A balanced approach to project management in partnering types of contract: a public private partnerships framework

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Abstract— This paper investigates project management relationship employed in partnering types of contracts by investigating practices and gathering inputs from participants specifically involved in Public Private Partnership (PPP) projects in Australia. A detailed survey was conducted and the results revealed behavioral differences between project management of PPPs compared with the focus of more conventional projects where an adversarial approach is common rather than using a strategic approach in managing projects. This research indicates that, for the success of partnering type of projects, strategic aspects of project management play an important role and are equally important with traditional aspects of project management. Some of those critical areas of project management to balance the approach are identified and utilized in a new proposed project management framework. The proposed framework enhances the commonly utilized framework, developed by Project management Institute (PMI), by adding the strategic project management aspects into the architectural of the approach.

Keywords—project management; partnering; public private partnerships; project management tools; contract; project

I. INTRODUCTION

Partnering has become a common issue of ‘contemporary project management discourse’ and attracted worldwide attention [1, 2]. This type of relationship has become an alternative of an adversarial relation in conventional construction procurement systems. Public Private Partnership contract has been developed based on this principles where public and private sectors are working together to attain ‘value for money’ through management skills and innovation of the private sector compared to the public sector [3, 4].

There are some advantages of partnering in infrastructure contracts in comparison with adversarial type of relationships include healthier decision making processes, improved communication, transparent sharing of knowledge development and mutually agreed outcomes resulting in enhanced effectiveness [1]. In adversarial relationships, communication frequently commences with suspicion of the counter party’s intention. Often, this leads to disputes which in turn may delay the project and impact on the project’s success. This is due to excessive control on time, budget, and scope by the owner while on the other hand; a contractor may focus on gaining advantages from ‘loopholes’ of the contract [5].

A problem arises when a project manager is confronted with this new type of relationship contracting, e.g. partnering. Conventional or traditional project management tools and techniques are developed mostly to accommodate of what so called iron triangle of project management which are time, cost and scope. These actually cover only a half part of project management in partnering context. Another part, which is ‘soft’ part of project management [6] has not been given enough

1 The generic definitions of ‘partnering’ have been summarized by Skeggs [2], as follows:
- Partnering is an arranged of ‘collaborative processes’ that is relatively different than a straightforward form of relationship;
- Partnering is a cooperation between two or more organizations based on shared objectives to achieve better efficiency through joint resources, open communications and continuous advancement;
- Partnering is applied either in project level known as project partnering or in a long-term strategic collaborations known as strategic partnering;
- Partnering is characteristically conducted at a first generation level or at a more advance, more committed second generation level (mature partnering).
attention. This part deals with more strategic aspects of project management and is particularly important in partnering type of contracts.

However, by far, the more important aspects of project management of a project relate to strategy rather than a project’s programme [6]. This research investigates the extent to which partnership types of infrastructure contracts are strategic aspects and the importance of these aspects. Thus, these aspects should be considered as a daily activity of the project. Since Public Private Partnership contracts involve complex stakeholder relationships, they work best when aspects of partnering exist between the parties. This type of contractual relationship has been widely adopted in many countries and has been recognized and shown to provide promising alternatives in comparison with the traditional adversarial type of contracts. Therefore, it is very reasonable to study the project management practice of this type of contract. By gathering the inputs from the project participants, a revised project management framework is developed that accommodates all parts of project management, both hard and soft. Considering the mature market of PPP in Australia, this country is chosen to be a benchmark for development of project management framework in partnering type of contract in this research. The proposed framework is an enhancement of the framework which is commonly used worldwide, developed by Project management Institute (PMI), by adding the strategic project management aspects into the framework to balance the approach.

II. PROJECT GOVERNANCE IN PUBLIC PRIVATE PARTNERSHIP

As has been discussed previously, Public Private Partnership, under certain ‘conditions’ [7] or ‘circumstances’ [8], is considered to be a preferable choice of public infrastructure provision contract over the traditional procurement system. However, a better concentration on the complexity of the contract and a careful project arrangement are prerequisite for the successful of Public Private Partnerships [9, 10]. Thus, governance issues in Public Private Partnerships play an important role in the framework of managing a successful delivery and operation of the infrastructure projects.

Some issues emerge from the governance perspective of PPP projects. The first is in regard to risk management. As aforementioned, the basic foundation of the PPP is an optimal allocation of the risks between public and private sectors [3, 4]. Different parties have different perspective and interest on risks. Consequently, the process of managing the conflicting issues or interests of parties on risks plays an important role in the success of such project [11].

