PUBLIC PRIVATE PARTNERSHIP HEALTHCARE PROJECTS IN TURKEY: STRATEGIES FOR SUCCESSFUL IMPLEMENTATION

by

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ABSTRACT

PUBLIC PRIVATE PARTNERSHIP HEALTHCARE PROJECTS IN TURKEY: STRATEGIES FOR SUCCESSFUL IMPLEMENTATION

All over the world, the use of PPP has become popular during last 30 years due to the increase in the need of new infrastructure or renewals with the growing economies especially in developing countries and limited resources of the governments. As a result of that, PPP scheme has started to be implemented for public infrastructure in transportation, energy, health, education and water supply but mostly social infrastructures in developing countries; whereas authorities in relatively more developed countries focus on renewals and improvements. Having said that, as a developing country Turkey has been experiencing the procurement of hospitals through PPP as a new concept; whereas the developed countries have an exhaustive experience and knowledge in healthcare PPPs. Therefore, in developing countries like Turkey, there is a lack of know-how and experience in healthcare PPP implementations. There are many researches about healthcare PPPs in the literature; however, there is less studies regarding healthcare PPPs already performed in developing countries identifying real-life experiences, challenges and lessons learnt. Hence, this research is based on the determination of the key challenges experienced by the stakeholders participated in the procurement of the hospital PPPs in Turkey with suggested mitigations providing a strategic road map for a successful PPP implementation. The case study research methodology is used for investigation through five case studies. Lack of institutional capacity and adequate risk allocation, incomplete and unclear PPP contract and poor contract management and monitoring mechanism have been observed as the main challenges; whereas strategies to address above challenges are proposed as potential remedies.

ÖZET

TÜRKİYE'DE SAĞLIKTA KAMU ÖZEL ORTAKLIĞI PROJELERİ: BAŞARILI BİR UYGULAMA İÇİN STRATEJİLER

Dünya geneline bakıldığında, büyüyen ekonomi ile doğru orantılı artan altyapı ve renovasyon ihtiyacı ile birlikte hükümetlerin kaynaklarının sınırlı olması sonucu, özellikle gelişmekte olan ülkelerde KÖO son 30 yılda popular hale gelmiştir. Bunun sonucunda, gelişmekte olan ülkelerde daha çok sosyal altyapılarda, gelişmiş ülkelerde ise daha çok altyapı yenileme ve iyileştirme alanlarında olmak üzere; kamu altyapı tedarikinde ulaşım, enerji, sağlık, eğitim ve su rezervi gibi alanlarda KÖO yapısı uygulanmaya başlanmıştır. Bununla beraber, gelişmiş ülkeler sağlıkta KÖO uygulamaları konusunda kapsamlı bilgi ve tecrübeye sahipken, gelişmekte olan bir ülke olarak Türkiye'de sağlıkta KÖO uygulamaları yeni bir konsept olarak tecrübe edilmektedir. Bu nedenle, sağlıkta KÖO uygulamaları konusunda, gelişmekte olan ülkeler arasında yer alan Türkiye'de ciddi bir tecrübe ve bilgi eksikliği vardır. Literatürde sağlıkta KÖO hakkında yeterince araştırma mevcut olmasına karşın, gelişmekte olan ülkelerde sağlık sektöründe uygulanmış KÖO projelerinin yaşanmış tecrübelerini, sorunlarını ve çıkarılmış dersleri konu alan yeterli sayıda çalışma bulunmamaktadır. Dolayısıyla, bu araştırma Türkiye'deki KÖO hastane projelerinde yer almış paydaşların yaşamış olduğu ana problemleri ve çözüm önerilerini tespit ederek başarılı bir KÖO uygulaması için stratejik yol haritası belirlemektedir. Araştırma yöntemi vaka çalışması olarak belirlenip beş vaka çalışması incelenmektedir. Vaka çalışmaları sonucunda, kurumsal kapasite ve doğru risk paylaşımı eksikliği, açık olmayan ve eksik KÖO sözleşmeleri ve zayıf sözleşme yönetimi ve takip mekanizması ana sorunlar olarak karşımıza çıkarken; bu problemlere bahisle çözüm önerileri olarak stratejiler sunulmuştur.

