

Perspective of Public-Private Partnership (PPP) in Various Economies

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Abstract

With the growth of economies and population worldwide, there is an increased demand for the development in various sectors and the country's sustainable development. For the modern economies, with the objective to minimize the overall costs and to increase efficiency, such huge investments cannot be funded by the government alone but with the involvement of private sector as well. There has been a significant popularity in the construction industry regarding the implementation of Public-Private Partnership (PPP) scheme as it is based on a long-term partnership concession on the basis of mutual appreciations of risks, costs and opportunities. The PPPs with innovative modern technology in different forms are being implemented for infrastructure development in both the developed and developing nations with diverse results. There is a larger and growing number of PPP practitioners within the government and private sector focusing on 'lessons learned' for PPP implementation. Although the PPP model is being implemented over the past three decades, various countries are still working on developing solid PPP policies and legal frameworks to govern such contracts. This paper aims to conduct a review on PPP literature, critiques on the history and modern trends in various economies, covering different regions in Europe, Asia and Middle East.

Keywords

Public-Private Partnership, PPP, History of PPP, Project Statistics, Challenges for PPP, Success failure criteria

1 Introduction

Provision of public infrastructure is the prime responsibility of the government, however, due to budgetary pressure different government tend to involve private sector for public services by implementing the tool - Public Private Partnership (PPP). Different countries practice PPP in various sectors. Due to various factors, most of the countries could not utilize the benefits of PPP effectively and face different challenges to implement PPP and to execute the PPP projects successfully. This paper presents an analysis on the various stages of PPP implementation in various economies covering different regions in Europe (United Kingdom, Germany), Asia (China, India) and Middle East (Saudi Arabia, Qatar and Sultanate of Oman). In this paper, the above mentioned economies are selected for the analysis , because PPP has been successfully adopted and actively considered for the economic growth of these countries. Brief history of PPP in the above countries, Statistics of project and most success/failure factors are discussed.

2 PPP in Various Economies

2.1 United Kingdom

2.1.1 Brief History

PPP was introduced first in the UK in 1992 (Rodney & Gallimore, 2002), in the form of the Private Finance Initiative (PFI) as a way of procuring public infrastructure by getting the private sector to build, finance and operate infrastructure under typical contracts of 25 to 30 years (Tieman, 2003). PFI accounted between 10 - 14 per cent of the Britain's entire yearly investment in public services.

As per (HM Treasury, May 2019), the private sector is not paid by the public sector entity for the asset during construction. A monthly fee referred to as a 'unitary charge' (UC) will be paid to the private sector provider upon operation and commencement of services by the asset, the public sector entity. The payment is mainly subjected to performance and ensures an incentive to meet the private sector provider performance obligations and reinforce the transfer of risk to the private sector.

2.1.2 PPP Project Statistics

As per the information (HM Treasury, May 2019) on average 55 contracts were signed a year between 1997 and 2010. 84 contracts have been signed at an average of 9 a year, since May 2010. As on 31st March 2018 (HM Treasury, May 2019), there were 704 current PFI and PF2 projects. The total capital value of the current portfolio was £57 billion (nominal), compared to £59.1 billion as at 31st March 2017.

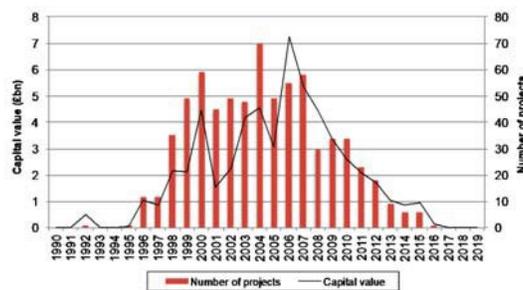


Figure 1 Portfolio of current PFI and PF2 projects - number and capital value by year of financial close (HM Treasury, May 2019)

Figure 1 shows the number of existing PFI and PF2 contracts that were signed (reached financial close) in each financial year and their capital values.

2.1.3 Challenges for PPP

A key criticism of the original PFI model was a lack of understanding and transparency of the financial returns earned by project company shareholders. To counter this, the government wanted the stakeholders under PF2 projects to provide their financial returns to HM Treasury. PFI projects involve long-term relationships, success can be achieved only if the public authority and the contractor approach the project in a spirit of partnership, with understanding of each other's business and a common vision of how best they can work together.

2.1.4 Success Failure Criteria

Governments believe that PPP/PFI procurement can provide a wide variety of net benefits for society, including: enhanced government capacity; innovation in delivering public services; reduction in the cost and time of project implementation; and transfer of major risk to the private sector, in order to secure value for money for taxpayers (Li, A, P. J., & C., 2015). Three Critical Success Factors (CSF)

– a strong private consortium, appropriate risk allocation and available financial market – emerge as being most important in the development of successful UK PPP/PFI projects (Li, A, P. J., & C., 2015).

