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Challenges of Public Private Partnership (PPP) Healthcare Projects: Case Study in Developing Countries

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Public Private Partnership (PPP) projects have become popular during the last 30 years due to the need of new infrastructure and/or renewal projects to be built with limited public resources. PPP scheme has been implemented for public infrastructure such as in transportation, energy, and healthcare in developing countries, developed countries focused on renewals and improvements. Although developed countries have an extensive knowledge in healthcare PPPs, developing countries have been procuring large-scale hospitals through PPP as a new concept. Hence, the lack of know-how and experience in healthcare PPP implementations in developing countries needs to be fulfilled for a successful implementation. The objective of this research is to identify the key challenges experienced in healthcare PPPs in developing countries. The case study research methodology is used to investigate the experiences of stakeholders in large hospital projects. Structures interviews were conducted to collect both primary and secondary data. The results showed major challenges such as the lack of bankable project agreement, lack of institutional capacity and adequate risk allocation, lack of environmental and social impact assessment, incomplete PPP project medical scope, and the short-term vision in terms of investment. Mitigation strategies were recommended to address those challenges for more successful PPP implementation.

Key Words: Public Private Partnership (PPP), Healthcare Projects, Risk Mitigation, International Construction.

Introduction

In recent years, Public Private Partnership (PPP) has become significantly popular that most governments have started to prefer PPPs as a procurement method over others, for delivering infrastructure projects with public services in a faster and more efficient way, as well as at a lower cost (Demirturk Kir, 2019). During last three decades, there is an accelerated increase in the need of

public infrastructure, however governments do not have sufficient financial resources and eventually have started to look for other alternatives as financing options (Broadbent & Laughlin, 2003). Therefore, private involvement in public infrastructure investments have been revealed -so called- public-private, which covers a broad subject area where the public services like hospitals, schools, highways are delivered via the partnership with private sector (Davies & Hobday, 2005).

As PPPs have been extensively used globally, the number of the PPP implementations in developing countries such as Turkey have considerably increased. Among the countries in Eurasia Turkey has recently become the most active user of PPP contracts to procure the infrastructure services with an aggressive PPP timeline (Emek, 2015). In 2010, the Government of Turkey launched its Health PPP Program to improve the healthcare assets and its services in terms of quality and performance. Seven (7) healthcare PPP projects out of thirty (30) under this program have been operating currently as public hospitals and the eleven (11) hospitals have been financed and under construction at the time being. Despite this incentive, developing countries like Turkey still relatively runs behind to prepare and set a global legal frame and policy for PPPs (Demirturk Kir, 2019). Therefore, there is a need to scrutinize the PPP concept and the existing implementations in developing countries to improve the scheme of PPP despite its challenges.

Having a wide range of literature available together with current industry experiences in Turkey, this study aims to examine the experiences of stakeholders in large hospital projects to reveal the main challenges faced with the procurement process of PPP healthcare projects in developing countries by using Turkey as a sample case. The general structure of a PPP project contains several stakeholders such as public authorities, investors, financial institutions, lenders/funders, advisors, contractors, and operators. This study will analyze case studies by reviewing assessments from interviewees, who are involved in these healthcare PPP case studies, as the main stakeholders to work with challenges. Mitigations performed against these challenges will be shared based on the observations of the main stakeholders.

Background of PPPs in Healthcare

Yescombe (2007) defines a PPP having the main features as a long-term contract between a public-sector party and a private sector party, for the design, construction, financing, and operation of public infrastructure by the private sector party, with payments over the life of the contract to the private-sector party for the use of the facility, made either by the public-sector party or by the general public as users of the facility, and with the facility remaining in public-sector ownership or reverting to public-sector ownership at the end of the PPP contract. The main idea of PPPs is to overcome the financing problems of the public party with an attempt to increase the efficiency and quality of public services by benefitting from the private industry's know-how in management (Akbiyikli et al., 2006). Having the private partner's investment and experience for the development of public service delivery, projects can be procured under the PPP model in several industries (Abuzaineh et al., 2018).

