APPLICATION OF PUBLIC PRIVATE PARTNERSHIP (PPP) MODEL IN PROCURING INFRASTRUCTURE PROJECTS IN HONG KONG

Albert P.C. Chan, Patrick T.I. Lam, Daniel W.M. Chan, Esther Cheung*
The Hong Kong Polytechnic University
*Corresponding author: bsesther@polyu.edu.hk

Hong Kong has been one of the early jurisdictions to adopt Public Private Partnership (PPP) model for delivering large public infrastructure projects. The development of this procurement approach in Hong Kong has followed an intricate path. As such, it is believed that there are a number of areas which are interesting to unveil. As part of a comprehensive research study looking at implementing PPPs in Hong Kong, interviews with experienced local industrial practitioners were conducted. Amongst these interviews, seven were launched with past and present Government officials from different relevant local Works and Administrative Departments. This paper presents the analysis of these interviews which helps to answer some of the queries that both academics and the private sector are keen to follow up with. The interview findings show that the retarded adoption of this approach has been due to the public sector being able to afford public infrastructure projects comfortably using taxpayers’ monies, since recent budgets have recorded surplus. To bring in private sector finance may not always be the best value for money. Instead observing the success of PPP projects in other jurisdictions has triggered the Government’s interest to introduce innovation and efficiency. Therefore it was found that in general, the public sector welcomed this form of procurement. In addition, the Hong Kong SAR Government has been keen to learn from the good experience of other jurisdictions by seeking advice from various consultants and experts. It can be observed that the interviewees exhibited a positive outlook for PPPs and are keen to explore its benefits for the right projects. The findings from this paper are expected to provide a clearer insight into how government officials perceive PPPs; as a result the private sector can gain a clearer understanding of what is expected from them.

KEYWORDS: Public Private Partnerships (PPP), Procurement, Infrastructure Projects, Hong Kong.

INTRODUCTION

Public Private Partnership (PPP) is a procurement approach where the public and private sector join forces to deliver a public service or facility. In this arrangement normally both the public and private sector will contribute their expertise and resources to the project and share the risks involved. The definition of PPP may differ slightly between different jurisdictions, depending on which part of the arrangement the importance is focused on. But in general PPPs can be any agreement where the public and private sectors work together to deliver a public project. PPP is a relatively modern term for this
arrangement used only more commonly in the last decade. Previously different variations of the arrangement included Private Finance Initiative (PFI), which is a more familiar term to many people due to its successful development in the United Kingdom (U.K.) during the early nineties (Tieman, 1992). It would not be incorrect to say that the PFI practice developed in the U.K. raised the world’s attention to this alternative option for delivering public infrastructure and services. The extent to which PFI could be used and the advantages created were the main drivers attracting other countries to start adopting or improve their practice in PPP. A more specific term used more commonly a decade ago is Build Operate and Transfer (BOT). This arrangement was commonly adopted for transportation projects. This is because transportation projects tend to be larger in size and also because their long physical lives fit well into the procurement mode. Earlier this century, concession was a common form of PPP. These early concessions mainly occurred in Europe (particularly in France) for water projects (Grimsey and Lewis, 2004). Although water projects tend not to be particularly large in project sum, it was noticed early on the advantages of introducing private expertise to deal with tasks that the public sector was probably not as efficient or experienced in carrying out the works. Although a long history if PPPs has been recorded, many jurisdictions are still unclear of how to maximize the benefits and avoid the risks which could occur.

HONG KONG’S PPP EXPERIENCE

Hong Kong is not completely new to the idea of PPP. In actual fact the city was probably one of the first to utilize resources from the private sector. The term PPP may sound revolutionary to Hong Kong, whereas a more familiar term is BOT. The concept of BOT has been used since the late sixties. In September 1969 the construction for the first BOT project in Hong Kong commenced (Mak and Mo, 2005). The Cross Harbour Tunnel (CHT) is a two lane tunnel in each direction. It took only 36 months to complete and was eleven months ahead of schedule. The CHT was an instant success when it came into operation in August 1972. Within three and a half years of operation the Tunnel had collected enough tolls to pay back its construction cost. The Tunnel is probably the most successful BOT project in Hong Kong, and is still one of the most important and profitable pieces of infrastructure locally.

