

# Public Private Partnership Benefits in Delivering Public Facilities in Malaysia

Sapri M.<sup>1,a</sup>, Hariati A.H.<sup>2</sup>, Sheau Ting L.<sup>3</sup> and Sipan I.<sup>4</sup>

<sup>1,3,4</sup> Centre for Real Estate Studies, Universiti Teknologi Malaysia, 81310 UTM Johor Bahru, Johor, Malaysia

<sup>2</sup> Faculty of Geoinformation and Real Estate, Universiti Teknologi Malaysia, 81310 UTM Johor Bahru, Johor, Malaysia

**Abstract.** The development of infrastructure in developing country such as Malaysia was increasingly founded by the Public –Private Partnership (PPP) scheme. Collaboration with private sector has become popular as a means to improve the delivery of public facilities. Yet, empirical evidence on how PPP initiative has benefits the delivery of public facilities within Malaysia context is lagging. The purpose of this paper is to identify and assess the perception of stakeholders on the benefits of adopting PPP in delivering public facilities in Malaysia. Literature review was carried out to identify PPP benefits, which were then incorporated into the questionnaire. The mean score and mean score ranking was conducted to assess the agreement level of stakeholders towards the PPP benefits. The overall findings show that the implementation of PPP has benefitted the delivery of public facilities in both financial and non-financial aspects. From the analysis, improvement in service quality is perceived as the top advantage followed by innovation in design and transfer of risk. The findings provide more informed basis on the rationale of PPP implementation and its potential in improving the delivery of public facilities within Malaysia context.

## 1 Introduction

Public facilities for education, recreation, health, safety, and communication are some of the essential community needs. The provision of these facilities is part of the major government responsibilities. Besides making the facilities available to everyone, the government also has to ensure the delivery process is conducted in an efficient way. However, government nowadays has a limited ability to respond to the increasing demand of public facilities. Factors such as scarce sources, macro – economic instability, administrative inefficiencies and large skill gaps have restrained the government to deliver the services at a required level [1].

The pressure felt by the government has led to the implementation of public private partnership (PPP) scheme, which allowed the participation of private sectors in the provision of public facilities. Through this scheme, the government has entrust the private sector with the responsibility of designing, financing, building and operating of public facilities [2]. According to [3] private sector has greater expertise in managing complex projects, capable in delivering them on time and budgeted, as well as maintaining services thereafter. Therefore, PPP is considered as an effective approach to enhance project productivity through management efficiency and creative skills from business practice [4].

The reasons for adopting PPP may vary in different countries. [5] discovered that United Kingdom (UK) has implement PPP for the financial elements while Hong

Kong and Australia were more related to the overall performance of improving public projects. In Malaysia, the principal objectives of PPP implementation are to encourage private sectors participation, reduce government's expenditure and to improve the delivery of public facilities [6, 7]. PPP is adopted to increase efficiency, greater innovation and value-added services [8]. While the rationale for adopting PPP in Malaysia is well understood, it was discovered that assessment on the impact of PPP implementation is remain limited. Since the implementation of PPP is growing in Malaysia, initial investigation on how PPP so far has benefitted the delivery of public facilities and services is thus desirable. Hence, this study aims to fill the gap. In order to offer some evidence on the present issues, this study has embarked on quantitative methods.

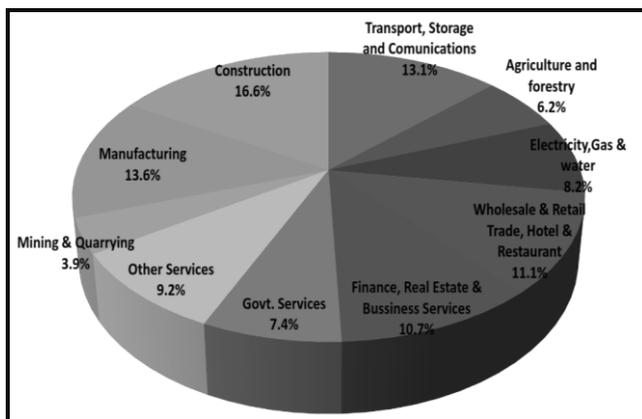
This paper is structured as follows; Section 2 discuss the development of PPP in Malaysia and Section 3 discuss advantages of PPP in delivering public facilities respectively. Section 4 offers the information regarding research method adopted in this study. Section 5 presents the results and discussion, while Section 6 concludes the findings of this study.