The use of PPPs has become widespread during the last 20 years and the model was implemented first in the transportation projects, and then, applied in other sectors (Navarro-Espigares & Hernandez-Torres, 2009). During this time, over Europe and many countries over the world, it has been observed that there are significant advantages of having both public and private sectors' resources allocated together. Hence, the number of PPP implementations has significantly increased. It was stated that PPP projects could result in a much better performance in public service procurement providing more efficiency and the right allocation of risks among the public and private parties. Among the countries in Eurasia, Turkey has recently become the most active user of PPP contracts to procure the infrastructure services with also an aggressive PPP pipeline (Emek, 2015). Turkey and Russia took

the lead for PPI investments and 71% of those investments in the region were made in these two countries. Roehrich et al. (2014) states that there are aspiring results in healthcare PPP examples where the infrastructure and non-medical services are provided. Besides, it is very critical to have a better understanding of success in healthcare PPPs by means of the proper risk allocation and incentive structures from lessons learnt.

Considering the recent literature review, it can be mentioned that the Health Transition Plan (HTP) in Turkey took its grounds from a long process carried out with cooperation of the international institutions, consultants, various bidding parties and equity investors, which brought know-how and experience in the market (IFC, 2016). Despite this being the case that there is a lot in Turkey to go way forward to improve its PPP model in many aspects including legal framework, financial, and administrative structures (Emek, 2017). The process itself requires to be scrutinized in order to have a better understanding of the challenges confronted throughout each phase and the solutions how the stakeholders overcome those challenges and further recommendations with and attempt to use this country as a prototype for developing countries in the implementation of PPP in healthcare projects.

Methodology

The methodology to define the key challenges in PPP healthcare projects in developing countries includes the steps below:

- Identify the PPP structure.
- Identify risks and challenges for PPP projects.
- Conduct case study methodology and collect data.
- Analyze data and propose a successful PPP implementation framework.

In order to understand the general PPP structure and its evolution in the world, specifically in the healthcare sector, a comprehensive literature survey was performed at the beginning of this study. This process revealed two important outcomes. As the first, even though most of the developed countries have procured sufficiently enough number of PPP projects, developing countries still need a serious number of infrastructures and do not possess the required experience or know-how in PPPs especially in the healthcare sector. Secondly, as Turkey has launched its HTP recently in 2010, there are not many studies in literature regarding the current projects that are at different procurement stages. Considering the pre-knowledge on the main risks and challenges in PPP projects worldwide and in Turkey, a detailed assessment has been completed to determine the most significant risks in PPP procurement. After the literature review, having the case study research method as the most commonly used method in literature review for the future assessment of the performed projects and the need of real-life experiences and lessons learned, five healthcare PPP projects in Turkey were determined as case studies and ten project stakeholders were interviewed as a data collection method under the case study research methodology. Additionally, the primary information such relevant reports and documentation were also shared by the participants. After the data was collected, the next step was determining the problems that industry participants have had during the procurement of the project structured in different stages of the process together with the mitigations to those already applied with any suggestions as solutions for future cases. The results were compiled in the PPP Implementation Framework proposed in this study.

PPP Structure Overview

The process for a new PPP infrastructure is initiated when a government decides whether the PPP scheme would be the best option for the project or not. This is called initial feasibility check. There

are several ways for a public entity to measure whether PPP or a public procurement would be feasible. Following the feasibility analysis and approval of an infrastructure as a PPP procurement and before starting to design the PPP agreement, the main terms and conditions are required to be set as a concept commercial design of the project, which would define the liabilities and the risk allocation among the parties. Those major terms should be adequate for all parties involved in the process to assess the project in the right way. A PPP contract, which can be called as concession agreement, project agreement, or PPP agreement, should be designed on the ground of main terms and conditions previously identified and detailed with very well-defined responsibilities, liabilities, risk sharing mechanisms, and compensation mechanisms for any potential changes (Bank, 2018).