However, the allocation is not only confronted with complexity and unpredictability in term of financial consequences but also has to be aligned with the other stakeholder’s demand, such as the community [12]. For this situation, the willingness of parties to bear the risks is a key factor of the allocation and is reflected in the amount of rate charged by doing so and this can only be achieved through robust and reliable risk management process [13].

The second factor is related to the influence of the financing arrangement of the PPPs which highlights the issue of bundling or unbundling mechanism of the contract. It is strongly argued that the governance of PPP is highly influenced by the debt and equity structure. Further, when it is closely linked with the management of the project, it would likely bring about a negative effect to the success of the project [14]. This argument is supported by the previous finding in BOT projects that the unbundling between the financing process through a ‘neutral’ Special Purpose Vehicle (SPV) and others aspect of project such as construction and operation will likely to create a better end result [15].

The last issue which will likely to give a significant impact on governance of PPP is related to ‘incomplete contract’. Some experts argue that this incompleteness is due to complexity of the arrangement leads to difficulty in recording all ‘outcomes and contingencies’ [16] and difficulty to verify measures of unpredicted events [17] in the contract. The flexibility of all parties to adapt to the change will likely become an important issue between all participants. This necessity is solely due to the nature of ‘incomplete contract’ in most of the service based infrastructure contract. As consequence of a long-term contracting period of PPP projects, it is difficult to document all of the specifications and performance obligation of parties involved in the arrangement which in turn adds the complexity of the contractual relationships that require an adjustment toward unforeseen event [18].

III. PROJECT MANAGEMENT: TRADITIONAL ASPECTS AND RECENT ISSUES

A. Traditional Aspects of Project Management

There are some styles of grouping the tools and techniques included in the traditional project management. First, this revolves around the project-lifecycle [19, 20]. The second style focuses directly on the scope of project management which are time, cost, quality, and organization management [21, 22]. Another idea is to relate the tools and techniques with the types of conventional management functions in project management: planning, scheduling and controlling [23]. Project Management Institute (PMI) explained the tools and techniques in both ways and divided the activities in accord to ‘processes’ to achieve the objective of the project [24]. Those processes group consists of initiating process, planning process, executing process, monitoring and controlling process.

However, as the project complexity and the issue of integration of project into the strategic level of intra-organizational and inter-organizational context become common facts -if not the necessity for modern contractual relationships- the focus of
project management has been broadened to accommodate a strategic approach to project management. This is a ‘soft’ part of the project management in complementary to the ‘hard’ part of the project management [6].

B. Recent Issues in Project Management

Recently, the inclusion of strategic aspects into the project management has gained many attentions. As an example, the strategic behavior issue is introduced in strategic project management which focus on the connection between ‘cognitive, emotional and territorial perspective and agenda’ of managers involved in the strategic project. Thus, this means that the strategic project management should consider human relationships aspect in managing project [25]. Another suggestion is to include also the combination of aspects of financial, internal business, external environment, and learning and innovation perspective. One criticism to the traditional project management is that the management by far sees the project success only from the perspective of internal business part and tends to ignore aspects of strategic project management [26].

The following summarize some ideas or issues related to strategic project management aspects.

1) Relationship approach
In a different way, the approach to project management practices can be categorizes into four difference approaches: traditional project management approach, functional management approach, information processing approach, and relationships approach [27]. All of those four approaches are complementary to each other in order to achieve a holistic success of the project. However, these approaches are actually evolving around and focusing on the relationships approach to project management by providing a structure of managing relationships and by inviting a holistic discussion on the approach.

A straightforward suggestion in managing the PPP/PFI projects is to use a relationships management approach [28]. The main benchmark of measuring the relationships is through ‘trust’. There are reasons why trust is considered to be a benchmark for assessing relationships in PPPs, as follows: public sector and private sectors have been promoting the non-adversarial manner, trust is mentioned to be essential to the procurement, and the long term period of the contract necessitates the parties to develop trusting relationship for the sake of project success.

The importance of relationships management in the project has also been recognized by [29] in his review of the private prison projects in Australia. The conflict or friction that arises between parties involved in the projects within consortia has become a drawback of the success of the projects. The review showed that the conflict or friction had arisen in connection with type of procurement that requires many parties as an independent organization bundled together where each of them brings their own interest into the project [29]. This has clearly shown that project management should be able to handle this problem through development of certain tools, procedures, norms or methods of managing this kind of relationships.

