

# **Role of Managers in Development, Public Private Partnership Projects, PPPs, ...perceived benefits and challenges... an empirical assessment.**

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## **Abstract**

**Purpose:** For developing countries the lack of access to primary public goods remains a key issue which needs to be addressed urgently. PPP, Public Private Partnership, is a vehicle to providing such services by Government in partnership with private sector. With the objective to assess the extent of awareness of practicing managers in India to the benefits of PPP and perceived challenges associated with PPP, an empirical research was undertaken. This paper describes this research.

**Design, Methodology:** To achieve the objective, the empirical research used a survey questionnaire relating to Benefits of PPPs to Public and Private sector as well as challenges. The sampling Frame comprised practicing managers in the age-group 25-45 years.

**Findings:** The research concludes that among the benefits achievable to public sector, the most predominant is Efficiency and equitable risk sharing. To Private sector, the most predominant is Sharing Risk and Investment. Among the significant challenges are Possibility of Delay followed by inefficient restrictions and policies.

**Research Limitations:** The sample size obtained was small which constituted a limitation.

**Practical Implications:** The research concludes the biggest challenge possibility of delay followed by inefficient restrictions and policies.

**Social Implications:** When countries encounter rising demand for public serves, PPPs come in to play a crucial role in improving efficiencies in delivering these services. So if the obstacles to PPPs are overcome, like delays and inefficiencies perceived in PPPs, the communities and societies would benefit immensely.

**Originality/Value:** This research is original in approach and objective because no such study is available to bring out empirically, the perceived benefits and obstacles to PPPs.

**Key words:** Public Private Partnerships, PPP, Government sector, Private sector.

## 1. Introduction.

PPP, Public Private Partnership, is a mode of providing public services by Government in partnership with private sector, with the objective to provide societal benefits for communities and for the country.

In any country, the public sector (also called the state sector) is the part of the economy comprising both public services, including public goods and governmental services, and public enterprises, which are self financing commercial enterprises that are under public ownership.

Public services include services such as the military, police, infrastructure, which include public roads, bridges, tunnels, water supply, sewers, electrical grids, telecommunications, etc., and also public transit, public education, along with health care. The public sector might provide services that a non-payer cannot be excluded from (such as street lighting), services which benefit all of society rather than just the individual who uses the service. Public enterprises, or state-owned enterprises, are self-financing commercial enterprises that are under public ownership which provide various private goods and services for sale and usually operate on a commercial basis.

([https://en.wikipedia.org/wiki/Public\\_sector](https://en.wikipedia.org/wiki/Public_sector)).

<https://www.indianeconomy.net/splclassroom/what-are-the-different-models-for-public-private-partnership-ppp-in-infrastructure/>)

Organizations that are not part of the public sector are either a part of the private sector or voluntary sector. The private sector is composed of the business sector, which is intended to earn a profit for the owners of the enterprise. The voluntary, civic or social sector concerns a diverse array of non-profit organizations emphasizing civil society.

In view of the lack of harnessing the full opportunities in public service projects, over the last few decades, private sector has been invited and involved in delivering public sector projects. Sometimes their role has been as a partner and sometimes as a contractor for the government. These projects where private sector comes in in whichever format, to deliver public projects, are now referred to as Public Private Partnership projects or PPPs.

For developing countries the lack of access to primary public goods remains a key issue which needs to be addressed urgently. Based on statistics, 2.5 billion people lack access to sanitation services, 1.6 billion live without electricity, 1 billion

people lack access to roads, and 900 million people drink unsafe water. In the next 25 years, another 2 billion people will be born, 97% of which come from developing countries, needing water, electricity and transport services (AIM working paper, 2013, Public Private Infrastructure Advisory Facility). In the Asian context, In response to rising demand for infrastructure development and limited public budget, there is a need for private sector in financing, managing, and developing public infrastructure projects through Public-Private Partnerships (PPPs).(Vera, et al, 2013)

A key rationale for creating PPPs is the recognition that many challenges do not fall neatly into either the public, civil or private sectors; instead, they require joint efforts from all sectors. For example, efforts to promote economic development are more likely to succeed, when they include both the public and private sectors, since the latter is usually the major source of employment and economic activity. Similarly, the private sector is a major provider of health services in many countries – accounting for about 50% of healthcare in many African countries for instance – so can contribute significantly to public efforts to improve service delivery and health outcome. (Wang, et al, 2017).

Governments in different have long acknowledged the key role infrastructure plays in economic growth and poverty reduction. When countries encounter rising demand for infrastructure, Public-Private Partnerships (PPPs) come in to play a crucial role in improving efficiencies in delivering public services, one of the key elements to narrowing the infrastructure gap. Also history has shown that shifting the development, maintenance, and operational risk related to projects, especially for infrastructure, on to the private sector often results in higher quality and overall better results than government provisioning. (<https://pppknowledgelab.org/countries/india>).

Traditionally, through its intervention, government has taken a leading role in the allocation of investment, controlling the growth and development of the economy and producing certain goods and services at its for the communities to operate and also for export. However, it has been argued that some of the governmental products and services could have been more efficiently and professionally produced if better managerial practices could be brought in. ( Krueger, 1990). (Wang, et al, 2017).

A country's endeavors to eradicate poverty, enhance public health and education – were traditionally considered as government responsibilities. Such initiatives have not worked very well in situations where only government was present. However, whenever there has been collaborative efforts between the public, private and civil sectors to address major societal challenges, much better progress has been

delivered. Working together, bringing differing approaches and expertise, the three sectors have often able to accomplish far more than any can do alone.

## **Literature Review**

Krueger (1990) believes there are three main reasons why government intervention has not been as effective as expected.

