

The Critical Review on the Malaysian Construction Industry

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Abstract

The construction industry is a very important part of Malaysian economy. The government's aim is to make the industry more productive, efficient and safe. However reports and researchers on Malaysian construction industry showed little evidence of success on the efforts to improve productivity of the industry. This paper sought to provide an understanding on the characteristics of the Malaysian construction industry and further understand the issues/problems related to the industry. The paper is based on critical literature synthesis on the Malaysian construction industry. It is identified that the characteristics and current practices in the Malaysian construction industry has led to serious problem. Malaysian construction industry is identified as being fragmented, having high dependency on unskilled foreign labour, poor application of technology and problems on the implementation of policy. The issues identified by this literature synthesis will form a basis for future research on the Malaysian construction industry.

Keywords: Construction industry, Malaysia

1. Introduction

Malaysia is a rapidly developing country located in Southeast Asia with a total landmass of 326,847 sq km. It has 13 states on the peninsular Malaysia, and Sabah and Sarawak, on the island of Borneo. The population of Malaysia as at December 2010 was 28.1 million consisting of 63.1% Malays, 24.6% Chinese, 7.3% Indians and 5% other minorities and indigenous people (Population and Housing Census of Malaysia 2011). The Malaysian government system is closely modeled on the UK parliamentary system; inherited from the British colonial system in Malaysia. There is a multi-party system, with the ruling party; The Barisan National coalition, consisting of the United Malays National Organisation (UMNO), the Malaysian Chinese Association (MCA), the Malaysian Indian Congress (MIC) and 11 other political parties. The opposition political party is Pakatan Rakyat, a coalition consisting of the People's Justice Party (Parti Keadilan), the Democratic Action Party (DAP), the Islamic Party of Malaysia (PAS) and the Sarawak National Party (SNAP).

Malaysia has moved from a predominantly mining and agriculture based country in the 1970s to an industrialised country in 1980s. High levels of foreign investment have played a significant role in Malaysian economy and many heavy industries have benefited from the investment. Malaysia is one of the 20 largest exporting nations worldwide (Malaysian-German Chamber of Commerce 2010). In 2007 Malaysia's gross domestic product (GDP) was RM 504.9 billion; this has increased to RM 528.3 billion in 2008 (Central Bank of Malaysia 2009). However, due to the global economy downturn, Malaysian economy contracted by 1.7% in 2009. The collapse in global demand and world trade resulted in a decline in Malaysia's exports and industrial production. However, in 2010 the Malaysian economy began to pick up an achieved a slow recovery. In 2011, the Malaysia economy recorded a steady pace of growth of 5.1% with GDP of RM 588.3 billion (Central Bank of Malaysia 2011).

The construction industry is a very important part of Malaysian economy. The industry is made up of many components includes thousands of contractors, workers, developers, client organisations (government and private), management, engineering, architectural, and surveying consultants, manufacturers, material suppliers, plant hirers. The government is an important player in the industry through its agencies: the Ministry of Works, the Public Works Department (PWD), the Construction Industry Development Board (CIDB), the Contractor Service Centre (PKK), the Board of Engineers, the Board of Architect and Board of Surveyors. All these components have a significant role in the growth and development of Malaysian construction industry. Since independence in 1957, the Malaysian construction industry has developed from a low-tech, labour intensive, craft-based industry to one that has a capacity to deliver advanced buildings and infrastructure, using highly mechanized production techniques seen in projects such as Petronas Twin Towers, Kuala Lumpur International Airport and Sepang Formula 1 circuit (Kamal and Flanagan 2012).

It is the government's aim for the Malaysian construction industry to be a world class, innovative and knowledgable solution provider (CIDB 2006). To achieve the aim, the government together with CIDB has put many efforts to upgrade the level of knowledge and skills among the construction player. However, there is little evidence of success. Many reports and researchers (Nima, Abdul-Kadir et al. 2001; Abdul-Aziz 2003; CIDB



2006; Jaafar, Abdul-Aziz et al. 2007; Ibrahim, Roy et al. 2010; Kamal and Flanagan 2012) showed that the Malaysian construction industry still suffers with many problems and being associated with low quality, low productivity, unskilled, project delays, poor maintenance, non-condusive and high accident rates on site. This paper presents a critical literature synthesis on the Malaysian construction industry. The aim of this paper is to understand the characteristics of the Malaysian construction industry, and further provide better understanding on underpins issues/problems that hold the industry from moving forward. The results of this literature synthesis will form a basis for designing the future research on what is needed in order for the industry to be more productive and efficient.