The PPP contract terms generally change between 20 and 30 years depending on the country and the type of project and it can be called as concession life/term including the whole construction and operation phase. Since PPPs are considered as long-term investments for both public and private partners, the agreement term needs to be sufficiently long to fulfill the expectations on both sides (Bank, 2018). In parallel to the bidding process, or right after the bid award, the bidding consortium set up the Special Purpose Vehicle (SPV), which is usually formed for project specific purposes as a new company having no past work records and with the only aim of carrying out that project. SPV shareholders, who are named as sponsors, equity providers, or investors, invest the required capital or equity in the SPV for the PPP project procurement. Once the project receives the acceptance certificate officially, the operations can start from that date called as service commencement date. In order to sustain an effective PPP structure through the above-mentioned phases, risks of the PPP project should be identified and the risk sharing mechanism between the private and public partners should be defined, which will be explained in the next section.

Risks and Challenges of PPP Projects

PPP structures in general have a risk structure to be shared between the public and private sides provide a government policy. In healthcare sector, there are also several options to allocate the risk between parties along with financing and payment structures for PPP projects. This research investigated the best international PPP practices and specifically healthcare PPP implementations across the world and Turkey reviewing the literature from a risk perspective. The research outcomes showed that the focus in the literature review regarding the critical challenges and risks primarily seen in developing countries that both public and private partner can encounter with during a PPP hospital procurement are as given in Table 1. Among the examined risks for the healthcare PPP projects specifically, project parties were interviewed to see the challenges and risk mitigation models in developing countries.

| Table 1 | |
|--------------------------------------|---|
| Categorized PPP project risk factors | |
| Risk Category Group | Risk Factors |
| Government | Fiscal and institutional capacity |
| Revenue | Payment mechanism, volume of demand, cashflow risk |
| Financial | Inflation and currency, liquidity, interest rate, bankability |
| Contract Management | Material variations, delays, disputes, termination |
| Construction | Cost and delay overruns, variations accidents, design flaws |
| Operation | Deficiencies, monitoring, performance mechanism, incomplete contract, changes in demographic and technological features |

Case Study and Major Challenges

Case study methodology is used in this study along with structured interviews for data collection. Multiple projects were investigated to have a better understanding of the project-based practices in relation to the challenges and mitigations in the implementation of PPP scheme in healthcare sector in developing countries. Both interview data and supporting documentation on the challenges and mitigations in the PPP healthcare sector provided by the interviewees are used in the analysis to enhance the validity. For the internal validity, a detailed literature review was completed. Multiple case studies were conducted for the external validity. By gathering interview recordings, transcripts, and related project documentation, a case study database was created to maintain the reliance and allow to repeat the study in the future in other developing countries.

Ten interviewees were selected in various years of experience (ranging from 9 to 23) and numerous titles in the PPP healthcare projects such as Senior/Investment Director, Chief Operating Officer (Legal), and Legal Head of Project Finance. Ages of interviewees ranged from 32 to 55 to sustain a common familiarity with the evolution of PPP in the country. Interviews included structured questions related to the pre-defined PPP healthcare risks, as well as open-ended questions on five healthcare projects. For each project, two project stakeholders were interviewed separately in order to sustain validity of data coming from the same case. Two main sources of data were collected from these case studies as primary information and secondary information. Primary data refers to any documentation including reports, letters, forms and archives such as project drawings. Secondary information, however, involves interviews made with any client, company employees, which provide direct observations about the matter.

Due to the length limits, only one case will be detailed in this paper. Project A is a PPP health campus with a range of beds between 1500 and 2000 comprising the design, build, finance and maintain of the project. The campus includes general, oncology, cardiovascular diseases, women and children, physical medicine and psychiatric hospitals in southeastern part of Turkey, for an operation period of 25 years following a construction period of 3 years. The project was financed by commercial and institutional loan in addition to equity and is currently under operation.