(a) One reason is prohibitive public administrative difficulties in governments of many developing countries. They are unable to carry out efficient performance because of lack of trained personnel, a shortage of capital and out-of-date technology.

(b) People who make the key decisions are sometimes not professionally trained for the job. Many of the policies are made by neither economists nor technocrats, but politicians, who with the concern regarding their political careers, did have to seek political support and take political pressures. Their decisions could be highly influenced by various interest groups and political authorities and therefore often many of the public policies are the product of compromise between politics and effectiveness.

(c) Many of the people in the public sector are driven not by welfare for the masses but by serving their self-interests. They might try to maximize their personal gains or to increase the interests of the group they belong to by compromising the public interest. (Krueger, 1990).

Ismail, S. (2014) says that the fundamental justifications for adopting PPP is to significantly reduce the upfront costs for the government in providing and maintaining public facilities. Also PPPs bring about improvement in the public facilities and services in encouraging innovation by the private sector (Heald and Geaghan, 1997; Gaffney, Pollock and Shaoul, 1999; Glaister, 1999). In her research on Malaysian PPPs she identifies factors that attract the private and public sectors to participate in PPP as perceived by these two sectors. Also her study investigates the differences between the public and private sectors in terms of their perception on the importance of the factors.

## **Benefits to Public Sector.**

A PPP option is seen as an innovative way of financing infrastructure projects. In a PPP financing scheme, projects are financed using a mix of debt and equity instruments, called capital structure, regardless of who provides the funding. Depending on the project and project's sources of funding, stage of development, access to financial markets, and project sponsors' own corporate finance strategy, the optimum level of debt and equity for the financing is determined.

Efficiency gains constitute another key motivation in pursuing a PPP project as the arrangement enables the private sector to manage the aspects of the project where the government has weak record (IOB Study 2013). In cases where the construction and operation of an asset are both delegated to the private sector (as in the case of BOT and its variants), the public sector can also take advantage of advanced management skills and innovative practices of the former (Checherita 2009).

Another important condition for a PPP option to be a more efficient and cost-effective alternative in the government's provision of social services is adequate risk transfer from the government to the private sector.

### **Benefit to Private sector.**

PPPs can also help private sector companies in many significant ways. For instance it helps to improve their access to raw materials. STCP, initiated by the cocoa industry in partnership with USAID, was a private-sector response to concerns about the stability of cocoa harvests in West Africa. By working with local producers, STCP has helped improve the reliability of cocoa supplies, increase yields and introduce new quality standards. In turn, this has had a broader positive impact on economic development in the region by helping to raise the incomes of growers, and strengthen local infrastructure.

New demand for goods and services: PPPs can help create new markets or expand existing ones, especially in areas where public and private sector partners have a joint interest in increasing the use of certain products. For example, NetMark, is a public-private partnership to prevent malaria by building sustainable markets for in a number of Africa countries. It works with public sector partners to create favorable market conditions, such as by setting quality standards, removing trade barriers and lowering customs duties. It also helps build private demand through consumer research-based education and promotion campaigns. In order to ensure universal access, it supports private sector companies to set up the distribution infrastructure to reach consumers through retail channels, while also providing free or subsidized nets to consumers who could not otherwise afford them. This market segmentation ensures that NetMark-funded nets are targeted at the neediest populations, while those who can afford to pay benefit from convenient access through local retailers. Manufacturers such as Tana Netting say NetMark has been critical in helping them build successful, sustainable markets and that this would not have been possible without public sector support and co-investment. In short, NetMark is successfully contributing to the fight against malaria by creating suitable conditions for private companies to do business.

There are a number of cases of PPPs launching joint marketing and advocacy campaigns to increase product demand. For example, may companies run marketing campaigns to encourage the use of soap and improve hygiene standards in developing countries? This not only contributes to public sector efforts to improve health outcomes, it also helps generate long-term growth in consumer demand for soap, which can bolster the sales of private sector partners. Equally, GAIN dedicates around a third of its national fortification grants for social marketing campaigns explaining the benefits of fortified products. Again, this supports public sector efforts to improve nutrition while also creating demand for new fortified products from private sector food companies as well as vitamin and mineral manufacturers and blenders.

PPPs can also help companies build brand trust and name recognition. Some pharmaceutical companies note that by donating products, they raise their profile among recipients who see the brand name and who may then favor the company's other products as paying customers.

More broadly, by engaging in PPPs, companies contribute to building stable, healthy and prosperous societies, which, in an increasingly globalized world, may represent long-term potential markets, wherever they are in the world. As USAID observes, "international development is everybody's business" because as "incomes, education, and longevity rise in the developing world...the people at the origin of their supply chains may soon become significant consumers of their products."

Also for companies PPPs help sharing risk and investment: Some opportunities are simply too risky, or the required investment is too high, for individual companies to undertake alone. PPPs enable companies, NGOs and government agencies to pool resources and share risks, reducing uncertainty and making the expected return on investment more attractive. The private sector also benefits from the public sector's legal and policymaking powers that minimize the investment's inherent risks. Through such initiatives, drug manufacturers, philanthropists and public sector organizations such as UNICEF jointly invest in the development and introduction of new vaccines in impoverished countries.

According to Li et al.( 2005) some important key success factors, a strong private consortium, efficient risk allocation, availability of financial market, commitment and responsibility of both public and private sectors, realistic and thorough cost/benefit assessment, technical feasibility, a well-organized public agency, and good governance.

Also these are classified into five principle factor groupings: effective procurement, project implementation capability, government guarantee, favorable economic conditions, and available financial market.

