

# CRITICAL SUCCESS FACTORS OF PUBLIC PRIVATE PARTNERSHIP (PPP) IMPLEMENTATION IN MALAYSIA

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## Abstract

*Public Private Partnership (PPP) or Private Finance Initiative (PFI) is an increasingly popular choice for policymakers in implementing important public projects. PPP was officially announced in Malaysia in 2006 under the Ninth Malaysia Plan. Since then, many government projects were delivered via PPP. To ensure the ultimate objectives of PPP/PFI, identifying the critical success factors (CSFs) of PPP implementation is crucial. There are three objectives of this study. First, it aims to examine the importance of the CSFs as perceived by the overall respondents. Second, it intends to identify the differences concerning the importance of the CSFs between the public and private sectors. Third, it compares the importance of the top CSFs for PPP implementation in Malaysia with three other countries that have adopted PPP. A questionnaire survey was used to elicit the perceptions of public and private sectors on the key CSFs of PPP project in Malaysia. In total, 179 usable responses were analysed using SPSS to rank the importance of the CSFs and to examine the differences in the perceptions between the government and the private sector. Evidence obtained from prior studies on the CSFs of Hong Kong, Australia and Malaysia was compared to the top CSFs for PPP in Malaysia. The results show that good governance, commitment of the public and private sectors, favourable legal framework, sound economic policy and availability of finance market are the top five CSFs of PPP implementation in Malaysia. Although the rankings of many factors were different between the public and private sectors, there were no significant differences in the perception of the public and private sectors concerning the importance of the CSFs except for a few factors. There were mixed results concerning the comparison of CSFs between Malaysia and three other countries.*

**Keywords:** *Public Private Partnerships, critical success factors, Malaysia, government*

## 1. INTRODUCTION

Public Private Partnership (PPP) is an increasingly popular choice for policymakers in implementing important public works projects especially in the face of a shortage of government financial resources and where it is necessary to counter public inefficiency (Terry, 1996 and Alfen et al., 2009). PPP enables governments that are already stretched for resources with the present economic climate, to utilize alternative private sector sources of finance while simultaneously gaining the benefits that the private sector can bring in terms of skills and

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management. Ultimately PPP can bring greater value for money from public sector resources (Treasury Taskforce, 1999; Robinson, 2000, Shoul, 2002, Ninth Malaysia Plan, 2006).

With the recent successes with the PPP model in the United Kingdom, Hong Kong, Singapore, Australia and other countries, PPP has become increasingly common in Malaysia. This paper focuses on the results obtained from a recent survey of PPP projects in Malaysia concerning the factors that are considered critical to the success of PPP project implementation. In particular, there are three objectives of this present study. First, it aims to examine the importance of the success factors as perceived by the overall respondents. Second, the study intends to identify the differences in perception concerning the importance of the success factors between the public and private sectors. Third, and finally, this study compares the importance of the top success factors for PPP implementation in Malaysia with three other countries that have experienced adopting PPP in providing public facilities and services.

The unique contribution of this paper is that it highlights not only the important success factors for PPP implementation in Malaysia, but also offers evidence concerning the importance of the factors of the two key parties involved in PPP– the public sector and private sector. It is vital to put forward the differences in the opinion of the two parties because each party plays a different role in a PPP contract. Moreover, the present study is distinctive as it provides evidence concerning the success factors that are critical for Malaysian PPP by comparing the CSFs with other countries that have adopted PPP.

The remainder of this paper is structured as follows. The next section offers a brief background of the public private partnership in Malaysia. Then, the following section reviews relevant literature concerning the critical success factors of PPP. This is followed by a methodology section, which describes the instrument used, sample and data collection, and analysis procedures. The results are discussed in the next section, followed by the implications, limitations, and suggestions for future research, and, finally, the study is concluded.

## **2. LITERATURE REVIEW**

### **Public Private Partnership (PPP) In Malaysia**

The involvement of the private sector in delivering public facilities and services is not new in Malaysia. It has existed since the mid 1980s, as a result of the adverse impact of the world economic recession that caused the government to seek assistance from the private sector for the development and economic activities of the country (Ismail and Rashid, 2007). The Malaysian Incorporated Policy, introduced in 1981, and followed by the Privatization Policy in 1983,

Guidelines on Privatization in 1985 and Privatization Master Plan in 1991, are among the economic policies introduced to foster the involvement of the private sector.

Under the Ninth Malaysia plan, the government officially announced the implementation of public projects using the Public Private Partnership (PPP) or Private Finance Initiative (PFI) scheme (Ninth Malaysia Plan, 2006). The PPP is formally defined in the Ninth Malaysia Plan report (2006) as:

*'the transfer to the private sector the responsibility to finance and manage a package of capital investment and services including the construction, management, maintenance, refurbishment and replacement of the public sector assets which creates a standalone business. The private sector will create the asset and deliver a service to the public sector client. In return, the private sector will receive payment commensurate with the levels, quality and timeliness of the service provision throughout the concession period'* (Ninth Malaysia Plan, 2006).

The main objective of PPP in Malaysia is to revise and improve the implementation process of the existing privatization policy (Ninth Malaysia Plan, 2006 and Tenth Malaysia plan, 2010). PPP will be employed for infrastructure and service development projects that meet two conditions. First, the implementation of PPP must be able to make government projects more efficient where the risks and rewards are optimally shared between the two parties. Second, PPP is to be used where government support enhances the viability of the private sector projects in strategic or promoted areas (Ninth Malaysia Plan, 2006).

