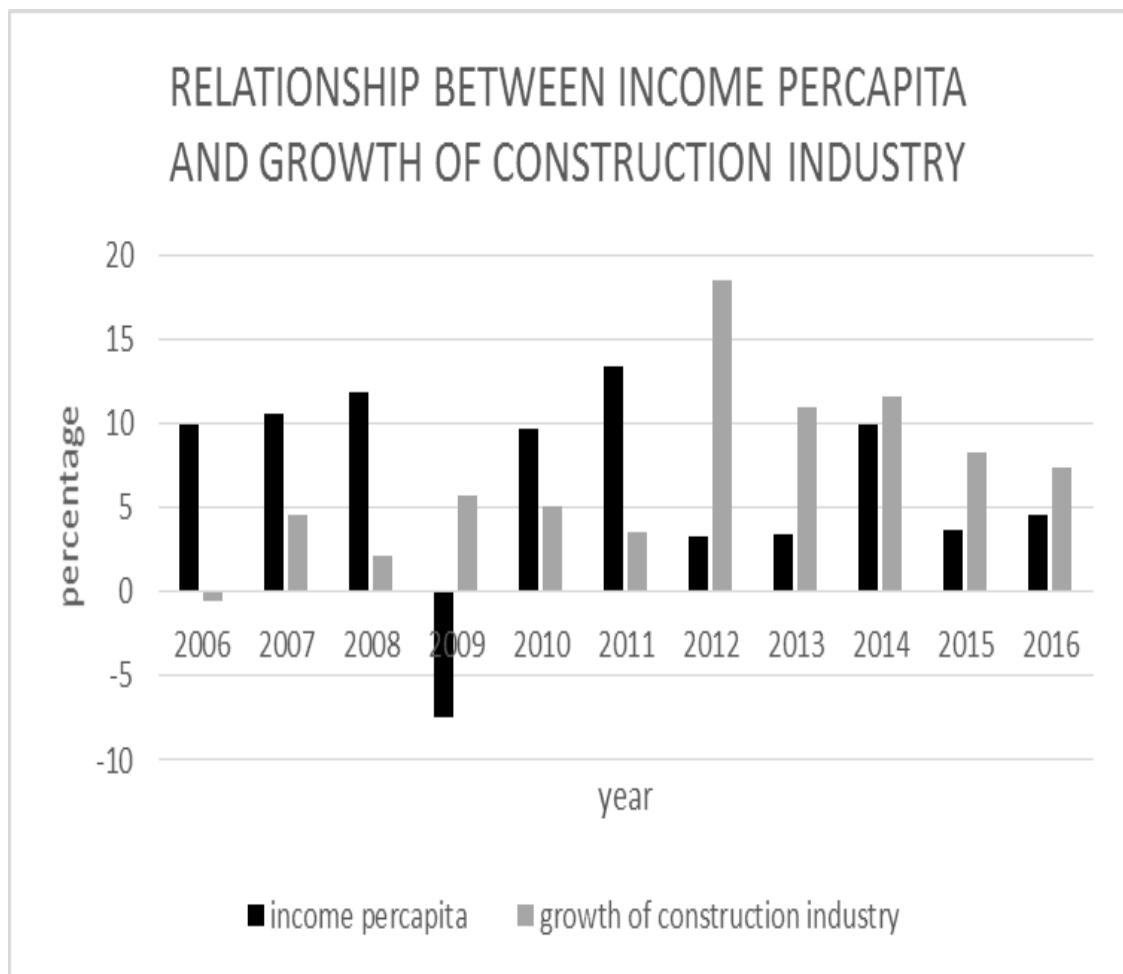


Figure 2.6: The Relationship between per capita income and growth of construction industry

Source: (Bank Negara Malaysia, 2006-2016)

#### 2.4.4 Inflation Rate

Inflation rate indicates the increasing general level of prices for goods and services and consequently the purchasing power of currency is falling. For example if the inflation rate is 2%, then a pack of sweets that cost RM1 in a given year will cost RM1.02 the next year. As goods and services require more money to purchase, the implicit value of that money falls. The most publicized measure of inflation is the consumer price index (CPI). When the inflation rate too high, the users will need to use a huge amount of money from their income for their living expenses which reduce the amount of money that they can save per month. The reducing amount of saving will reduce the interest of consumer in adding asset and widening business. Therefore, the

demand on fixed asset such as house will decrease when the users will lose purchasing power as the price is too high and the desire of consumer to buy will decrease. The decrease of consumer demand on house and commercial building will slowing down the construction activity. Besides that, the increasing price of goods will slowing down the construction works since the price for construction materials are rising and some contractors prefer not to bid project to avoid risk of changes in price of materials during inflation.

The Figure 2.7 below showing the relationship between inflation rate and growth of construction sector. Based on the chart showing that the inflation rate does effect the growth of construction industry where the increasing rate of inflation will lowering the growth of construction sector. However, from the chart also shown that the construction sector does improving from year to year where there are huge improvement starting the year 2012 with inflation rate 1.6% and the growth rate of construction sector is 18.5% compared to the previous year where the lowest inflation rate is during 2009 with 0.6% while the rate of growth in construction sector is only 5.7%. The different between year 2009 and 2012 has proving the improvement of construction industry in Malaysia.

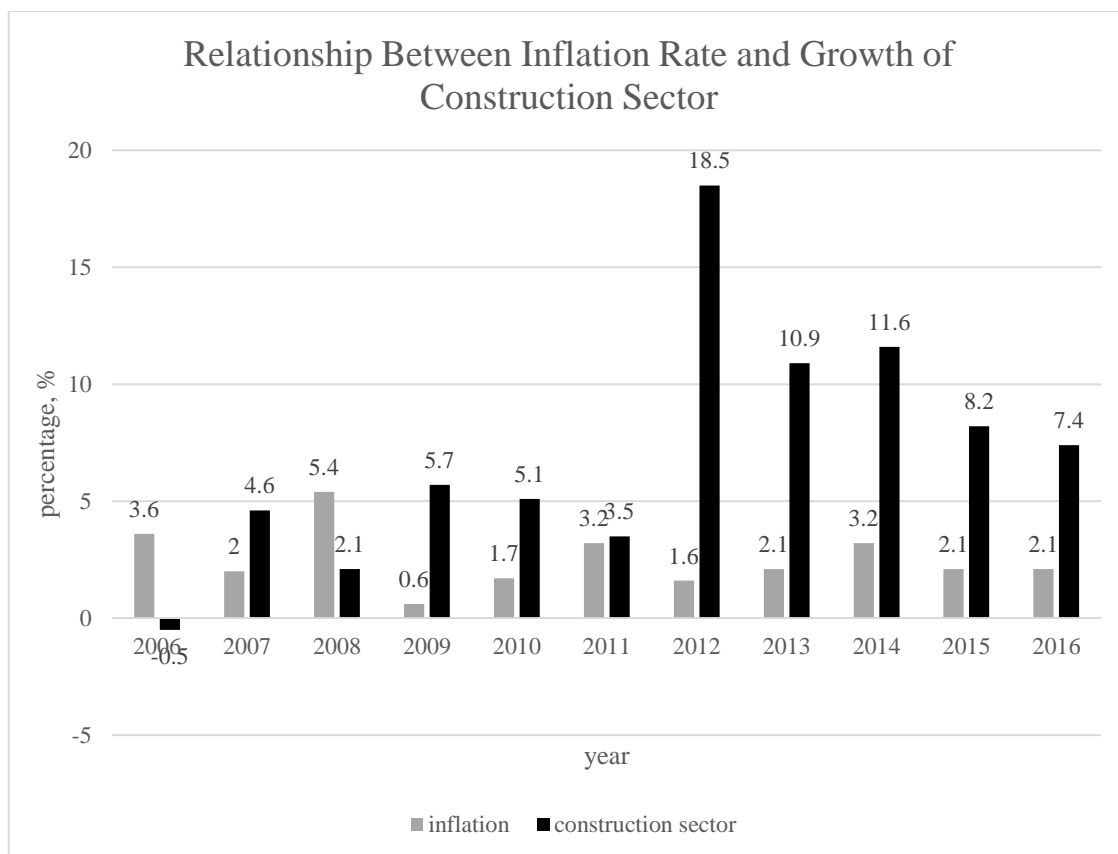


Figure 2.7: Relationship between Inflation Rate and Growth of Construction Sector  
Source: (Bank Negara Malaysia, 2006-2016).

## 2.5 Influence of Construction Industry towards Economy in Malaysia

Construction industry influence on the economy and apply at all stages and aspects of the economic cycle as a whole. Construction industry is one of the main industry that generate the growth of economic in Malaysia and it is playing an important role as an effort for government in realizing the 2020 vision. It is an industry that is highly competitive and involves the use of intensive labor. During 2006, according to the Bank Negara Malaysia, Economic Development Malaysia Report in year 2006, the manufacturing sector gaining some improvement because of the demand on product that related with construction sector such as metal and non-metal mineral has increase due to the improving growth of construction sector. The improvement of construction sector gives a big positive impact towards other sectors where in the same time opening a wide job opportunity to Malaysian not only job related with construction sector but also in manufacturing and mining as well. Below in Figure 2.8 showing the production of Malaysia by sector. Based on the chart, from year 2006 until 2011 shows a slow growth of construction compared to other sector however, in year 2012 until

2016 the pattern has changes drastically. In year 2012 until 2016 show that the construction sector has drastic improvement the contribution towards economy also increases.