Also Qiao et al (2001) there are eight independent key success factors for PPP which include identification of project particulars, identify political and economic environment, acceptable and attractive financial package, acceptable and attractive toll and tariff levels, and proper risk allocation, selection of suitable subcontractors, management control, and technology transfer.

Instead of identifying success factors, Zhang (2005) identified six categories of barriers for PPP projects. These comprise (a) social, political, and legal risks; (b) economic and commercial environment which may be unfavorable (c) inefficient public procurement systems (d) absence of mature financing engineering techniques, (e) inexperienced government systems and lack of understanding of PPPs) and (e) private sector related barriers such as investment banks still preferring traditional procurement procedures. Akintoye, et al. (2003) also identify similar barriers as carried out by the World Bank.

### **Why urgency in setting up PPPs.**

In India and in today's world in general, the private sector contribution to a PPP program has increased significantly and there is an urgent need to address the deterrents to setting up PPPs. (Azrack, Joseph, 2015). Although the PPP concept is still evolving and has many issues that still need to be addressed, major issues of a PPP relate to the willingness and capability of both parties, public and private sector, legal and institutional arrangements, and financial as well as administrative procedures. In short, there is an urgent need for PPP units to be designed in order to address difficulties faced by government. (Azrack, 2015).

### **Risks associated with PPPs**

Ward, Chapman and Curtis(1991) indicate the following risks associated with PPPs:

\*Political Risks relating to reliability and creditworthiness of the government, possible Change in law and government policies, Political opposition, Corruption, Delay in approvals etc.

\*Financial Risks relating to unfavorable economy in the host country, restrictions in Rate of return, Lack of credit worthiness, Inability to service debt, possibility of Bankruptcy, Complex financial structure of PPP projects, Lack of guarantees, Financing risks, lack of loan processing, Fluctuation of the inflation rate, interest rate, foreign currency exchange rate and also Unfavorable international economy

\*Construction Risks such as Land acquisition and compensation, Construction cost overrun, Construction time delay, problems in Material/labor availability, proper Project site conditions, Contractor's failure etc.

\*Operation and Maintenance Risks, such as Operation and maintenance cost overrun, Operator's incompetence and low operating productivity, risk in availability of material.

\*Market and Revenue Risks such as insufficient revenue, Government restriction of profit and tariff, inaccurate pricing and demand estimate, Decrease of demand, risk of competition,

\*Legal and related Risks, Prejudiced and unfair process of awarding the project, Host-country's interference in choosing subcontractors, Overprotective control/supervision by the host government, Disapproval of guarantees by the government, Change of host-country's fiscal regime, Change of host-country's consideration of the project's scope, Non-cooperation between public agencies, Actions or omissions of the public authorities that prevent the project to be completed, Unsteady legal and regulatory framework, Poor legislation, Non-enforcement of legislation, Lack of a stable project agreement, Vague and inconsistent clauses and specifications and inaccurate phasing, Non-accordance between all contracts in the BOT framework, Language barrier for the contract, Breach of contract provisions, Revision of the contract clauses, Unanticipated change of the concessionaire scheme, Lack of confidentiality and trust in the concession company, Risks of early termination,

### **Categorizing PPPs.**

PPP's have been categorized by different authors using different systems and different contexts/ assumptions. For instance Mckinsey (Public-Private Partnerships Harnessing the private sector's unique ability to enhance social impact. Mckinsey, 2009), categorizes PPPs in four classes:

#### **(I) Mckinsey Categorization**

\***Coordination PPPs** :These PPP projects seek to coordinate and streamline policies, objectives, messages and relevant activities among a group of partners. An effective coordination partnership helps to integrate what stakeholders are seeking to achieve and what they need to do to get the job done. It also works to minimize duplication. Such collaborations enable partners to ensure that their different activities complement each other in building towards a common objective.

\***Funding PPPs**:These PPP projects try and consolidate financing for a specific issue in a single organization. Effective funding PPPs ensure resources are allocated effectively and strategically and prevent duplication of spending. They also work to bring in new resources by recruiting more partners to contribute funds or specific capabilities. Like coordination PPPs, funding PPPs are often high-profile advocates for their cause.



**\*Product development PPPs:** These are often called PDPs which bring multiple stakeholders together to develop products or processes that no one partner could develop alone. For instance, the public sector may understand a given need but be unequipped to meet it, while a private company with the technical know-how to develop products for that need may have no understanding of the market or community where the need is most acute. By pooling investment, sharing risk and combining knowledge and expertise, PDPs enable successful research and development activities. PDPs are also often extremely effective at fund-raising to support their programs.

**\*Delivery PPPs:** Such PPPs combine the on-the-ground capabilities of different partners to deliver products or services, often in remote locations. Successful delivery often requires a combination of logistical capabilities, infrastructure, local networks, and project management expertise that no single organization possesses alone. (Public-Private Partnerships Harnessing the private sector's unique ability to enhance social impact. McKinsey, 2009).

(II) ADB categorization : According to Asian Development Bank, ADB, (2008) and Farquharson et al (2011), PPP projects can be categorized based on scheme.

**\* Build-Operate-Transfer (BOT):** Here the responsibility of constructing and operating a new facility is delegated to the private project company during the contract period after which, the facility will be transferred to the government. Ownership of the facility may or may not remain with the government during the contract period.

**\* Build-Transfer-Operate (BTO):** In this case, construction risk is delegated to the private sector partner after which the ownership of the new facility is transferred to the government. The government in turn allows the private sector partner to operate the facility within the contract period to allow the latter to recover costs incurred in constructing the project and earn profits.