According to the interviews conducted by Ismail and Rashid (2007), and supported by the announcement of the former Prime Minister of Malaysia, Datuk Seri Abdullah Ahmad Badawi, as reported in the local newspaper (The Star Online, 20<sup>th</sup> July 2006), it can be asserted that there are two formats of PPP schemes in Malaysia. In the first format, the private sector would construct the assets or building and lease it to the government for a specified fixed period of time. In contrast, the second format requires the private sector to identify the projects that are deemed to be economically viable and would benefit the public to be executed via PPP schemes.

When it was first announced by the government, RM20 billion was allocated for delivering public projects in various sectors such as transport, housing, health care and education projects via PPP (Ninth Malaysia Plan, 2006). At present, the government is undertaking 52 projects, with an estimated value of 62.7 billion, which are in the construction stage. In future, the government plans to build seven toll highways, five Universiti Teknologi MARA branch campuses, the Integrated Transport Terminal in Gombak, privatization of Penang Port and redevelopment of Angkasapuri Complex, Kuala Lumpur as Media City (Tenth Malaysia Plan, 2010).

Despite the tremendous growth of PPP implementation in Malaysia, the PPP arrangements have been constantly reviewed and revised by the Malaysian government to improve the present

practice of PPP implementation to ensure the achievement of its ultimate objective. Hence, this present study focuses on the critical success factors (CSFs) for successful implementation of PPP projects in Malaysia.

### **Critical Success Factors (CSFs) in PPP**

The concept of 'Critical Success Factors' (CSFs) was first introduced by Rockart and the Sloan School of Management (Jefferies et al., 2002 and Hardcastle et al., 2005). Rockart (1982) defined CSFs as 'those few key areas of activity in which favourable results are absolutely necessary for a particular manager to reach his or her own goals'. Critical success elements are significantly important to help firms or organizations to identify key factors that firms should focus on in order to be successful in a project (Rowlinson, 1999).

Prior literature has assessed the critical success factors (CSFs) of construction projects in general (see for instance: Chua et al., 1999; Chan et al., 2004; and Saqib et al., 2008). In terms of CSFs of PPP projects, studies have emerged since the 1990s. In general, there are two types of literature on the CSFs of PPP: 1) studies that assess the CSF of PPP projects in general and 2) studies that examine the CSFs of a specific PPP project. Although the present study intends to assess the CSFs of PPP projects in Malaysia in general, the review of literature will cover both types of study.

In respect of specific case studies, Jefferies et al. (2002) examined the CSFs of a stadium in Australia, which was built using the Build Operate Own Transfer (BOOT) mode of PPP. The authors identified and examined 15 success factors relevant to the project and the most significant CSFs include: '*compatibility/complimentary skills among the key parties*', '*technical innovation in overcoming project complexity*' and '*efficient approval process*'. Other important success factors include '*environmental impact*', '*developed legal/economic framework*', '*political stability*', '*selecting the right project*', '*existing strategic alliances*', '*good resource management*', '*trust*', '*community support*', '*feasibility study*', '*transfer of technology*', '*financial capability*', and '*consortium structure*'. Likewise, Jefferies (2006) investigated the CSFs of the Super Dome PPP project, which was also constructed using the BOOT scheme. The study considered the same CSFs examined in Jefferies et al. (2002) and included new success factors: '*negotiation*', '*client brief/outcome*', '*bid feature*', '*business diversification*', '*business viability*', '*competition*', '*credit rating investor*', '*teamwork*', '*existing infrastructure*', '*delivery of asset*', '*investment growth*', and '*project identification*'. The findings reveal that the most important success factors for the Super Dome project are: '*the issue of bidding, which is successfully managed by the Government*', '*the project agreement, which is a very streamlined approval*' and '*the negotiation process*'.

Jamali (2004) investigated the CSFs for PPP implementation in the telecommunication industry in Lebanon. Using a case study approach, the findings indicate that *'trust'*, *'openness'* and *'fairness'* are basic foundational underpinnings of successful PPPs. Zhao et al. (2010) investigated the factors contributing to the success of two PPP power projects – thermal power and wind power – that were developed using the Build Own Transfer (BOT) mode. From an extensive review of relevant literature and interviews with experts, the authors identified 31 success factors for the power projects. Then a questionnaire survey was conducted to investigate the relative importance of the success factors specific to the individual thermal and wind power. The results revealed common CSFs for the two projects, which include: *'the necessity for the project'*, *'the expected debt paying ability of the project'* and *'the financial capacity of the contractor'*. In addition, there are CSFs that are unique to the individual projects. For the thermal power, *'level of project financing management of the project company'* and *'level of business operation and qualification of the contractor'* are the important success factors while for the wind power, *'competency of personnel of the project company'*, *'financial capacity of the contractor'*, *'expected profitability of the project'*, and *'legal environment'* are the CSFs.

In another case based study, Abdul Aziz (2010) who adopted a questionnaire survey and interviews to examine the CSFs of ten PPP housing projects in Malaysia. The study identified 15 success factors for PPP housing projects: *'action against errant developer'*, *'robust and clear agreement'*, *'reputable developer'*, *'constant communication'*, *'developer's profit sharing accountability'*, *'developer's social accountability'*, *'house buyer's demand'*, *'negotiation skills'*, *'adequate negotiation staff'*, *'realistic projection'*, *'competition'*, *'ample time to evaluate proposal'*, *'political influence'*, *'consistent monitoring'*, and *'compatibility between partners'*. The results reveal that all 15 factors except *'political influence'* contribute significantly to the success of a PPP housing project. More recently, Abdul Aziz and Kassim (2011) conducted a similar study that also focuses on PPP housing projects and uses the same 15 success factors as identified by Abdul Aziz (2010) but extended the study by investigating the objectives as well as the success and failure factors of PPP housing projects. In terms of the CSFs, the study reveals that *'action against errant developers'* is the most influential variable on the success of PPP housing, while *'absence of robust and clear agreement'* has the most impact on the failure of housing PPP.