## 2 Development of public private partnership implementation in Malaysia

The concept of partnership between the public and private sectors in Malaysia has existed since 1980s. Malaysia government has taken a lot of initiatives to

<sup>a</sup> Corresponding author: maimunahsapri@utm.my

foster the involvement of private sectors in delivering public facilities. These include the introduction of economic policies such as The Malaysian Incorporated Policy (1981), Privatisation Policy (1983), Guidelines on Privatisation (1985) and Privatisation Master Plan in 1991 [9]. As in United Kingdom (UK), privatisation programme has triggered the execution of PPP in Malaysia. Operation and Management Licence; Build, Operate and Transfer (BOT); Build, Operate, Own, Transfer (BOOT); and Lease-Sale are among the partnership arrangements that have started to be used [8]. The implementation of PPP until 2010 is mostly in construction, manufacturing, transport, storage and communication. **Figure 1** shows the division of PPP projects according to sectors in Malaysia.



**Figure 1.** PPP project according to sectors from year 1983 – 2010. (Source: PPP Unit, Malaysia)

Malaysian government has officially announced The Private Finance Initiatives (PFI) Programme under PPP in the Ninth Malaysia Plan (2006). The introduction of PFI has become the spotlight for the overall implementation of PPP in Malaysia. It was reported in the Eleventh Malaysia Plan (2016-2020) that the private sectors participation especially via private investment is the lead of economic growth in Tenth Malaysia Plan (10MP). In Malaysia context, PFI is referred to;

*‘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’ [10]*

In assessing the rational of PPP implementation, [11] discovered both public and private stakeholders perceived “to enhance private sector involvement in economic development” as the most important rational in adopting PPP in Malaysia. Besides, [12] found the attractive factors that encourage the adoption of PPP are

include “facilitate creative and innovative approaches”, “solve the problem of public sector budget restraint”, “provide an integrated solution”, “benefit local economic development” and “accelerate project development”. Another in-depth investigation on PPP implementation by [13] indicated that the implementation of PPP/PFI in Malaysia have several distinctive aspect, which benefits the Malaysian citizen and enhance the sustainability of Malaysian infrastructure.

Parallel with the development, studies in regards to local implementation of PPP is actively being conducted in Malaysia. [14] conducted a research on the possible constrains that hinder the adoption of PPP in Malaysia. The results show that the obstacles that may make PPP less attractive are “lengthy delays in negotiation”, “lack of government guidelines and procedures on PPP”, “higher charge to direct users”, “lengthy delays because of political debate” and “confusion over government objectives and evaluation criteria”. A few studies also have been done on the most critical area of PPP which is value for money (VfM). [15] examined the factor that enhancing VfM achievement for PPP projects. The study concludes that five factors that enhance VfM include “competitive tender”, “private sector technical innovation”, “optimal use of asset/facility and project efficiency”, “efficiency risk allocation and performance-based payment mechanism”. By stressing the needs for VfM assessment in each phase of PPP project life cycle, study by [16] revealed that both public and private sectors perceived financial and non-financial aspects are vital elements to be captured in that process.

### 3 Benefits of PPP in delivering public services

PPP scheme has introduced a whole life approach where the involved parties are responsible to design, build, finance and operate public facilities for about 20-30 years. There is a long term consideration for whole life costing that includes capital cost, operating cost, maintenance cost, replacement cost and disposal cost [17]. The ultimate aim is to achieve value for money (VfM), which is ‘the optimum combination of whole-life costs, benefit, risks, and quality (fitness for purpose) to meet the user’s requirement and getting the best possible outcome at the lowest possible price’[18]. VfM also portrays how much cost savings are achieved when comparing PPP with traditional approach in delivering public facilities [19].

Private parties tend to seek accurate estimation for capital and operational costs as they bear a huge responsibility in the development and operational phase of PPP projects. Private sectors have the advantages in delivering public facilities at lower capital expenditure (Capex) and operational expenditure (Opex). According to [20], private sector was considered better at coordinating the activities for design, construction, finance, operations and maintenance at a lower cost compared to the government. Technical efficiency [21], better risk management, innovation and advance in technology [22] are among the factors that favour the

private sectors to deliver an efficient Capex and Opex of projects.