**\* Build-Lease-Transfer (BLT):** This scheme is similar to BTO except that the government leases the facility to the private partner during the rest of the contract period. - **Build-Own-Operate (BOO):** The project company is largely responsible for the construction and operation of the new facility. As opposed to BOT projects, the project company owns the facility during the cooperation period. Revenue guarantees are usually provided by governments for projects of this type.

**\* Rehabilitate-Operate-Transfer (ROT):** The project company is responsible for the rehabilitation and operation of an existing facility within the duration of the contract period.

\* **Rehabilitate-Lease or Rent-Transfer (RLT).** The private sector partner leases the facility from the government. In this case, the private partner is largely responsible for the rehabilitation and operation of an existing facility within the duration of the contract period.

\* **Build-Rehabilitate-Operate-Transfer (BROT):** This scheme is largely similar to ROT, except that the private project company is also responsible for construction of add-on facilities to the existing project. (ADB, 2008).

Whichever classification is adopted, a well-structured PPP project provides a number of benefits, including risk diversification, risk mitigation, and innovative project financing, among others. The drivers for setting up PPP projects are many, as mentioned earlier too, both from the government side and from the private sector side. A few of the drivers, from government perspective are:

## **Benefits and challenges**

### **4.1 How the Public sector benefits from PPPS**

#### **1. Equitable risk sharing.**

a. Achieving substantial risk transfer.

#### **2. Cost savings and value for money.**

a. Cost savings \*

b. Value for money; and

c. Cost certainty.

#### **3. Enhanced asset quality and service levels.**

a. Time savings;

b. Time certainty;

c. Innovations in public services; and

d. Better maintenance of assets.

#### **4. Reduced public financing.**

a. Reduced public funding.

## **5. Catalyst for the economy.**

- a. Encouraging cooperation and
- b. Enhancing social development and business opportunities.

\*Cost savings refer to the reduction in price as a result of delivering a project by PPP instead of traditional methods. The savings could be a result of the private sector's innovation and efficiency which the public sector may not achieve.

(Corbett and Smith, 2006; Environment, Transport and Works Bureau 2004; Grimsey and Lewis 2004; Akintoye et al. 2003; Li et al. 2005; Li 2003; Efficiency Unit 2008; European Commission 2003; United Nations Economic Commission for Europe, UNECE, 2004)

### **4.2 How the Private Sector Benefits from PPPS**

**To the private sector participants, PPP provides access to public sector markets.** If priced accurately and costs managed effectively, the projects can provide reasonable profits and investment returns on a long-term basis. Also, these projects tend to be large and therefore expertise from many areas is required.

Business opportunities are also created, due to the large scope of works that can benefit different sectors \_So et al. 2007; Li 2003; Efficiency Unit 2003; United Nations Economic Commission for Europe 2004; British Columbia 1999\_.

Specifically, Private sector can benefit from engaging with PPPs in many major ways, which we have categorized in the form of constructs:

#### **\* A better public image**

- Grow trust in company
- Build public relations
- Strengthen market position

#### **\*Bolstering knowledge and market understanding**

- Access public know-how, experience and networks 2
- Exchange with competitors

#### **A happier workforce**

- Increase employee satisfaction
- Attract talent

## **Greater productivity and access to resources**

- Increase workforce productivity 4
- Access raw materials

### **\*New demand for goods and service**

- Market to existing markets 5
- Access and build new markets

### **\*Sharing risk and investment**

- Make joint investments
- Reduce individual risk

<http://mckinseysociety.com/public-private-partnerships-harnessing-the-private-sectors-unique-ability-to-enhance-social-impact/>.

(Ismail et al. 2014)

## **4.3 Perceived Challenges related to PPPs.**

Though there are many advantages in taking up PPPs, many challenges exist which discourage mainly private sector to go for them. It is perceived that PPP projects often get either held up or terminated due to wide gaps in expectations between public and private sector, lack of clear objectives and commitment on the part of government, complexity in decision making, inadequate legal/regulatory frameworks, lack of proper risk management; lack of credibility in government policies, inadequacy in domestic capital markets, difficulty to attract long-term finance from private sources at affordable rates; lack of transparency; and lack of competition.

### **Among the challenges, there is a fear of:**

**(a) Unreliability of completion of the PPP project.** This could be because:

Public Sector may reduce the project accountability  
High risk of relying too much on public sector

**(b) Inefficient restrictions and policies,** relating to

Lack of technical experience and appropriate skills  
Confusion over government objectives and evaluation criteria  
Excessive restrictions on participation  
Lack of government guidelines and procedures on PPP

### **(c) Possibility of Delay**

It has been observed that very few schemes have actually reached the contract stage (aborted before contract)

There are lengthy delays because of political debate

A great deal of management time is spent in contract transaction

There is lengthy delays in negotiation

### **(d) High cost associated with PPPs**

There is higher charge to direct users

There are less employment positions

High participation costs

High project costs

## **5. Best Practices on PPPs.**

Literature also refers to many best practices regarding PPPs. Krueger, (1990) discusses nine best practices to help maximize the value of private sector engagement and PPP impact. These emerged out of an interviewing process. Some of these practices are:

*Partnering with a purpose:* Trying to contribute more value than what money can bring. Money is important anyway but in the long run money is least important contribution which private sector can make. It is a sign of commitment but it is the other contributions of expertise and knowledge transfer which are ultimately much more valuable.

*Reduce transaction costs:* The transaction costs inherent in PPPs can discourage certain partners – actual and potential – especially those in the private sector. Slow or time-intensive processes can be off-putting to busy executives and can dissuade new members from joining. Many business people also have a hard time adjusting to the public sector instinct for extensive consensus building, believing it gets in the way of the private sector’s focus on “getting things done”.