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LIST OF ACRONYMS/ABBREVIATIONS

BLT	Build-Lease-Transfer
BO	Build-Operate
BOO	Build-Own-Operate
BOT	Build-Operate-Transfer
BTO	Build-Transfer-Operate
CEO	Chief Executive Officer
CPI	Consumer Price Index
DBFM	Design-Build-Finance-Maintenance
DBFO	Design-Build-Finance-Operate
DFI	Development Finance Institutions
EBRD	European Bank for Reconstruction and Development
EIB	European Investment Bank
EOI	Expressions of Interest
EPC	Engineering-Procurement- Construction
EU	European Union
GDHI	General Directorate of Health Investments
GDP	Gross Domestic Product
GDPH	General Directorate of Public Hospitals
HIMS	Hospital Information Management System
HTP	Health Transformation Program
IFC	International Finance Cooperation
KPI	Key Performance Indicator
LD	Liquidated Damage
MOH	Ministry of Health
O&M	Operation and Maintenance
OECD	Organization for Economic Co-operation and Development
PFI	Project Finance Initiative
PPI	Private Participation in Infrastructure
PPP	Public Private Partnership

RFQ	Request for Qualifications
SNA	System of National Accounts
SPV	Special Purpose Vehicle
SUT	Health Practices Communique
VFM	Value for Money
WACC	Weighted Average Cost of Capital

1. INTRODUCTION

1.1. Background of the Study

In recent years, Public Private Partnership (PPP) has become so popular that most of the governments have started to prefer using PPPs as a procurement method for delivery of the infrastructure projects to be able to have public services in a faster and more efficient way at a lower cost (Directorate of Strategy and Budgetary, 2018).

Even tough, a common definition does not exist in the literature, World Bank Group *et al.* (2014) defines the term of PPP as a "long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility, and remuneration is linked to the performance". Ministry of Development of Turkey (2017) lists the key elements for a successful PPP: risk allocation, coordination and planning and contract management.

During last three decades, there is an accelerated increase in the need of public infrastructure but however the governments does not have the sufficient financing resource and eventually have started to look for other alternatives as financing options (Broadbent and Laughlin, 2003). Therefore, private involvement in public infrastructure investments have been revealed so called as public-private which covers a broad area where the public services like hospitals, schools, highways are delivered via the partnership with private sector (Davies and Hobday, 2005).

As PPPs have started to be extensively used globally over more than last two decades, the number of the PPP implementations in Turkey have also significantly increased which were developed via certain principals and regulations (Directorate of Strategy and Budgetary of Turkey, 2018). 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. 7 healthcare PPP projects out of 30 under this program have

been operating currently as public hospitals and the 11 hospitals have been financed and under construction at the time being (Ministry of Health of Turkey, 2018).

According to Emek (2015), 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. However, Turkey relatively run behind to prepare and set a global legal frame and policy for PPPs (Akbıyıklı, Kesli and Boyacı, 2010). Therefore, there is a need to scrutinize the PPP concept and the existing implementations in Turkey in order to improve the scheme in many perspectives.

Recently, having an increase in number of PPP implementations for delivery of infrastructure projects world-widely often, the number of academic studies in literature focusing on this subject and specifically applications in health sector has also increased. Having that wide range of literature available and current sector experiences in Turkey, this study tries to examine main challenges faced with over the process of procurement of PPP healthcare projects in Turkey together with performed mitigations in addition to potential mitigation recommendations for these with the participation of main stakeholders who have been involved multiple case studies.

1.2. Problem Statement

For last 20 years, over Europe and many countries all over the world, it has been observed that there are lots of advantages to have the resources of the public and private sector allocated. Hence, the number of PPP implementations has significantly increased (Akbıyıklı, 2010).

Furthermore, as against publicly financed services, PPP projects could result in much better performance in public service procurement providing more efficiency and the right allocation of risks among the public and private parties (Emek, 2015). However, as Turkey relatively can be seen as a new-comer for PPP in the delivery of healthcare services, there might be seen a certain amount of challenges, that all parties at every stage of the transactions have coped with, to be discussed and lessons learnt

and further mitigations suggestion to be assessed.

In this regard, a PPP structure shaped by lessons learnt from real project experiences in the past may certainly help to create a well-designed PPP structure for future procurements.

Public authorities being in the first place, many stakeholders are involved in structuring a PPP project such as private parties like local and international investors, lenders who provide financing for the projects, advisors who have partial or full contributions in the process.

