Making PPPs Work in Developing Countries: Overcoming Common Challenges

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Abstract
Public private partnership (PPP) has emerged as a more acceptable and beneficial alternative to privatization. Furthermore, the special mind-sets and specific skill-sets needed for successful PPPs are now impacting on the development of construction industries the world over. While their benefits may seem apparent, and of great promise to developing countries in particular, PPP projects present major challenges which, if not adequately addressed, may undermine their very purpose and also lead to a distortion of public sector priorities when choosing which infrastructure to develop. The paper explores these challenges and the implications for developing countries. It also provides an overview of a framework for a Decision Support System (DSS) designed to address the shortfalls in reliable knowledge about when (under what conditions) and how (in what form) PPPs should be mobilised. The DSS framework is being developed as part of an ongoing R&D project that aims to help public procuring agents achieve ‘value for money’ in PPP projects by (1) assisting in ‘better value’ decisions on the ‘PPP-iability’ of proposed projects and (2) providing a means for the live capture, codification and quick transfer of experiential knowledge.

Keywords
Decision Support System, developing countries, Hong Kong; PPP, public private partnership

INTRODUCTION
Whether for developed economies eager to transfer some of the traditional risks in, or to bring commercial reality to public ownership of assets; or for developing economies constrained by funding shortfalls in the provision of much needed public services, PPPs have emerged as more viable alternatives to privatisation. While the concept itself is not new, recent developments in the use of PPPs by some industrialised countries, especially the US, UK and Australia, have demonstrated the benefits and viability of such schemes and greatly revolutionised the concept of public service delivery. However, the successful use of PPPs is by no means straightforward. The experiences of these developed economies have also identified major issues and challenges that confront PPPs and which lie at the heart of the value for money debate. For many developing economies, PPPs have opened a window of opportunity for delivering needed public services where previously there was none, but the full knowledge of the challenges of PPPs and of the means to
overcome them, will very well determine whether they become realities in these countries or remain mere rhetoric.

This paper presents work in progress, which aims to provide useful knowledge about the challenges (and means of combating them), when and how to mobilise PPPs, within a DSS framework to assist decision making by procuring agents in Hong Kong. Such a framework has been suggested in many studies [e.g. [Zhang and Kumaraswamy 2001] The initial information for the framework is obtained through an extensive and critical review of the literature on PPPs in both developed and developing economies. Despite the special focus on Hong Kong, the framework proposed in this paper is considered useful in comparable scenarios in other developing countries. The paper starts with a definition of construction PPPs. The role of PPPs and trends in their development and use are then discussed. Some major challenges of PPPs are explored. An overview of the proposed framework is then presented along with indications on the next steps in its development, followed by some concluding remarks.

CONSTRUCTION PPPs - A DEFINITION

PPPs exist in various shades and forms so that they almost defy formal definition. Any collaboration between the public and private sector tends to be called a public private partnership. Li and Akintoye [Li and Akintoye 2003] explore the contradictory definitions of PPP. While some conceive of PPP as anything on a continuum between outsourcing of public services and full privatisation, others see PPP as a successor to privatisation and yet some view it as a viable alternative to privatisation. Because of the all-inclusive nature of PPP as a concept, many researchers and practitioners either avoid defining it or instead provide some defining features of PPPs. Our conceptualisation of PPPs is that they refer to the whole spectrum of collaborative arrangements between public and private sector entities other than public sector ownership/ outsourcing and privatisation. This conceptualisation of PPPs is thus that which leads to genuine risk transfer to the private sector and creates a shared responsibility for service outcomes, but without the complete loss of control by the public sector entity. However, this conceptualisation is equally too broad (if not vague) and encompasses projects/ programmes outside of the realm of construction. We define construction broadly, and in line with Eaton et al.’s [Eaton et al. 2005], as involving the planning, construction, and/ or maintenance of fixed structures as they relate to earth, water, or civilisation and their processes, as well as all the professionals involved. This paper thus defines a construction PPP as a PPP that has a substantial ‘construction’ component.