2. Characteristics of Malaysian Construction Industry

This section presents the literature synthesis on the characteristics of the Malaysian Construction Industry. The discussion begins with an overview on construction performance, followed by the role and participation of public and private sectors in the industry. This section then discusses on the construction companies, consultant and contracting approach, labour segmentation, Malaysian construction industry development board (CIDB) and its master plan.

2.1 Construction Performance

Between 2004 and 2006, Malaysia experienced a slow growth in its construction industry with average output value of RM50.9 billion. In 2007 the construction output value began to increase, up to RM 60.7 billion, and the industry recorded stronger growth in 2008 and 2009 rising to RM77.5 billion (Malaysian-German Chamber of Commerce 2010). The strong growth of construction industry in 2007 to 2009, was mainly due to the implementation of construction related activities under the 9th Malaysia Plan and the high value of the fiscal stimulus package projects (Central Bank of Malaysia 2009). A RM67 billion economic stimulus package was implemented and RM22 billion was spent in the construction sector (CIDB 2009). The strong growth of construction industry in 2009 was also driven by the progress improvements in projects implemented in early 2006, before the onset of global economic crisis (CIDB 2009).

In 2010 the value added of Malaysian construction industry continue to strengthen further by 6.3% (Malaysia-German Chamber of Commerce 2012). The expansion of the industry was largely led by increased infrastructure project under civil engineering sub-sector. In 2011 the Malaysian construction recorded a moderate growth at 3.5% due to slow activity in civil engineering and non-residential sub-sector (Central Bank of Malaysia 2011). The civil engineering and special trade sub-sector register slower growth following the completion of major highway projects and maintenance and upgrading work under the Stimulus Package (Central Bank of Malaysia 2011).

In global terms and compared to other Asian countries such as China, Korea and Singapore, the size of Malaysia's annual construction output is relatively small. Bon and Crosthwaite (1999) describe the importance of construction sector as being not only related to its size but also to its role in economic development. With an average of 3% contribution to the total national GDP, construction industry is critical to Malaysian wealth creation and it plays an important role in the development of the country (CIDB 2006). The industry provides jobs for approximately 1.02 million people and creates a multiplier effect to other industries, including manufacturing, financial services and professional services (CIDB 2006).

2.2 Public and Private Sectors

Public and private sectors are important components in the Malaysian construction industry, playing a role as the clients in the industry. The distributions of projects between 2003 and 2006 saw an active participation of private sector investment in which they contribute more than 60% of the total value of projects awarded. Due to the high value of economic stimulus package by the government, year 2007 record a high demand for construction from public sector which contributed 52% (RM48.36 billion) of the total value of projects awarded (CIDB 2009). The situation is in contrast in 2008, in which private sectors project contributed 56.4% of the total value of the project awarded. Year 2009 showed a decrease of 29.5% of total value of project awarded compared to year 2008. The decrease in the value of projects secured was due to the decline in private sectors investments, which was affected by the global economic crisis (CIDB 2009).

Under the 10th Malaysian Plan, RM230 billion development funds and RM20 billion facilitation fund have been allocated. Both of these allocation is aimed to create a strong demand for the construction industry, in which 60% (RM138 billion) of the fund involved physical development. The RM20 billion facilitation fund is aimed to attract private sectors investment in the industry. As an initiatives to strengthen the private sector investment in the industry, 52 projects in 10th Malaysia Plan worth RM63 billion was identified to be implemented under Public-Private Partnership (PPP) initiatives. Among the projects are 7 tolled highway at an



estimated value of RM19 billion, 2 coal electricity generation plant (RM7 billion), Malaysian Rubber Board's Land Development (RM10 billion), Petronas LNG Melaka plant (RM3 billion), and 2 Aluminium Smelters in Sarawak (RM18 billion) (Prime Minister's Department 2010).

2.3 Construction Companies

Anything that takes place in Malaysia occurs within the multi-racial social sphere (Aziz and Omar 2001). All the companies in Malaysia are registered as either Bumiputera or non-Bumiputera. A Bumiputera company must have the majority of shares (at least 51%) owned by Malays/Bumiputera and the majority (at least 51%) of the workforce in the company are Malays/Bumiputera. A non-Bumiputera company is a company owned by other ethnic group. It is mandatory for all construction companies in Malaysia, regardless of whether they are Bumiputera or non-Bumiputera, local or foreign contractor to register with the CIDB before they undertake any contractors tendering capacity and their paid up capital. Table 1 shows the contractor grades of registration by the CIDB based on paid-up capital and tendering capacity.