2.2 China

2.2.1 Brief History

China has gone through three stages towards accepting the PPP model. The first stage was around the 1990s, which began with building power stations using the build-operate-transfer (BOT) model, and followed with investments in toll roads. The second stage began with the landmark issuance of an administrative rule in 2004 by the Ministry of Construction regarding the administration of concessions, as of which BOT, transfer-operate-transfer (TOT), build-own-operate (BOO) and other models became formally accepted. As the beginning of the third stage, the past several years witnessed a burst of growth of PPP in China. From 2013 onwards, the Chinese government started to promote PPP in more aspects of public product and public service fields.

The legislative framework of PPP mainly consists of relevant laws, regulations and regulatory documents. More than 90% of PPP projects were initiated by local governments in China (CPPPC, 2019) and these local Government and all the SOEs are liable to PPP policies.

2.2.2 PPP Project Statistics

A total of 4,815 projects have been managed, with an investment of ¥7.3 trillion by the end of 31 January 2019 (CPPPC, 2019). PPPs in China have grown at a drastic rate since 2014 under the promotion of the Ministry of Finance (Zhang, Ying Gao, Zhuo Feng, & Weizhuo Sun, 2015). Though before 2014, the number of PPPs in China was almost negligible, totalling 428 projects, the number almost got doubled every half year, reaching a total of 12,248 by the end of 2016. In 2017 when the central government issued several policies to control policy risk (see Figure 2) the sharp growth halted in mid-2017, After a six-month clampdown on illegal PPP operation, by early 2018, a total of 1,695 PPP projects, involving 1.8 trillion yuan (about US\$284 billion) of project finance, had been terminated (Chen, 2018).

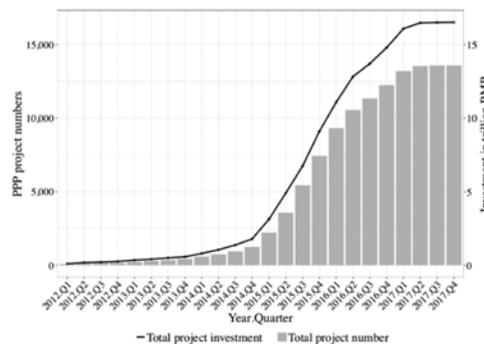


Figure 2 Accumulated PPP Projects, Number and Investment, 2012–17 [Data collected from the Ministry of Finance’s PPP database on September 26, 2017.]

2.2.3 Challenges for PPP

For a long period, there was no laws in the area of PPPs in China. China’s PPP plan was aggressive, but its implementation was poor (Petersen, 2010). Regulations, notices and orders played both positive and negative roles on the PPP market. Inadequate risk-sharing arrangements haunted the first generation of PPPs and resulted in large contract renegotiations. In 2002, the General Office of the State Council prohibited the practice of guaranteeing fixed returns for foreign companies at all levels of governments, forcing them to renegotiate many existing PPP contracts. As a consequence, the

participation of foreign companies in PPPs in China gradually faded away (Wang, Yongjian, & Jing, 2012).

2.2.4 Success Failure Criteria

The top five important CSFs are ‘reasonable risk allocation’, ‘government support and guarantee’, ‘picking up the good project’, ‘a strong project consortium’ and ‘project technical feasibility’. It is also found from the data that factors such as ‘multi-benefit objectives’, ‘good governance’, ‘well-organised public agency’, ‘technology transfer’ and ‘social support’ are least important for assisting to achieve BOT projects’ success in China. However, some of the CSFs tend to be of different significance to the private sector compared to the public sector (Yang, M. Nisar, & Prakash Prabhakar, 2017).

2.3 Germany

2.3.1 Brief History

In Germany the first wave of PPP projects started shortly after the beginning of the new century. One of the first PPP projects was a tunnel called Warnowtunnel near the city of Rostock in the northern part of Germany. Under the PPP guidelines established, a value for money (VFM) test involved a PPP-Public Sector Comparator (PSC) comparison and is required to be applied in three steps during the course of the project development.

- Selecting the right project for PPP treatment
- Assess possible VFM gains prior to tender, when the PPP-PSC is calculated in a range to present different risk scenarios.
- PPP-PSC is calculated with data from negotiations with the preferred bidder.