A large number of academic studies in both international and Turkish literature examines PPP infrastructure investments in terms of many aspects such as risk, benefits, adverse effects and mostly concentrating on a single stakeholder perspective, but only few of those studies are able to discuss real sector experiences in a broader sense from the point of multiple players in Turkey simply because the implementations of hospital PPP projects are brand new in Turkey.

Therefore, the most significant outcome of this research is to identify challenges and strategies for mitigations thereby lessons learnt from the real PPP healthcare project experiences from the main stakeholders' point of view who were involved in the transactions by way of synthesizing' with academic studies in order to support and being a guideline in a way for both public authorities and private sector players which includes foreign and local investors, financiers, consultants in future infrastructure PPP investments with high efficiency and larger benefits compared to publicly financed services.

1.3. Purpose of Research

This study aims to identify main challenges which have been experienced during all stages of transactions starting from bid stage till end of the concession of healthcare PPP project applications in Turkey and determine how those challenges are mitigated

or can be mitigated further in order to deliver successful PPP infrastructure investments having them as sustainable, efficient and effective assets with high level services to public.

The general structure of a PPP project contains several stakeholders such as public authorities, investors, financial institutions, lenders/funders, advisors, contractors and operators. The study will analyze 5 Case Studies by reviewing assessments from interviewees formed of a group of 10 people who are involved in these healthcare PPP case studies in Turkey as the main stakeholders to determine challenges and performed mitigations and potential further suggestions. In order to reach the main aim, the following objectives are targeted to meet:

- To identify the main challenges faced with during the procurement of the case studies starting from the bid phase including commercial close, financial close, construction and operation.
- To determine whether the identified challenges are mitigated during the implementation of the projects.
- To have discussions to understand the potential mitigation suggestions for the identified challenges.
- To have a summary of the key challenges together with the strategies should be applied for future studies as a guideline including the lessons learnt from the real sector case studies.

1.4. Literature Study

Yecombe (2007) defines a PPP having the main features as follow:

- 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.

One of the most significant elements for a successful PPP is a proper risk allocation between the private and public party where the risk should be kept by the party best able to manage it. Furthermore, the public party needs to ensure that the project procured via PPP scheme would be delivered at a lower cost with an higher efficiency comparing to a public financed project, (Mouraviev and Kakabadse, 2016).

According to PwC (2018), generally PPP implementations worldwide are seen in the sectors other than the healthcare and mostly in developed countries. However, there is an increasing number of countries which have not developed yet are also focusing on PPP scheme as an alternative infrastructure investment tool for healthcare PPP projects.

Various research studies have discussed about the key risks and challenges that are faced with in procurement of healthcare services through PPP. UNECE *et al.* (2012) identifies some remarkable challenges based on the case studies and world-wide country reviews under their studies like how fast healthcare sector changes, opposition of workers, swiftly changing technology, necessity for an improved contract management along with required flexibility for possible variations in addition to more advanced monitoring.

In general, for Turkish PPP market, Emek (2015) addresses main challenges that main stakeholders have coped with while delivery of Turkish PPPs such as bankability issues, proper demand forecasting, risk allocation, payment mechanism (currency/inflation risks), legal framework ruling PPPs, fairly managed tender process and better value for money.

1.5. Research Methodology

In order to understand the general PPP structure and evolution in the world and Turkey specifically in healthcare sector and to identify the challenges and mitigations in PPP healthcare projects in Turkey set as objectives above, at the very beginning a comprehensive literature survey was performed. 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 including Turkey still need serious number of infrastructures and the do not have enough experience and know-how in PPPs especially in healthcare sector. Secondly, as Turkey has launched its Health Transformation Program (HTP) recently in 2010, there is not many researches in the literature regarding the projects already performed which are at different procurement stages. Hence, the lack of real-life experiences, challenges and lessons learnt in healthcare PPPs in Turkey in the recent literature brought the idea to determine the challenges and mitigations in Turkish PPP healthcare projects using case study as the research methodology.

Considering the pre-knowledge on the main risks and challenges in PPP projects worldwide and Turkey, a detailed assessment has been done with the aim of determining the most significant risks in PPP procurement. After the literature review, having the case study research method as most commonly used method in literature review for the future assessment of the performed projects and the need of real-life experiences and lessons learnt, five healthcare PPP projects in Turkey were determined as case studies and 10 project stakeholders were interviewed as a data collection method under the case study research methodology in addition to the primary information such relevant reports and documentation shared by the participants.