Although Hong Kong has had experience in adopting quite a number of BOT projects, the approach of PPP has never really been studied extensively on a local scale. The traditional practice of these projects was for the government to directly award a concession to the potential bidder. This practice of awarding concessions is common in Hong Kong, but the gestation period spent in formulating the enabling legislation is lengthy.

In recent years the Efficiency Unit of the Hong Kong Special Administrative Region Government has been heavily involved in PPP research. The Government’s interest in utilizing PPP is obvious. The approaches that they have taken mainly involve gaining international experience from particularly Europe and Australia. One of the early
documents produced by the Efficiency Unit on private sector involvement was a
guideline to help governmental bureaux and departments to familiarize with private
sector engagement (Efficiency Unit, 2001). These guidelines were published in 2001 and
showed the government’s interest in adopting the idea of PPP. Only two years later they
also produced a comprehensive introductory guide to PPP (Efficiency Unit, 2003). This
guide was aimed for the use of the civil service but is also made available for the public’s
interest to understand the government’s approach. After the publication of this report
much interest was drawn from the public due to the possibility of the increased business
opportunities available. More recently, the Efficiency Unit published two more
guidelines on PPP (Efficiency Unit, 2007; 2008). The first edition shows how more
knowledge on the issues of PPP have been learnt, it also identifies areas of concern to
local practitioners as well as civil servants, and it tries to provide some insights into these
areas. The second edition is much more specific on how to establish a PPP project. The
guideline is aimed at coaching civil servants on how to conduct a PPP project by looking
at the business case, dealing with the private sector, managing the risks, funding and
payment issues, managing performance etc.

THE RESEARCH FRAMEWORK

The findings presented in this paper are part of an on-going research project looking at
developing a best practice framework for implementing PPPs in Hong Kong. As part of
the data collection, interviews were conducted with PPP experts from the public sector in
Hong Kong.

Design of Interview Questions

Utilizing in-depth literature findings, interview questions linking up to the project
objectives were derived. The following questions were derived for the interviewees:

1. Have you conducted any research looking at local case studies? And if so, could
   you share your insights?
2. How would you compare PPP with traditional procurement methods?
3. Which type of project do you feel is best suited to use PPP?
4. What do you feel are the key performance indicators in a PPP project?
5. In general, what do you think are the critical success factors leading to successful
   PPP projects?
6. Does your organization have any in-house guidance/practice notes?

Selecting Respondents

The target respondents of the interviews were practitioners with experience in PPP of
senior level and authority who have had experience acting for the government. Amongst
the seven interviewees, two were from Administration Departments (one of the
Interviewees previously represented a Works Department, three were from Works Departments (one of which previously represented an Administration Department and the other also holds a position at a local institute), two of the interviewees were from Non Governmental Organizations (NGO) (both had previously acted for different Works Departments). The interviewees selected ranged from a variety of different roles within the Government. Table 1 shows details of these interviewees.

Table 1 List of Interviewees from the Public sector in Hong Kong

<table>
<thead>
<tr>
<th>No.</th>
<th>Position of Interviewee</th>
<th>Organization of Interviewee</th>
</tr>
</thead>
<tbody>
<tr>
<td>PU1</td>
<td>Assistant Director</td>
<td>Administration Department</td>
</tr>
<tr>
<td>PU2</td>
<td>Permanent Secretary</td>
<td>Administration Department (previously Works Department)</td>
</tr>
<tr>
<td>PU3</td>
<td>Director</td>
<td>Works Department (previously Administration Department)</td>
</tr>
<tr>
<td>PU4</td>
<td>Senior Director</td>
<td>Works Department</td>
</tr>
<tr>
<td>PU5</td>
<td>Senior Quantity Surveyor</td>
<td>Works Department / Local Professional Institute</td>
</tr>
<tr>
<td>PU6</td>
<td>Executive Board Member</td>
<td>NGO (previously Works Department)</td>
</tr>
<tr>
<td>PU7</td>
<td>Executive Director</td>
<td>NGO (previously Works Department)</td>
</tr>
</tbody>
</table>