ROLE OF PPPs IN SERVICE PROVISION

The principal reasons for the use of PPPs by most governments have been to (1) overcome financial constraints in the provision of much needed public infrastructure services and (2) harness the private sector’s efficiency and management expertise [HM Treasury 1993]. A project’s suitability as a PPP thus depends on its commercial viability (i.e. its ability to pay for itself) and the scope of public benefit it offers. Free-standing projects that demonstrate a positive social benefit are procured through the BOOT/ PFI route. Frequently, however, many of the projects that principals wish to pursue are not financially robust enough to be procured by total private finance. The principal, usually a government or government department, will thus need to intervene to mitigate the risks sufficiently to make the projects financially attractive to the private sector. Trends in the
development and use of PPPs can be broadly classified under two generations – first and second generation PPPs.

First generation PPPs have largely been pilot projects carefully selected to demonstrate the benefits of PPP as a procurement route. These have come with the necessary legislative changes, evolution of public sector study groups, task forces and steering groups. The projects taken forward have been free-standing in nature and with easily measurable performance outputs - typically power plants and transportation projects, including tunnels [Akintoye et al. 2005, Albouy and Bousba 1998, Duffield 2005, Zhang and Kumaraswamy 2001]. The main drivers for first generation PPPs have been limitations on traditional public funding of infrastructure services created by budget deficits or regulations on government borrowing (e.g. in EU countries). The off-balance sheet nature of these free-standing PPPs thus provided a way around these difficulties. In many of these situations, the notion of a Public Sector Comparator (PSC) was thus meaningless and/or the computation was not rigorous enough.

Second generation projects have involved the wider application of the PPP model and its extension to include education, healthcare, custodial, defence, courts and highway maintenance schemes. The operation/provision of the service is carried out by the public sector. The private sector is paid a performance-adjusted unitary service fee for creating and/or maintaining an asset. The private sector controls typically about 10-15% of the total investment in the service provision. Second generation PPPs are based on the verifiable VfM achievable and have largely involved a rigorous and complex computation of the PSC. These have led to much higher transaction and bidding costs and many private sector partners have argued that their limited scope of involvement, coupled with the high bidding costs, does not justify any significant investment in innovation and in extreme cases, their participation in the proposed schemes [Akintoye et al. 2005, Curnow et al. 2005].

**MAJOR ISSUES AND CHALLENGES OF PPPs**

PPPs present enormous challenges to the construction industries of developing economies. These challenges are explored in the context of the wider issues in construction industry development as outlined in Ofori [Ofori 1993, 1994, 2000]. There are concerns about the exclusion of local and small-scale construction firms as only a handful of multinationals dominate every aspect of a PPP project [Hunter and Kelly 2005]. The ‘big’ players, who are capable of financing their own construction budgets, drive the campaign on PPPs in a manner that may further strengthen entry barriers to the PPP project market [Akintoye et al. 2005]. The tendency for public agencies to bundle smaller projects into sizable chunks so they can be let through the PPP route, as in the ‘Building Schools for the Future’ projects in the UK [Steadman 2005], may further worsen the impact on local construction industries. Indeed, this contrasts sharply with trends in developing economies where projects are split into smaller packages/ lots so they can be let to small scale contractors [Kumaraswamy 1994]. There is also a potential risk of such a trend resulting in a distortion of public sector development priorities, as only projects capable of being let through the PPP framework will be taken forward [Hall 1998].

In many developing countries, the huge backlog of demand for, and increasing shortfalls in the supply of, public services is largely due to financial constraints and limits on government borrowing/ spending demanded by fiscal reforms. As a direct consequence of these fiscal constraints and the relatively weak or non-existent local capital markets, many PPPs in developing
countries involve huge foreign investment or concessionary loan finance, and tend to be restricted to free-standing (i.e. first generation) projects. These projects have typically included port facilities, power plants and highway schemes [Albouy and Bousba 1998, Harris 2003]. While presenting mixed opportunities for construction industry development [Ofori 1994], these conditions also limit the practical scope of application of PPPs in many developing countries. The high transaction and bidding costs are significant factors that stifle competition in, and create entry barriers into, the PPP market [Robinson et al. 2004, Tiffin and Hall 1998]. The special skill sets required for, and the steep learning curve involved in, construction PPPs have also been highlighted as hampering the development of a credible and sustainable market for PPPs and limiting the achievable VfM in such schemes [Akintoye et al. 2005, Duffield 2005, Robinson et al. 2004]. A classic outcome of such a situation is the ‘catch-22’ paradox where local construction firms in developing countries cannot win PPP contracts because they lack the necessary track record, while the only way they can obtain such a track record is by actually participating in PPP projects. For the public sector agencies involved, the use of PPP schemes could potentially lead to a lack or loss of asset knowledge and track record and thus greatly affecting the regulatory oversight of schemes.