The next step was determining the problems that sector participants interviewed have challenged during the procurement of the project structured in different stages of the process together with the mitigations to those already applied, or any suggestion as solutions for future references. Having a full review of interviewees outcomes together with provided primary information, the results of the research were studied

and suggestions for further researches and PPP healthcare sector specifically in Turkey were underlined with providing a strategic road map in order to have a successful PPP implementation.

1.6. Organization of the Thesis

This thesis is structured as 6 main chapters including this introductory section. The second chapter introduces a general overview of PPPs and particularly healthcare PPPs in the world and Turkey in terms of their evolution and today status. Moreover, it sets out the general structure of a PPP project financed by private sector covering all phases from initial procurement stages till the operations. Additionally, a literature review of risks in the PPP infrastructure investments especially in healthcare sector are investigated in the same section. In the following section, Chapter 3, research methodology is explained in detail. Findings are scrutinized together with the discussions on findings under the Chapter 4. Conclusion of the thesis and further suggestions are provided in the final chapter.

2. GENERAL OVERVIEW OF PUBLIC PRIVATE PARTNERSHIP

2.1. Introduction

The demand of services and infrastructure needs of communities, which are essential to growth of an economy, have been increased especially in developing countries. Together with this increase, governments have started to have funding gaps under their budgets for construction and maintenance of infrastructures. Consequently, private-sector financing through public-private partnerships (PPPs) has arisen where the government resources are not sufficient (Ministry of Development of Turkey, 2018).

Since the beginning of 80's, the implementation of the public-private partnerships (PPPs) principals has significantly increased worldwide due to the benefits which are shaped via synthesis of the resources and capabilities of the public and private sectors (Akbıyıklı, Keşli and Boyaci, 2010). Therefore, in order to provide public infrastructure assets and services, a significant number of worldwide country governments have started to prefer using Public-Private Partnerships (PPPs) (World Bank *et al.*, 2014).

Even though there is no single, internationally accepted definition of 'Public-Private Partnership' term, Klijn and Teisman (2003) defines it as 'cooperation between public and private actors with a durable character in which actors develop mutual products and/or services and in which risk, costs and benefits are shared'.

As an alternative to the traditional procurement methods PPP scheme has showed up after 80's and been structured based on the procurement of good, services and construction works from the private sector. The model has various similarities with the traditional method of procurement of public services by private sector. However, PPP model has become a favorable in terms of legal framework, bid process and contract management, public sector guarantees, financing structures, subcontractors' roles, political- administrative and financial responsibilities, organization structure (Karasu,

2011).

All over the world, the use of Public Private Partnership has become widespread during last 20 years and the model has been started to be implemented in the transportation projects firstly and then applied in other sectors as well (Espigares and Torres, 2009).

The main idea of PPPs is to overcome the financing problems that public sector faces with in infrastructure investments and to increase the efficiency and quality in public services benefitting from the private sector know-how in management (Akbıyıklı, Keşli and Boyaci, 2010). Having the private partner's investment and benefiting experience of the private side for development in public service delivery, projects can be procured under the PPP model in several sectors (PwC, 2018)

The structure of PPPs is very complex by nature as there are several sector players involved in several stages of the transaction; there are sponsors/investors, lenders/funders, and subcontractors which provides construction and operational services on the private-sector side whereas on the public-sector side there are public authorities. In that sense, in terms of risk allocation, PPPs aim to transfer the risk to the parties best able to manage and control them according to Yescombe (2014). Having main risks (delays, cost overruns etc.) in infrastructure projects passed on the private sector, it has been observed that public services have been provided in much better quality (World Bank, 2014). Therefore, PPPs may be seen as an efficient tool to have private party's involvement to deliver the infrastructure projects in the most up-to-date forms (Yescombe, 2014). Provably, Emek (2015) agrees with the idea that PPPs which are completed up till today helped a lot the infrastructure services become modern.

PPP model has been used in different countries depending on the need of the country in various sectors. Consequently, development of public infrastructure in transportation, energy, health, education, water supply/sewers but mostly social infrastructures becomes prominent in developing countries; whereas authorities in relatively more developed countries focus on renewal of existing public infrastructure, and improvement

and adaption of them to the new technologies in order to increase the quality (Grimsey, Lewis, 2004).