THE PUBLIC SECTOR’S PERSPECTIVE ON PPP

1. Have you conducted any research looking at local case studies? And if so, could you share your insights?

Interviewee PU1 is an Assistant Director of a public administrative department. His department has been incredibly active in conducting PPP research and hence he was interviewed for his expert knowledge in the area. Interviewee PU1 mentioned that the department had already produced a guideline back in 2003 and the second edition would be produced by the first quarter of 2007. He added that the new bilingual guideline would include information collected from overseas and will also look into the local problems and the success factors for PPP. In addition, their department has also carried out internal case studies on local projects.

Interviewee PU2 had recently started his post at an administrative department, before this he had spent a long time working at a works department. Hence the discussion was heavily based on his experience at the works department. He did not go into detail on whether there have been any case studies conducted within his previous department, but instead he introduced how asset management can also be regarded as a form of PPP, and also how it has been implemented successfully in his previous department for maintenance works. He also added how this form of arrangement has been successfully carried out for asset management of buildings in Melbourne, Australia.

On the contrary to Interviewee PU2, Interviewee PU3 had previously worked in an administrative department but only recently changed to a position in a works department.
He suggested that most countries new to adopting PPPs try to learn from the experience and practice in Australia and the United Kingdom. Instead it may be useful to also consider the practice in developing countries such as South Africa and the Philippines. The extent and use of PPPs may not be as extensive in these countries but there are many new practices which can be learnt. Whereas experiences adopted in the United Kingdom and Australia maybe more dated in comparison. Interviewee PU2 has been actively involved with PPP research, one publication that he had heavily participated in was a technical circular for the local government.

Interviewee PU4 is a Senior Director of a local works department. He explained that the PPP model they adopt is in the form of Design Build and Operate (DBO). DBO has also been utilized by another works department in Hong Kong. He shared that his department had previously employed consultants to advise on the DBO method. In order to investigate the appropriateness of using DBO for their department’s projects, they have hired consultants to conduct studies on the DBO strategy.

Interviewee PU5 is a Senior Quantity Surveyor working for a local works department (responsible for project management of public building projects) and also an office bearer of a local professional body. Referring to the department he works for, he explained that no studies have been carried out within their department and that they have not taken the most active role in PPP projects. Instead he suggested that the client’s departments who are the people involved with operation, and also the finance bureau who are the people with cash, would be in a far better positions to initiate PPP projects.

Referring to the work conducted at the professional body, Interviewee PU5 explained that they focused very much on the financial structure and risk management of PPP projects. Similar to other researchers he believed that there should be clear risk allocation and risks should be assigned to the party best able to manage them. Also a clear timeframe for the project milestones should be setout. Other common aspects of PPP internationally but not mentioned as frequently in Hong Kong include Public Sector Comparator and Special Purpose Vehicle.

Interviewee PU6 is an Executive Board Member of a NGO. He explained how it would be inconvenient to comment on the works department he had previously worked for, but he was willing to share some insights into the topic of PPP from a personal level.

Interviewee PU7 is currently the Executive Director of the same NGO as Interviewee PU6. Previously he had worked in a governmental works department for many years before his retirement. In the interview conducted with him he shared his knowledge and experience on PPP from his previous position. Interviewee PU7 explained that he had personally not conducted any research studies in the area of PPP, but suggests that the home ownership scheme Private Sector Participation Scheme (PSPS) could also be considered as a form of PPP. Through PSPS, good quality residential apartments were financed, designed and built by private developers by allocating land to them on a subsidized basis. The completed apartments were marketed to medium-income buyers as a form of affordable housing.
2. How would you compare PPP with traditional procurement methods?