The data collected on Project A revealed that unforeseen risks appeared after the bid award. The project agreement was *not bankable*, which was the first significant challenge in the process. The company had negotiations with the Ministry of Health (MoH) in parallel with the other consortiums. Having legislative changes in parallel, the project agreement was revised as to be a bankable contract having the international PPP standards. Additionally, the main concerns under the project agreement were stated as the termination compensation structure, payment mechanism, force majeure events, and variation mechanism, which resulted in a decision for the contract for PPP.

One of the important challenges that the project stakeholders faced was *the institutional capacity* of the MoH. There were eighteen (18) other hospital projects gone under bidding at the same time. This situation caused serious problems like the delay in decisions of the MoH personnel as a result of working in too many projects that they can realistically handle with the resources in hand. As a result, the government was not able to understand and manage projects according to the project agreement executed. During the discussions with the awarded bidders, the MoH PPP Unit was the only counterparty in front of the consortiums, and the negotiations were carried out in parallel with all consortiums. This was not found effective for the public side, as they were one team against several teams of consortiums to be competed. This situation is believed to disturb MoH to cause *an improper risk allocation* for the project. Another challenge was explained as *the lack of environmental and*

social impact assessment by the public sector prior to bidding. As this assessment was missing in the bidding information, private sector parties could not fully evaluate environmental and social risks accordingly. It was private party's observation that the public partner was not fully aware of the consequences of such a project not only on the environment, but also on the people located around the project. In terms of services, it was observed that the PPP healthcare applications in developing countries have *incomplete or unclear PPP project medical scope*. In this case, the scope of the project excluded the medical scope of the work, as the private partner had seen other implementations in different countries like in Canada and Chile. In international examples, the private partner through the PPP scheme also provided the clinical services. Under the current scope of this case study, there was medical support services, where the private partner was required to provide the medical equipment like Magnetic Resonance Imaging (MRI) machines and laboratories, but there were not any services included. Main concerns stated by interviewees for Project A was in line with the financial risks obtained from the literature reviews. These risks have worked as a decision mechanism to work within the PPP structure. Detailed risks and relevant mitigation strategies for developing countries can be found in Appendix A and B.

Results and Discussions

Based on the case studies performed, it can be concluded that the PPP hospital projects in developing countries have been experiencing similar problems as identified in the literature review, as well as challenges specific to the country due to the administrative or legislative structure variations related to the process. The main risk and challenges are summarized in Appendix A and B.

As an example, for the risk of the lack of bankable and complete project agreement, it was suggested to prepare an international invitation to bid with a detailed feasibility study and environmental and social assessment report and use value for money analysis to ensure the competences of the bidders. For another risk, *the lack of institutional capacity*, it was found that a well described and managed commissioning process and a proper monitoring mechanism is needed especially from the public side. A pilot hospital project with international consultants experienced in PPP hospital projects would allow to prepare for each stage of procurement, starting from the process prior to bidding till the end of the concession life of the project. Thus, MoH would gain the required experience and know-how during the procurement phase, which was essential for the government of a developing country to be able to implement PPP healthcare projects successfully. In order to overcome *the lack of a legal framework aligned with internationally accepted laws*, the pre-mentioned pilot project was suggested to be used in addition to organizing PPP trainings and workshops and setting up a cooperation with international institutions for advisory and value for money analysis. *Lack of proper risk allocation evaluation* was another risk, especially during the planning and bidding stage, which required proper, complete, and certain bidding criteria (targeting proper experience & know-how, initial LoIs for financing) and decent and complete due diligence clauses (including a comprehensive E&S) to be alleviated. *The lack of environmental and social impact assessment* of the public party appeared as a risk in both pre-planning and financing phases of PPP project, where interviewees suggested the transfer of know-how and experience while developing the project in accordance with the International Finance Corporation (IFC) and European Bank for Reconstruction and Development (EBRD) environmental and social standards. That would allow to procure the project with international best practices and allow private parties to prepare an action plan at the beginning of the bidding, to be able to manage relevant risks on their side.