Despite the unique characteristics of individual PPP projects, prior literature has also examined the CSFs for PPP projects in general. The studies in the 1990s on CSFs for PPP tend to focus on the CSFs for winning PPP contracts. For instance, Tiong (1996), Tiong and Alum (1997), Gupta and Norasimham (1998) identified CSFs in winning BOT contracts, which include factors such as *'right project identification'*, *'strength of consortium'*, *'financial package differentiation'* and *'supportive and understanding community'*. Later, Li et al. (2005) conducted a questionnaire

survey to examine the relative importance of 18 potential critical success factors (CSF) for PPP/PFI construction projects in the UK. The study concluded that the three most important factors are: *'a strong and good private consortium'*, *'appropriate risk allocation'* and *'available financial market'*.

Zhang (2005) identified 47 CSFs of PPP projects, which have been classified into five main aspects of CSFs: *'economic viability'*, *'appropriate risk allocation via reliable contractual arrangements'*, *'sound financial package'*, *'reliable concessionaire consortium with strong technical strength'*, and *'favourable investment environment'*. The author also examined the relative importance of the CSFs based on the perceptions of experts comprising academics and industry players. The results show a good agreement in the ranking of the factors between the respondents from the industrial sector and those from the academic sector. A grounded theory research undertaken by Trafford and Proctor (2006) discovered five key characteristics that are crucial in ensuring the success of PPP projects: good communication, openness, effective planning, ethos and direction.

Jacobson and Choi (2008) adopted a qualitative analysis using in-depth interviews and observations to examine principal factors that contribute to successful PPP projects. Ten success factors were investigated: *'specific plan/vision'*, *'commitment'*, *'open communication and trust'*, *'willingness to compromise/collaborate'*, *'respect'*, *'community outreach'*, *'political support'*, *'expert advice and review'*, *'risk awareness'*, and *'clear roles and responsibilities'*. The results show that *'high degrees of commitment'* and *'shared vision between the client, architect, and contractor'* are the most important factors for construction success.

Despite a number of prior studies that have investigated the CSFs of PPP projects, studies on CSFs for PPP implementation in Malaysia remain scarce. Besides the study by Abdul Rashid (2010), which examined the CSFs mainly for PPP housing in Malaysia, to the best knowledge of the researchers, there is no other study concerning CSFs of PPP in Malaysia. Moreover, the unique characteristics of PPP to a particular country require a study on CSFs specifically for PPP in Malaysia. Hence, this present study fills the gap by investigating the CSFs for implementation of PPP in Malaysia, in general, without referring to any specific PPP sector or project.

### **3. METHODOLOGY**

#### **Research Instrument**

The study adopted, with permission, the questionnaire survey developed by Li (2003), which was obtained from Cheung (2007). The questionnaire comprises 18 factors that contribute to the success of Public-Private Partnership (PPP) projects, as shown in Table 1. The rationale for

adopting similar success factors to those used in prior studies, particularly by Li (2003) and Cheung (2007), is that the factors identified have received recognition by the industry (Cheung, 2007). More importantly, using similar success factors would allow apple-to-apple comparison between the results of the present study and the evidence obtained by the two prior studies, which have been conducted in different geographical locations – Hong Kong, Australia and the United Kingdom.

**Table 1: List of Critical Success Factors**

| No. | Critical Success Factors                                    |
|-----|---|
| 1   | Stable macro-economic condition                             |
| 2   | Favourable legal framework                                  |
| 3   | Sound economic policy                                       |
| 4   | Available financial market                                  |
| 5   | Multi-benefit objectives                                    |
| 6   | Appropriate risk allocation and risk sharing                |
| 7   | Commitment and responsibility of public and private sectors |
| 8   | Strong and good private consortium                          |
| 9   | Good governance   |
| 10  | Project technical feasibility                               |
| 11  | Shared authority between public and private sectors         |
| 12  | Political support   |
| 13  | Social support  |
| 14  | Well organised and committed public agency                  |
| 15  | Competitive procurement process                             |
| 16  | Government involvement by providing guarantee               |
| 17  | Thorough and realistic assessment of the cost and benefits  |
| 18  | Transparency procurement process                            |

### **Sample and Collection Procedures**

A total of 250 questionnaires were distributed to the participants of the national seminar on Malaysian PPP Framework organized by the Public Private Partnership Unit, which was held on 24<sup>th</sup> February 2011. The respondents were politely approached by the researcher to request for their participation in the survey. Each potential respondent received a cover letter and a copy of the questionnaire. The cover letter explained the purpose of the study and assured the confidentiality of answers given by respondents. It took respondents, on average, 10 minutes to complete the questionnaire. The completed questionnaires were collected at the end of the seminar. A total of 185 respondents completed the questionnaire, however, six questionnaires

were excluded as they were incomplete. Hence, there were a total of 179 usable questionnaires representing a usable response rate of approximately 71.6 per cent.