Interviewee PU 1 explained that PPP projects take longer to lift off. Normally this is due to the more complex design and scale of PPP projects. Also the longer bidding period compared to projects that are procured traditionally. He added that a Public Sector Comparator ought to be constructed to decide which method is the best for the project. Interviewee PU1 further explained that Hong Kong has tended to procure PPP projects traditionally rather than by PPP as there has been no drive from the top or the treasury to do so. Unlike other jurisdictions that have adopted PPP, the Hong Kong government has not been short of money therefore the incentives have not been the same.

Interviewee PU2 described for his department that under the traditional practice, a works order would be needed for any works required, whatever the cost. This created a large amount of documentation which has now been replaced by PDAs, under the new arrangement the works department now acts as a supervisor’s role. For a more accurate analysis of which procurement method should be adopted he added that a Public Sector Comparator should be utilized.

Interviewee PU3 believed that it would be more appropriate to consider which method the project requires rather than procure projects by PPP for the sake of it. Whether a procurement approach is appropriate for a particular project would depend on the nature and characteristic of the project itself. He also added that unfortunately his colleagues would rarely consider the PPP option as they tend to prefer the usual practice for which standard forms of contract are available. This behavior is understandable for bureaucrats in general, as they are not awarded for achievements but instead would be criticized if problems arise as a result of changing procurement methods. Therefore staying with methods that have been practiced numerous of times would be less risky to them. The private sector on the other hand are willing risk takers if they can foresee commercial benefits.

Interviewee PU4 described that for each PPP project the concession period and the payment arrangements would be identified, normally depending on the major activities and milestones; whereas in a traditional approach, the contractor would be paid on a monthly basis during the construction stage. Also, for PPP projects the contractor would submit the price for construction and operation in their tenders. The nature of a PPP or DBO project is to allow more flexibility at all angles for tenderers so that they can maximize their expertise whether it is in terms of financial, technical or managerial. These projects tend to involve rigorous procedures.

Interviewee PU5 explained that for cases where the Government has an observation but not a solid project idea the PPP approach can add value. Also, as the private sector is more motivated than the public sector, PPP projects tend to develop faster than those procured by the traditional approach.
Interviewee PU6 believes that the suitability of adopting PPP depends on the project itself. The project must be financially stable as the private sector enters the partnership for commercial benefits. A project with an uneconomic case would therefore not be able to attract any private partners. Also, in cases where the project may make a loss the government should also be responsible for the project themselves or help to subsidize the private sector; for example, in the cases of hospital and school projects which have been incredibly successful in the United Kingdom. These projects alone are not economical but with a regular fixed service fee from the government, the private sector is willing to enter the partnership. The arrangement has been a role model to other countries and opened up new opportunities in conducting social infrastructure projects by PPP as well.

When asked whether the PPP arrangement is best when the government is the end user, Interviewee PU6 agreed. He also added that in a traditional procurement method the government will most likely finance the facility or services themselves. He added that governments procure projects by PPP because of two main reasons. Firstly they may not have the money or want to borrow money for public facilities or services. And even if the government does have money they may want to spend it on other more demanded things. Secondly PPP projects are known to be more efficient due to the highly motivated private sector. Efficiency is also related to finance. He added that PPP is a lot more complex compared to traditional procurement methods hence the cost is also much larger.

Interviewee PU7 explained that all projects are unique. Therefore if a project involves the public and private sector, and also PPP is believed to be the most suitable to achieve success for that project then this procurement method should be used. The public sector ought to consider what the end product will be before deciding on the procurement method to be used.

### 3. Which type of project do you feel is best suited to use PPP?

Interviewee PU1 believes that for PPP projects to work. It does not matter whether the income comes direct from the end-user, paid by the government, or a combination of both. As long as there is a link between payment and performance the project will be suited to use PPP.

Interviewee PU2 believes that each project is unique so no type of project is best suited for the PPP option.

Interviewee PU3 believes that the Shatin Water Treatment Works project in Hong Kong is a project with prospect of being a PPP. Other suitable projects will depend on whether they can be financially viable taking into account the risks associated with the project. To deliver PPP projects in Hong Kong, the value for money aspect should also be considered.
Interviewee PU4 feels that in order for projects to be procured by PPP they ought to involve a large operating element and also the project performance should be measured easily as payment is often related.