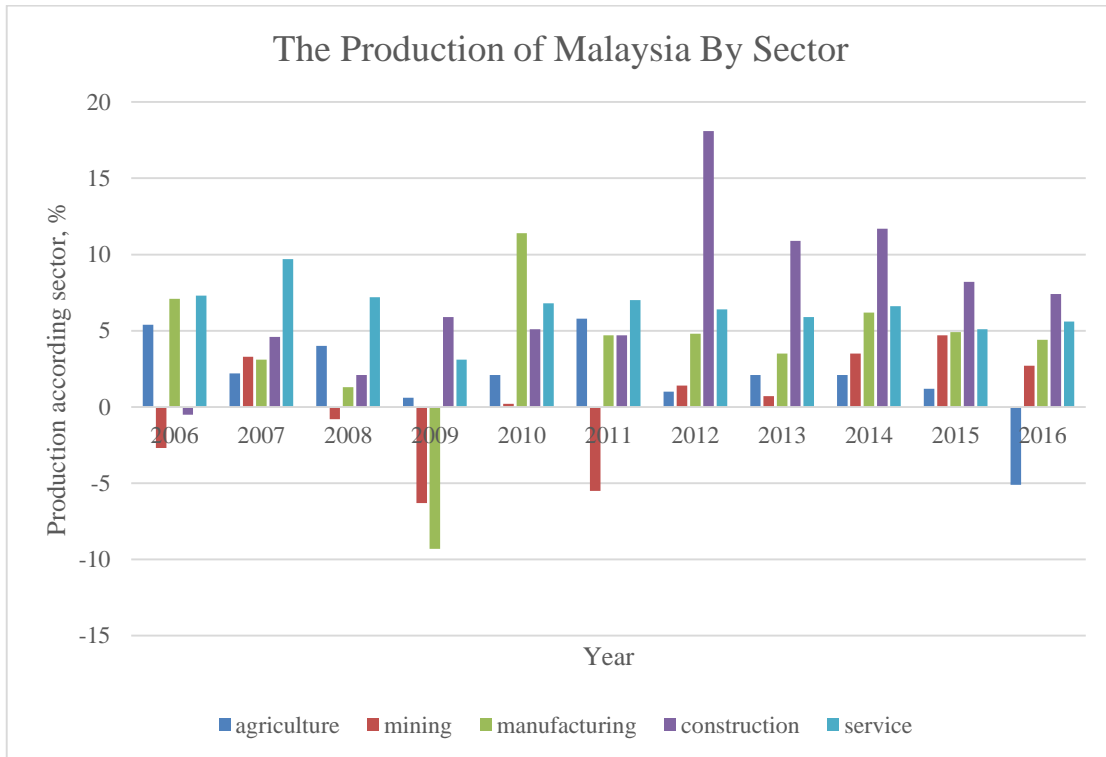


Figure 2.8: The Production of Malaysia by Sector

Source: (Bank Negara Malaysia, 2006-2016).

## 2.6 Factors Encourage Increasing Number of Contractor

Construction Industry Development Board (CIDB) is responsible for processing all applications for renewal of registration, special permission and upgrade class for G1, G2, G3, G4, G5, G6 and G7. For each class has different works specification and limit of tender price. Below is the information of category, specialization and limit of tender by grade according to CIDB, 2016. For G1 and G1 the category is building construction (B) with works specification are B01 until B28 where the works that only involving construction works of a building such as concreting works, bar reinforcement work and landscaping. For G3 and G4 the category is civil engineering construction (CE) with work specifications are CE01 until CE43 where the works are involving not only building construction but also road network, bridge, oil rigs, rail and damp. For G5 and G6 involving the mechanical and electrical works such as in mechanical are air

ventilation system, lift and escalator and other construction involving mechanical while in electrical are alarm system, electrical installation for low and high volt, telecommunication system, underground cable and other general electrical works.

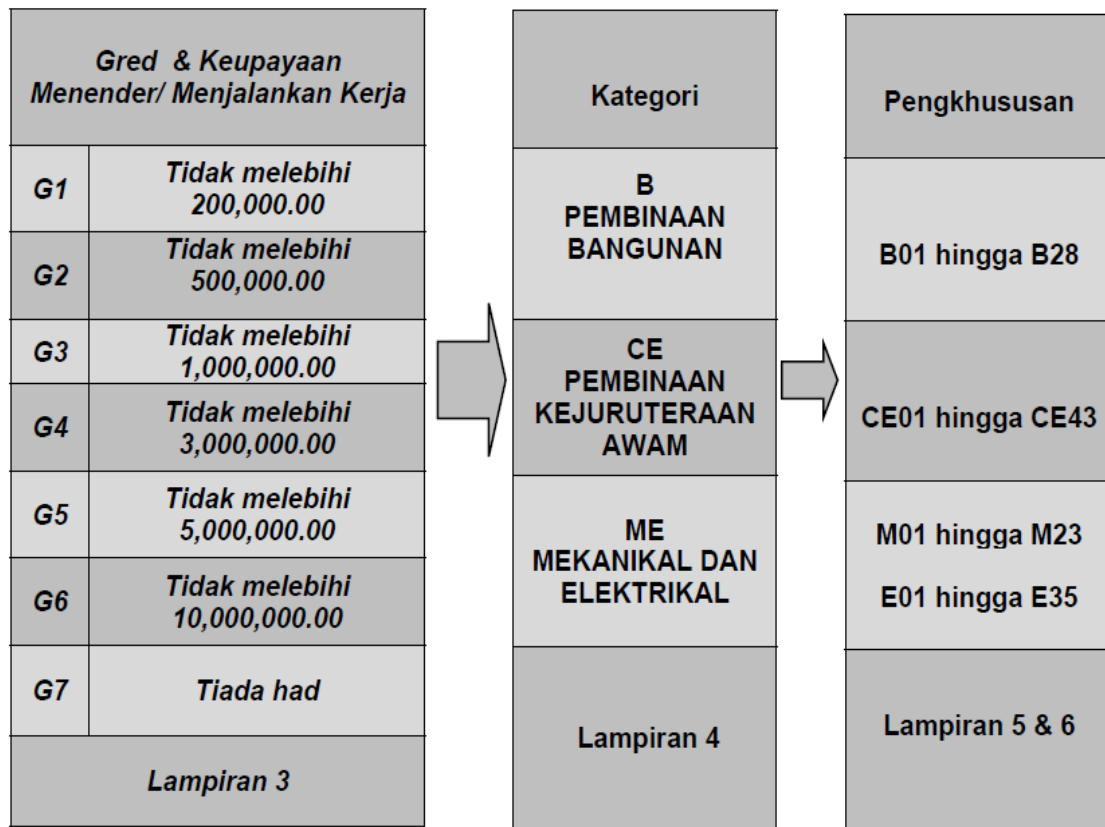


Figure 2.9: The Specialization and Category of Works According to Grade

Source: (Construction Industry Development, 2016)

Until year 2016, the number of registered contractors have increase to 74188 compared to previous year is 71799. However, according to CIDB there are contractors who are active, semi active and dormant. The active is the local contractor who have projects during their registration period, semi active is contractor who were not awarded any project during their registration period but were active in tender bidding and dormant is contractor who were not awarded any project during their registration period and did not bid for any tender. The Table 2.1 below showing the distribution on of contractor who active, semi active and dormant for year 2016. From the table showing that G1 has the largest number of registered contractor with 34480 followed by G2,

13504. This increase of number gives impact towards contractors in getting tender. According to the Datuk Osman Abu Bakar the secretary in Malay Contractors Association the increase of the number of G1 and G2 contractor is because they did not want to take risk to upgrade their license to higher grade although they have been stable and can survive in the construction industry (Utusan, 2008). They need to take risk in upgrading their license to give opportunity to other contractor that just started in this industry.

Table 2.1: Number of Registered Contractor by Grade and Status

Grade	new registration by grade and status				
	Active	Semi Active	New	Dormant	Total by Grade
G1	26866	297	3072	4245	34480
G2	9076	144	2659	1625	13504
G3	6854	116	1481	1263	9714
G4	2796	33	443	291	3563
G5	3632	57	746	449	4884
G6	1383	18	93	124	1618
G7	5464	61	379	521	6425
<b>Total</b>					<b>74188</b>

Source: Construction Industry Development Board

The other factors that influencing the increasing number of contractor which one of them is Ninth Malaysia Plan (RMK-9) where under this plan three development of province corridors have been launched by ex-prime minister, Dato' Seri Abdullah Haji Ahmad Badawi which are Northern Corridor Economic Region, Iskandar Development Region and Southern Corridor Economic Region.

### 2.6.1 Northern Corridor Economic Region

The Northern Corridor Economic Region is a development plan encompassing the four north western states of Malaysia, namely Kedah, Perlis, Pulau Pinang and northern Perak. It was launched in 2007 by the federal government with an aim to transform the region into a sustainable and social economically balanced region by 2020. These area have high potential to become the centre of modern and wide scale of

agriculture, high technology industries such as ICT, biotechnology and automotive. The main project is manufacturing, agriculture and services. These are the project list that been planned in Northern Corridor Economic Region:

- Construction of second bridge of Pulau Pinang
- Bridge that connecting Batu Kawan and Batu Maung
- Main Nutrition Centre
- Aquaculture centre
- Highway that crossing Kedah
- Main central highway
- North-south expressway

### **2.6.2 Iskandar Development Region**

The development of Iskandar economic province in Selatan Johor is the biggest planned development in history of Malaysia. With the strategic location in southern Johor it is suitable to develop into international destination for investment, trade, industry, tourism and cultural. Below is the list of projects that will be conduct:

- Construction of
- Tanjung Lepas Port
- Senai Airport (Senai Aviation Hub)
- Construction of Johor Federal Government Department Complex
- High Technology Cyber City
- Tanjung Langsat Port (Bio Fuel)
- International School and Foreign University

### **2.6.3 East Coast Corridor Economic Region**

The East Coast Economic Region (ECER) covers the states of Kelantan, Terengganu and Pahang, as well as the district of Mersing in Johor. The plan was developed and will be the basis for guiding the development of the regions over the next 12 years where it will be transformed into a major international and local tourism destination, an exporter of resource based and manufactured products, a vibrant trading



center, and an infrastructure and logistic hub. The plan also details measures to eradicate poverty and improve incomes. Below are the economic clusters for ECER:

- Manufacturing
- Oil, gas and petrochemicals
- Tourism
- Agribusiness
- Human Capital Development

## **2.7 Problems in Construction Industry**

The limited number of project and the increase number of registered contractor has risen the problems of imbalances between numbers of contractor with the numbers project offered. This situation causing the number of semi active which is contractor that active in bidding but do not get any project to increase. The number of project offer that depends on the economic condition cannot help in the balancing the both factors. The excessive number of contractor in market will stiffening the competition among them in getting tender. To compete in a stiff competition, they have to offer a low price for a tender in order to attract client during bidding session. This condition will give a bad impact towards contractor in widening their business as the profit is small due to the low price that they have to offer. This situation gives huge impact to G1 and G2 contractor that has a huge number that registered.

The problems arise that should be handle by the contractors might come from different cause which may cause by the external problem or may happen cause by the contractors themselves. The problems that caused by the contractor covering the problem of poor management, weakness in technical, poor financial management and problem of construction material. The external problems are construction material supplies, problem with government authority, problem in getting project and problem with local resident of a particular area. Most of the G1 and G2 contractor just having a general knowledge from experience and only a small amount of them that have the specialized expertise that is recognized and related with construction industry. They should have specialized skills in this area in order to open up opportunity and success in future.

There are a few problems which are did not practiced a proper and systematic management system, problem in getting capital to run a project, strict requirement in getting loan from bank, late interim payment, problem in buying construction material in credit and problem in getting work man power. This may cause to the poor quality of work of a contractor where may affect the contractor in getting tender as client will not hired a contractor that have poor quality of work. They more attracted to hire contractor that are well known with their good quality of work and offering a reasonable price.

### **2.7.1 Construction Material Problem**

Construction materials such as bricks and cement are crucial in running a construction works. Lacking in these will effecting the flow of a construction where it may cause a project to postpone. Lack in material usually are consequences of a lot of wasting material. Wasting of material will causing a change in plan for cost estimation where the amount of material used are more than the estimated amount. Sometime, the lack of material not only caused by the excessive usage but can also happen caused by the mistakes done during estimation. Mistakes in estimation can caused a huge problems to contractor and the main is problem in financial.