### **Data Analysis**

The data were analysed using the Statistical Package for the Social Sciences (SPSS) software. Basically, the descriptive statistic of mean score was computed for the five-point Likert scale on the importance of each of the 18 success factors. Then, based on the mean scores, the factors were ranked according to the importance, as perceived by the overall respondents, as well as by the public and private sectors group independently. An independent sample t-test was carried out to statistically examine the differences in the perceptions of the two respondents' groups. In comparing the importance of the top five success factors for PPP in Malaysia with other countries, the rankings of the similar success factors for Hong Kong, Australia and the United Kingdom obtained from Li (2003) and Cheung (2007) were tabulated. Additionally, the top five success factors for each of the three countries were also considered.

## **4. FINDINGS AND DISCUSSION**

### **Demographic Information**

The total number of respondents were 179, with 71 (39.7 per cent) engaged in the public sector and 108 (60.3 per cent) engaged in the private sector. Table 1 illustrates that there are respondents from different levels of the government (i.e. federal, state and local government) and private sector companies with various backgrounds (i.e. financier, facilities management and construction company). The majority of the respondents are either attached to the public sector at the federal level (59 respondents) or serving the construction companies (58 respondents). This result is expected as most of the PPP projects in Malaysia are initiated at the federal level and construction companies are normally the key players in setting up the special purpose vehicles for the PPP projects.

The questionnaire respondents comprised experienced practitioners from the industry. As shown in Table 2, 73 per cent of the respondents possessed more than five years of working experience with 20 percent of respondents having over twenty-one years of industrial experience. In addition, approximately 68 percent of the respondents have participated in PPP projects before, with 21 per cent of the total respondents having previously been involved with at least five PPP projects.



**Table 2: Distribution of Respondents**

| Roles of Respondents  | Frequency  | Percentage (%) | Total          |            |            |
|-----------------------|------------|----------------|----------------|------------|------------|
|                       |            |                | Sector         | Frequency  | Percentage |
| Federal Government    | 59         | 33             |                |            |            |
| State Government      | 5          | 2.8            | Public sector  | 71         | 39.7       |
| Local Government      | 7          | 3.9            |                |            |            |
| Financier             | 14         | 7.8            |                |            |            |
| Facilities management | 36         | 20.1           | Private sector | 108        | 60.3       |
| Construction company  | 58         | 32.4           |                |            |            |
| <b>Total</b>          | <b>179</b> | <b>100</b>     |                | <b>179</b> | <b>100</b> |

**Table 3: Characteristics of Respondents**

| Survey Respondents' Characteristics | Frequency | Percentage |
|-------------------------------------|-----------|------------|
| <u>Years of experience</u>          |           |            |
| Less than 5 years                   | 49        | 27.4       |
| 6-10 years                          | 32        | 17.9       |
| 11-15 years                         | 32        | 17.9       |
| 16-20 years                         | 31        | 17.3       |
| 21 years above                      | 35        | 19.6       |
| <u>Number of PPP projects</u>       |           |            |
| None                                | 57        | 31.8       |
| 1                                   | 36        | 20.1       |
| 2                                   | 31        | 17.3       |
| 3                                   | 12        | 6.7        |
| 4                                   | 5         | 2.8        |
| 5 and above                         | 38        | 21.2       |

## Findings and Discussion

Table 4 illustrates the mean scores and the rank of the relative importance of each of the eighteen CSFs based on the overall respondents, as well as based on sector (i.e. public and private sectors).

**Table 4: Perception of Survey Respondents Concerning the Relative Importance of CSFs in PPP Projects**

| No | Critical success factor                                     | Public sector |      | Private Sector |      | Overall |      |
|----|---|---------------|------|----------------|------|---------|------|
|    |   | Mean          | Rank | Mean           | Rank | Mean    | Rank |
| 1  | Good governance   | 1.650         | 1    | 1.780          | 1    | 1.730   | 1    |
| 2  | Commitment and responsibility of public and private sectors | 1.680         | 2    | 1.810          | 4    | 1.760   | 2    |
| 3  | Favourable legal framework                                  | 1.730         | 5    | 1.800          | 3    | 1.770   | 3    |
| 4  | Sound economic policy                                       | 1.730         | 6    | 1.810          | 5    | 1.780   | 4    |
| 5  | Available financial market                                  | 1.800         | 10   | 1.780          | 2    | 1.790   | 5    |
| 6  | Strong and good private consortium                          | 1.730         | 7    | 1.830          | 7    | 1.790   | 6    |
| 7  | Stable macro-economic condition                             | 1.760         | 9    | 1.820          | 6    | 1.800   | 7    |
| 8  | Project technical feasibility                               | 1.700         | 3    | 1.880          | 8    | 1.810   | 8    |
| 9  | Transparency of procurement process                         | 1.700         | 4    | 1.900          | 9    | 1.820   | 9    |
| 10 | Appropriate risk allocation and risk sharing                | 1.750         | 8    | 1.930          | 10   | 1.850   | 10   |
| 11 | Thorough and realistic assessment of the cost and benefits  | 1.830         | 12   | 1.960          | 11   | 1.910   | 11   |
| 12 | Well organised and committed public agency                  | 1.940         | 14   | 1.990          | 12   | 1.970   | 12   |
| 13 | Multi-benefit objectives                                    | 1.820         | 11   | 2.140          | 14   | 2.010   | 13   |
| 14 | Competitive procurement process                             | 1.870         | 13   | 2.200          | 16   | 2.070   | 14   |
| 15 | Social support  | 2.140         | 16   | 2.180          | 15   | 2.160   | 15   |
| 16 | Shared authority between public and private sectors         | 2.010         | 15   | 2.280          | 18   | 2.170   | 16   |
| 17 | Government involvement by providing guarantee               | 2.450         | 18   | 2.110          | 13   | 2.250   | 17   |
| 18 | Political support   | 2.370         | 17   | 2.220          | 17   | 2.280   | 18   |

The results indicate that all 18 CSFs are perceived by respondents as either ‘most important’ or ‘important’ to ensure the success of PPP projects implementation since the mean scores for the CSFs range from 1.73 to 2.45.