*Govern for the partnership to succeed:* Cherish the difference, Almost all interviewees acknowledged the difficulty of overcoming the culture gap that divides the public, civil and private sectors. The differences in beliefs and working styles can create suspicion, mistrust and even hostility; significantly reducing the effectiveness of a PPP.

The most effective PPPs, however, handle differences to their advantage. They recognize that differing practices and perspectives are a significant part of the value that different partners bring to a PPP, and that this helps to improve a partnership's deliberations, strategies and implementation plans. Therefore, they seek to ensure that partners do not compromise their basic beliefs just because they are working with different cultures, while also maintaining the necessary flexibility to bridge the cultural divide. A number of interviewees insisted, for example, that it is critical for private sector members to maintain the same emphasis on performance that they bring to their own businesses.

Help everybody win, Share the love, helping new partners to the strategizing of PPPs. Accepting that Evolution will happen and will be essential

(Krueger, Anne O. (1990). "Government Failure in Development," *Journal of Economic Perspectives* 4, no.3 (summer 1990):9-23. Wang <https://www.caixinglobal.com/2017-09-07/critics-see-gaping-holes-in-chinas-public-private-partnership-rules-101142069.html>)

## **6. PPPs in India**

Public Private Partnership is the most recent addition in the world of economic development and growth across the country, (Gaurav singh and Khan, M.S. 2015). There are many areas where Public Private Partnerships operate in. Some of them are infrastructure, health sector, education, women empowerment, vocational education etc. Among them, the development of physical infrastructure has today become one of the top priorities of the government. Therefore, the Public Private Partnership has become suitable answer to represent a logical, viable and necessary option for the Government.

The Government of India defines PPPs as, "A partnership between a public sector entity and a private sector entity (a legal entity in which 51% or more of equity is with the private partner/s) for the creation and/or management of infrastructure for public purpose for a specified period of time (concession period) on commercial terms and in which the private partner has been procured through a transparent and open procurement system" (Department of Economic Affairs, Ministry of Finance, Government of India, 2007).

In terms of numbers of PPP projects considered, China, India and the Philippines represent those that have the most number of projects in the list. The relatively high rate of success of implementing PPPs in these three countries, is perhaps a function of how the transaction was structured, the involved government agencies, projects sponsors, financing, government support, tariff formulas among others.

India has had many successful projects some of which were really costly in the sense the total cost exceeds \$1 billion- the construction of the Dahej Liquefied Natural Gas (LNG) Terminal with a capacity of 10 million metric tons per annum and the establishment of a mass rapid transit system in the high traffic density corridors of the city of Hyderabad (UN-Energy 2011; Department of Economic Affairs 2010).

Of the total number of PPP projects in these Asian countries, there has been a preference is toward the BuildOperate-Transfer (BOT) scheme. India, which has the most number of projects in the list, has about 76% of all its projects under the BOT scheme with most of it (or total of 10 projects) in the transportation sector. (Vera, et al. 2013)

Many of the PPPs in the Asian region are majority-owned by private companies. However, India has been conservative in terms of private ownership of energy projects as seen in the case of the Powerlinks Project—the first PPP in the transmission sector of India—where the Tata Power Company holds 51% while the Government of India retains 49% ownership of the transmission service (World Bank 2010). Another project in India, the Dahej LNG Terminal Project, on the other hand has 50% government ownership (UN-Energy 2011).

PPP projects have become a growing component of private investment in India's infrastructure sector, which has been found to grow at a rapid pace over the last decade. Mostly there have been PPP projects in the Road & bridges, Ports, Airport, Railways and power sectors with little PPP participation on education, health care and supply of clean drinking water projects. (Ray, 2014).This constitutes the major challenge for policy-makers who would have to find innovative ways of promoting PPP projects in social sectors and facilitating the entry of global players into the Indian PPP market. ( Mckinsey, 2009).

## **7. Empirical Research**

Based on the driving forces to take up PPP initiatives on the part of (a) public sector and (b) for private sector, as well as (c) perceived challenges to private sector, a research was undertaken to assess the extent of agreement of corporate managers to these driving forces and benefits to both public and private sector using a survey method as research instrument.

The survey questionnaire would seek agreement of practicing managers on the items which relate to the variables proposed for the research.

The details of the variables categorized for Benefits to Public sector followed by Benefits to Private Sector, are given as follows.

The expected benefits to the Public sector have been categorized into four constructs comprising the individual items from the questionnaire :

## **7.1 Benefits to the Public Sector categorized into Constructs.**

The constructs and the variables associated with them are given as follows:

### **Construct: Efficiency and Equitable risk sharing.**

PPP helps Public sector in equitable risk sharing such as Achieving substantial risk transfer

PPP helps Public sector in bringing efficiency and professionalism in government projects?

### **Construct: Cost savings, cost certainty and value for money.**

PPP helps Public sector in Cost savings

PPP helps Public sector in achieving Value for money

PPP helps Public sector in achieving Cost certainty (Cost certainty - Probability of completing a project within budget)

PPP helps Public sector in achieving reduced public funding

### **Construct: Enhanced service levels.**

PPP helps Public sector in achieving Time savings

PPP helps Public sector in achieving time certainty (Time Certainty - Probability of completing the project in specified time)

PPP helps Public sector in achieving Innovations in public services

PPP helps Public sector in achieving Better maintenance of assets

### **Construct: Development: social and commercial.**

PPP helps Public sector in becoming Catalyst for the economy... in terms of . Encouraging cooperation?

PPP helps Public sector in achieving enhancing social development and business Opportunities

## **7.2 Benefits to Private Sector**

The variables used to assess the benefits achievable to the Private Sector upon taking up PPP projects are listed below. The constructs used in the research are provided also.