Wasting of construction materials happen in all phase of construction works which are starting from the delivery until the finishing phase of a project. According to Masturiane (2008), the factors of waste are:

- Cutting
- Quality of works
- Storage
- Transportation
- Misuse
- Theft
- Skills

Besides waste, late delivery delays of materials also commonly happen (Masturiane, 2008). The delays may cause a huge lose as it effect on the construction works schedule for example the date of concrete mix delivery is today however it have to be delayed due suppliers problem and causing the concreting works cannot be done

today. The loss that contractor have to take is not only time but also the cost for renting machine and labour cost also increase due to the delays.

### **2.7.2 Man Power Problem**

The force of man power is the most important in construction industry where without them will paralyzed the project progress. A contractor should have skills in handling with workers with different personalities and behaviour for local or foreign workers. The labour problem arise from different factors however, the problem tend to arise due to not systematic management of labour worker. The number of worker hired should be optimum in order to get highest production with the lowest cost. If lack of worker number will caused a low production of works while too much workers will caused high an excessive spend on labour. Problem can also arise among the workers themselves. The problem may occurs are dissatisfaction among workers, coming late to the works place and slugging off, did not follow orders and miscommunication.

The other problems is lack of local workers. This causing to the increase number of foreign workers in Malaysia especially in construction sector. The problem arise when only small quota been allowed by the government in hiring foreign workers despite of the lack of local workers. This situation forcing the contractor to taking foreign workers illegally and besides, the salary of foreign workers are lower, hardworking and do not need any attention on their welfare from their employer. Besides that, Malaysia also lack of skilled worker that very crucial for critical works on site. For example the installation works of electrical wiring where only skilled workers that have recognized knowledge in electrical wiring can do the works.

### **2.7.3 Heavy Machineries Problems**

Machineries are also another crucial things are needed in running construction works on site when working on works that are too heavy or cannot be done by human such as placing a roman column or excavating soil. However, since the cost to have or use heavy machine is high, it become the most expensive asset for contractor in running business. There are a few problems that related with machines which are:

- Malfunction of machine due to improper usage and irregular maintenance.
- Increase in cost and time for repairing work

#### **2.7.4 Financial Problem**

Most of the contractors in Malaysia faced the same problem which is financial problem. This problem gives a big impact to contractors in running their business where they might fail to finish their ongoing project. Failure in finishing a project will give a bad effect to the contractors in getting more project in future. This condition forced the contractors to take a drastic decision to ensure every activity that been done by them will get a worth return. To achieve this, a cooperation from every individual that involves with a project are needed to ensure the problem can be handled well.

The financial problem that facing by the contractors is the long term effect of recession in Malaysia during 1998 (Masturiane, 2008). This causing a difficulties for contractors in getting loan from financial institution. However, the economic condition of Malaysia now are in healthy state. The construction sector also gain an improvement for every year and showing that Malaysia are keep developing and improving. Furthermore, government have issuing an implementation bon where gives another advantage to contractor in getting loan and can help contractor to start a project. With the cooperation from government, financial institute and CIDB should resolve the financial problem faced by the contractor where can improve the growth rate of construction industry in Malaysia.

## CHAPTER 3

### METHODOLOGY

#### 3.1 Introduction

Data collection have been done in order to achieve the objectives of this study as stated in Chapter 1. They are including primary data which is the data collected by spreading questionnaire to respondents, and secondary data which is the data collected from previous research or newspaper.

In Chapter 2 already discuss on the two of the objectives which are study the economic growth of construction sector in Malaysia and identify the factors that encouraging the increasing number of G1 and G2 contractors in Malaysia. In Chapter 3 will explain on how the data are collected. These data are collected from the reading and literature review of journals, reference books, information from CIDB and Bank Negara Malaysia, articles and reports from the internet. Data collection are conducted with a systematic plan in order achieve the objectives of this study as stated in Chapter 1.

In this chapter will discuss in details a part of the flow chart of the methodology stated in Chapter 1 including methods that been used to run the analysis. A set of questionnaire form have been constructed to use as a medium for gathering data related with the factors that catalysing the growth of construction industry and problems that been faced by the contractors in Malaysia. The targeted group of respondents are contractors with the license of grade G1 and G2. All the data collected from the distributed questionnaire form are organized and analysed using Statistical Package For Social Science (SPSS 16.0 for Windows) software and Microsoft Excel software. The data are analysed using average index method to produce research result and answering the objectives of study. Next, from the result obtained, discussion and conclusion will be made.

## **3.2 Preliminary Studies**

Preliminary studies was conducted to determine the accuracy of the study design and equipment needed to collect data. This is the stage where the determination of whether to schedule interviews or using questionnaires. At this stage of the study were made using literature through reading and study of relevant articles and previous research to get a clear picture.

### **3.2.1 Literature Review**

The literature review was conducted with reference to the reference books, journals and other materials from the internet as shown in the reference section. At this stage will focused on the first two objectives of this study which are to study the economic growth of construction sector in Malaysia and to identify the factors that encourage the increasing number of G1 and G2 contractors in Malaysia. All these objectives were discussed based from the information of secondary data that have been gathered.

## **3.3 Primary Data**

A survey was carried out to obtain the views and experience of G1 and G2 contractors in managing project and problems they faced. It is an essential element for achieving the objectives that have been set at the beginning of the study. It also aims to prove the truth of a theory that was stated during the literature review conducted. Questionnaires will be distributed to all the targeted group of respondent.

One of the methods used to obtain the required data is through questionnaires intended to obtain some information and opinions regarding the aspects set out in the objectives of the study. The procedure for obtaining information from the questionnaire set out in the subtopic below:

- preparation of questionnaires
- updates, distribution and collection of questionnaires
- data analysis

### **3.3.1 Preparation of Questionnaire**

Through a detailed study and reading of literature, a number of questions drafted and designed in several sections such as below to get the opinion and understanding of respondents who experienced the management of construction projects. The questionnaire was divided into three sections which are:

- i. Section A
  - General information of company background, role of company, years of experience, grade, number of projects finish in five years and source of tender.
- ii. Section B
  - Data on factors catalyzing the growth of construction industry in Malaysia such as economic performance, financial facilities, demographic growth and inflation rate.
- iii. Section C
  - Data on problems that been faced by contractors in handling project in Malaysia

The questionnaire form have been distributed to 30 construction company with G1 and G2 license.

### **3.3.2 Updates, Distribution and Collection of Questionnaire**

A questionnaire that was designed to be studied and updated many times with the assistance of the supervisor. This process is crucial as the questionnaire that been designed is the key to answer the third objective of this project which is to analyze the problems that been faced by contractors in Malaysia. The approved designed questionnaire then can be distributed to 30 contractors in Malaysia randomly referred to the list of G1 and G2 contractors in CIDB portal.

### **3.4 Data Analysis**

The data analysis was to obtain useful information to achieve the objectives that have been determined during the initial stages of the study in Chapter 1. Typically, the data will be analyzed using statistical methods such as mode and the average found in certain computer software. The computer software used by researchers for the purpose of this analysis is a Statistical Package for Social Sciences (SPSS 16.0 for Windows) and Microsoft Excel for Microsoft Windows XP Professional.

Results obtained from the questionnaire to respondents will be reviewed, compiled and analyzed. Tables and charts are used as give a clearer picture to show the results of the analysis may be. The analysis was also based on information and data obtained during interviews with government bodies and also the consortium involved in the project.

Generally, the analysis of the data collected will be split into two parts, namely the preliminary analysis and detailed analysis. Preliminary analysis includes an analysis of the background of the respondents, while a detailed analysis is an analysis of data obtained from the respondents to achieve the objectives of the research, which is an analysis of respondents' views on the factors catalyzing growth of construction sector and problems faced by contractors in Malaysia. At the final stage of the investigation, the analysis of this data will be summarized and recommendations relating to this investigation will also be provided to guide further research in the future.



## **CHAPTER 4**

### **RESULTS AND DISCUSSION**

#### **4.1 Introduction**

In this chapter will discuss on the analysis of data that have been collected from the distributed questionnaire. The questionnaire have been distributed to G1 and G2 contractors in Malaysia. The study is conducted based on a few aspects that followed the objectives of this study where they are the experience of the contractors, class of contractors, source of tender, factors influencing the construction industry and problems that been faced by them which including financial problem, construction materials, labour and heavy machineries. From the data collected an analysis will be done and then come up with the conclusion on the result of the analysis.

#### **4.2 Data Analysis**

30 questionnaire forms have been distributed to 30 contractors in Malaysia in order to collect all data that needed to achieve the objectives of this study. However, only 22 contractors responded and all the analysis are done based on the data from these 22 respondents. The questionnaires are divided into three section where section A is respondents background, section B is the factors that catalysing the construction industry and section C is the problems that faced by contractors in Malaysia.

##### **4.2.1 Section A Data Analysis**

For section A the questions are related to the background of the contractors. This section is divided into a few aspects which are:

- i. To know the role of the respondents' company
- ii. To know the class of the contractors

- iii. The years range involvement of the contractors in construction industry
- iv. Number of projects that handled by them for the past five years
- v. Source of the tender

Figure 4.1 shows that 100% of the respondents are contractors. According to the data collected, 59% of the respondents are G1 contractors while the other 41% are G2.