#### **Overall Respondents’ Perceptions Concerning the Importance of CSFs**

Based on the overall respondents’ results, the top five most critical factors, in descending order of importance are: 1) *good governance*; 2) *commitment and responsibility of public and private sectors*; 3) *favourable legal framework*; 4) *sound economic policy*; and 5) *available financial*

*market*. The two factors that were ranked as least important for project success are *government involvement by providing guarantee* and *political support*.

*Good governance* was ranked first as a necessary factor to ensure the success of PPP projects. It is crucial to have good governance, as claimed by the United Nations Economic Commission for Europe (UNECE, 2007), because inefficiency in governance has led to the failure in the implementation of PPP in many countries. The *'commitment and responsibility of both public and private sectors'* is the second most important CSF, as perceived by the overall respondents. This is consistent with the argument by Chan et al. (2004), and Li et al. (2005) who claimed that commitment is one of the fundamental principles in partnership. Hence, to secure a successful PPP, all parties have to commit their best resources to the project. Therefore, commitment from both parties is essential to ensure the attainment of the ultimate goals of the PPP projects (Romancik, 1995).

The third most important CSF for implementing PPP projects in Malaysia, as perceived by the overall respondents, is the *'existence of favourable legal framework'*. According to the European Bank for Reconstruction and Development (EBRD, 2008), PPP projects tend to work best when a good legal framework exists. Furthermore, Farhana (2010) argued that a well-defined legal framework is necessary for PPP projects to prevent corruption. Despite the importance of a legal framework for PPP implementation, as perceived by the overall respondents, there is no specific legal framework for PPP projects in Malaysia. At present, the implementation of PPP projects in Malaysia is mainly based on the announcement of the Ninth Malaysia Plan in March 2006 and the Tenth Malaysia Plan in 2011 (PPP Unit, Prime Minister Department, 2009; UKAS, 2011).

As shown in Table 4, *'sound economic policy'* is the fourth most necessary success factor for PPP projects in Malaysia. Hardcastle et al. (2005) claimed that the adoption of appropriate economic policies might lead to a stable and growing economic environment, which allows the private sector to operate with confidence. Furthermore, a stable economic environment will lead to reasonable certainty of market, which, consequently, reduces the risk for the private sector operators (Li et al, 2005). The fifth ranked factor is *'easy access to financial market'* (mean value 1.799). Since one of the objectives of PPP implementation is to reduce the financial burden of the government, with the private sector financing the PPP projects, the availability of flexible and attractive financial instruments, such as debt, equity, supplier and purchaser credit, and securities, is considered important to enable the private sector to finance the PPP projects (Zhang, 2005).

According to the Asian Development Bank (ADB, 2008), the government, as a political decision maker, has to set out the case for PPP in a convincing and transparent manner and any political changes can hinder the PPP implementation. In other words, politics has a close relationship with

the development and implementation of public policy (Li et al., 2005). Of the 18 CSFs '*political support*', with a mean value of 2.28, was ranked last by the respondents. The result does not mean that political support is not an important factor for successful PPP implementation in Malaysia, as this could be due to the fact that in Malaysia the current political situation is stable and the government is in support of PPP, which means this success factor is being perceived as relatively less critical.

### **Perceptions of Public and Private Sector Respondents Concerning the Importance of CSFs**

As illustrated in Table 4, the top five most critical factors, as perceived by the respondents from the public sector are: 1) *good governance*; 2) *commitment and responsibility of public and private sectors*; 3) *project technical feasibility*; 4) *transparency procurement process*; and 5) *favourable legal framework*. Whilst, for the private sector, the top five most important CSFs are 1) *good governance*; 2) *available financial market*; 3) *favourable legal framework*; 4) *commitment and responsibility of public and private sectors*, and 5) *sound economic policy*.

Based on the results in Table 4, the rankings concerning the importance of the factors between the public and private sectors were mostly different. The factor '*availability of financial market*' was ranked second by the private sector respondents but was ranked tenth by the public sector respondents. The possible reason for the difference in the ranking between the two sectors might be because under the public private partnership scheme, the responsibility to obtain finance is more on the private sector, hence, the private sector respondents perceived it as more important to ensure the success of PPP implementation than the public sector respondents.

Likewise, although the factors '*project technical feasibility*' and '*transparency of procurement process*' were ranked third and fourth, respectively, by the public sector respondents, they were ranked lower by the private sector respondents. The finding concerning the lower ranking by the private sector respondents for '*project technical feasibility*' implies that the private sector respondents were less concerned about the factor, possibly because they already have the expertise in the technical aspects of project implementation including PPP projects.

Although the rankings of importance for many factors were different between the public and private sectors, both sectors ranked *good governance* as the most important CSF for PPP implementation. Likewise, both sectors ranked '*strong and good private consortium*' as the seventh ranking. The importance of a good relationship between private sector companies in undertaking PPP projects was also emphasized in prior studies including Abdul Rashid et al, (2006), Tiong (1996) and Zhang (2005).

In further investigating the differences in the perceptions of the public and private sectors regarding the importance of each of the eighteen CSFs, an independent t-test was conducted; the results are tabulated in Table 5 below.