The other reason of adopting PPP is to achieve time savings in project development. The expert owned by the private sectors allows them to expedite the development process. According to the [23] in so called ‘fast-track’ design and construction of PPP, certain elements of construction work can be concurrently conducted with ongoing design phase of PPP projects. Construction firms have also been involved since design reviews process to spot any possibility that might delay the complete time of construction.

Besides faster delivery, better project governance is also to be expected in PPP implementation. Project governance is a framework that sets out the structure, resources, communication, reporting and monitoring systems so that the management project will be consistent with the organisation vision [24]. Since the companies involved in PPP usually have a strong track record in development projects, it is believed that the best practice of project governance can be absorbed in PPP projects. In addition, private companies have no option but to scrutinise this aspect as project governance will influence the cost, speed of completion, quality and financial viability of project delivered [25].

The desire for design innovation of public facilities is well recognised. It is clearly shown when the injection of design innovation can be too complex for a certain types of building. In hospital for instance, there are changing patterns in medical care [26] as well as changing requirement for technologies, policies and services, which has made design innovation a challenging task [27]. Therefore, partnership with private sectors could help the government to handle these uncertainties. According to [28], innovation in design and management of public facilities is a factor driven by PPP implementation. Appropriate design innovation could generate savings in future maintenance and operational costs [22]. Thus, superior design innovation is expected from PPP scheme [29].

As PPP has introduced the long term approach, much anticipation has been given towards the services delivered in operational phase of PPP projects. Output specification, payment mechanism and monitoring, deduction of service failures performance are interrelated mechanisms in ensuring a high quality of service delivered under PPP projects [22]. The involvement of facilities management has also raised the quality expectation on service delivered. It is especially when facilities management has to handle lots of crucial aspects related to the operations and maintenance, project planning and management, communication, finance, quality assessment, facility function, human and environmental factors, space and workplace planning, budgeting, renovation or architectural planning and design [30].

In traditional delivery, government is responsible for all risks associated with the delivery of public facilities. PPP allows the government to transfer the risks to the private sectors. Risk transfer is one of the VfM key elements. According to [31], PPP is a medium transferring most of the risks to private parties yet

deriving maximum VfM. Risk is transferred to private sectors that seem able to manage the risk better than the government [32]. This includes the risks arose from the building, operation, finance, and management of the PPP project. Therefore, PPP is considered a scheme that could lift the risk of burden bears by the government in delivering public facilities.

Earlier discussion has proved a strong rationale behind the implementation of PPP in delivering public facilities. PPP could improve both financial and non-financial aspect of public facilities. Studies from other countries have shown that there are benefits that successfully delivered and while some are not.

In French, [33] found that PPP projects performs well on issues such as respect of timetable and contracted prices but does not establish that PPP promotes innovation, quality of service delivery and life cycle costing. In accessing the experience of PFI in the UK’s National Health Service, [34] has concludes that PFI provides no additional funding, do not deliver better ‘value for money’, create problems in affordability and increased cost of private finance to the public purse.

[35] have reviewed the elements of cost, quality, flexibility and complexity of PPP hospitals in Australia, Spain and UK. They found that the new facilities have been more expensive. The facilities are more likely to be built on time and within the budget, but at the expense of compromises on quality. The study concludes that PPP seem to further complicates the already difficult task of developing and managing hospital.

By adopting case study approach, [36] discovered that the first PPP hospital in Victoria shows that the hospital facility was built “within budget” and the government have indicate this cases evidence of successful implementation of the PPP policy. In Hong Kong, [37] found that non-privately funded PPP approach is more cost-effective and efficient in the delivery maintenance services. Both the public agent and service provider involve in the study perceive the non-privately funded PPP approach can allow higher flexibility, encourage innovation, enhance cost-effectiveness and improve the efficiency of work when compared with the traditional term contract in the delivery of maintenance services.

It was discovered that the PPP benefits are yet to be tested in Malaysian context. This paper is hence attempted to empirically verify these benefits. Next section will discuss how this study is conducted.