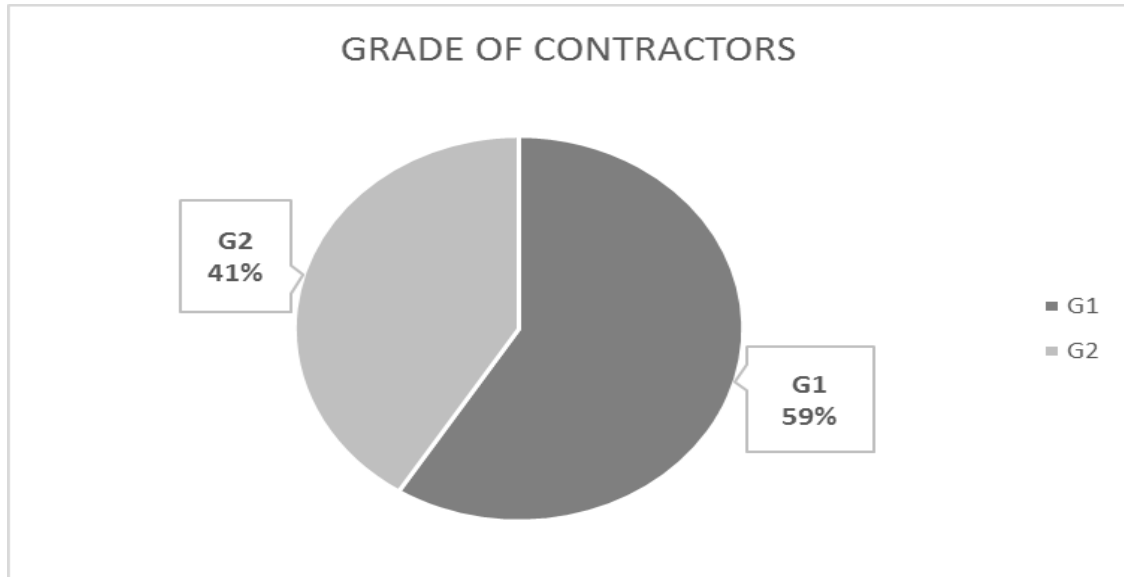


Figure 4.1: Grade of contractors

All the respondents are came from different background where in Figure 4.2 below shows the distribution of years of respondents' contribution in construction industry. This data were taken to measure the contractors' level of experience in this sector. As in the figure shows that 68% of the respondents stated that they have involve in construction industry for above 10 years, 23% of respondents are 5-10 years while below 5 years are 9%. Based on these data show that most of the contractors were already more than 10 years in this area but still in G1 and G2 class, however there are still have 9% of them that still new and need to gain more experience before can upgrade. Based on the result can deduce that the high number of G1 and G2 contractors in Malaysia is they did not upgrade their license although their years of experience already fulfil the requirement. This may happen because of low amount of capital since to upgrade class become G3 they need at least RM 50,000 (CIDB, 2016). Besides that, they might also have enough capital to upgrade but do not confidence enough to take a risk to apply for higher grade. This can become one of the reason of the high number of G1 and G2 contractors.

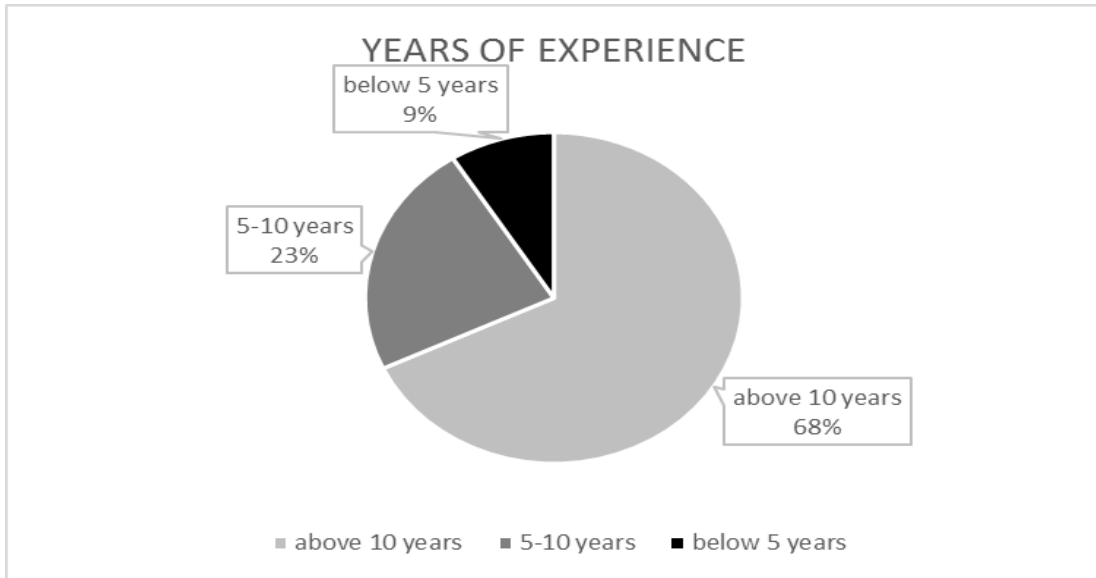


Figure 4.2: Years of experience

According to Figure 4.3, most of the respondent always handled drainage project where 55% of the respondents agreed with the statement followed by project related to building where 41%, then road 31%, other than stated in survey is 23% and the least is bridge where none of them always get this type of project.

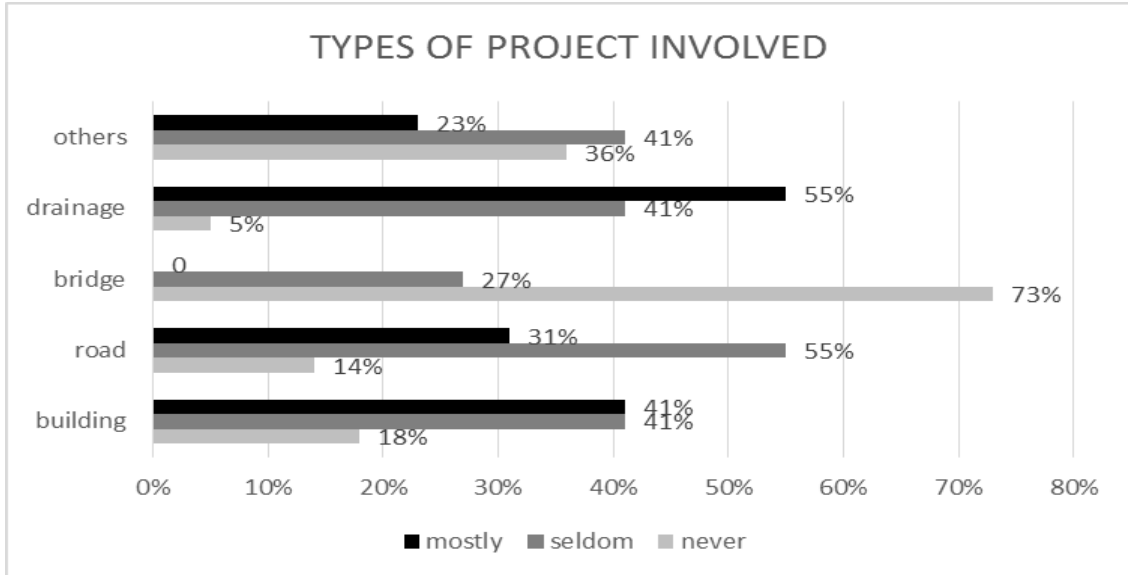


Figure 4.3: Types of project involved

Figure 4.4 showing that most of the respondents handled a project not more than five in five years which is 68% of them followed by 5-10 projects in five years which is 27% and the least where only 5% of the respondents manage to handle more than 10 projects for five years. This result seems do not tally with the experience where most of

the respondents have more than 10 years of experience. This showing that most of the contractors handled small amount of project for five years. This situation may due to a lot of factors which one of them is quality factor. They might not manage to get project as their performance in previous projects did not achieve the required standards. Besides it also due to a passive involvement in bidding tender. They might not have enough capital due to poor financial management and difficulties in getting loan which will become an obstacle to them to join bidding tender. Without enough capital can be a fatal burden to contractors.

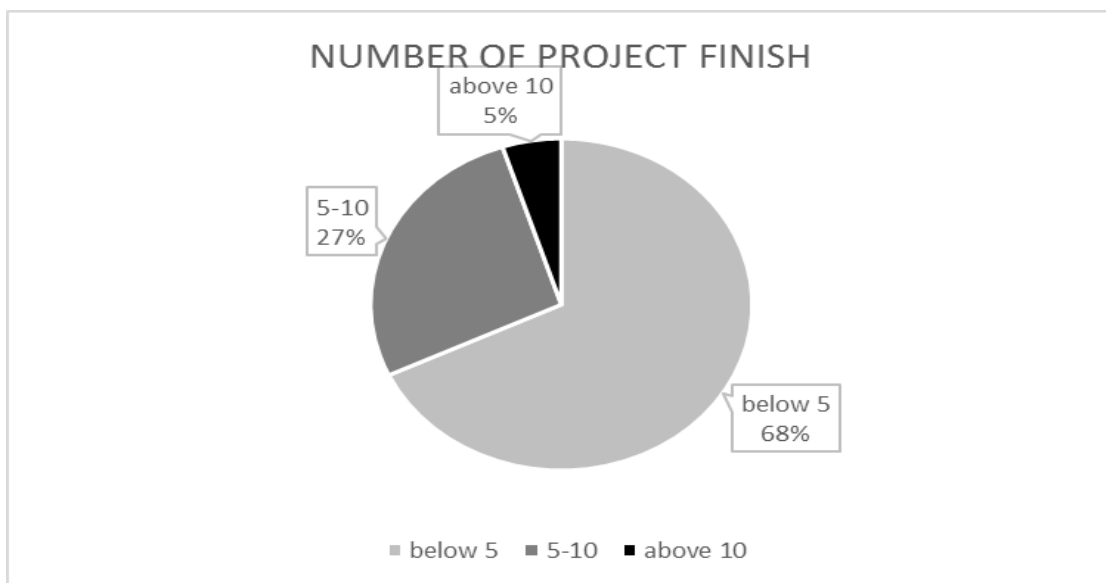


Figure 4.4: Number of project finish in 5 years

Figure 4.5 showing the source of project that they handled. Most of them handled project from government sector where 95% of them mostly handled government project followed by the private sector where only 5% of them have handled mostly private project. From this can be deduced that government sector is the main source of project for G1 and G2 contractors.

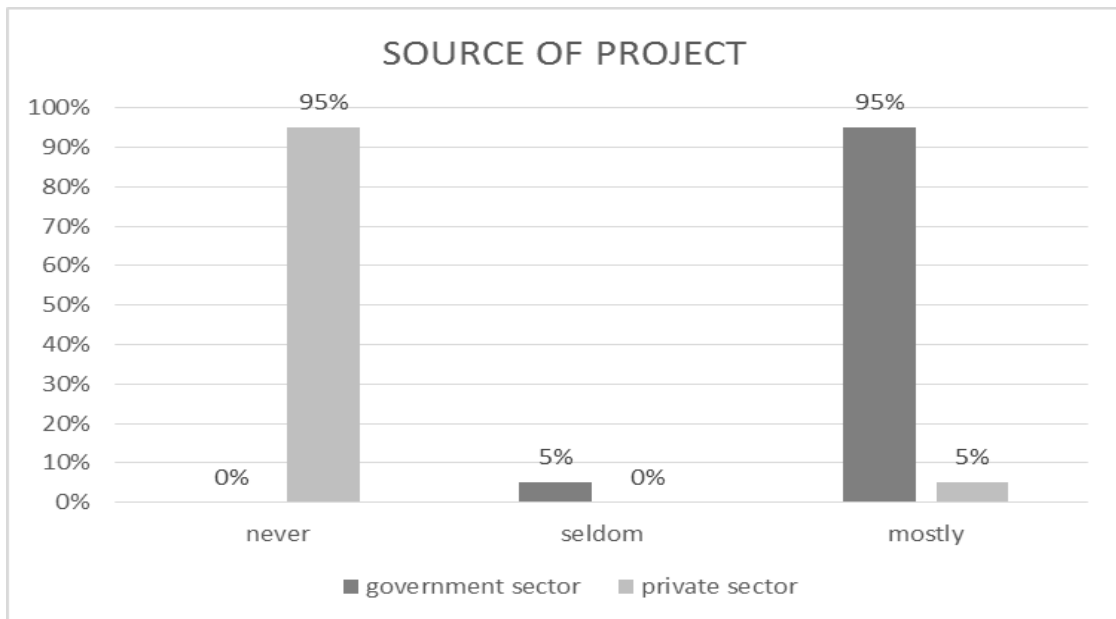


Figure 4.5: Source of the project

#### 4.2.2 Section B Data Analysis

Questions in section B focusing on the factors that can catalyse the construction industry. The questions can be divided into a few aspects which are:

- i. Economic performance
- ii. Demographic growth
- iii. Financial facilities
- iv. Inflation rate

The data are collected based on the respondents' opinion on the matters that been asked in the questionnaire. The respondents will answer in a scale of one to five where:

SCALE	CLASSIFICATION
1	Disagree
2	Partially disagree
3	Natural
4	Partially agree
5	Agree

Below is the summarization of the result for these four factors in a table form.

