

## **Critical Success Factors (CSF's) of Public-Private Partnership (PPP) Infrastructure Policy and Implementation: A Case Study in Philippine Road Sub-Sector**

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### **Abstract**

This paper looked at various research studies and papers and delved into an in-depth investigation of the issues, concerns as well as challenges that confront the Philippine Public-Private Partnership (PPP)/Build Operate Transfer (BOT) experience in the transportation sector's road sub-sector. The paper highlights the fact that there is no definite study conducted by the government on the most applicable and implementable risk mitigating measures that would serve as Critical Success Factors for PPP/BOT in the Philippine setting.

Primarily through a cursory review of the existing PPP/BOT contracts consolidating international generated risks and success factors and validating it through survey questionnaires, review of case studies and structured interviews from the key players of Philippine PPP/BOT system. The paper through its review of existing PPP/BOT contracts in the road sub-sector, will stress on the need to properly identify, allocate and mitigate risks attributed to infrastructure development under a PPP arrangement. From there, it will determine and recommend critical success factors in PPP/BOT policy and implementation in the Philippines given infrastructure development risks prevalent in the country.

### **Keywords**

Public-Private-Partnership, Build Operate Transfer, Tolloed roads, Risk management

## **1. Methodology**

The methodology developed for this study includes: a) a comprehensive international and local literature review to identify the lists of risks and the critical success factors of PPP, (b) a survey via questionnaires for the public and the private sector to evaluate the ranking of success factors prevalent in the Philippines, (c) a review of case studies on past, on-going and pipelined tolled roads in the country in order to provide additional insight concerning the distinct risks attributed to this sector, and (d) structured interviews of relevant BOT players in the Philippines.

a) Review of comprehensive international and local literature review:

The following literature was reviewed and used as basis of the lists of risks and success factors to be incorporated in the survey questionnaires: The list was consolidated from the ADB Road Sector Report (1994); Tiong, R. (1995a, 1995b, 1996), Alum, J. and Tiong R.L.K. (1997), Wang S.Q., et al., (1999); Walters, J. (2005); Singh D. and Tiong R.L.K. (2005); Yang-Wo, *et al.*, (2007); So, K, *et al.*, (2007), The

DPWH and JBIC Metro Manila Urban Expressway Network Report (2003); DPWH and JBIC Feasibility Study and Implementation Support on the CALA East-West National Road Project (2006); Relevant studies published by the European Union through A. Fayard (1999) and Alfen, H.W. (2007) for PPP were also used as sources of information. Felzer, S. (2004) of the World Bank has also conducted similar investors perception survey for PPP participation in East Asian countries.

#### b) Survey through questionnaires

In order to meet the objectives, 100 questionnaires were prepared. The original sample frame, on which the study sample is based, comes from a number of sources: (1) BOT Center selected key players, (2) major tolled roads website, and (3) Government implementing agencies websites.

The key players are drawn from the government information sources. Cross checking through direct personal interviews allows verification of appropriate players. The selection of the population uses non-probability sampling wherein the elements in the population have no probabilities attached to their being chosen as sample subjects. It involves Judgment Sampling where relevant persons were gained access for requisite information. They alone possess the needed information and can give the information sought. (Cavana *et al.*, 2001)

This study is considered as exploratory in nature. A total of one hundred questionnaires were distributed taking into consideration the overall representation of the population. The selection covered representatives from the management and the technical group of the proponent or the government.

Appropriate individuals (e.g., working in areas related to BOT since it revolved in the 1990's) were identified from out of 100 companies, which have relevant experience in BOT in the Philippines. Total population had not been verified by this researcher because no consolidated reports of all BOT projects in all implementing agencies had been identified (e.g. complete lists of proponents and partners). Out of these 100 pre-selected individuals, 32 agreed to be interviewed. Interviewees were assured anonymity and confidentiality. The interviews consisted of a lengthy qualitative discussion followed by a short quantitative component (questionnaire), in which respondents were asked to rate BOT risks and criticality indices. Interviews were done face-to-face.

The non-statistical analysis represents the key players of PPP scheme in the Philippines: (1) Government, (2) Project Sponsors and Developers, (3) Independent Consultants/Designers/Planners, (4) Academe, and (5) Community groups (environmentalists, motorists and others). Gathering of data is a combination of personally administered, email and facsimile sent/retrieved questionnaires.