### **Construct: Enhanced Corporate Image**

The variables which make up the construct are as follows.

Private sector can benefit from engaging with PPPs in attaining a better public image?

Private sector can benefit from engaging with PPPs in order to grow trust in company? Private sector can benefit from engaging with PPPs in order to build public relations?

### **Construct :Market advantage**

Private sector can benefit from engaging with PPPs in order to strengthen market position

Private sector can benefit from engaging with PPPs for bolstering knowledge and market understanding.

Private sector can benefit from engaging with PPPs to create new demand for goods and service?

Private sector can benefit from engaging with PPPs for enhancing existing markets?

Private sector can benefit from engaging with PPPs for access and build new markets?

### **Construct :Business and operations Advantage**

Private sector can benefit from engaging with PPPs for access public know-how, experience and networks understanding.

Private sector can benefit from engaging with PPPs for coordination and exchange with competitors.

Private sector can benefit from engaging with PPPs for better access to raw materials?

### **Construct :Happier workforce & productivity**

Private sector can benefit from engaging with PPPs for a happier workforce with Increased employee satisfaction

Private sector can benefit from engaging with PPPs to attract talent

Private sector can benefit from engaging with PPPs for greater productivity and access to resources

Private sector can benefit from engaging with PPPs to increase workforce productivity

## Construct :Sharing Risk & investment

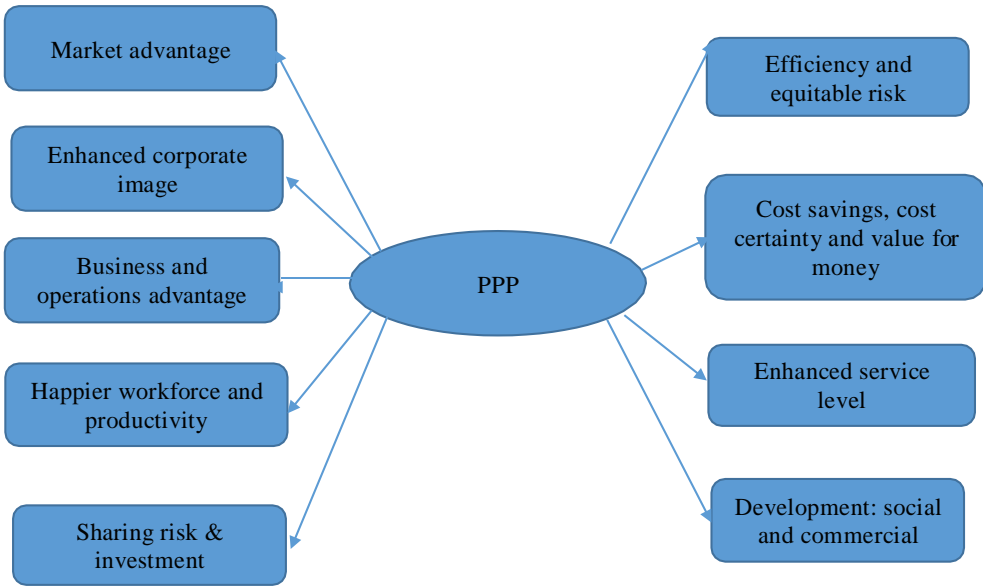
Private sector can benefit from engaging with PPPs for sharing risk and investment?

Private sector can benefit from engaging with PPPs to make joint investments?

Private sector can benefit from engaging with PPPs to reduce individual risk?

Benefits to private sector

Benefits to public sector



**Figure 1: Conceptual Framework: PPP associated benefits to Public and Private Sector**

Next in the research the perceived challenges to private sector were considered.

### 7.3 Perceived Challenges:

#### Unreliability of completion

(C1)Public Sector will reduce the project accountability

(C2)High risk relying on public sector

### **Inefficient restrictions and policies**

(C10)Lack of experience and appropriate skills

(C11)Confusion over government objectives and evaluation criteria

(C12)Excessive restrictions on participation

(C14)Lack of government guidelines and procedures on PPP

### **Possibility of Delay**

(C3)Very few schemes have actually reached the contract stage (aborted before contract)

(C4)Lengthy delays because of political debate

(C9)A great deal of management time spent in contract transaction

(C13)Lengthy delays in negotiation

### **High cost associated**

(C5)Higher charge to direct users

(C6)Less employment positions

(C7)High participation costs

(C8)High project costs

### **7.4 Research Design:**

The 30 variables relating to Benefits of PPPs to Public and Private sector were included in an empirical questionnaire where each of these variables were rated on a 4-point Likert scale: Strongly Aware (4), Aware (3), Little Aware (2) and not aware (1).

Demographic questions were also included in the questionnaire.

The sampling Frame comprised practicing managers in the age-group 25-45 years. The questionnaire was digitalized and sent to respondents known to the researchers in their email addresses.

### **7.5 Final sample:**

Inspite of repeated efforts to arrive at a large sample base finally only small sample of size **n= 26** was obtained. This was a limitation to the research effort.

Hence the results arrived at by the subsequent data analysis should only be accepted as indicatory and not statistically significant.

## 8. Analyzing data and presenting results.

### Significance testing for Awareness

For analyzing data a database was created by sample responses, though a small sample of size 26. Working on the database, means and standard errors were computed on the constructs. The observed means were quite low.

<b>Awareness Public sector Benefits</b>	mean	standard error	t-value
<i>Efficiency and Equitable risk sharing</i>	1.75	0.295803989	0.845154
<i>Cost savings, cost certainty and value for money.</i>	1.6875	0.265655635	0.705801
<i>Enhanced service levels</i>	1.671875	0.264888685	0.648857
<i>Development : social and commercial</i>	1.65625	0.268943729	0.580977

The t-value = (sample mean- 1.5)/ standard error.