2.2. Evolution of PPP Implementation in the World

The use of Public Private Partnership has become widespread during last 20 years and the model has been started to be implemented first in the transportation projects and then applied in other sectors as well (Espigares and Torres, 2010).

Despite the fact that PPP term may be seen as fresh, the history of private sector financing in public services goes long way back. In 18th and early 19th century, a group of private sector players set up turnpike trusts where some private financiers provided financing to them for repair of the roads and the repayment of this debt were paid by tolls charged and following that until 1850s in London there are lots of bridges were funded via similar trusts. Whereas in France, it is much earlier that capital of private sector was used for public services such as canals in 17th century (Yescombe, 2014).

The 'public-private partnership' term world-wide first arose in the United States with regard to financing for an educational plan with involvement of both public and private parties in the late 1950s and thereafter, in the 1960s, it started to be frequently used as in the form of public-private partnerships for urban renewal (Yescombe, 2014).

In 1980's one of the common types of PPP was launched out first in Turkey as 'Build-Operate-Transfer' (BOT) contract with the first energy plant project. Starting from 90s, the concept of procurement of public services by private sector started to be implemented concretely in the United Kingdom, (Yescombe, 2014; (Directorate of Strategy and Budgetary of Turkey, 2018). In 1992, in order to encourage the private sector equity investment, the PPP model came out first in United Kingdom as Project Finance Initiative (PFI) in the modern period, (Eaton and Aybıyıklı, 2005). At that time, the government aimed to change the concept of procurement public services as under "public management" instead of "public administration" (Akbıyıklı, Kesli and Boyacı, 2010). Moreover, it is considered that today European countries in general has

a 40-year experience in terms of modern applications of PPP concept (Booth, 2015).

There is a global increase in growth of the PPP investments especially after 2000. The total investment amount of private participation in infrastructure (PPI) projects in emerging markets and developing economies (EMDEs) which have reached financial close stage in 2012 made a peak with. $148bn. In 2017, PPI investments reached US$ 93.3 bn with 304 projects in total, but comparing to previous year, the invested amount has increased by 37%. Moreover, the number of projects invested in 2017 marginally increased in terms of from 280 in 2016, to 304 in 2017. However, total investments in 2017 are 15% lower than the average of the total amount of investments which were made in the last 5-year. It is also worth to note that these figures only include the infrastructure projects in energy, transportation, telecommunication and IT, water and sewer management systems (World Bank Group, 2017).

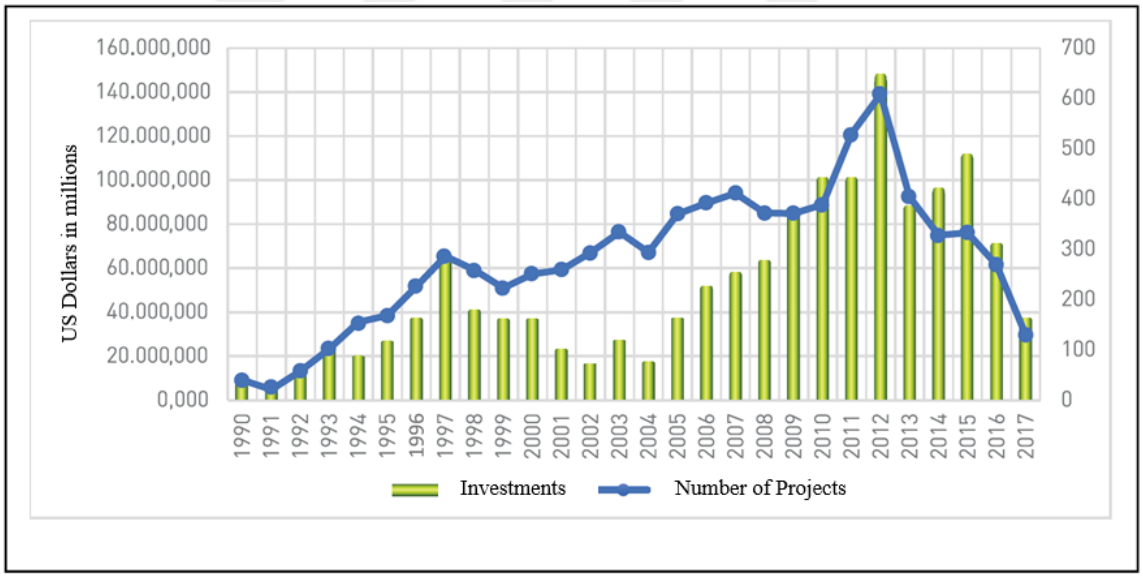

Figure 2.1. PPP Project Projects in Developing Countries by Value and Number (1990-2017) (World Bank Group, 2017).