Considering the main challenges, a framework was proposed to present the strategies for successful healthcare PPP implementation (Figure 1). When initiating the procurement process for a PPP project, the authorities should ensure that there is a solid legal ground for the implementation, which is key to

the project success. Government should gather industry experts and stakeholders to study on the best international practices and produce a well-designed legal framework for PPP implementations. Then, a national PPP unit should be established to collect and centralize all know-how (knowledge base and experience) in PPPs in all other sectors at a level which enables the unit to transfer the existing knowledge from all ministries. Besides, a strategic global plan should be done for the hospital procurement identifying the need of healthcare facilities for regions together with the capacity and branch needs to consider the technological trends and demographic dynamics of the locations.

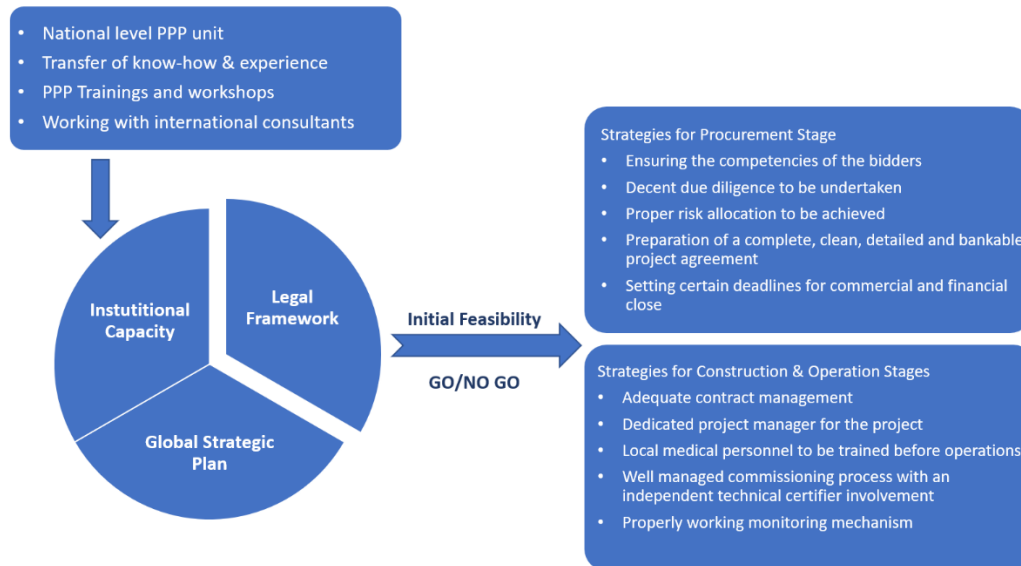


Figure 1. Strategies for successful healthcare PPP implementation

The next step should involve conducting an initial feasibility study. A Value-for-Money (Benefit-Cost) analysis needs to be done together with an affordability check, which is more crucial for a project with an availability payment-based payment mechanism such as hospitals, since the project will rely on the government cash flow for a duration of 25-30 years. After pre-qualification, both investment and operations side should be working collaboratively in cooperation with the advisors, who bring the required knowledge and expertise with the aim of having decent legal, financial, and technical including environmental and social due diligences. Additionally, as there will be a central PPP unit, MoH should benefit from the gathered information and lessons learnt. During the pre-planning, the most important issue is to have an adequate risk allocation plan to handle potential risks. Afterwards, construction and operation periods would be more dependent on the contract management and an adequate monitoring on a regular basis. Having set the institutional capacity on the public side, the personnel of MoH should be able to do a proper monitoring of the site during construction and operations. All technical specifications including design requirements, performance and delay penalties, and health and safety provisions should be very clear and complete under the project agreement.