1.5 was taken as it is the median value between not aware and little aware.

Hence from the above table one concludes that awareness on all four constructs is not significant. The level of significance is 5 %. Thus practicing managers are not significantly aware of the benefits to public sector.

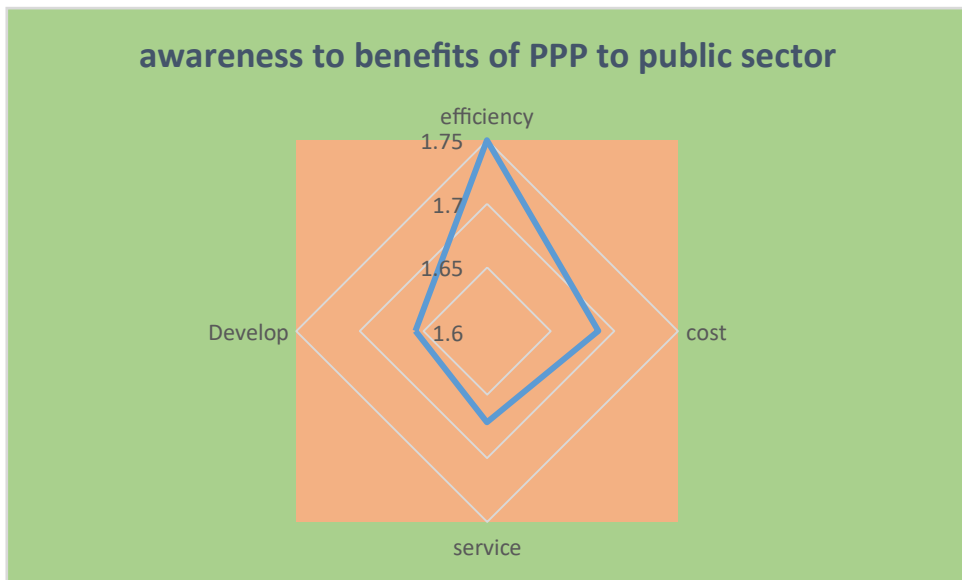


Figure 2: Benefits of PPP to public sector

Though the awareness is not significant for all four constructs, the awareness to Public sector achieving *Efficiency and Equitable risk sharing* is highest amongst the practicing managers, followed by enhanced service level.

<b>Awareness to private sector benefits</b>	mean	standard error	t-value
<b>Corporate Image</b>	2.4375	0.317278284	2.954819
<b>Market advantage</b>	2.3375	0.316606354	2.645241
<b>Business and operations Advantage</b>	2.270833	0.267392675	2.882777
<b>Happier workforce &amp; productivity</b>	1.9375	0.211024288	2.073221
<b>Sharing Risk &amp; investment</b>	2.645833	0.33536706	3.416654

Here the t-value = (sample mean- 1.5)/ standard error.

Hence from the above table one concludes that awareness on all five constructs is significantly greater than 'not aware', that is they are significantly > 1.5. The level of significance is 5 %. Thus practicing managers have significant awareness on the five constructs considered.

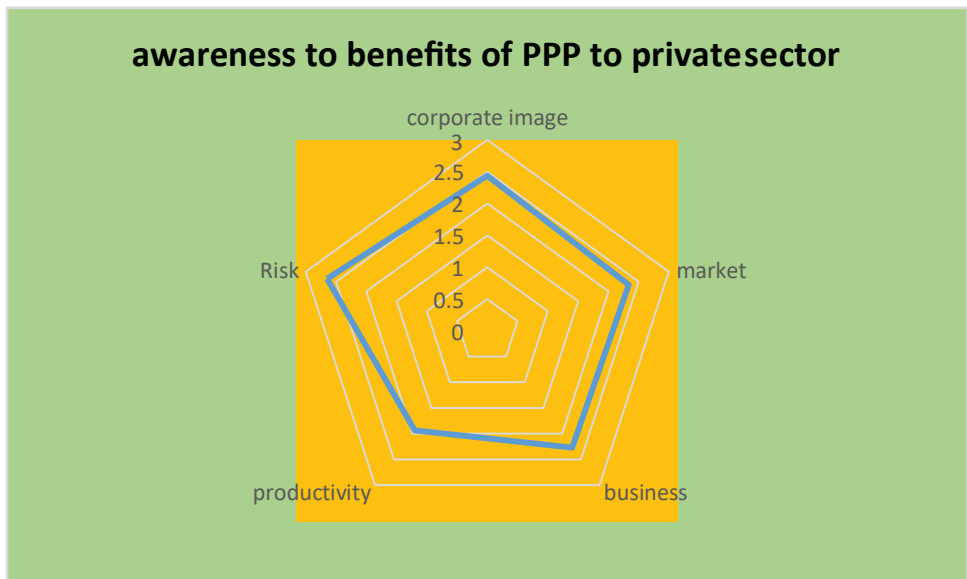


Figure 3: Benefits of PPP to Private sector

Thus Awareness to Benefits of Risk sharing and Investment is highest followed by Enhanced Corporate Image.