Table 4.1: Summarization of data for factors catalysing construction sector

Factors	Rating of Frequency										Average Index	Ranking
	1		2		3		4		5			
	N	%	N	%	N	%	N	%	N	%		
<b>Economic performance</b>												
Increase in development	0	0	0	0	0	0	10	45.45	12	54.55	4.55	1
High Gross Domestic Product (GDP) value	0	0	0	0	0	0	13	59.09	9	40.91	4.41	2
Huge amount of consumer spending	0	0	5	22.73	0	0	9	40.91	8	36.36	3.9	3
An increase in exportation	1	4.55	6	27.27	3	13.64	8	36.36	4	18.18	3.36	4
<b>Demographic growth</b>												
An increase in population number	0	0	0	0	0	0	5	22.73	17	77.27	4.77	1
High employment rate	0	0	0	0	0	0	7	31.82	15	68.18	4.68	2
An increase in citizen income	0	0	4	18.18	2	9.091	6	27.27	10	45.45	4	3
An increase in domestic demand	0	0	6	27.27	1	4.545	12	54.55	3	13.64	3.55	4
<b>Financial facilities</b>												
High government allocation in construction sector	0	0	0	0	0	0	5	22.73	17	77.27	4.77	1
Low loan interest rate	0	0	0	0	3	13.64	5	22.73	14	63.64	4.5	2
Huge number of financial institution that offering loan	0	0	5	22.73	3	13.64	8	36.36	6	27.27	3.68	3
Simple loan application process	0	0	9	40.91	1	4.545	8	36.36	4	18.18	3.32	4
<b>Inflation rate</b>												
Stable market price of construction material	0	0	1	4.55	0	0	3	13.64	18	81.82	4.73	1
Low market price of construction material	0	0	2	9.091	2	9.091	5	22.73	13	59.09	4.32	2
Low inflation rate	0	0	3	13.64	5	22.73	7	31.82	7	31.82	3.82	3

Economic performance is one of the factors that can catalyse the growth of construction industry where the result from the survey are summarized into Figure 4.6 below.

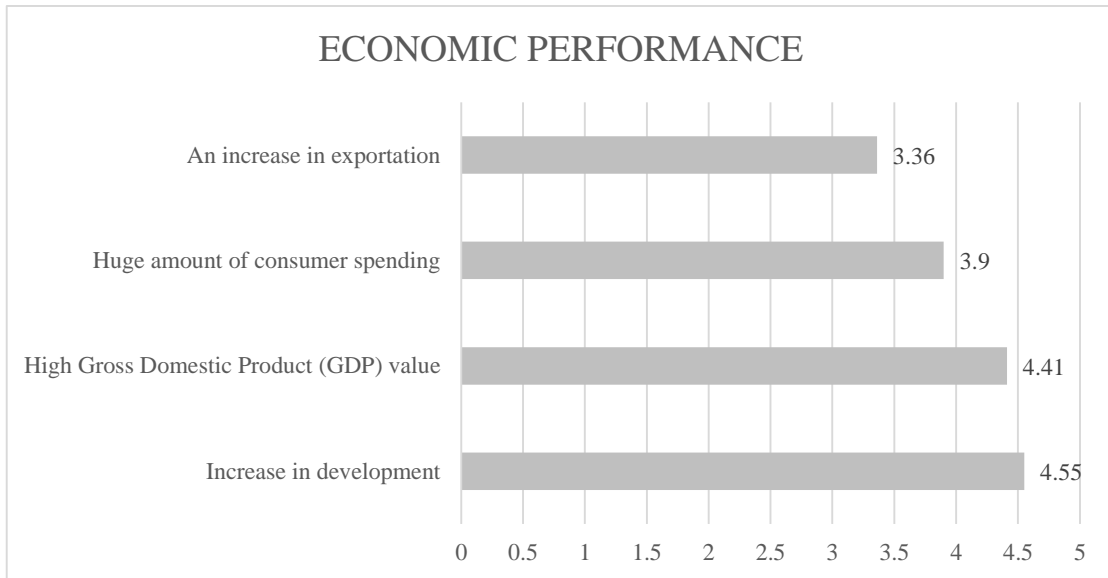


Figure 4.6: Factors of economic performance

There are four things discovered that related with the economic performance as shown in the chart above. Based on the chart, most of the respondents agreed that increase in development is the main aspect in economic performance that enhancing the growth of construction industry followed by high Gross Domestic Product (GDP) and huge amount of consumer spending. Meanwhile, increase in exportation is the least aspect that help in catalysing the growth of construction industry. Next is demographic growth factor where below is the summarization of the result.

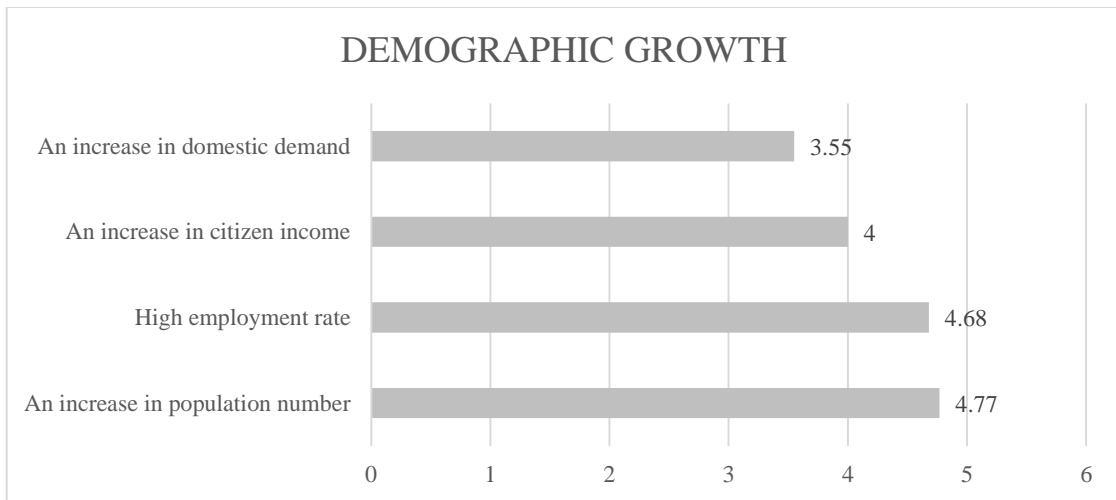


Figure 4.7: Demographic growth factor

Based on the chart above can be deduced that the increase in population number is the main aspect that causing the increase of the growth of construction industry in Malaysia with the average index of 4.77 followed by high employment rate with 4.68, then an increase in citizen income with 4 and the least that causing increase in construction industry is increase in domestic demand with 3.55 of average index.

Besides, financial facilities can also influencing the growth of construction industry where the result of the survey for this factor is summarized in chart form as shown below.

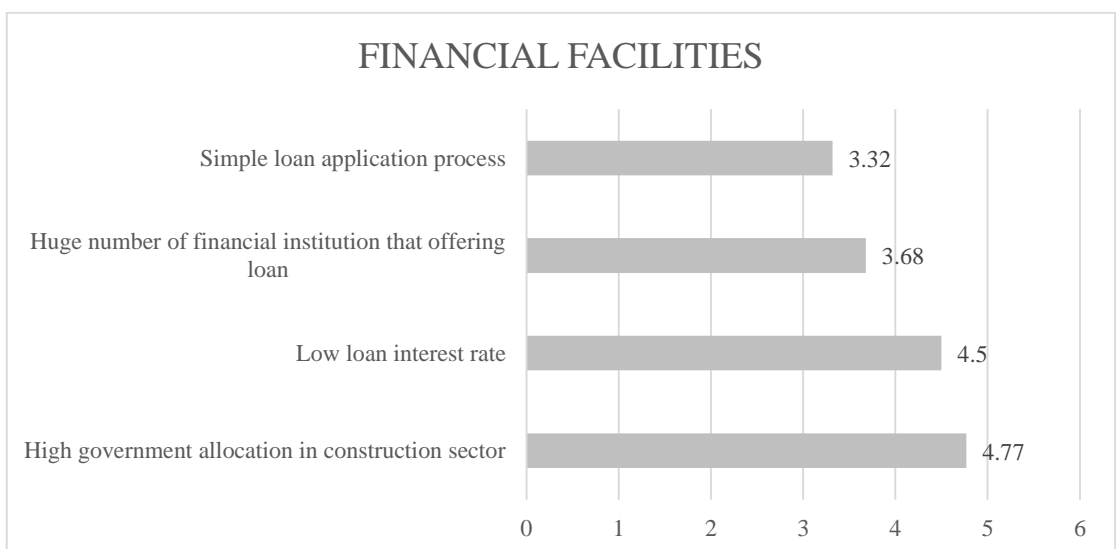


Figure 4.8: Financial facilities factor



As shown in the chart, most of the respondents agreed that high government allocation in construction sector is the main aspect that help in increase of construction industry's growth with the average index of 4.77 followed by low loan interest rate with 4.5, then huge number of financial institution that offering loan with 3.68 and the least is simple loan application process with 3.32 of average index.

Another factor that catalysing the growth of construction industry is inflation rate where the results of the survey for this factor are summarized in chart form as shown below.