## **4.0 Research method**

### **4.1 Research instrument**

This study is embarked on quantitative methods. Similar to study conducted by [38] and [39], structured questionnaires were used to capture the perception of stakeholders on the topic of the present study. The questionnaire consists of four parts and this paper intends to report the first two parts. Part A consist of the demographic information of the respondents while Part B uses a Likert scale to measure the benefits of implementing PPP in delivering public facilities on a

scale of 1-5, where “1” is very disagree to “5” is very agree. **Table 1** provides seven PPP benefits listed in the questionnaire.

**Table 1.** PPP benefits

No	PPP benefits
1.	PPP leads to the optimum whole life costs of public facilities.
2.	PPP yields lower Capex and Opex compared to traditional procurement.
3.	PPP allows faster delivery of projects
4.	PPP provides better project governance.
5.	PPP projects demonstrate innovative design aspect.
6.	PPP improves the quality of services delivered.
7.	PPP allows transfer of risk to the parties that could manage it better.

#### 4.2 Questionnaire distribution and data collection

The questionnaire survey was distributed to the respondents in a PPP healthcare conference conducted in Malaysia. This approach was adopted by Ismail and Haris [14] to investigate the factors that hinder the successful adoption of PPP in Malaysia. The chosen conference comprises of those who have knowledge, experience or at least interest on PPP scheme in Malaysia. Through the questionnaire, respondents are required to rate their agreements level on the benefits of PPP implementation in delivering public facilities in Malaysia. A total of 110 questionnaires were distributed to the participants. At the end of conference, 45 completed questionnaires were successfully collected representing a response rate of 40.9 per cent.

#### 4.3 Data analysis

All 45 returned questionnaires were properly completed and analysed accordingly by using SPSS statistics software version 22. The demographic information of respondents were analysed using descriptive analysis and the mean score was used to rank the seven identified PPP benefits.

### 5.0 Findings and discussions

#### 5.1 Response rate and demographic information of the respondents

Demographic information of the respondents is showed in **Table 2**. 47.7 per cent of the respondents are from the public sector whilst the remaining 53.3 per cent are from the private sector. In relation to working experience, majority of the respondents (75.5 per cent) have less than 5 years’ experience in PPP projects. In term of number of PPP projects, 62.2 per cent of respondents have been

involved in less than five projects and 37.8 per cent have experience in more than five projects. The demographic information of respondents has reflects their credibility in providing reliable data in the survey.

**Table 2.** Descriptive analysis of respondents

Respondents profile	Proportion of the sample response (%)
<i>Working sectors</i>	
Public	47.7
Private	53.3
<i>Years of experience in PPP projects</i>	
Less than five years	75.5
5-10 years	8.9
11-15 years	8.9
More than 15 years	6.7
<i>Number of projects involved</i>	
Less than 5	62.2
Five and more	37.8

#### 5.2 Result on PPP benefits

**Table 3** reveals the frequency of response for each benefits of PPP implementation in delivering public facilities in Malaysia. The first two PPP benefits which are “PPP leads to the optimum whole life costs of public facilities” and “PPP yields lower Capex and Opex compared to traditional procurement” showed that the highest percentage of response is in ‘Neutral’ category. The answer of respondents was scattered among all five level of agreements. Meanwhile, the responses for the remaining five PPP benefits seem to be centralised at ‘Agree’ category. The answer of respondent for these non-financial PPP benefits were found to be scattered between ‘Disagree’ and ‘Strongly Agree’ categories, while no response fell into ‘Strongly Disagree’ categories.

Mean analysis was conducted to compare the listed benefits. As shown in **Table 4**, the mean score for the seven benefits range from 3.00 – 3.98, which indicate there is different rank of each benefits. Table 4 show that in rank order, the PPP benefits that agreed by overall respondents were “improve quality of services”, “innovative design”, “transfer of risk”, “faster delivery of projects” and “better project governance”. All these benefits represent the non-financial PPP benefits. The result of analysis also showed that financial PPP benefits which are “optimum whole life cost” and “lower Capex and Opex” were neither agreed nor not agreed as the benefits of implementing PPP in Malaysia. Overall, the result indicates that all non-financial PPP benefits are recognised and agreed favourably by the respondent than non-financial PPP benefits.