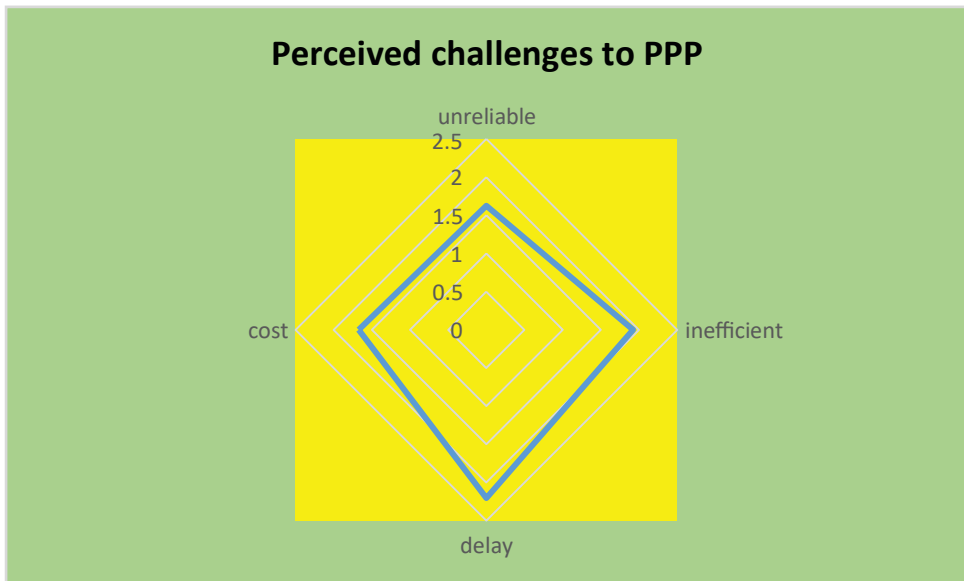
**Perceived challenges to PPP, from Private sector perspective.**

Upon conducting the significance testing as above, the following means, their standard errors and associated t-values were obtained.

<i>Perceived challenges to PPP</i>	<i>Mean</i>	<i>Standard error</i>	<i>t-value</i>
<b>Unreliability of completion</b>	1.625	0.154784797	0.807573
<b>Inefficient restrictions and policies</b>	1.921875	0.201192733	2.09687
<b>Possibility of Delay</b>	2.203125	0.251266324	2.798326
<b>High cost associated</b>	1.671875	0.170353111	1.008934

Here the t-value = (sample mean- 1.5)/ standard error.

Hence from the above table one concludes that perceived challenges on two of the four constructs are significantly greater than > 1.5. The level of significance is 5 %. Thus the significant challenges as perceived by managers are **Possibility of Delay and Inefficient restrictions and policies**, not so much the high cost associated.



**Figure 4: Challenges perceived to PPP**

## 9. Discussion of Results.

From the perspective of public sector, Efficiency and Equitable risk sharing is highest amongst the practicing managers, followed by Cost savings, cost certainty and value for money, enhanced service level, and social and commercial. All the same none of these awareness aspects are statistically significant.

This result compares differently from literature in the sense Ismail, S. (2013) had concluded that the fundamental justifications for adopting PPP was to significantly reduce the upfront costs for the government in providing and maintaining public facilities. In the current research we conclude that awareness to PPPs bringing about efficiency and equitable risk sharing has the highest level followed by cost saving.

In contrast, from the perspective of private sector, Awareness to Benefits of Risk sharing and Investment is highest followed by Enhanced Corporate Image, market advantage, business and operations advantage. The awareness to happier workforce & productivity, has a lower level than the other aspects of awareness but it also comes out as significant.

In the private sector many for-profit companies tend to look upon participation in PPPs as a purely philanthropic or corporate social responsibility endeavor. They do expect their own businesses to benefit, but from a public relations perspective: improving their image among customers, workers, and the general public. However, PPPs can work out to be powerful vehicles to help companies create and capture opportunities for their core business. They can achieve risk sharing and investment and obtain market advantage. They can increase a company's productivity – for example by improving the health of its workforce, as we have concluded in our research. They can also help boost demand for a company's products and services, or provide a mechanism for joint investment and risk-sharing to create new markets or products. Furthermore, working with a PPP can deepen a company's understanding of key markets and develop valuable networks for future business development.

Thus, participation in PPPs can create a comprehensive cycle of mutual benefit for all concerned; in particular, for private sector entities traditionally seen solely as benefactors and not as beneficiaries. (Public Private Partnerships, Mckinsey, 2009)

For challenges, Possibility of Delay and Inefficient restrictions & policies emerge as significant challenges as perceived by managers.

This result, regarding the challenges, lead to the conclusion that it is possibility of delay in completion of the project which is the chief deterrent in private sector going for PPP arrangements. This brings in the apprehension that **urgency required in the project will be lost under such a partnership**. Thus most importantly the delay aspect in PPP should be addressed and overcome for PPPs to be totally acceptable by the private sector.

In general, the challenges to PPP can be country specific. For instance, challenges to PPP in India can relate to the following needs:

*Regulatory environment is needed:* currently there is no independent PPP regulator in India currently. So as to attract more domestic and international private funding of infrastructure, a more comprehensive and user friendly regulatory environment, with an independent regulator, is essential.

*Lack of information should be addressed:* The PPP program needs a comprehensive database regarding the projects/studies to be awarded under PPP. A current and updated online data base, consisting of all the project documents including feasibility reports, concession agreements and status of various clearances and land acquisitions will be helpful to all bidders.

*Project development:* The project development activities such as, detailed feasibility study, land acquisition, environmental/forest clearances etc., need to be given adequate importance by the concessioning authorities. If this is not there it leads to reduced interest by the private sector, improper pricing and delays at the time of execution.

*Lack of institutional capacity:* The complete institutional capacity to undertake large and complex at state and local bodies level, are needed.

*Financing availability:* The private sector depends upon commercial banks to raise debt for the PPP projects. With commercial banks reaching the sectoral exposure limits, and large Indian Infrastructure companies being highly leveraged, funding the PPP projects is getting difficult.



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