Interviewee PU5 described that unsuitable PPP projects are those that have no economic case for the private sector to benefit. In these cases the private sector would also not be willing to participate.

Interviewee PU6 believes that the projects most suitable to use PPP are those that involve a high operation cost, and are economically attractive to the private sector. Although some projects may not be economically feasible alone, the government could help to subsidize. For example, the MTR Corporation Limited has been granted the development rights to construct property above their stations, as a means of subsidizing the railway construction. This has proved to be a successful case and an effective arrangement of the public and private sectors working together to deliver public infrastructure in Hong Kong. Therefore projects with similar arrangements could also be considered.

Interviewee PU7 suggested that housing projects have also been shown to be successful in Hong Kong. For PPP projects to work there must be mutual benefits for both the public and private sector.

4. **What do you feel are the key performance indicators in a PPP project?**

For the key performance indicators, again Interviewee PU 1 believed that it would be down to the link between performance and payment.

Interviewee PU2 described that success of PPP projects could be measured in terms of the resources reduced in terms of money and labour.

The interview with Interviewee PU3 did not touch on the key performance indicators.

Interviewee PU4 believes that a Public Sector Comparator (PSC) could be used to confirm whether the arrangement would be cost effective if procured by PPP. Also the KPIs used to measure the contractor’s performance should be project specific.”

Interviewee PU5 believes that the traditional KPIs (cost, time and quality) are also applicable to PPP projects. He also feels that a Due Diligence Audit can be used to measure the consortium’s performance.

The key performance indicators according to Interviewee PU6 include time, cost and risk management.

And Interviewee PU7 added that projects could be measured by the profits of the private sector, time savings and general public acceptance level.
5. **In general, what do you think are the critical success factors leading to successful PPP projects?**

Interviewee PU 1 suggested that there should be a champion in Hong Kong to lead the development of PPP projects. For example, in the United Kingdom and some states in Australia it has been the Treasurer or someone of high authority in the government who has taken on this role. As the public sector is often reluctant to change, without a champion there will be little development in PPP projects. He also added that PPP projects in Hong Kong ought to be above at least HK$300 million for it to worthwhile. Again other jurisdiction governments have also a similar guideline where projects that are too low in value should not be procured by PPP. Sometimes there are exceptions such as water projects, these although are low in project value are still procured by PPP as there is a large operating element involved, also the private sector’s expertise in these works are advantageous.

Interviewee PU2 described that there are three key ingredients for PPP projects to succeed: 1) Supervisory level should have the correct mindset for adopting PPP; 2) The organizational papers and contract are prepared correctly; and 3) The roles of each party need to be well defined with a partnership arrangement. Some other factors include: the procurement method must be a transparent process; the projects must be well defined and the objectives identified; and public consultations conducted to achieve social acceptance.

Interviewee PU3 mentioned that for a PPP project to succeed, the risk assessment must be conducted well. Risk has become a very popular topic for PPP research in recent years. Although there have been numerous successful PPP cases, there have also been those unsuccessful cases leading to the increasing interest to study this area.

Interviewee PU4 suggested that the critical success factor for PPP was the same as what he mentioned before for the suitability of PPP. Projects ought to involve a large operating element in order to fully benefit the advantages of private participation.

Interviewee PU5 named three critical success factors for PPP: 1) There must be development potential; 2) Ability to clearly specify requirements of the Government; and 3) Appropriate risk allocation which is dependent on the contract conditions. He also added that the key was to inform the general public what PPP actually was and how these facilities procured by PPP would be looked after. Apart from the risks, political problems are also important to consider. Political problems are often experienced in developing countries where the political environment is more unstable. In these places even guarantees from the government may not be enough to convince the private sector to participate.

Interviewee PU6 believes that PPP projects must be economically viable. The risk must also be manageable for the investor. Risk is often related to cost. Social factors are important to affect the success of a project hence the support from the general public is vital.
Interviewee PU7 described that both parties must share the same goal, there should be mutual benefits perceived, the arrangement must be fair, responsibilities should be clear, and also the mechanism must be easy to implement.