Table 1: Grades of registration of contractors by CIDB based on paid up capital and tendering capacity

Contractor Grades of Registration	Tendering Capacity (RM)	Paid-up Capital	Size of Company
G7	No Limit	RM 750,000 (£150,000)	Large construction
G6	Not exceeding 10 million	RM 500,000 (£100,000)	company
G5	Not exceeding 5 million	RM 250,000 (£50,000)	Medium size
G4	Not exceeding 3 million	RM 150,000 (£30,000)	construction company
G3	Not exceeding 1 million	RM 50,000 (£10,000)	
G2	Not exceeding 500,000	RM 25,000 (£5,000)	Small size construction company
G1	Not exceeding 200,000	RM 5,000 (£1,000)	

Source: CIDB Malaysia

Based on contractors registration records up to June 2012, a total of 66,904 contractors were registered with the CIDB. From this number, 57,884 contractors are categorized as small and medium sized companies. Only about 13% of construction companies in Malaysia are large. Table 2 shows total registered contractors with CIDB according to their grades as at 30 June 2012.

Table 2: Registered contractors according to grades as at 30 June 2012

Contractor Grades of Registration	Total Contractor Registered	Size of Company
G7	4,773	Large construction company
G6	1,454	
G5	3,930	Medium size construction company
G4	2,793	
G3	11,183	
G2	8,780	Small size construction company
G1	33,991	
Total		66,904

Source: Construction Quarterly Statistical Bulletin 2012 (CIDB 2012)

Based on the registration records, more than half the contractors registered in Malaysia were G1 contractors. It is suspected that this high numbers is related to the minimum paid-up capital of only RM5,000 and that they are allowed to undertake the projects to a maximum of RM 200,000. These minimum requirements allow many contractors without enough financial capability to be a G1 contractor and undertake the projects.

Besides registration with CIDB, in order for construction companies to tender and undertake government projects, they are required by the Ministry of Finance and Public Works Department to register with Contractor



Service Centre (PKK); this is not the case for private sector projects. PKK was formed in 1981 and currently it is an agency under the Ministry of Entrepreneur and Cooperative Development. PKK has a different category of contractor registration from the CIDB. The classification of contractors by PKK is based on paid-up capital and contractors are divided according to six classes from A to F. Table 3 shows the classification of contractors by PKK.

Table 3: PKK contractor classification

Class	Paid-up Capital / Minimum Accumulated Capital	
A	RM 600,001 (£120,000.20)	
В	RM 400,001 (£80,000.20)	
С	RM 100,001 (£20,000.20)	
D	RM 35,001 (£7,000.20)	
Е	RM 17,501 (£3,500.20)	
F	RM 10,000 (£2,000.00)	

Source: http://pkk.kkr.gov.my/pendaftaran

One of the PKK functions is to award Bumiputera status to qualified contractors. Indirectly, all the Bumiputera contractors are registered with PKK and are entitled to tender for all the government projects. According to the PKK directory as at March 2011 there were 41,081 contractors registered with them and 38,588 were Bumiputera contractors. Due to the different standards of registration between CIDB and PKK, the official statistics on construction companies operating in Malaysia, especially the non-Bumiputera contractors, are very difficult to collect. Having two registration centre with different requirements has resulted in unnecessary duplication of human and financial resources (CIDB 2006).

With the large number of contractors and the small size of the industry, the Malaysian construction industry is highly competitive. There are long chains of sub-contracting culture in the industry. Most large companies usually work as main contractors for the projects, appointing a few small companies as sub-contractors with different job scope through competitive tendering. These sub-contractors will then appoint other small companies as their sub-contractors to do the small jobs. The use of sub-contractors and sub-sub-contractors labour in the industry has an effect on construction work, and the supply of labour on site.

2.4 Consultants and Contracting Approach

The 2010 statistics shows, there are 68,280 registered consultants in Malaysian construction industry. 62,956 of them are registered engineers with the Board of Engineers Malaysia; 1,948 are registered quantity surveyors with the Board of Quantity Surveyors Malaysia; and 3,376 are registered architects with the Board of Architects Malaysia (CIDB 2010). Table 4 shows the statistics.