**Table 3.** PPP Benefits in Malaysia

PPP benefits	Strongly Disagree		Disagree		Neutral		Agree		Strongly agree	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
1. PPP leads to the optimum whole life costs of public facilities.	1	2	3	7	19	42	18	40	4	9
2. PPP yields lower Capex and Opex compared to traditional procurement.	2	4	12	27	16	36	14	31	1	2
3. PPP allows faster delivery of projects	-	-	3	7	12	27	22	49	8	18
4. PPP provides better project governance.	-	-	2	4	13	29	26	58	4	9
5. PPP projects demonstrate innovative design aspect.	-	-	2	4	8	18	26	58	9	20
6. PPP improves the quality of services delivered.	-	-	1	2	6	13	31	69	7	16
7. PPP allows transfer of risk to the parties that could manage it better.	-	-	2	4	10	22	25	56	8	18

**Table 4.** Mean and rank of PPP benefits in Malaysia

PPP benefits	Mean	Ranking
1. PPP improves the quality of services delivered.	3.98	1
2. PPP projects demonstrate innovative design aspect.	3.93	2
3. PPP allows transfer of risk to the parties that could manage it better.	3.87	3
4. PPP allows faster delivery of projects	3.78	4
5. PPP provides better project governance.	3.71	5
6. PPP leads to the optimum whole life costs of public facilities.	3.47	6
7. PPP yields lower Capex and Opex compared to traditional procurement.	3.00	7

The benefits “improves the quality of services” (mean=3.98) has secured the first place thus perceived as the top benefits of PPP implementation in Malaysia. It was expected that PPP will give a positive impact on the quality of services the most. The reformation of facilities management involvement, which is since in the development phase of PPP project, has led to a significant improvement on the quality of services. In contrast, study by [33] found that this benefits cannot be enjoyed in French.

“Design innovation” (mean = 3.93) has ranked as the second benefits in implementing PPP in Malaysia. Nevertheless, this advantage is facing lots of criticism in other countries. In contrast, [27] claimed that PPP was less effective in stimulating design innovation desired by the UK government. Design innovation has also showed a slower progress than process innovation in PPP projects [22]. Considering Malaysia as a developing country and existing design flaws in traditional procurement of public

facilities, it is possible for design aspect to improve a lot by the implementation of PPP.

The third benefit of PPP implementation in Malaysia is “transfer of risk to the parties that could manage it better” (mean=3.87). The transfer of some risks, operational and maintenance for instance allow the government to focus on their other core business. Besides, [13] claimed that the encouragement to use Islamic financing in implementing PPP/PFI projects in Malaysia may lead to new perceptive towards the concept of risk transfer and improved risk sharing.

The benefits in terms of cost are less prominent compared to other benefits. In other study, [40] have put cost as the main disadvantage of PPP projects. According to [21], the ability to deliver project at a lower cost depends on private sector partner having the appropriate incentive. This is due to the interest of private, which usually aims for profit maximisation and not cost minimisation. More effort should be taken by the PPP stakeholder to boost financial benefits of PPP implementation. One of the solutions is by running a competitive process that usually offers a better solution at a lower cost [41].

## 6.0 Conclusion

The study used a questionnaire survey to investigate PPP benefits in delivering public services in Malaysia. Most of the benefits were obtained through private sectors efficiency. The overall results show that “PPP improves the quality of services delivered”, “PPP projects demonstrate innovative design aspect” and “PPP allows transfer of risk to the parties that could manage it better” are the top three PPP benefits in Malaysia.

However, there are a few limitations in this study that should be highlighted in order to ensure a fair interpretation of the findings. First, the finding of this is solely based on the perception of local PPP stakeholders. Future studies may consider using other dimension or indicators such as monetary, customer satisfaction etc. to measure the PPP benefits. Second, the used of general questionnaire may not be the best option to grasp the real impact of PPP for specific type of projects. Therefore, case study approach is highly recommended as different projects may show different results. Third, the selection

of conference as a medium to approach the sample of study has limited the number of response. In this case, [14] claimed that it would be better to increase the sample size and distribute the survey instrument to larger geographical area or more seminars.

In conclusion, despite the limitations, this study has filling the gap of existing literature in regards to PPP implementation in Malaysia. In particular, this study expose the perception of public and private sectors in regards to PPP benefits in delivering public facilities in Malaysia. The findings has portrayed the impact of PPP and justified the use of this scheme in the future.

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