2) Coordination, communication and commitment issues
Coordination and commitment has been recognized to be an important part of the project success [30-32]. There is a close correlation between the coordination, commitment, and competence with the success of the project. Thus, it is suggested that the project management should pay more attention to these matters to increase the possibility of the project success [32]. In this case, the implementation all contractual commitments becomes the most important practical action needed from the project coordinator [31]. Similarly; inter-team coordination, project commitment and teamwork quality become the crucial factors for the success of the projects that involves many parties [30]. Further this problem can be handled by providing training prior the project commenced such as communication and interpersonal skills and a continuous monitoring intra and inter-team cooperation through intensive interference into the teamwork by the project management.

3) Good governance Issuee
When the governance issue plays an important role for the success of the project, good governance principle becomes a concern. This condition exists when two or more parties involve in and have interest in the certain type of cooperation. It is argued that governance issue plays an important role in the success of PPP project since this type of project requires great strategic concern due to their long-term relationships nature [33]. The success of the project is not only measured through short-term objectives such as on budget, on time and at the appropriate quality but also to consider a long term cost of operation and maintenance. This will raise an issue of ‘government support, proper project planning, good coordination between parties, trust, good tendering system, proper information dissemination and communication system and high managerial capabilities’ [33].

Organization for Economic Co-operation and Development (OECD) has develop a Principles of Corporate Governance in their effort of building a better and reliable governance practice in OECD as well as non-OECD member countries [34]. Even though that the principles are aimed at assisting mainly publicly traded companies, however with some adjustments; the principles can also be implemented in the privately owned companies [34]. Thus, it is very useful to talk about the principles which can be adjusted into the daily practice of project management in project especially in complex project such as PPP projects.
IV. METHODOLOGY

This research is an explanatory study by using a comparative approach. There are two hypotheses that are tested in this research as follow:

i. In the perception of all participants, strategic project management aspects play an important role for the success of the Public Private Partnerships projects.

ii. In the perception of all participants, strategic project management aspects and traditional project management aspects are equally important for the success of the Public Private Partnerships projects.

For testing the hypotheses, a questionnaire was developed and deployed to all participants through email and online survey website. The data collected were analysed through statistical software. In the questionnaire, the two main hypotheses were tested by analyzing questions that used the Likert-typed questions, 5 (very important) to 1 (not important). In addition, for the purpose of developing a project management framework/approach, open-ended questions were extended to gain inputs related to important area/aspects for the project management’s success in PPP project. The following Table I shows number and types of entities involved which comprises the whole population of PPP participants that are targeted for the research.

The limitation of this research is that the research utilizes a non-probability sampling specifically using a combination between purposive and snowball sampling techniques in lieu of the probability sampling. The reason is due the difficulty in finding the contact detail of the respondents/participants. In addition, the respondents are high level professional/executives or project directors who have an authority to answer question from external parties in regard to project management practice in their project. Another limitation is due to a small number of responses received which only 25 responses, however the responses comprise of all type of participants.

<table>
<thead>
<tr>
<th>Entities</th>
<th>Government agencies</th>
<th>Private sectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Government Agencies (States government and public agencies)</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>• Constructors/Contractors</td>
<td>39</td>
<td>37.2</td>
</tr>
<tr>
<td>• Finance participants (e.g. Banks, Equity Provider, Superannuation, etc.)</td>
<td>20</td>
<td>19.0</td>
</tr>
<tr>
<td>• Architects/Designers/Consultants</td>
<td>13</td>
<td>12.4</td>
</tr>
<tr>
<td>• Operators/Facility Managements</td>
<td>33</td>
<td>31.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>13</td>
<td>105</td>
</tr>
</tbody>
</table>

*Source: Author’s compilation and grouping from various source in Australia such as Infrastructure Australia [35].

V. RESULTS AND DISCUSSIONS

“...traditional project management techniques (focused on time, cost, and scope) might be sufficient to deliver the strict requirement of the contract, but strategic management is vital to enable the parties to realize additional value...” (An anonymous respondent)

For the hypothesis (i), the descriptive statistic shows that both groups rate the importance level of strategic aspects of project management is between important and very important, 4.58 and 4.62, for public and private sectors respectively. The independent sample t-test for equality of means is not significant (F=0.95, p>0.05), indicating that there is no difference perception in regard to the importance level of strategic aspect of project management from the perspective of public and private sectors.

For testing hypothesis (ii), two questions were developed to independently analyse and rate the importance level of traditional and strategic aspects of project management in PPP projects. In regard to the importance level of traditional aspects of project management, both groups rate the importance level of traditional aspects of project management is close to
important, 3.83 and 3.77, for public and private sectors respectively. The independent sample t-test result for equality of means is not significant (F=0.064, p>0.05). This means that there is no difference perception in regard to the importance level of traditional aspects of project management from the perspective of public and private sectors.