Part 3 of the questionnaire tackles about the applicability of the recommended critical success factors for BOT implementation in the country. The respondents were provided with the opportunity to rank critical success factors relative to one another, among the factors provided. The success factors finally were backed up by itemized analysis specifically on the projects implemented in road sub-sector.

The survey questionnaire was subjected to pre-testing through a content validity test conducted by the BOT Center under the country's Department of Trade and Industry of the Philippines. They enumerated the names of relevant persons to be tapped for the interviews whose views are crucial in this study. The critical success factors from China are the basis of the list of CSF's for the Philippines. The BOT Center added government competency as it is considered significant in the Philippine setting.

## 2. Result and Discussion

The local survey was conducted from April 16 to May 22, 2007. One Hundred questionnaires were sent to Philippine BOT players that covered PPP actors with relevant positions and are at top management level in their companies. The detailed respondent's particulars are shown in Table 1. A total of 52 valid questionnaires were received which accounts for a response rate of 52.00 percent.

**Table 1: Respondents' Particulars in Survey Questionnaires**

Respondents' Particulars	Number of respondents	Percent (%) of respondents
By respondents' sector		
Public	34	65.38
Private	18	34.62
By respondents' industry		
Power	7	13.46
Transport (Road)	21	40.38
Transport (Rail)	4	7.70
Transport (Airport & Port)	7	13.46
Water Resources	6	11.54
Telecommunication	1	1.92
Others (Lending Institution, Media, Professor)	6	11.54
By respondents' company category		
Implementing Agency	35	67.31
Main Contractor/Operator	9	17.31
Consultant (Independent/Design/Supervision)	6	11.54
Others	2	3.85
By respondents' designation		
President/CEO/General Manager	6	11.54
Administrator/Department Secretary	1	1.92
Vice Presidents/Asst. Secretary/Deputy GM	2	3.85
Project Directors	2	3.85
Project Managers	5	9.62
Division Heads/ Department Heads	7	13.46
Senior Construction/Contract Managers	25	48.08
Reporter	1	1.92
University Professor	1	1.92
Total	52	

## 2.1 Critical Success Factors (CFC's) for PPP Infrastructure Implementation in the Philippines

**Table 2: Ranking of Critical Success Factors for PPP Infrastructure Implementation**

Critical Success Factors	%							Mean Score	Ranking in this category
	1	2	3	4	5	6	7		
Entrepreneurship and Leadership	26.92	19.23	26.92	7.69	9.62	1.92	5.77	2.77	2
Right Project Identification	42.31	15.38	13.46	9.62	11.54	0.00	7.69	2.71	1
Strength of Consortium	15.38	19.23	23.08	15.38	7.69	13.46	3.85	3.31	3
Technical Solution Advantage	0.00	15.38	9.62	25.00	23.08	21.15	5.77	4.44	6
Financial Package Differentiation	7.69	13.46	21.15	21.15	15.38	15.38	5.77	3.36	4
Special Features of Bid Government	0.00	5.77	7.69	7.69	13.46	30.77	32.69	5.46	7
Competency	9.62	19.23	11.54	15.38	7.69	7.69	28.85	4.29	5

The CSF is the key to achieving success. A systematic process is needed to apply these factors objectively to pursue change (Jaafari, 2000). The proponent's right project identification is ranked as first in the determination of the PPP's critical success factor. By developing a risk management framework, the proponent can assess its viability in completing the project with the right amount of returned investment. The high initial investment required from the private sector and the consequent long concession period make the distribution of risk between the parties a key element of success in such schemes (World Bank, 1999).