In spite of these challenges, PPPs are thought to be particularly suitable for developing countries [Merna 2002]. S.O. Ogunlana in his paper presentation at a PPP conference in Hong Kong in February 2005 was succinct in his reference to PPP investments in developing countries as ‘gold digging in partially cleared minefields’ [Ogunlana 2005]. The best strategy then is that which extracts and delivers the gold while avoiding the mines. This involves addressing the major limitations and criticisms of PPPs. Albouy and Bousba [Albouy and Bousba 1998] suggest that transaction costs could be minimised by standardising documents where possible. However, the challenges faced in standardising documents are many given the highly variable scenarios encountered, and even more so in developing countries. Jechoutek and Lamech [Jechoutek and Lamech 1995] suggest that greater balance sheet support for subordinated debt and quasi-equity portions of the project financing plans for Independent Power Producers (IPPs) could ease the overall financing costs of projects and could be a transitional strategy for meeting the huge financing needs for IPPs in developing countries.

Some countries have started to address some of these recognised weaknesses of PPPs. In the UK for instance, the use of standard PFI contract documentation (SoPC version 3) is mandatory [HM Treasury 2004]. Under a 2003 Treasury initiative, the UK Government provided ‘credit guarantee finance’, designed to lower the base cost of senior debt, to the project company on a PPP health scheme [Steadman 2005]. Such interventions are necessary to make PPPs work in developing economies. In the next section of this paper, we present an overview of a DSS framework designed to address the steep learning curve and the lack and/ or loss of asset knowledge by public procuring agents. The DSS framework is being developed as one of the deliverables of an ongoing R & D project that aims to help public procuring agents in Hong Kong target ‘value for money’ in PPP projects by facilitating knowledge retention and transfer, shortening the learning curve and providing a framework for evaluating and selecting potential PPP schemes. Other issues addressed by the framework will also be outlined.

A DSS FRAMEWORK FOR CONSTRUCTION PPPs

This framework, presented in Figure 1 below, includes a well structured and dynamically developing experiential knowledge base of past cases, good practices, selection criteria and indicators. These primary indicators include sets of Essential Factors (EFs) and Fatal Factors (FFs),
in terms of empowering or ‘killing’ PPP approaches respectively. Some examples of EFs are fiscal and budgetary constraints, a stable economic environment, potential for improved services to the community, possibility of sound project cashflows, adequate legal and regulatory frameworks and governmental support [Curnow et al. 2005, Duffield 2005, Harris 2003, Li et al. 2005]. While the absence of any one EF can be fatal to the PPP prospects of an upcoming project, direct FFs will include political uncertainty, lack of a credible PPP market, concerns over transaction and bidding costs and the inability to clearly articulate what constitutes a successful PPP [Curnow et al. 2005, Harris 2003, Robinson et al. 2004].