2.3.2 PPP Project Statistics

Almost 200 projects with a total investment of €8.1 billion have been realised in building and road construction since 2003 which led to a savings of 13.7% (Offentlich-Private Partnerschaften in Deutschland, 2013). While construction projects are focusing on the areas of education, health and government, in the road sector the A-models, which is a six lane expansion of highway (between 2009-2015) are in high demand.

As shown in Figure 3, development of the German market for PPP was very weak in 2013. Only 12 PPP construction projects with an investment volume of approximately € 305 million and one municipal road project with a volume of approximately €10 million had been awarded.

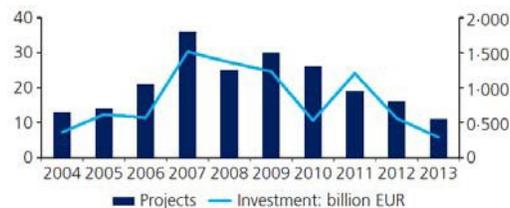


Figure 3 PPP in Germany until December 2013 (Jacob, 2014).

2.3.3 Challenges for PPP

Two critical challenges affecting the outcomes of the PPP are: (1) a participation deficit; and (2) a lack of integrity (Hüesker 2011; Moss and Hüesker 2010)

2.3.4 *Success Failure Criteria*

To create successful PPPs one has to reduce transaction costs and take into consideration the agency problem. The elucidations on transaction cost theory lead to the assumption that less specific PPP projects are “cheaper” with regard to transaction costs. Monitoring costs make up a considerable volume of overall transaction costs in PPP projects which can be reduced if the project partners cultivate a relationship based on open communication and trustworthiness.

As per the principal agent theory, PPPs can be turned to be successful when there is a general “fit” in the partnership. When the partnership lacks balance in expertise, this may lead to information asymmetries (Greer, Matthias Wismar, & Josep Figueras, 2016)

2.4 **India**

2.4.1 *Brief History*

During the First Five Year Plan (1951–1956), the government sought ‘community support’ for the construction of the irrigation canals. Thereafter in Seventh (1985–1990) and Ninth (1997–2002) Five Year Plans the government recognized the role of NGO’s/Voluntary Organizations for social development. In early 1990s, a new model of public service delivery was established, where the role of public and private sectors were redefined. There has been a remarkable growth of PPP projects in India during last one and half decades.

2.4.2 *PPP Project Statistics*

During the period H1 2019, according to the PPI database of the World Bank, India has the second highest number of PPP projects. As on 06th December 2019, there are 1,824 infrastructure projects implemented by the Government on PPP basis which is in tune of INR 2,495,539.920 Crore (USD 340 billion)

2.4.3 *Challenges for PPP*

Since the whole concept of PPP is quite new in the country, there is no PPP regulation in India. The entire process of creating a PPP arrangement is very long and ridden with a lot of formalities. Many projects lack diligent studies and technical research. Project plans are of poor quality and lack attention to details. This creates problems related to scope changes and variations during project execution (Kutumbale & Dr. Vidya Telang, 2014).

2.4.4 *Success Failure Criteria*

As PPP sector is new in India and the parameters used in structuring of PPP cannot be the same every time, it is difficult to standardize a PPP format. The stake of the Central and State governments, responsibility and risk sharing in the project are circumstantial and are likely to vary from one contract to another. One of the most discussed problems related to PPPs is the lack of transparency and a strong legal framework (Kutumbale & Dr. Vidya Telang, 2014).

2.5 **Saudi Arabia**

2.5.1 *Brief History*

The idea of partnerships with the private sector appeared in Saudi government’s official documents from the late 1970s. The Saudi Third Development Plan encouraged the establishment and operation of “joint venture partnership corporations” between state-owned enterprises in the petrochemical industries and private sector entities (Ministry of Economy and Planning [MEP], 1979, p. 224). The Fourth Development Plan did not limit these partnerships to a specific sector, but promoted “various

new partnership arrangements between the public and private sectors relating especially to maintenance and operations projects” (MEP, 1984, p. 70). The Seventh Development Plan used privatization and partnerships interchangeably (MEP, 1999, p. 134).

2.5.2 PPP Project Statistics

The first project to mark the starting of PPPs in Saudi Arabia was the Shuaibah Independent Water and Power Plant (IWPP). The majority of Saudi Arabia’s utility-related projects reached financial closure and was delivered on time. As there was lack of political resistance or restrictions on land allocations to the private sector, it has allowed significant involvement of the private sector in electricity and water generation.