**Table 5: Summary of the Independent *t*-test Results**

| No | Critical success factors                                    | <i>F</i> | <i>t</i> | Significance |
|----|---|----------|----------|--------------|
| 1  | Multi-benefit objectives                                    | 2.360    | -2.502   | 0.013        |
| 2  | Competitive procurement process                             | 0.058    | -2.161   | 0.032        |
| 3  | Government involvement by providing guarantee               | 6.739    | 2.027    | 0.045        |
| 4  | Shared authority between public and private sectors         | 0.046    | -1.823   | 0.070        |
| 5  | Project technical feasibility                               | 2.101    | -1.526   | 0.129        |
| 6  | Transparency of procurement process                         | 0.003    | -1.500   | 0.135        |
| 7  | Appropriate risk allocation and risk sharing                | 0.772    | -1.356   | 0.177        |
| 8  | Good governance   | 0.583    | -1.055   | 0.293        |
| 9  | Commitment and responsibility of public and private sectors | 0.073    | -1.052   | 0.294        |
| 10 | Thorough and realistic assessment of the cost and benefits  | 0.009    | -1.041   | 0.299        |
| 11 | Strong and good private consortium                          | 1.076    | -0.799   | 0.425        |
| 12 | Political support   | 7.104    | 0.769    | 0.444        |
| 13 | Sound economic policy                                       | 0.005    | -0.764   | 0.446        |
| 14 | Favourable legal framework                                  | 0.501    | -0.582   | 0.561        |
| 15 | Stable macro-economic condition                             | 0.029    | -0.557   | 0.578        |
| 16 | Well organised and commitment public agency                 | 1.672    | -0.351   | 0.726        |
| 17 | Social support  | 3.615    | -0.238   | 0.812        |
| 18 | Available financial market                                  | 0.563    | 0.201    | 0.841        |

Based on the results in Table 5, the findings indicate that there is no significant difference in the perceptions of public and private sectors pertaining to the success factors of PPP implementation in Malaysia except for four factors: ‘*multi-benefit objectives*’, ‘*competitive procurement process*’, ‘*government involvement by providing guarantee*’ and ‘*shared authority between public and private sectors*’. Of the factors where there was a statistically significant difference between the perceptions of the public and private sectors concerning the relative importance of the factors, only one factor, that is, ‘*government involvement by providing guarantee*’ was perceived by the private sector respondents as more important than their public sector counterparts. For the remaining three out of the four factors, the results show that the public sector respondents perceived the factors as more important than the private sector

respondents. Rationally, as the private sector normally has higher responsibility in implementing a PPP project, which reflects a greater level of risks borne by the private sector, having a guarantee from the government is perceived as vital to the private sector because it could reduce the level of risk that the private sector has to bear.

### **Comparison between Countries of the Top Most CSFs for PPP Implementation**

Table 6 depicts the top five CSFs of four different countries including Malaysia. In addition, Table 6 also provides information concerning the corresponding rankings of the top five success factors for Malaysia, Hong Kong, Australia and the United Kingdom.

Generally, the results show many differences in the rankings of the CSFs for PPP implementation, as perceived by the respondents in different countries. For instance, although in Malaysia the factor *'good governance'* was ranked first, it was in rank eight and ten in the UK and Hong Kong, respectively. Likewise, the factor *'sound economic policy'* was one of the top five CSFs for PPP implementation in Malaysia, as perceived by the respondents, however, for Australia and the United Kingdom the factor was ranked thirteenth in terms of its importance. In contrast, the factors *'appropriate risk allocation and risk sharing'* and *'strong and good private consortium'* were in the top five ranking of the other three countries, but in the lower ranking (i.e. tenth and sixth rankings, respectively) for Malaysia.

Similar to the respondents in Malaysia, the factor *'availability of financial market'* was also ranked high by the respondents in the UK, but it was ranked lower by the respondents in Hong Kong and Australia. Likewise, respondents in Malaysia and Hong Kong perceived *'favourable legal framework'* as highly important for the success of PPP projects. However, the factor was ranked lower by the respondents in Australia and the UK.

The factors *'stable macro-economic condition'*, *'project technical feasibility'* and *'thorough and realistic assessment of the costs and benefits'* were in the top five ranking for Hong Kong, Australia and the UK respectively. However, in Malaysia these factors were ranked seventh, eighth and eleventh, accordingly.

Despite the differences between the countries concerning the importance of the CSFs, the factor *'commitment and responsibility of public and private sector'* is in the top rank for all four countries with Malaysia, Australia and the United Kingdom ranking it second while Hong Kong ranked it fifth. As emphasized earlier, due to the structure and nature of PPP, involves both public and private sectors for a long-term contractual period, therefore, it is crucial for both sectors to be fully committed and responsible for the works (National Audit Office, 2001).

**Table 6: Comparison between Countries Concerning the Top Five CSFs for PPP Implementation**

| No. | Top Five CSFs for Malaysia                   | Corresponding Ranking of the Top Five CSFs for Malaysia |           |    | Top Five CSFs for Different Countries                       |   |   |
|-----|--|---|-----------|----|---|---|---|
|     |  | Hong Kong   | Australia | UK | Hong Kong   | Australia   | UK  |
| 1   | Good governance                              | 10  | 4         | 8  | Favourable legal framework                                  | Commitment and responsibility of public and private sectors | Strong and good private consortium                          |
| 2   | Appropriate risk allocation and risk sharing | 5   | 2         | 2  | Commitment and responsibility of public and private sectors | Appropriate risk allocation and risk sharing                | Appropriate risk allocation and risk sharing                |
| 3   | Favourable legal framework                   | 1   | 7         | 9  | Strong and good private consortium                          | Strong and good private consortium                          | Available financial market                                  |
| 4   | Sound economic policy                        | 7   | 13        | 13 | Stable macro-economic condition                             | Good governance   | Commitment and responsibility of public and private sectors |
| 5   | Available financial market                   | 8   | 11        | 3  | Appropriate risk allocation and risk sharing                | Project technical feasibility                               | Thorough and realistic assessment of the costs and benefits |