Conclusions

The aim of this research was to determine the key challenges experienced throughout the procurement process of PPP healthcare projects in developing countries by using case studies in Turkey as

examples. Based on the case study research methodology structured interviews were performed with industry participants, who were involved in the PPP procurement process. Major challenges in PPP healthcare projects in developing countries were found as the lack of bankable agreements, lack of institutional capacity and adequate risk allocation, the lack of environmental and social impact assessment, incomplete or unclear PPP project medical scope, and the short-term vision in terms of investment. Strategies to mitigate those challenges were detailed in the results section to prepare the public agency to gain the required experience and know-how that is essential for the government of a developing country to be able to deliver PPP healthcare projects successfully.

Main challenges gathered from the case study were used to create a framework as an output of this study. A framework is proposed to address the pre-mentioned challenges for a more successful PPP implementation in developing countries.

Finally, for future studies, it is suggested to design and conduct similar case study research in other developing and developed countries to record experiences of practitioners in all stages of a PPP healthcare project. That study is expected to contribute the PPP healthcare literature with additional challenges and new strategies for successful PPP healthcare implementation.

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Appendix A

| Risks w/ Responsible +Exposed Party | Pre- Planning | Planning & Bidding | Financing | Construction | Operation |
|--|---|---|--|--|---|
| Government | 1,2,3,4,5,6 | 7,8,9 | 1,4,7,8,10,11,12 | 1,7,13,14,15 | 1,7,13,14,16,17,18 |
| SPV | n.a | 19,20,21,22 | 12,23,24 | 4,13,15,25,26 | 6,13,14,15,18,27,28 |
| Financing Institutions | 5,29 | 7 | 6,7,11,12 | 4,13,15 | 13,14,28 |
| Mitigations | Global strategic plan Institutional Capacity Adequate legal framework National PPP unit Transfer of know-how and experience | Value for money analysis Transparent & objective bidding process Proper, clean & complete bid documentation | International Lenders Involvement Bankable project agreement w/standard international clauses Proper risk allocation | Qualified project management Adequate contract management Well managed commissioning process Proper monitoring mechanism Medical staff training for PPPs | Qualified facility management team Adequate contract management Provide a smooth commissioning process Well defined hand-over process Proper monitoring mechanism |

Appendix B List of Challenges

| | | |
|--|---|--|
| 1. Lack of institutional capacity | 13. Lack of proper contract management | 23. Lack of availability of financing proposals (letters of intent) beforehand as a part of bid submission |
| 2. Lack of a legal framework aligned with internationally accepted laws | 14. Lack of proper monitoring system and human resource | 24. No certain deadline for commercial close |
| 3. Lack of a pilot application program | 15. Incomplete commissioning procedure | 25. Lack of clean land permit and project related license process |
| 4. Lack of environmental and social impact assessment | 16. Lack of a clear hand-over procedure | 26. Lack of proper design as per the demography of the region |
| 5. Lack of right risk allocation between the parties | 17. Lack of clear medical scope (including interface issues) | 27. Experienced/qualified service provider not available in the market |
| 6. Lack of long-term view of the project planning | 18. Lack of well-trained medical staff for such PPP scheme | 28. Lack of a proper deduction performance mechanism/criteria |
| 7. Lack of bankable and complete project agreement | 19. Lack of comprehensive bid preparation | 29. Lack of international input/know-how of lenders during planning and bid stage |
| 8. Incomplete bid documentation and project agreement | 20. Lack of proper risk allocation evaluation | |
| 9. Lack of clear interface terms | 21. Lack of decent due diligence of the bid documentation | |
| 10. No termination clause under the Project Agreement w/certain deadline for financial close | 22. Lack of competitors in both numbers and good qualifications | |
| 11. Lack of a bankable payment mechanism | | |

| | | |
|---|--|--|
| 12. No certain deadline for financial close | | |
|---|--|--|