Right Project Identification is ranked first by both public and private perceptions as CSF in PPP implementation. Identification is particularly important in the land transport sector. Not all projects are good - an expressway in the wrong location can cause enormous problems - hence, identifying the right project is important. This requires positive action both in the corridor and adjacent to it. When expressway junctions are not in the right place, or when interchange designs are poor, or the design/construction has not been well-devised, or provision has not been made for buses, or local road improvements necessary to provide access to the expressway have not been made - then traffic and revenues on the expressway will be lower than they should be. Land in the expressway corridor will not be developed efficiently. Traffic congestion on the existing road will remain (particularly if its capacity has been reduced by expressway construction). Lower income bus travelers may not benefit. If a network of expressways is being developed through projects implemented by competing concessionaires, integration becomes particularly challenging. Physical interchange must be possible, toll equipment integration is desirable, and tariff integration may become possible. When such integration is made to happen, the network becomes more attractive to use (with less stopping/ queuing to pay, and easier payment mechanisms), and traffic increases, in turn, leading to decongestion on the existing roads. Based on experience, integration does not happen when there are several concessionaires, who perceive each other as competitors. Government therefore needs to define integration requirements, and impose these on private concessionaires (Asian Development Bank, 1994).

Entrepreneurship and leadership follow the lead as it is ranked second in the PPP CSF's in this country. The Project Director/Manager competency plays a major role in the organizational framework of the whole system. In the private sector, quality corporate governance is essential (Asian Development Bank, 2000). As evidence, the lending institutions also actively pursue the introduction of best corporate governance practices in its existing and potential private sector investee companies and through the

investment funds it supports. Financial feasibility and degree of cost recovery to ensure the project is capable of being financially self-sufficient over its life. To a certain degree, however, concessionaires have control over the financing terms, via their negotiating skills, track record, and bankability that an experienced project director/team can possibly handle. Thus, entrepreneurship/leadership has posted a more important role than the strength of the consortium and its financial feasibility.

The strength of consortium is ranked third in the considered as critical success factor for PPP implementation. The selection of the winning bidder should be based on the minimum government exposure in the toll road venture. The bidding consortium shall include a design firm as one of its members, and the cost and schedule for Design Engineering (DE) shall be stipulated in the bid. The output shall be a property of the government in the event of failure to proceed with the construction, with a waiver for its use by the successor toll concessionaire. There are three funding phases - Detailed Engineering, Completion and Construction.

Financial package differentiation is ranked fourth among the critical success factors. Financing comes at the end of the PSP process, but the constraints it imposes must be considered from the outset. If a sound business case has been prepared, the project risks identified and allocated in a realistic manner and the procurement process credible and well executed, then financing should follow on the basis expected. But if these preconditions do not exist, it may well not be available (Asian Development Bank, 1994).

The government competency is ranked fifth in the survey amidst the call of lending institutions on effective governance as essential for encouraging private sector investment. There is no greater disincentive to business than the feeling of uncertainty and vulnerability brought about by corruption, abuse of discretion, and bureaucratic interference. Lending institutions give key emphasis on government to promote good corporate governance through various means such as reviews of commercial laws and regulations and establishment of credible accounting and auditing standards (Asian Development Bank, 2000). This is due to the fact that the burden of acquiring projects financial viability, construction and implementation lies mainly on the proponent thus, the proponent's technical competency is far more important than the Government's competency in the Philippines. A 'cargo cult' mentality is the BOT projects - a cost-less solution which happens without major government effort (Asian Development Bank, 1994).

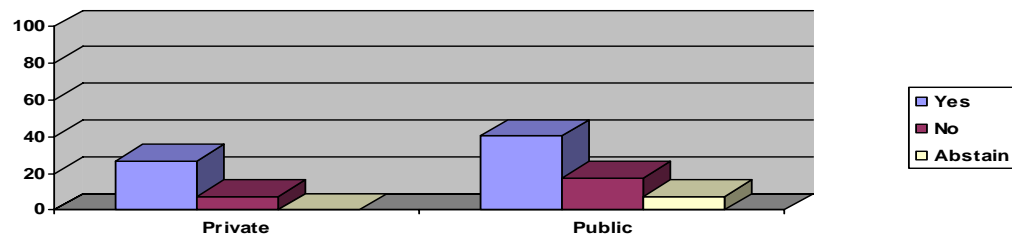
Technical solution advantage is ranked sixth due to the fact that expressways are relatively low-tech infrastructure projects, unlike power stations, telecommunications facilities, railways or airports. In addition this is also due to reluctance to give up control. Part of the reason is that PSP is seen by many in the public sector as a threat, both institutionally and personally. These attitudes are understandable, and need to be addressed in the context of strong political leadership - which is increasingly taking place (Asian Development Bank, 1994). Construction of expressways itself does not require technology transfer of which the Philippines does not have any experience. However, the government lack the knowledge on the enhancements that goes with the tolled road system such as electronic systems derived from EU/International (CEN/ISO) standard for the vehicle which both provide support for irregular users, and enforce penalties against people who do not intend to pay, to roadside communications and technology devising strategies that is equally needed in to the tolled road system. But this system has not been proven to be perfect. Where this is insufficient, or enforcement is likely to be poor, manual systems are still necessary (Asian Development Bank, 1994).