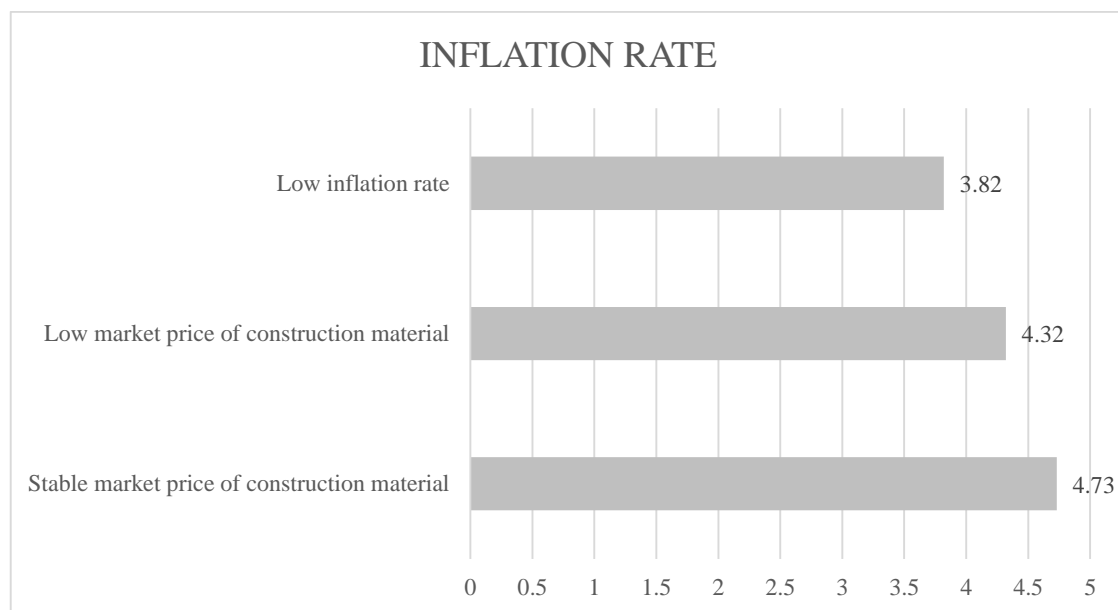


Figure 4.9: Inflation rate factor

In chart above has shown that most of the respondents agreed that stable market price of construction material is the main aspect that help in increasing the growth of construction industry with average index of 4.73 followed by low market price of construction material with 4.32 and the least is low inflation rate with average index of 3.82.

#### 4.2.3 Section C Data Analysis

Questions in section C focusing on the problems that faced by contractors in Malaysia during handling project. The questions can be divided into a few aspects which are:

- i. Financial
- ii. Construction material
- iii. Financial facilities
- iv. Economy
- v. Labour
- vi. Heavy machineries

The data are collected based on the respondents' opinion on the matters that been asked in the questionnaire. The respondents will answer in a scale of one to five where:

<b>SCALE</b>	<b>CLASSIFICATION</b>
1	Disagree
2	Partially disagree
3	Natural
4	Partially agree
5	Agree

Below is the summarization of the result for these six aspects of problems faced by contractors in Malaysia in a table form.

Table 4.2: Summarization of data on problems faced by contractors

Problems	Rating of Frequency												Average Index	Ranking
	1		2		3		4		5		Total			
	N	%	N	%	N	%	N	%	N	%	N	%		
<b>Financial</b>														
Lack of capital	6	27.3	5	22.73	1	4.55	4	18.18	6	27.3	22	100	2.95	1
Small profit due to competition with other contractors	6	27.3	7	31.82	1	4.55	3	13.64	5	22.7	22	100	2.73	2
Late getting interim payment	8	36.4	7	31.82	1	4.55	2	9.091	4	18.2	22	100	2.41	3
Weak in financial management	9	40.9	10	45.45	0	0	3	13.64	0	0	22	100	1.86	4
<b>Construction material</b>														
Instable material price	7	31.8	4	18.18	1	4.55	6	27.27	4	18.2	22	100	2.82	1
Material price is too high	7	31.8	4	18.18	2	9.09	4	18.18	5	22.7	22	100	2.82	1
Difficulties in getting material following required specification	7	31.8	5	22.73	2	9.09	3	13.64	5	22.7	22	100	2.72	2
Difficulties in getting supplier	6	27.3	7	31.82	2	9.09	2	9.091	5	22.7	22	100	2.68	3
Material management not systematic	6	27.3	8	36.36	1	4.55	3	13.64	4	18.2	22	100	2.59	4
Late material delivery	9	40.9	5	22.73	0	0	5	22.73	3	13.6	22	100	2.45	5
Mistakes in cost estimation	6	27.3	10	45.45	0	0	6	27.27	0	0	22	100	2.27	6
Find suitable place for material storing	9	40.9	7	31.82	0	0	4	18.18	2	9.09	22	100	2.23	7
Miscommunication with supplier due to documentation problem	10	45.5	6	27.27	3	13.6	2	9.091	0	0	22	100	1.77	8
<b>Financial facilities</b>														
Procedures adopted by financial institution in relation to the loan processes	8	36.4	4	18.18	1	4.55	4	18.18	5	22.7	22	100	2.91	1
Difficulties in getting loan	8	36.4	5	22.73	1	4.55	3	13.64	5	22.7	22	100	2.64	2
High interest rate for loan	8	36.4	6	27.27	0	0	5	22.73	3	13.6	22	100	2.5	3
Discrimination from financial institution	9	40.9	5	22.73	0	0	7	31.82	1	4.55	22	100	2.36	4

Table 4.3: Continuation for Table 4.2

Problems	Rating of Frequency												Average Index	Ranking
	1		2		3		4		5		Total			
	N	%	N	%	N	%	N	%	N	%	N	%		
<b>Economy</b>														
High inflation rate	5	22.73	7	31.82	2	9.091	4	18.18	4	18.18	22	100	3	1
Slow growth rate of economy in Malaysia	5	22.73	8	36.36	0	0	2	9.091	7	31.82	22	100	2.91	2
Problem in paying tax	5	22.73	6	27.27	3	13.64	3	13.64	5	22.73	22	100	2.86	3
Small allocation from government in construction sector	9	40.91	6	27.27	0	0	5	22.73	2	9.091	22	100	2.32	4
<b>Labour</b>														
Difficulties in getting skilled worker	5	22.73	6	27.27	0	0	4	18.18	7	31.82	22	100	3.09	1
Management of labour worker not systematic	8	36.36	3	13.64	1	4.545	4	18.18	6	27.27	22	100	2.86	2
Changes in government policies	4	18.18	7	31.82	6	27.27	1	4.545	4	18.18	22	100	2.73	3
Language barrier	5	22.73	8	36.36	1	4.545	5	22.73	3	13.64	22	100	2.68	4
Lack of local worker	9	40.91	3	13.64	2	9.091	4	18.18	4	18.18	22	100	2.59	5
Lack of expertise	10	45.45	3	13.64	0	0	7	31.82	2	9.091	22	100	2.45	6
Lack of safety harness among workers	5	22.73	11	50	0	0	3	13.64	3	13.64	22	100	2.45	6
Difficulties in speaking with worker	10	45.45	5	22.73	0	0	6	27.27	1	4.545	22	100	2.23	7
<b>Heavy machineries</b>														
Maintenance cost	5	22.73	5	22.73	0	0	7	31.82	5	22.73	22	100	3.09	1
High rate of renting cost	9	40.91	2	9.091	0	0	9	40.91	2	9.091	22	100	2.68	2
Difficulties in getting a particular machine	10	45.45	4	18.18	0	0	3	13.64	5	22.73	22	100	2.5	3
Machine malfunction	9	40.91	8	36.36	0	0	1	4.545	4	18.18	22	100	2.23	4
Theft	11	50	6	27.27	0	0	5	22.73	0	0	22	100	1.95	5

Financial is one of the aspects of problems faced by contractors in Malaysia. Below is the summarization on the financial aspect in graph form.

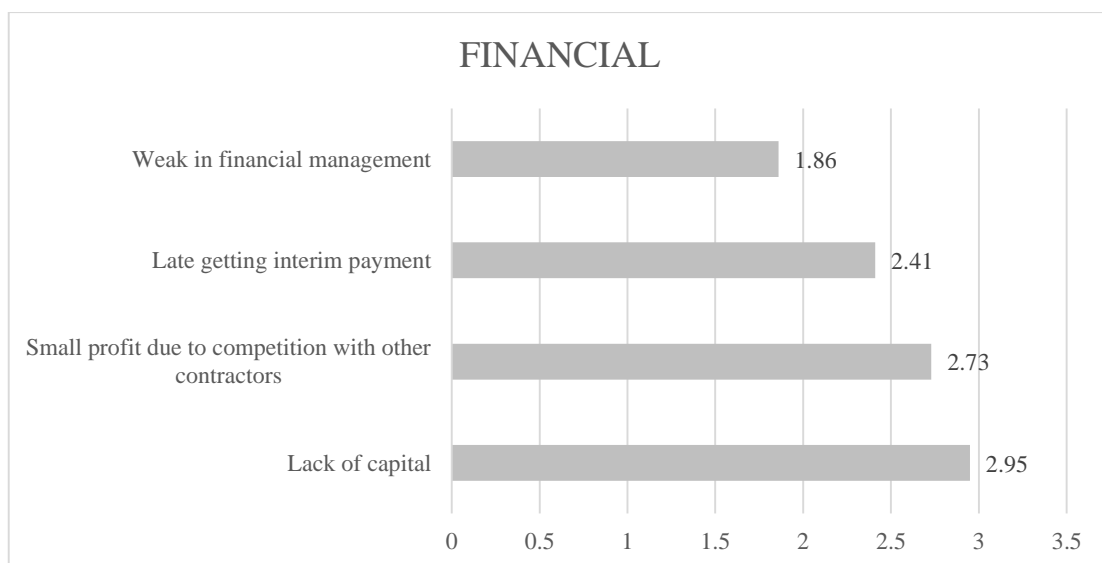


Figure 4.10: Financial aspect

The chart above shows that most of the respondents agreed that lack of capital is the main problem that faced by them with 2.95 of average index, followed by small profit due to competition with other contractors with 2.73, then late getting interim payment with average with 2.41 and the least is weak in financial management with average index of 1.86. Lack of capital become the main problem as money is the most crucial thing in running a project where without enough money, construction material and labour cannot be provided which can cause a delay to a project. In order to manage this problem, contractors can use other alternative to gain capital such as applying loan to financial institution. Since the number of contractors has increased, contractors have to compete with other contractors with a stiff competition. Therefore, in order to win a tender they need to offer a lower price by reducing the percentage of the profit. The decrease in amount of profit will reduce the capital can be provided for next project.