For strategic aspects of project management, the independent sample t-test result for equality of means is not significant (F = 0.007, df = 23), p>0.05; indicating that there is no difference perception in regard to the importance level of tools and techniques of strategic aspects of project management from the perspective of public and private sectors. The importance level is between important and very important, 4.17 and 4.46, respectively. Worthy to note that these values are higher than the value obtained for traditional aspects of project management. In conclusion, the test shows that in the perception of all participants of PPP project in Australia, the strategic aspects of project management play an important role for the project success. Thus, in the day-to-day project management activities, these aspects should be treated equally with the traditional aspects of project management (e.g. managing time, cost, and quality).

In response to that phenomenon, this research is suggesting the development of a new project management framework especially when dealing with a ‘partnership’ type of infrastructure provision contract. In contrary to the idea in putting the project management aspect in hierarchical position between traditional and strategic aspects, the proposed framework put both aspects in a horizontal way which shows an equal position of those aspects and should be implemented in the day-to-day project activities, as shown in Fig. 1. The detail of the framework is presented in the following Fig. 2.

![Fig. 1. The proposed new framework](image)

In trying to develop the framework, this research extended open-ended questions to respondents in order to find inputs in regard to the areas of project management that are perceived to be important areas for the success of PPP project. As has been expected, that the open-ended questions bring ideas that beyond research’s prediction, those questions have also highlighted some important findings. Table II summarizes the responses of open-ended questions from participants that have been grouped into specific themes in project management aspects.

In the traditional aspects of projects management, areas which are perceived by the participants as important areas are performance reporting and scope and change management. Performance reporting is a common area in traditional aspects of project management that requires attention. This is closely related with iron triangle of project management (i.e. time, cost, and quality). Interestingly, scope and change management is considered to be a crucial aspect for the project success. This is merely due to the matter of ‘incomplete contract’ which underlies the contract development of PPP. Moreover, an output based specification will likely to add the uncertainty of the deed required from all participants in the contract. Thus, the ability to adapt to changes and the flexibility of the participants involved are essential. In this case, other aspects which are strategic aspects of project management play an important role. Most of the groups of answers of the open-ended question revolve around the strategic aspects of project management, namely relationships management, coordination and communication, good governance, and stakeholder management. This finding is strengthening the statistic tests result that all participants in PPP projects in Australia pay more attention into these strategic aspects.

There are some aspects that form part both traditional and strategic aspects of project management highlighted by this research. One of them is the risk management area. This area has been recognized to be part of the traditional aspects of project management; however the implementation requires a strategic approach. Another aspect which appears unpredicted is the human resources management issue. Some of the respondents raise this issue as an important part of the project success. It can be reasonably understood since the period of the contract is relatively long and many uncertainty faced by the projects which require a high capability of personnel involved. In addition, the ability to integrate all phases of project (i.e. initiation,
procurement, construction, operation and maintenance) is ultimately needed. This issue is particularly important in the strategic aspects of project management, as discussed previously that human and human relationship issues become the main concern of the strategic aspects [25].

Another unpredicted answer, is in regard to the issues resettlement in the initiation process. As has been discussed earlier, ‘incomplete contract’ remains to be the cause of this concern. It is likely that many issues or circumstances are unresolved during the initiation process or negotiation process. This may likely not intentionally occur, but due to uncertainty nature of events that cannot be totally predicted and resolved. However, full effort should be given in an attempt of reducing the problems that possibly raise during the latter stage as has been mentioned by some participants as an important area or area that need to be improve for the PPP projects’ success. One of the solutions extended by some participants is to finalize the contract condition prior to the contract signing. This becomes a challenge of PPP circles to continuously improve the contract condition in PPP projects. The lessons learned from the previous contract conditions and their problems are likely to be useful as the start of the improvement process.

Based on the hypothesizes tests, open-ended questions analysis and literature discussion; this research suggests a new framework for project management in ‘partnership’ type of infrastructure provision contract. The detail of the suggested new framework is presented in the following Fig. 2. The proposed framework is an enhancement of the framework developed by PMI [24] by adding the strategic project management aspects into the framework.