The rising number of Muslim pilgrims arriving at the Hajj terminal at King Abdulaziz International Airport (KAIA) in Saudi Arabia, made PPPs for the delivery of airport infrastructure inevitable. Saudi Arabia’s second airport, Prince Mohammad bin Abdulaziz International Airport, was fully expanded under a PPP agreement after touching its maximum capacity of 4 million passengers a year in 2009 (IFC, 2012). In the utilities sector, the independent power producers (IPP) project by SEC is with the state-owned Aramco for cogeneration of future electricity needs (MEED Projects, 2015).

2.5.3 Challenges for PPP

High-profile projects are running years behind the schedule, with cost over-runs worth billions of U.S. dollars (“Saudi Arabia’s New Approach to Avoid Construction Overruns and Delays,” 2015). There is no proper framework for large-scale PPP projects in the Kingdom. Saudi Arabia always followed traditional procurement for large infrastructure projects. Public sector control is expected to be a critical feature of the developing PPP model in the Kingdom. As expected, international sponsors experience frustration with inflexible specification requirements and stringent oversight of construction, operational and testing issues.

International sponsors find it difficult to follow Shari’ah-compliant PPP structures. In sectors like airports traditional ‘procurement model is not appropriate instead innovative models will need to be developed and tested. All PPP projects in Saudi Arabia should be financed, constructed and operated pursuant to the principles of Saudi law which is difficult to follow for the sponsors, contractors and lenders who may not have prior experience with the Saudi judicial and legal framework (PPPs in SoudiArabia, 2016).

2.5.4 Success Failure Criteria

Lack of efficient risk management and mitigation mechanisms for projects has been considered as a critical failure factor by many researchers (Dubem I. Ikediashi, Stephen O, 2014). The following are the other most highly ranked factors identified for the causes of PPP project failures in Saudi Arabia, (1) Project management deficiencies, (2) Well defined legal framework, (3) Government interference, (4) Constraints imposed by stakeholders.

2.6 Qatar

2.6.1 Brief History

Qatar acknowledged the PPP phenomenon only recently. One of the long-term objectives of Qatar’s National Vision 2030 is to encourage PPP (GSDP, 2008).

For involving the private sector in public sector projects within a solid framework that imparts development benefits to the State, including knowledge and skill transfer, a committee led by the Ministry of Economy and Trade was created to encourage PPP. Five PPP projects were implemented, including the launch of a land allocation project for the private sector to develop and operate schools,

hospitals and tourist facilities. During the Qatar National Development Strategy (NDS-2 period (2018-2022)) a draft PPP law and strategy are expected to be issued.

2.6.2 PPP Project Statistics

PPP projects in Qatar had been exclusively focussed on IWPPs/IPPs. First IWPP project was the construction of the Al-Wusail IWPP. Ras Laffan was Qatar's first IWPP, followed by one IPP and another three IWPPs structured on 25-year BOOT contracts. A total of 6,500 MW of electricity, is generated in Qatar through PPP projects (Marakib, 2012). Kahrama engages in 25-year PWPAs with the IWPPs' project companies purchasing all of the generated water and electricity under the Qatar government's payment guarantee. No other PPP deals were signed until 2015.

2.6.3 Challenges for PPP

Qatar's Public Works Authority, Ashghal, is the key governmental entity in charge of infrastructure projects, which followed traditional EPC ("Public Works Authority," 2015). Unlike Kuwait and Saudi Arabia, where the private sector has financed and operated water treatment and sewage systems, Ashghal delivered these projects on an EPC basis due to the smaller size of Qatar, and abundance of financial support via state funding. Qatar did not make significant efforts to mobilize private finance for the infrastructure projects geared toward achieving Qatar's National Vision 2030, nor for projects needed for the 2022 FIFA World Cup as NDS-2011 promised.

Qatar did not consider PPP approach for mega infrastructure projects for a number of reasons. First, there was pressure on the government to deliver on-time infrastructure for the 2022 FIFA World Cup, and this did not go with the complexities and lengthy procedures normally needed for PPP contracts. Second, both the hesitance of international private sector companies to assume the projects' risks and the availability of sufficient funds during a period of peak prices for gas and oil prices meant that the government of Qatar was not ready to use PPPs to finance the works (Foreman, 2012).

2.6.4 Success Failure Criteria

In the NDS-2, the reference to maximising the PPP participation were emphasized to be one among the success factors.

2.7 Sultanate of Oman

2.7.1 Brief History

During the 1990s, the authorities in the region were looking for private sector to get involved and provide power at competitive rates. Five IPPs were launched in 2000 in Oman. With the low oil prices and extremely tight budgets, the Government of Oman was looking upon the PPP as a way to boost economic growth by implementing investment and diversification agenda for the country's ninth five-year plan for the period 2016-20, and its Vision 2040. In December 2015, the taskforce hired a consortium of consultants to advise on creating the PPP legal framework and expansion of PPP procurement.