## 5. IMPLICATIONS, LIMITATIONS AND CONCLUSION

The present study examined the critical success factors for PPP implementation in Malaysia. Generally, the results indicate that all the success factors were rated as either important or most important and based on the results from the total respondents; factors in the top rankings include *good governance, commitment and responsibility of public and private sectors, favourable legal framework, sound economic policy and available financial market*. From the analysis of ranking based on public and private sector groups, the results are mixed. While the majority of the

success factors were ranked differently by the two sectors, there were a few factors of similar ranking for both groups. Despite the difference in the ranking for each of the 18 factors, the statistical test revealed that the differences in the perceived importance between the public and private sectors were only significant for four factors. Similar mixed findings were discovered for the between countries comparison.

The differences in the ranking of the CSFs between countries reflect the unique nature of PPP implementation in different countries. In other words, although PPP has been implemented worldwide, the nature and characteristics of PPP vary between countries. The findings imply that despite the needs for the government to learn the lessons concerning PPP implementation from other countries, the fact that the PPP success factors are unique to each country means that any policy, rule or regulation pertaining to PPP should be tailored to suit the practice of the specific country.

In relation to the result on *'appropriate risk allocation and risk sharing'*, which was ranked lower by respondents in Malaysia compared to the other three countries, attention by the authority is required to emphasize the importance of the risk issue concerning PPP projects. This is because risk is a crucial element involved in any PPP project and an optimal risk allocation is required in order to maximize the value for money achieved from the PPP project (Hall, 1998; Forshaw, 1999 and Ball et al., 2000).

This study is not without limitations. First, given the unique characteristics of PPP of a particular country, simply adopting success factors of other countries may not provide the exclusive list of critical success factors for PPP implementation in Malaysia. Therefore, future studies may want to consider other CSFs that are relevant in the context of Malaysia by interviewing PPP experts in Malaysia from both the public and the private sectors. Second, with the complex nature of individual PPP projects, using a questionnaire to identify the CSFs for PPP projects in general may not be the best method. Hence, future research may want to investigate the CSFs for a specific PPP sector or project using the case study method. Despite its limitations, this present study offers some insights and useful information for the government and private sector providers concerning the important factors that need to be emphasized in ensuring the successful implementation of PPP in Malaysia.

## **6. REFERENCES**

Abdul Aziz, A.R., 2010. Housing private public partnership: Perspective from the government agencies, 4<sup>th</sup> NAPREC Conference. Retrieved May 11, 2011, <http://www.inspen.gov.my/inspen/>



- Abdul Aziz, A.R., & Kassim, P.S.J., 2011. Objectives, success and failure factors of housing public-private partnerships in Malaysia. *Habitat International*, 35, 150-157.
- Alfen, H.W., Kalidindi, S.N., Ogunlana, S., Wang, S., Abednego, M.P., Jungbecker, A.F., Jan, Y.A., Ke, Y., Liu, Y., Singh, B., & Zhao, G., 2009. Public-private partnership in infrastructure development: Case studies from Asia and Europe. Germany: Publisher of Bauhaus-Universitat Weimar
- Asian Development Bank (ADB), 2008. Public-private partnership handbook. Asian Development Bank
- Ball, R., Heafey, M., & King, D., 2000. Managing and concluding the PFI process for a new high school: Room for improvement? *Public Management Review*, 2(2), 159-179.
- Chan, A.P.C., Chan, D.W.N., Chiang, Y.H., Tang, B.S., Chan, E.H.W., & Ho, K.S.K., 2004. Exploring critical success factors for partnering in construction projects. *Journal of Construction Engineering and Management*, 130(2), 188-198.
- Cheng, E.W.L., Li, H., & Love, P.E.D., 2000. Establishment of critical success factors for construction partnering. *J. Management Eng.*, 16 (2), 84-92.
- Cheung, E., 2009. Developing a best practice framework for implementing public private partnerships (PPP) in Hong Kong. Unpublished doctoral dissertation, Queensland University of Technology, Queensland.
- Chua, D.K.H., Kog, Y.C., & Loh, P.K., 1999. Critical success factors for different project objectives. *Journal of Construction Engineering and Management*, 125(3), 142-150.
- European Bank for Reconstruction and Development (EBRD), 2008. Concession laws assessment. Retrieved June 16, 2011, <http://www.ebrd.com/downloads/legal/concessions/conces08.pdf>
- Farhana, T., 2010. Well-defined legal framework needed for regulation and transparency of PPP enterprises. Retrieved June 17, 2011, [http://www.thefinancialexpress-bd.com/more.php?news\\_id=98681](http://www.thefinancialexpress-bd.com/more.php?news_id=98681)
- Gupta, M.C., & Narasimham, S.V., 1998. Discussion paper on CSFs in competitive tendering and negotiation model for BOT projects. *Journal of Construction Engineering and Management*, Sept/Oct, 430.
- Hardcastle, C., Edwards, P.J., Akintoye, A., & Li, B., 2005. Critical success factors for PPP/PFI projects in the UK construction industry: A Factor Analysis. Retrieved June 14, 2011, [http://www0.hku.hk/cicid/3\\_events/32/papers/13.pdf](http://www0.hku.hk/cicid/3_events/32/papers/13.pdf)