<table>
<thead>
<tr>
<th>Relationships Management</th>
<th>Coordination &amp; Communication</th>
<th>Good Governance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management of relationships.</td>
<td>Project controls and co-ordination.</td>
<td>Integrity issue.</td>
</tr>
<tr>
<td>Good relationships.</td>
<td>Planning coordination.</td>
<td>Establishment of review group by the participants involved.</td>
</tr>
<tr>
<td>Close working relationships.</td>
<td>Management and co-ordination of design development process.</td>
<td>Setting objectives, cultures, goals, and drivers at the commencement of project.</td>
</tr>
<tr>
<td>Flexibility to adapt to change.</td>
<td>Maintaining communication between all participants.</td>
<td>Shared motivations between public and commercials.</td>
</tr>
<tr>
<td>Active and incentivized owner.</td>
<td>Communication protocols and processes.</td>
<td></td>
</tr>
<tr>
<td>Good strategic relationship.</td>
<td>Contract co-ordination.</td>
<td></td>
</tr>
<tr>
<td>Maintaining and understanding between participants.</td>
<td>Controls.</td>
<td></td>
</tr>
<tr>
<td>Relationships/partnerships management.</td>
<td>Authority Delegation between SPV and State side.</td>
<td></td>
</tr>
<tr>
<td>Non-adversarial solution.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compromising ability of managers involved.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Human Resources Management</th>
<th>Scope &amp; Change Management</th>
<th>Performance Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experience of consortium member and public partners.</td>
<td>Version control.</td>
<td>Programming or activity sequencing.</td>
</tr>
<tr>
<td>Staff retention and succession planning.</td>
<td>Understanding of project scope.</td>
<td>Regular status reporting.</td>
</tr>
<tr>
<td>Key personnel must not change during negotiation.</td>
<td>Clear scope.</td>
<td>Effective Critical Path management.</td>
</tr>
<tr>
<td>Experience of project director/managers.</td>
<td>Flexibility to adapt to change.</td>
<td>Performance reporting mechanism.</td>
</tr>
<tr>
<td></td>
<td>Change/ variation control.</td>
<td>Performance measurement.</td>
</tr>
<tr>
<td></td>
<td>Co-ordination in regard to changes of scope of work.</td>
<td>Time, scope and quality.</td>
</tr>
</tbody>
</table>
TABLE II. B. GROUPING OF INPUTS FROM PARTICIPANTS (CONTINUED)

<table>
<thead>
<tr>
<th>Risk Management</th>
<th>Stakeholders Management &amp; Commitment</th>
<th>Issues Resettlement at Project Initiation Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Risk management.</td>
<td>• Consultation and engagement with key project's stakeholders.</td>
<td>• All participants (i.e. sub-contract, utility managements) should be finalized prior to the contract closure.</td>
</tr>
<tr>
<td></td>
<td>• Engagement of users' group.</td>
<td>• Contract conditions are finalized prior to the contract closure.</td>
</tr>
<tr>
<td></td>
<td>• Commitment of all participants.</td>
<td>• Settlement of issues through workshops or meeting prior to contract signature.</td>
</tr>
<tr>
<td></td>
<td>• Integration of project stakeholder into the project-not separated entity.</td>
<td>• Contract design.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Aspects</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Creative and user friendly IT tools.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Importance of Facility Management (operational aspect).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Active and incentivized owner.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Project outcome focus than processes.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Fig. 2. A new project management framework in ‘partnerships’ type of infrastructure provision contract.
VI. CONCLUSIONS

This research attempts to invite discussion among project management circles especially in relation to development of practical tools and techniques that accommodates the strategic aspects of project management as the ‘soft’ part of project management. This part, as has been shown by this research, is especially important in the ‘partnerships’ type of infrastructure provision contract.

There are some main conclusions drawn from this research, as follows:

- In the perspective of all participants of public private partnerships projects, strategic aspects of project management play an important role for the success of the projects. Thus, in order to ensure the success of the projects, the project management practitioners in this type of procurement should consider the implementation of both aspects, traditional and strategic aspects, in an equal manner.

- The framework of project management approach developed by this research is intended to contribute into the discussion of project management knowledge. The most important issue raised in this framework is an equal position of traditional and strategic aspects of project management in opposed to a hierarchical position which has been extended by previous experts. In addition, this framework generally can be implemented in a ‘partnerships’ type of infrastructure provision contract.

- Another important finding of this research is in regard to specific aspects that considered as important and critical aspects for the project success by all project participants in public private partnerships projects. Those aspects are relationships management, coordination and communication, good governance, human resources management, scope and change management, performance reporting, risk management, stakeholder commitment and management, and issue resettlement at the project initiation process.

REFERENCES


**BIOGRAPHY**

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