Table 4: Number of registered consultants as at 2010

Consultants	Total
Engineers	62,956
Quantity Surveyors	1,948
Architects	3,376
Total	68,280

Ibrahim et al (2010) point out that architecture, various fields within engineering and quantity surveying are well established in Malaysia. However, the weak point of the industry is the failure to integrate the construction production process and the design process. Ibrahim et al (2010) describe the great discrepancy between the consultants who plan, design and prepare documentation, and the team who implement and execute construction projects. The industry is highly fragmented, with clear separation between the parties involved in the project.

Most small and medium size projects in Malaysia use a traditional lump sum procurement system (CIDB 2006). However there is no official statistics showing the exact number of projects using traditional lump sum procurement. Public and private sector clients appoint the consultants and contractor at the design and construction stage through competitive tendering. The selection of main contractor is primarily based on the



lowest tender price (CIDB 2006). This practice takes place throughout the supply chain with the main contractor competitively outsourcing jobs to sub-contractors and material suppliers. As a result of this competitive tender practice, many contractors and sub-contractors price their work at unrealistically low levels. They fail to deliver and then seek to recover their profit margins through contract cost variations caused by design changes and other claims that lead to disputes and litigation (CIDB 2006). However, many infrastructure and large projects use a non-traditional procurement system such as Design and Build, Turnkey or Built-Operate-Transfer (BOT). The projects are awarded to multi-disciplinary consortium or to construction companies with in-house design and management systems. This non-traditional procurement system improves performance through better integration between consultants and the construction team.

Abdul-Aziz (2003) described the application procedures and rules adopted by public sector agencies in the award of construction contracts, as well as the treatment of contractors being the same throughout the country. PWD, the largest public sector client, set up a standard set of rules and procedures for other clients to follow, but this standardization only involved tendering and the awarding of contracts. There is no standardization in the enforcement regarding construction work on site, how the work should be conducted and what technology should/could be used. The requirement and specification set up by PWD in the contract is recognized as being general used and not being updated concurrently with the pace of technology development and the current technology available.

2.5 Labour Segmentation

The Malaysian construction industry relies heavily on foreign labour especially from Indonesia, Bangladesh, Myanmar and Nepal. The increasing trend of using foreign labour was recognised in the Sixth Malaysia Plan (1991-1995) with the government liberalising the policy on the employment of foreign labour to supplement the problem of labour shortages during that period (Chan 2001). At the end of the Sixth Malaysia Plan in 1995, a total of 649,680 work permits had been issued to foreign workers, with about two-thirds of the temporary work permits being issued for work in the plantation and construction sectors (Chan 2001).

Since the introduction of the policy, foreign labour has become a vital component of the construction workforce in Malaysia. The 2010 statistics shows that approximately 31% (or 320,000) of total construction personnel in Malaysia are from overseas (Department of Statistics Malaysia 2010). CIDB records show that most of the foreign labourers in the industry are general workers and unskilled labour. However, the data do not show the accurate statistics as there are high numbers of illegal foreign workers in the industry with no registration or documentation.

Abdul-Aziz (2001) found that construction employers in Malaysia prefer to use foreign labour because they are: (1) willing to work extra hours; (2) obedient; (3) willing to accept low wages and; (4) flexible and mobile. The statistics on construction wages and salaries in 2009 showed that the average daily wage for local skilled labour is between RM 56.00 and RM 114.00; whereas semi-skilled workers earn between RM 47.00 and RM 88.00. The rate for foreign labour is lower, with skilled labour earning between RM 40.00 and RM 91.00 and semi-skilled foreign labour earning between RM 34.00 and RM 77.00 (CIDB 2010). Average wages for unskilled labour are much lower - between RM 25.00 and RM 30.00. The wide availability and low wages of foreign labour have a big impact on construction quality and productivity. The contractors have little incentive to adopt and implement more productive, better quality and safer technologies. The situation also affects the contractors' interest in employing highly skilled labour (CIDB 2006).

The government has identified the needs for construction industry to intensify: mechanization; new construction methods and technology; prefabrication thus having the effect of reducing reliance on labour to improve the contractors' performance and productivity. To limit the inflow of foreign labour, the government has tightened the requirements for work permits and increased the levy on foreign workers according to their job sector. The government has decided not to extend work permits for unskilled foreign labour that have been in the country for over five years and have granted amnesty to illegal foreign workers to return to their own countries without facing legal action. The CIDB has adopted two main approaches: (1) to train the existing foreign unskilled labour force; (2) to improve the industry's image and create an awareness among local workforce of the benefits of joining the industry. However, the changes imposed by the government and the CIDB are very slow to take effect.