This primary level assessment helps to screen out projects that fail to meet the essential requirements or will be subject to devastating consequences if carried though as PPPs. For example, if FFs are recognised upfront, PPP prospects can be discarded and alternatives sought as at the top right of Figure 1.
Fig. 1  FRAMEWORK OF PROPOSED DECISION SUPPORT SYSTEM

* includes Essential Factors (EFs) and Fatal Factors (FFs)
+ includes Common Drivers (CDs) and Common Barriers (CBs)
++ includes Value Enhancers (VEs) and Value Inhibitors (VIs)
# e.g. guidelines, checklists etc. incorporating CDs and VEs; and counter measures against CBs and VIs (e.g. in guarantees, comfort letters, and/or adjustment mechanisms)
For schemes meriting further consideration, sets of Common Drivers (CDs), Common Barriers (CBs), Value Enhancers (VEs) and Value Inhibitors (VIs), in terms of encouraging or hindering PPP approaches, and in boosting or diminishing the achievable overall value for money, establish the secondary criteria for assessment (see Figure 1). Strong political leadership, commitment by the public sector to seek value for money, the potential for a diversified workload and good returns for private participants and the potential for off-balance sheet funding, have been identified as essential drivers for PPP schemes [Duffield 2005, Robinson et al. 2004]. Clearly, the distinction between FFs and CBs is a matter of the severity of impact. FFs can be taken to be insurmountable while CBs are conceptualised here as lower-impact barriers that do not preclude the use of PPP schemes, but hinder their uptake. CBs include such factors as, the difficulty of achieving a proper allocation of risks or of demonstrating value for money and the lack of a track record (i.e. the catch-22 paradox) [Akintoye et al. 2005, Curnow et al. 2005, Duffield 2005, Robinson et al. 2004].

VEs and VIs form the opposite sides of the same coin. VEs include a good independent regulatory oversight of PPP schemes, flexible agreements with built-in adjustment mechanisms that also facilitate innovation, stakeholder support and ‘buy-in’, the use of relational contracting approaches, government guarantees, accurate determination of the performance-adjusted service fee, a good private consortium, and the ability to capture and transfer knowledge acquired from previous schemes [Boswell 2005, Grimsey and Lewis 2004, Kumaraswamy et al. 2005, Li et al. 2005, Robinson et al. 2004, Steadman 2005]. Inaccuracies in the assessment of the funding requirements or in defining the measurable level of service demanded, inadequacies in the briefing documents or client requirements and the inability to sustain competition, are thought to greatly inhibit the scope of value for money achievable on PPP schemes [Robinson et al. 2004, Tiffin and Hall 1998].

It is proposed to build up a library of standard PPP types with groupings of type-specific terms and conditions, protocols and lessons learned. The project profile of an upcoming project can be modelled, using standard templates provided, and compared against similar scenarios captured in the knowledge base, as in the left part of Figure 1, before proceeding to evaluate its PPP prospects. Standard toolkits will be developed; and based on the identified PPP type and project profile, these toolkits will suggest a set of incentivised CDs and VEs and a parallel set of countermeasures against CBs and VIs. These two sets of factors will: (a) assist with the assessment of a potential scheme for suitability under each of the standard PPP types; and also (b) help draw on lessons learned in addressing the challenges and improving VfM. Figure 1 indicates how the first level evaluation leads to a hierarchy of decisions, starting with a VfM check. If suitable for PPPs, the next stage guides a decision on the optimal type of PPP, with each decision stage drawing on relevant ‘knowledge’ from the dynamic knowledge base. The final PPP type chosen will be an adaptation of an existing type, or an entirely different project-specific type as shown in Figure 1. The final VfM check could lead to further fine-tuning.

CONCLUSION

PPPs can be very useful in the delivery of public services. It has taken the developed economies close to a decade to gain confidence in the wider application of PPPs across different sectors. Rather than re-invent the wheel of historical failures, developing economies need to leapfrog the barriers to successful implementation of PPP arrangements. This requires consolidating the widely dispersed and inadequately documented knowledge on PPPs in various countries into a codified knowledge base of good practices and lessons-learned to assist public sector decision-making. An overview of
such a framework has been presented. The use of this and similar frameworks will facilitate evaluation of, and optimal decision-making on, PPP projects and in real time (instead of in hindsight ‘after the event’) and so increase the likelihood of achieving value for money.

It is planned to next develop basic database structures and case examples of the ‘project profile’ and ‘past cases and good practices’ modules and then populate them with sample sets of the factors proposed above, i.e. EFs, FFs, CDs, CBs, VEs and VIs. A pilot model of the DSS will then be developed in order to demonstrate its envisaged functions and value to potential PPP initiators.

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