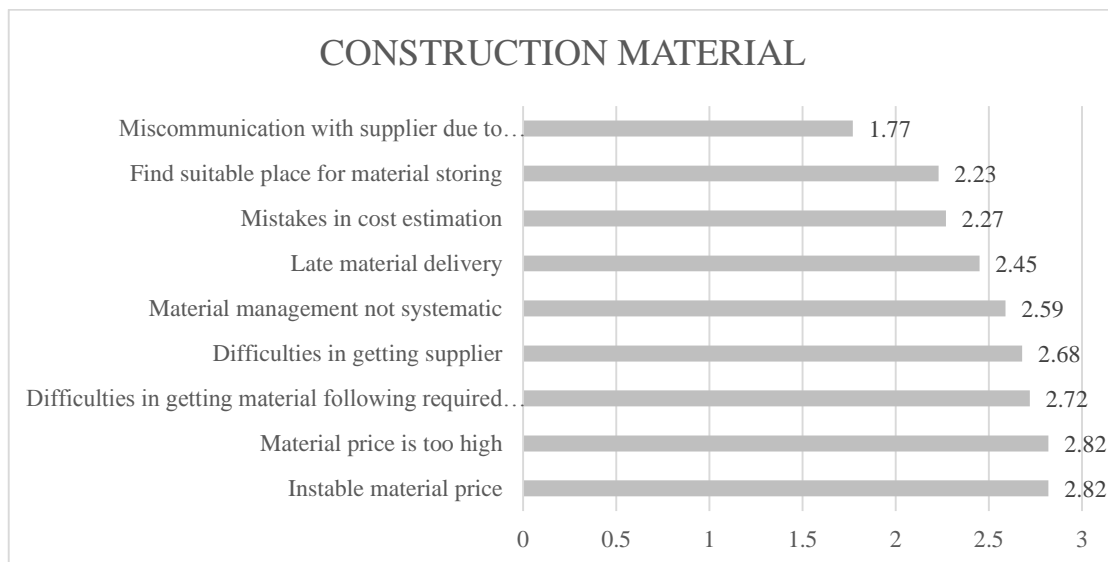


Figure 4.11: Construction material aspect

The chart above shows that most of the respondents agreed that the instable material price and material price is too high are the main problem that they faced in running a project with the average index of 2.82, followed by difficulties in getting material following requirement with 2.72, difficulties in getting supplier with 2.68, material management not systematic with 2.59, late material delivery with 2.45, mistakes in cost estimation with 2.27, find suitable place for material storing with 2.23 and the least is miscommunication with supplier due to poor documentation with the lowest of average index, 1.77. Instable material gives a big impact towards the financial

of a project where it will change the value of estimated cost. The changes in estimated cost will give a problem to contractors if the price of material increased where this situation will force the contractors to use more money for construction material than they should be. Contractors usually faced problem in getting material following requirement especially for manufactured material for example precast concrete structure. Contractors may face problem in getting the required dimension and specification as stated in the contract.

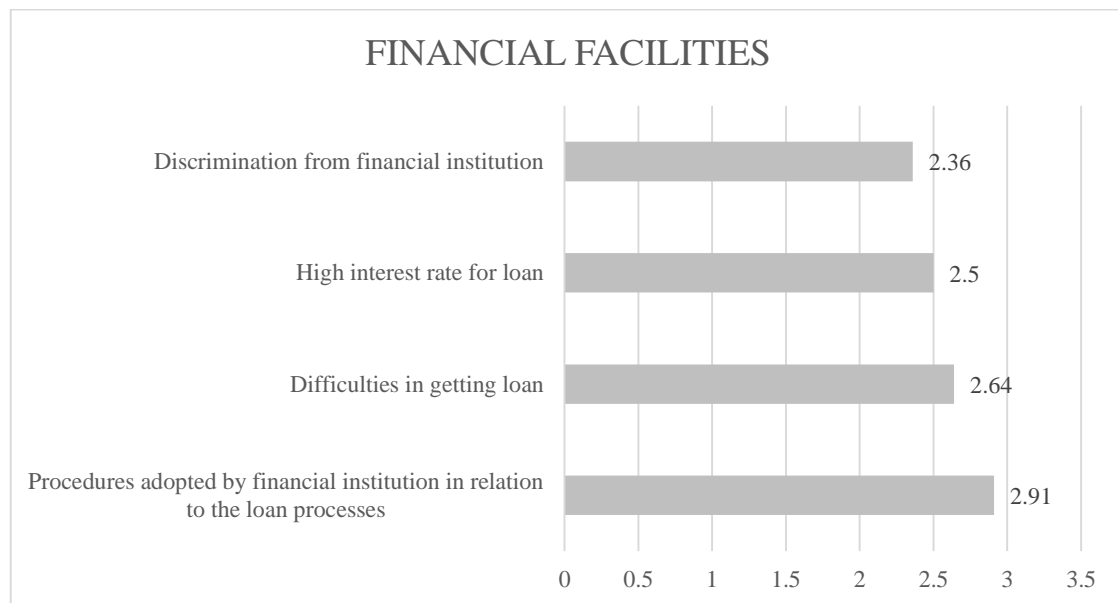


Figure 4.12: Financial facilities aspect

Figure 4.12 above shows the result of analysis on problems of financial facilities aspect where most of the respondents agreed that complicated procedures adopted by financial institution in relation to the loan process is the main problem that faced by contractors in running a project with 2.91 average index followed by difficulties in getting loan 2.64, then high interest rate for loan 2.5 and the least is discrimination from financial institution with average index of 2.36. Since capital is a crucial needs for a construction project, the lacking in financial will gives a big impact towards contractors.

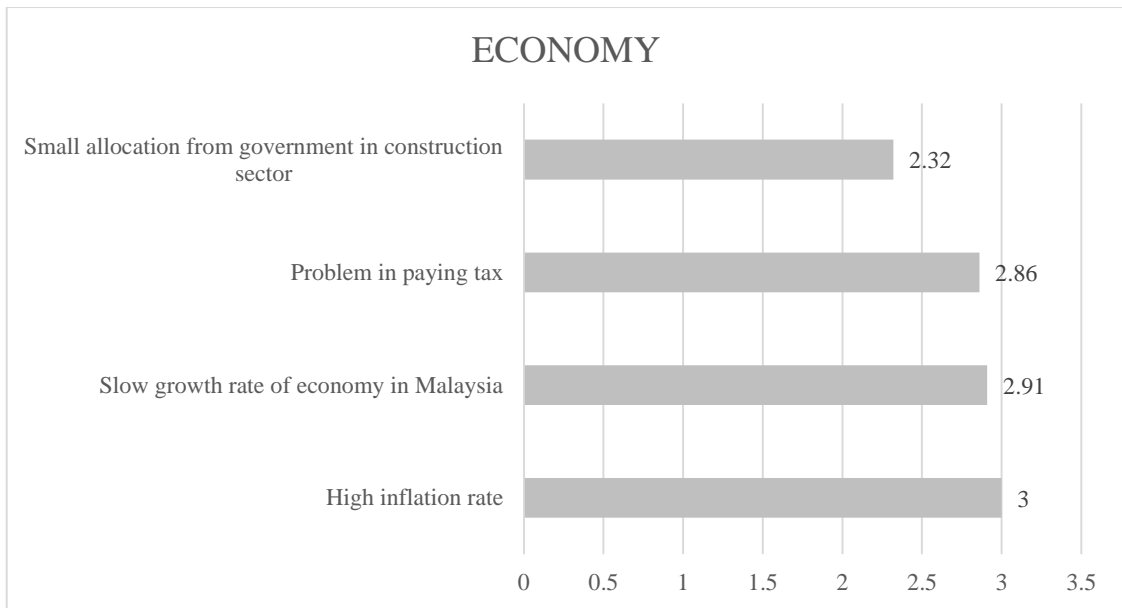


Figure 4.13: Economy aspect

Figure 4.13 above shows the result of analysis on problems in economy aspect where the highest average index is high inflation rate with 3 followed by slow growth rate of economy in Malaysia with 2.91, then problem in paying tax with 2.86 and the least is small allocation from government in construction sector with 2.32 of average index. This data proving that high inflation rate gives a big problem to contractors where it will increase the value of cost for a project. It not only effecting the contractors financial but it also causing a decreasing of consumer demand. This situation will slowing down the construction industry in Malaysia.

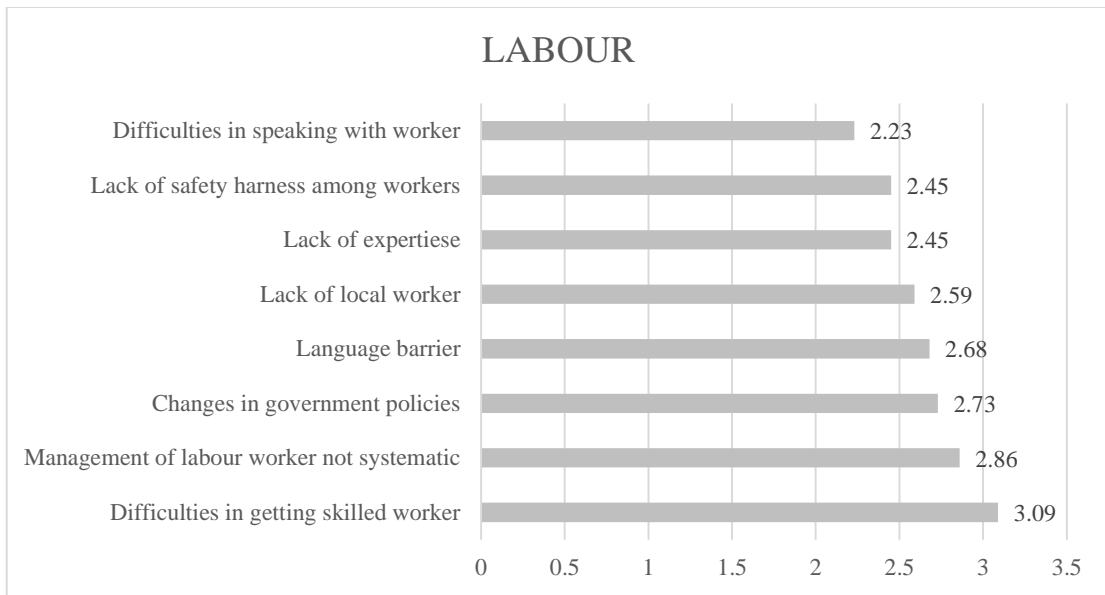


Figure 4.14: Labour aspect

Figure 4.14 above shows the summarization of result for problem in labour aspect where most of the respondents agreed that difficulties in getting skilled worker is the main problem in this aspect with average index of 3.09 followed by poor labour worker management with 2.86, changes in government policies 2.73, language barrier 2.68, lack of local worker 2.59, lack of expertise 2.45, lack of safety harness among workers 2.45 and the least is difficulties in speaking with worker with 2.23 of average index. Skilled worker is important when handling a project that needs a certain skill for example installing reinforcement bar works. This work needs a skilled worker to handle the bar as it have to follow the details that stated in the construction drawing for structure. The specification and dimension should be exactly followed the drawings as reinforcement bar is one of the parts that gives the biggest contribution in providing strength to a structure.