Special features of the bid ranked seventh or in the last slot of the CSF's. It is due to the experience by CITRA on Metro Manila Skyway. The CITRA proposal was selected due to the introduction of the Pier system that would introduce minimal traffic disruption. But special selection for that purpose does not guarantee the success of PPP implementation as CMMTC will likely face negative profitability due to the inability to get enough traffic volume on the elevated section and could not start Stage 2 or 3 with the negative cash flow on Stage 1 (DPWH and JBIC, 2003).

## 2.2 Determination of PPP Key Players in Future Investments in the Philippines

**Table 3: Perception Survey of PPP Key Players Interest in Future Investments in the Philippines**

Respondents	Public	Percentage	Private	Percentage
Yes	21	40.38%	14	26.92%
No	9	17.31%	4	7.69%
Abstain	4	7.69%	0	0.00%



**Figure 1: Interest in Investment on PPP Infrastructure Implementation in the Philippines**

Overall assessment of the interest in recommending and/or investing in the Philippines through the PPP/BOT scheme

1. A growing sense that proponents are not welcome by the government  
A respondent in the Public sector said that the Government seemed not to support implementing agencies in the BOT mode of procurement because the procedure for application and approval is a long and tedious process. Respondents' inability to understand the attitudes and motivations of government authorities and, therefore, to predict the ongoing viability of their investments appear to discourage specific infrastructure investments.
2. Consistency among all private and public groups in assessing Philippine BOT critical success factors  
Public and private entities active in BOT civil works infrastructure implementation (regardless of country location, business sector, or level of past investment) are remarkably consistent in their assessments of the overall risks, the primary strengths and weaknesses of specific investment opportunities, and the factors that contribute to successful investment in the region.
3. Existing private key players of BOT civil works implementation in the Philippines display consistent positive assessment on increasing their investment in the country  
The overwhelming majority of private respondents report that they expect their companies to increase their total sector investments in the Philippines in the next two years. Amidst risks attributable to BOT implementation in the Philippines, the private sector is still optimistic on the return of its investments.

### 3. Conclusion

Traditionally, economic analysis was used to determine what should be implemented, and that was the end of economic analysis: implementation was assumed to be a neutral process. But the PSP environment has both highlighted that this is not the case, and has focused attention on the huge importance of the implementation process in determining actual project impact. It is not unusual for projects to be approved on the basis of one set of assumptions, only to find out that what happens is very different. In the case of PSP, this is critical. If the project tolls are very different from those assumed, if the roads accessing the expressway are not improved or if the construction cost and time are optimistic, then the decisions of both

government and concessionaire will have been wrong, and conflict between the parties will be the result. The decision-point for PSP projects needs to be made later, and on the basis of far more information than has traditionally been the case. Government should make its commitment on the basis of a business case, and central to this should be the optimization of the project - confirming that it meets both economic and financial appraisal criteria.

The following are some of the main conclusions of this paper:

1. The key innovations in the Philippines are that: (a) The Philippines has a legal framework which, to some foreign observers, is better than that of most developed countries. But it has not yielded good results for the transport sector. Out of the seven transport projects awarded concessions, only one went through direct solicited procurement through BOT law. Of the five unsolicited ones, two had been subjected to its legality in contract provisions. The contractual structures were a product more of expediency and protracted negotiations rather than the result of a rigorous assessment of the business case before the awarding. (b) The unsolicited mode of BOT hinders direct competition and is subject to controversy rather than solicited mode. (c) With few exceptions, the proponents had a weak financial base and had to scramble for financial closures as the market tightened during the 1998 Asian financial crisis.
2. Critical success factors based on their criticality sequence are: Right Project Identification, Entrepreneurship and Leadership, Strength of Consortium, Financial Package Differentiation, Government Competency, Technical Solution Advantage and Special Features of Bid.

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