In addition Interviewee PU7 added that the process must be transparent enough for the general public to understand and accept.

6. Does your organization have any in-house guidance/practice notes?

As mentioned earlier in the interview the department of interviewee PU1 has several guidelines on PPP accessible from their website for public viewing. During the interview, interviewee PU1 also raised a few other areas of concern that should be considered for PPP projects. He mentioned that staffing is an issue particularly if there is an existing facility or service that is thinking of moving into the private sector. The main problem is that there is currently not a standard staff transfer mechanism or scheme. Therefore the lack of a standard mechanism discourages departments from considering a PPP proposal if the staff transfer arrangement is required. Also, traditionally departments do not need to handle the sole responsibility of a large project but using the PPP method they would have to; therefore it is understandable that departments are reluctant to change their normal practice of procurement.

In other countries that first started to adopt PPP, the financial drive has often been a large motivator. In Hong Kong Interviewee PU2 explained that PPPs are used to increase efficiency in projects rather than to draw private financing. He added there is too much respect given to minorities in the society and the media often report inaccurately.

Interviewee PU3 shared similar views as Interviewee PU2 on Hong Kong’s financial situation. He explained that there is no need for external capital finance so for the Government to bring in the private sector they must demonstrate that efficiency and productivity could lower the cost by approximately 30%. Reference materials that their department uses include Hong Kong governmental guidance notes on the design and build method, and also PPP guidelines published in Australia, Philippines and South Africa.

On the other hand Interviewee PU4 tended to refer to the Efficiency Unit’s PPP guidelines, the Environmental Protection Department practice and other international practices.

Interviewee PU5’s institute had produced several related publications including a PPP booklet and proceedings from a PPP conference organized their institute. He added that for the Western Kowloon Cultural District project the Hong Kong Government had been heavily criticized, as the public believed that the development right had been handed over to a single developer resulting in immense commercial benefits for them.

Interviewee PU6 shared some of the problems related to PPP projects. For existing facilities there are often problems due to staffing issues resulting in opposition from the
existing employees and unions, causing political and social problems. In the case of the Western Kowloon Cultural District project, the general public believes that it is an excuse for property development. Also the need for specific PPP legislation should be considered, especially for facilities that are receiving payment from the general public.

Interviewee PU7’s organization has not produced any in-house materials but he raised that there has been argumentation about whether the Western Kowloon Cultural District project resulted in too much profit for the private party. Several of the interviewees mentioned the problems arising from this case. Their common view is that the government has handled projects unwell resulting in huge benefits for the private sector. Therefore a correct balance of the benefits should be analyzed.

**CONCLUSIONS**

This paper has presented the findings of seven interviews conducted with past and present government officials with experience in PPP projects and research. It was found that the project itself was important in determining which procurement method should be adopted. A public sector comparator could also be used to determine the method most appropriate for the project. The procurement process of PPP projects tend to take a lot longer but there is the advantage of incorporating the private sector’s expertise. Projects that are suitable for the PPP method include those that have a high operating element and cost. Also suitable PPP projects are those that have a good economic case. The key performance indicators of a PPP project are mainly related to the cost, time and risk.

There are a number of critical success factors for PPP projects: there must be an appropriate risk allocation, adequate information to the general public, clear specifications defined, the project must not be too complicated, there must be a partnering spirit between the parties, and the project must have an economic case. Some of the interviewees felt that the Hong Kong government is more than capable to fund public work projects, but instead they would like to adopt PPP for the added advantages of bringing in the private sector such as increasing efficiency. Finally, the Hong Kong government should ensure that PPPs are not conducted for the private sector to make large profits.

A follow-up empirical questionnaire survey to solicit various opinions on the key issues regarding the application of PPP model from those project team members who had gained hands-on experience in participating in PPP projects had also been launched between October and December of 2007 in both Hong Kong and Mainland China. The major survey findings including the perceived benefits, potential obstacles, critical success factors, key risk factors and their treatment of adopting PPP models will be collated and disseminated towards the research community and construction industry through subsequent refereed publications in the form of journal articles and conference presentations.

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