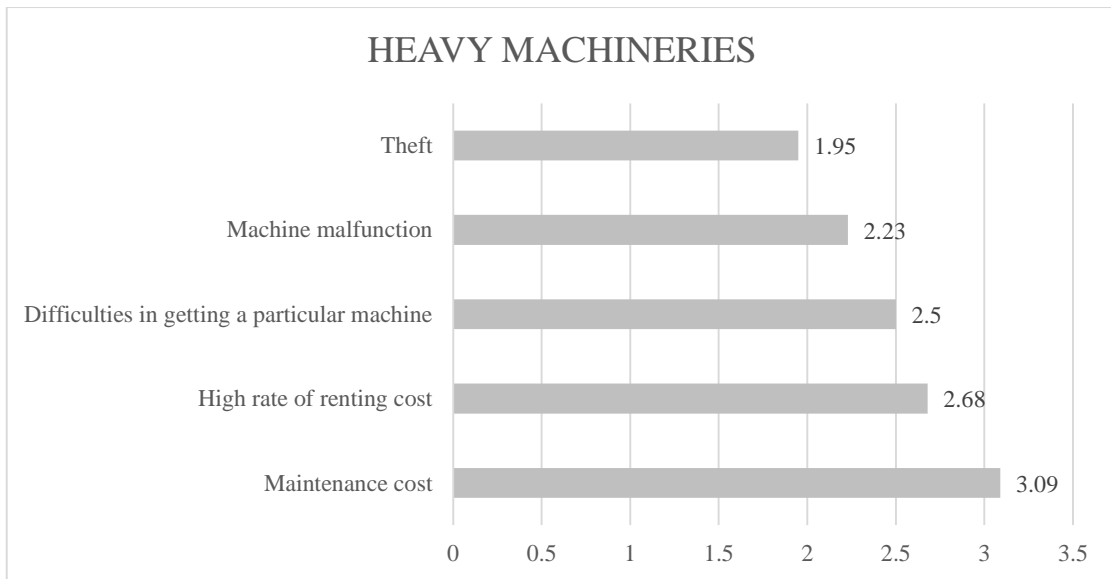


Figure 4.15: Heavy machineries aspects

Figure 4.15 shows the analysis result for problems in heavy machineries aspects where most of the respondents agreed that high maintenance cost is the main problem in heavy machineries with 3.09 of average index followed by high rate of renting with 2.68, then difficulties in getting a particular machine with 2.5, machine malfunction 2.23 and the least is theft with 1.95 of average index.

## **CHAPTER 5**

### **CONCLUSION**

#### **5.1 Introduction**

Based on all the study of literature reviews, data analysis and discussion with supervisor, this chapter will conclude by general all the information gathered along this study including the matters that already discussed in all the previous chapters. The conclusion will be made according to each objectives and a few recommendation will be stated as a guidance for a better research in future.

In general, construction industry is one of the area that involves a lot of wisdom and deep knowledge of the company's management and project management. It is important to launch a process of management as well as to prevent undesirable problems from occurring.

#### **5.2 Achievements of Objectives**

Highlights of the findings made based on the objectives of study as set at the beginning of the study. The objective will be assessed to determine whether the study achieve the desired goals and objectives.

##### **5.2.1 First Objective: To Study Economic Growth of Construction Industry in Malaysia**

Construction industry plays an important role in shaping the infrastructure that manage to support industrial development of the country. There are many factors that influence the level of performance of the construction industry in a country such as economic performance, demographic growth, loan facilities and inflation rate. A good economic performance will gives a positive impact towards construction industry as the

economic getting stronger, the demand for new fixed capital formation will increase and the quality of life also improved. Besides, an increase in loan facilities will reduce the financial burden of contractors in running their business. A stable inflation rate will help in smoothing the flow of a project since no changes in cost due to a stable material price.

For 60 years Malaysia has independence and construction industry keeping on growing and developing until today. After construction sector had a negative growth for three years in a row, 2004 until 2006 due to a slow construction activity because of a small amount of allocation from government in construction sector, Malaysia starts to develop rapidly especially in 2014 where construction sector had grew with 18.5%.

### **5.2.2 Second Objective: To Identify the Factors Encourage the Increase Number of G1 and G2 Contractors**

The number of contractors keeps increasing until in 2016 CIDB had stated the total number of contractors have become 74,188 of registered contractors in Malaysia. The factors that influencing the increasing number of contractor which one of them is Ninth Malaysia Plan (RMK-9) where under this plan three development of province corridors have been launched by ex-prime minister, Dato' Seri Abdullah Haji Ahmad Badawi which are Northern Corridor Economic Region, Iskandar Development Region and Southern Corridor Economic Region.

The Northern Corridor Economic Region is a development plan encompassing the four north western states of Malaysia, namely Kedah, Perlis, Pulau Pinang and northern Perak. The development of Iskandar economic province in Selatan Johor is the biggest planned development in history of Malaysia while the East Coast Economic Region (ECER) covers the states of Kelantan, Terengganu and Pahang, as well as the district of Mersing in Johor.

### **5.2.3 Third Objective: To Analyse the Problems Faced By Contractors in Handling Their Business**

The problems arise that should be handle by the contractors might come from different cause which may cause by the external problem or may happen cause by the contractors themselves. The problems that caused by the contractor covering the

problem of poor management, weakness in technical, poor financial management and problem of construction material. The external problems are construction material supplies, problem with government authority, problem in getting project and problem with local resident of a particular area. Most of the G1 and G2 contractor just having a general knowledge from experience and only a small amount of them that have the specialized expertise that is recognized and related with construction industry.

There are six aspects of problems that been focused in this study which are financial problem, construction material, financial facilities, economy, labour and heavy machineries. In financial problem aspect, most of the respondents agreed that lack in capital is the main problem with an average index of 2.95. Then instable material price and high material price both become the main problem in construction material aspect where the average index is 2.82. The main problem in financial facilities is complicated loan procedure with 2.91 of average index. Most of the respondents agreed that high inflation rate is the main problem in economy aspect where the average index is 3. Furthermore, in labour aspect the main problem is difficulties in getting skilled workers with an average index of 3.09. Next, in heavy machineries the main problem is high maintenance cost with average index of 3.09. Generally, the respondents have the biggest problem which are in labour and heavy machineries aspects with 3.09 average index, the highest among other aspects.

### **5.3 Conclusion**

Based on studies, the construction industry is one of the major industries in generating economic growth and a highly competitive industry. With the construction sector recorded a positive growth in line with the increase in the civil engineering segment, the number of contractors registered in Malaysia also increased. This increase was driven by the ninth Malaysia plan which has been implemented by the government to boost the development of Malaysia.

The problems faced by the contractors are divided into two, namely the problems arising from the contractor's own weakness and external problems. The problem stems from the contractor covering things like financial management weaknesses and problems of building materials. The problem is external to the individual such as building material supply problems, problems with government

departments or agencies, a problem getting workers and problems with the local population. Most of the contractors only have general knowledge and only a few who have recognized expertise in the field of construction. In general, the respondents for this study have highest average index of problems in labour and heavy machineries aspects. However, the value of the average index is not too high which indicates that most of the problems still can be handled by them.

#### **5.4 Recommendation**

Based on this study, the problems faced by the contractor seen in a satisfactory condition but the contractor must be prepared to face such problems in the future. Therefore, some proposals can be put forward to assist the contractor to deal with these problems. Among the proposals are:

- Contractors should follow the courses provided by agencies accredited to improve the knowledge in the field of construction
- Organize a more systematic management system related to finance, building materials, labor, machinery and projects for the smooth running of a project
- The contractor shall disclose the dangers on construction sites by describing the security measures before any work is done to avoid the accident.
- The contractor must send employees to attend seminars related trait or technical to further enhance their skills and expertise
- Control and safety equipment should be given high attention

With this, the contractor will be expected to work very hard to be a competitive contractors not only in Malaysia but also can widening the empire to overseas.

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## APPENDIX A



### UNIVERSITI MALAYSIA PAHANG

### FACULTY OF CIVIL ENGINEERING & EARTH RESOURCES

(2016/2017)

### A STUDY ON THE PROBLEM FACING BY G1 AND G2 CONTRACTORS IN MALAYSIA

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

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

**Gender:**    (Male)    (Female)

**Your company's role :**  
(Tick ( / ) on the relevant)

<b>Contractor</b>	
<b>Consultant</b>	
<b>Developer</b>	
<b>Others</b>	



**If contractor, tick your class**

A ( ) B ( ) C ( ) D ( ) E ( ) F ( )

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

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

**Types of project mostly handle:**

<b>Project</b>	<b>Never</b>	<b>Seldom</b>	<b>Mostly</b>
<b>Building</b>			
<b>Road</b>			
<b>Bridge</b>			
<b>Drainage</b>			
<b>Others:</b>			

**Source of the project:**

<b>Source</b>	<b>Never</b>	<b>Seldom</b>	<b>Mostly</b>
<b>Government sector</b>			
<b>Private sector</b>			

**Gaining any project in current year?**  (Yes)  (No)

## Section B: Factors Catalysing Construction Industry

5-Agree      4-Partially agree      3-Fair      2-Partially disagree      1-Disagree

<b>Economic performance</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1. High Gross Domestic Product (GDP) value					
2. Huge amount of consumer spending					
3. An increase in exportation					
4. Increase in development					
<b>Demographic growth</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1. An increase in population number					
2. An increase in citizen income					
3. An increase in domestic demand					
4. High employment rate					
<b>Financial facilities</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1. Low loan interest rate					
2. Huge number of financial institution that offering loan					
3. Simple loan application process and loose requirement					
4. High government allocation in construction sector					
<b>Inflation rate</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1. Low inflation rate					
2. Stable market price of construction material					
3. Low market price of construction material					

### Section C: Problem

5-Agree    4-Partially agree    3-Fair    2-Partially disagree    1-Disagree

<b>Financial</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1. Weak in financial management					
2. Late getting interim payment					
3. Lack of capital					
4. Small profit due to competition with other contractors					
<b>Construction Material</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1. Difficulties in getting supplier					
2. Material price is too high					
3. Late material delivery					
4. Instable material price					
5. Material management not systematic					
6. Find suitable place for material storing					
7. Difficulties in getting materials following required specification					
8. Mistakes in cost estimation					
9. Miscommunication with supplier due to documentation problem					
<b>Financial facilities</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1. Difficulties in getting loan					
2. Procedures adopted by financial institution in relation to the loan processes					
3. High interest rate for loan					
4. Discrimination from financial institution					
<b>Economy</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1. Slow growth rate of economy in Malaysia					
2. High inflation rate					
3. Problem in paying tax					
4. Small allocation from government in construction sector					

<b>Labour</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. Management of labour worker not systematic					
4. Lack of local worker					
5. Lack of expertise					
6. Changes in government policies					
7. Lack of safety harness among workers					
8. Difficulties in getting skilled worker					
<b>Heavy Machineries</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1. Difficulties in getting a particular machine					
2. High rate of renting cost					
3. Theft					
4. Machine malfunction					
5. Maintenance cost					