2.6 Malaysian Construction Industry Development Board (CIDB)

The Malaysian Construction Industry Development Board (CIDB) was set up in 1994 by the government with the aim of promoting the development of the Malaysian construction industry and helps to modernize the industry. Before the establishment of the CIDB, none of the industry's stakeholders could be considered as industry leader to promote and stimulate the overall development of the industry as all the industry's



stakeholders have their own objectives and policies. The establishment of the CIDB managed to integrate and gather the industry stakeholders under one agency.

The CIDB is responsible for making recommendations to government on matters related to the construction industry and manages the important parts of the industry including registration of contractors, helping advance the knowledge base of the industry, training, safety, and education.

2.7 Malaysian Construction Industry Master Plan (CIMP) 2006-2015

The Construction Industry Master Plan (CIMP) 2006-2015 is a comprehensive plan charting the strategic position and future direction of the Malaysian construction industry over 10 years. The overall underlying thrust of CIMP emphasize on four main aspects in order to improve the Malaysian construction industry involve:

- 1) The importance to upgrade skills and knowledge of construction workforce;
- 2) Modernization of the industry;
- 3) Application of new technology; and
- 4) Continuous innovation in the industry.

The CIMP provides a long-term direction and guide for the Malaysian construction industry. However, the main issue facing the CIDB is to realize and implement the recommendations. The implementation plan sets out is general, with very little depth. It does not provide a clear insight of the problem faced by construction companies especially the small and medium size companies (SMEs). In order to successfully implement its recommendations and to achieve the vision, CIDB must tackle the issue of how to improve the performance and productivity of the SMEs that make up more than 90% of construction companies in Malaysia.

3. Issues and Problems in the Malaysian Construction Industry

Based from the literature synthesis on the characteristics of Malaysian construction industry, it is identified that the characteristics and current practice in the industry has lead to serious problems. Government is an important part of the industry, but the industry has largely grown on the basis of public sector investment. The Malaysian construction industry is highly fragmented. There is significant separation between client, consultants, main contractors, sub-contractors and workforce on site. With the large number of contractors working in small domestic market, competition in the industry is very strong and results in a long chain of sub-contracting culture; outsourcing different elements of jobs to sub-contractors as well as projects awarding system based on competitive price. Due to this reason, there are high variations in design, cost and other claims that lead to disputes.

The Malaysian construction industry is also characterized as having a high dependency on unskilled foreign labour as they are cheap, widely available and highly flexible. The situation is reflected in current practice of the industry in which Kamal and Flanagan (2012) found the majority of the construction companies in Malaysia especially the SMEs still operates in the traditional way by choosing to use systems that are inefficient, slow and labour intensive. They rely of low wage, low skill, low overhead approach as cost and affordability is the critical issue in the industry. Most of them also do not have sufficient capability to absorb and transfer new technology into the construction process (Kamal and Flanagan 2012).

Malaysian construction industry is facing serious problems with implementation of policy set out by the Government especially in the use and implementation of new technology to improve the industry performance and productivity. Ibrahim, Roy et al. (2010) found that the low productivity in the industry is attributed to the low usage of technology. The current practices and processes by government through CIDB does not go far enough tackling and considering the major issues facing by the contractors, i.e. how the contractors can absorb and use the technology, and how they can benefit from the new technology available. The guidelines and recommendations made do not penetrate to the construction phase and it often failed at the implementation stage.

4. Conclusion

This paper managed to explore the unique characteristics of Malaysian construction industry and the issues and problems in the industry. The literature synthesis conducted found a conflict between the aims and desires of the government and policy makers to have more efficient and high productivity construction industry, with the ability of construction player/companies to perform and deliver. There is a gap between what the policy makers espouse and the viability and practical realities of what is happening in the industry. The issues and problems facing by Malaysian construction industry identified by the literature synthesis presented in this paper raised few important questions i.e. how Malaysian construction industry can improve its performance and productivity; how the industry can benefit from the new technology available; and what is needed in order to realize the policy set out by the government. This will form a basis for designing a future research to improve the Malaysian construction industry.



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