- Ismail, S., & Rashid, K.A., 2007. Private finance initiative (PFI) in Malaysia: The need for and issues related to the public sector comparator (PSC). *Jurnal Akuntansi dan Keuangan Indonesia*, 4(2), 137-154.
- Jacobson, C., & Choi, S. O., 2008. Success factors: Public works and public-private partnerships. *International Journal of Public Sector Management*, 21(6), 637 – 657.
- Jamali, D., 2004. Success and failures mechanisms of public private partnerships (PPPs) in developing countries. *The International Journal of Public Sector Management*, 17(5), 414-430.
- Jefferies, M., 2006. Critical success factors of public private sector partnerships: A case study of the Sydney SuperDome. *Engineering, Construction and Architectural Management*, 13(5), 451-462.
- Jefferies, M., Gameson, R., & Rowlinson, S., 2002. Critical success factors of the BOOT procurement system: Reflections from the stadium Australia case study. *Engineering, Construction and Architectural Management*, 9(4), 352-361.
- Hall, P.A., 1998. *Governing the economy: The politics of state intervention in Britain and France*. New York: Oxford University Press.
- Li, B., Akintoye, A., Edwards, P.J., & Hardcastle, C., 2005. Critical success factors for PPP/PFI projects in the UK construction Industry. *Construction Management and Economics*, 23, 459-471.
- National Audit Office (NAO)., 2001. *Innovation in PFI financing: the treasury building project*. London: NAO.
- Ninth Malaysia Plan., 2006. Ninth Malaysia Plan (2006-2010). Retrieved April 12, 2010, <http://www.epu.jpm.my/rm9/html/english.htm>
- PPP Unit Prime Minister Department., 2009. Public private partnership (PPP) guidelines. Retrieved June 17, 2011, [http://www.ukas.gov.my/html/themes/miu/content/ppp\\_bi\\_131109.pdf](http://www.ukas.gov.my/html/themes/miu/content/ppp_bi_131109.pdf)
- Qiao, L., Wang, S.Q., Tiong, R.L.K., & Chan, T.S., 2001. Framework for critical success factors of BOT projects in China. *Journal of Project Finance*, 7(1), 53-61.
- Rockart, J.F., 1982. The changing role of the information systems executive: A critical success factors perspective. *Sloan Management Review*, 24(1), 3-13.
- Romancik, D.J., 1995. Partnership toward improvement. *Project Management Journal*, 26, (4), 14-20.

- Rowlinson, S., 1999. Selection criteria in procurement systems: A guide to best practice. London: E and F.N. Spon.
- Saqib, M., Farooqui, R.U., & Lodi, S.H., 2008. Assessment of critical success factors for construction projects in Pakistan. Retrieved May 27, 2011, <http://www.neduet.edu.pk/ICCIDC-I/Conference%20Proceedings/Papers/041.pdf>
- Shaoul, J., 2002. A Financial appraisal of the London underground public-private partnership. *Public Money and Management*, 22(2), 53-60.
- Tenth Malaysia Plan., 2010. Tenth Malaysia Plan (2011-2015). Retrieved April 12, 2011, [http://www.pmo.gov.my/dokumenattached/speech/files/RMK10\\_Speech.pdf](http://www.pmo.gov.my/dokumenattached/speech/files/RMK10_Speech.pdf)
- Terry, F., 1996. The private finance initiative-overdue reform or policy breakthrough? *Public Money and Management*, 16(1), 9-16.
- The Star Online., 2006. Boost for construction industry. July 20, 2006.
- Tiong, R.L.K., 1996. CSFs in competitive tendering and negotiation model for BOT projects. *Journal of Construction Engineering and Management*, 122(3), 2005-211.
- Tiong, R.L.L., & Alum, J. (1997). Evaluation of proposals for BOT projects. *International Journal of Project Management*, 15(2), 67-72.
- Toor, S.R., & Ogunlana, S.O., 2008. Critical COMs of success in large-scale construction projects: Evidence from Thailand construction industry. *International Journal of Project Management*, 26, 420-430.
- Trafford, S., & Proctor, T., 2006. Successful joint partnerships: Public-private partnerships. *International Journal of Public Sector Management*, 19(2), 117-129.
- Treasury Taskforce., 1999. How to account for PFI transactions. Retrieved June 24, 2011, [http://www.hm-treasury.gov.uk/media/E/D/PPP\\_TTF\\_Technote1.pdf](http://www.hm-treasury.gov.uk/media/E/D/PPP_TTF_Technote1.pdf)
- Unit Kerjasama Awam Swasta (UKAS)., 2011. PPP guideline: Public. Retrieved June 24, 2011, <http://www.ukas.gov.my/>
- United Nations Economic Commission for Europe (UNECE)., 2007. A guide to promoting good governance in public private partnerships. Retrieved June 14, 2011, [http://www.unescap.org/ttdw/common/TPT/PPP/text/guide\\_good\\_governance.pdf](http://www.unescap.org/ttdw/common/TPT/PPP/text/guide_good_governance.pdf)
- Zhao,Z.,Zuo,J.,Zillante,G., & Wang,X., 2010. Critical success factors for BOT electric power projects in China: Thermal Power versus Wind Power. *Renewable Energy*, 35, 1283-1291.

Zhang, X., 2005. Critical Success Factors for public-private partnerships in infrastructure development. *Journal of Construction Engineering and Management*, 131(1), 3-14.