In July 2019, Oman released the long-awaited Public Private Partnerships (PPP) Law (Decree No. 52/2019). which empowered the newly created Public Authority for Privatisation and Partnership (PAPP) to oversee PPP projects in Oman. However, a Royal Decree No. 110/2020 was issued on 18th August 2020 regarding the cancellation of the Public Authority for Privatization and Partnership and that it would now be part of the Ministry of Finance (ONA, 2020).

2.7.2 PPP Project Statistics

In Oman, the PAPP were examining as many as 38 projects for implementation via the PPP in various sectors (Prabhu, Oman weighs 38 projects for PPP based implementation, 2019). The government aimed to deliver priority public projects valued at around RO 2.5 billion through PPP and also played a key role in driving forward the PPP initiative. Other large PPP projects include Port Sultan Qaboos Waterfront, a \$1.3bn mixed-use development and Sultan Qaboos Medical City, a \$780m hospital complex. With a vision to build a world-class logistics city, Khazaen Economic City, the master developer of the largest public-private partnership (PPP) in Oman, had awarded the first construction package in tune of RO 9.2m.

In November 2019, the Asyad Group - which is an integrated transport and logistics flagship of the Omani government had invited private developers to invest and develop new complexes of its wholly-owned subsidiary. The Oman's sewage treatment agency under the flagship of Haya Water, were preparing to launch their first Public Private Partnership (PPP) project in 2020's.

2.7.3 Challenges for PPP

An extensive programme of training to ensure that Ministries who are not used to dealing with the private sector can properly manage these contracts as the PPP requires a different approach and cannot be taken in similar perspective to that of an Employer – Contractor relationship.

2.7.4 Success Failure Criteria

PPPs can offer a proper alternative to traditional procurement methods; but, a number of conditions must be met to create a successful PPP. These include environmental and project-related critical success factors such as availability and effectiveness of proper and regulatory framework for PPP; availability of financial market (local and international); political support and stability; proper risk allocation and sharing among the project stakeholders; and finally, clear project brief and client outcomes.

3 Conclusion

The paper analysed the implementation of PPP in countries like United Kingdom, Germany, China, India, Saudi Arabia, Qatar and Sultanate of Oman where PPP is considered as a major alternative for the economic development. The development stages of PPP have been studied and detailed statistics, challenges and Success failure Criteria of PPP Projects in all the above countries have been documented and Tabulated as shown in Table 1. Project case studies from the above countries reveals that despite of the significant potential of PPP, initial expectations on the size and pace of project development have not been met in many cases.

All the countries face certain challenges for the successful completion of the PPP projects. Though there exist different laws and authorities to ensure the smooth functioning of PPP, these authorities are in turn controlled and managed by the existing government bodies, which makes different stages of the PPP projects tedious. The sharing of the underlying risk of the projects are not properly defined, analysed and shared between the participating public and private parties. All PPP projects should undergo diligent studies and thorough technical research before implementation. To conclude, every country should have a separate body which can control the PPP projects independently and the whole process, concept to realization, should be simple and transparent. Latest technologies and innovative systems in construction management should be adopted in all stages of PPP implementation. Moreover, an independent project management consultancy should be appointed to ensure the smooth functioning and successful completion of the PPP projects.

Table 1. Challenges and SFC of PPP in Various Economies

Countries	Challenges	Success failure Criteria
United Kingdom	Lack of understanding and transparency of the financial returns earned by project shareholders. Long term partnership between the stakeholders.	A strong private consortium, Appropriate risk allocation and available financial market
China	No laws in the area of PPP, Inadequate risk-sharing arrangements	Reasonable risk allocation, government support and guarantee, picking up the good project, a strong project consortium and project technical feasibility.
Germany	Participation deficit, Lack of integrity	Reduction in transaction Cost, Lacks balance in expertise in partnership
India	External Factors, No proper Legal and Regulatory framework, Financial Issues, Contractual Frameworks	PPP regulation, Lack of transparency, Control of scope changes and variation.
Saudi Arabia	No proper framework, inflexible specification requirements, Shari'ah-compliant PPP system, judicial and legal framework	Project management deficiencies, Well defined legal framework, Government interference, Constraints imposed by stakeholders, Risk Allocation and Management
Qatar	Complex and lengthy procedures, Increased risks and the unavailability of sufficient funds	The reference in NDS-2, to maximising the PPP participation
Sultanate of Oman	Difficulty in undersating of PPP, Legal Framework, In different Approach from different ministries	Proper regulatory framework, Availability of financial market, Political support and stability, Proper risk allocation and clear project brief.

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