Overall in Europe and Europe and Central Asia, the US$5.3 billion has been invested in PPI projects in 2017 with an 28% comparing to the previous year figures. Turkey and Russia took the lead for PPI investments and 71% of those investments in the region were made in these two countries. In Turkey, investment amounts have been decreased by 60% over its 2016 level. However, Russia has a ten-fold increase in

2017 comparing to the previous year (World Bank Group, 2017).

Specifically, in Europe, PPP projects worth EUR 14.4 billion financial close is completed in 2017 with an increase of 22% compared to the ones in 2016 (EUR 11.8 bn). On the other hand, in 2017 there are 42 PPP projects which achieved financial close whereas 68 PPP transactions were closed in 2016. Having said that, the average project size has become EUR 351 million against EUR 174m in 2016 (European PPP Expertise Centre (EPEC), 2017).

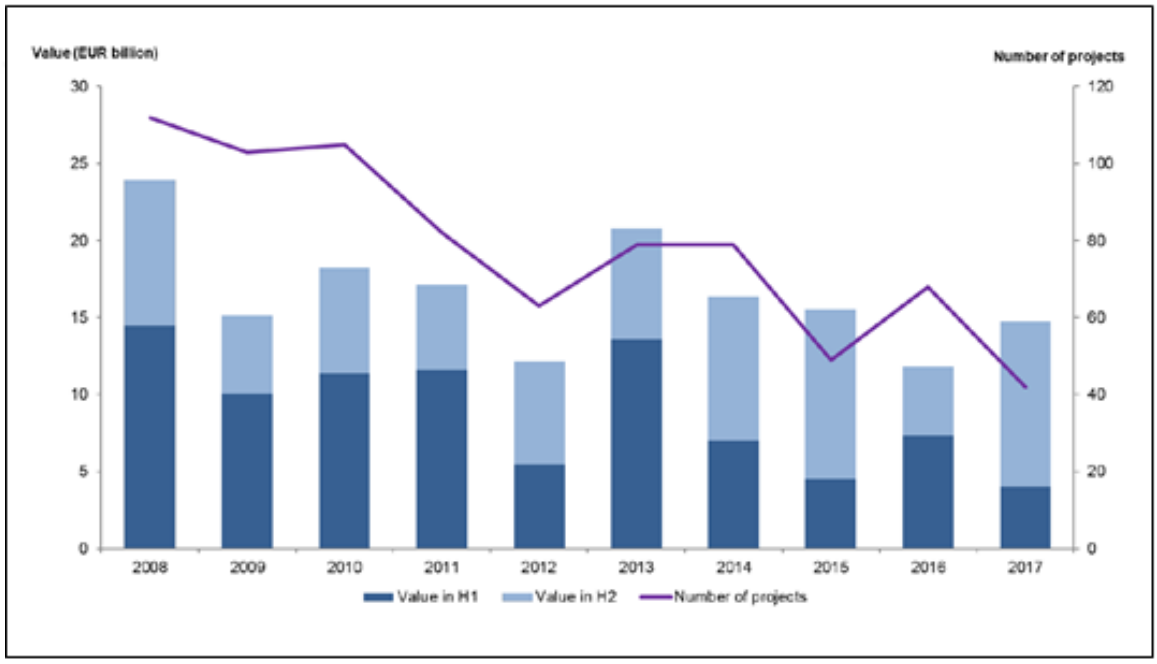

Figure 2.2. 10-year view of the European PPP Market by Value and Number of the Projects (2008-2017).

In today's world, the need in infrastructure investments has been increasing rapidly due to the irrecoverable increase in the urban population. However, most of those investments are required to be delivered concurrently and the governments have difficulties to procure those facilities through the existing financing options or are not even able to provide the necessary funds. Therefore, having an external financing option other than the governments' own resources becomes important more than ever (Directorate of Strategy and Budgetary, 2018).

2.2.1. International PPP Healthcare Project Implementation

The public authority's resources are not sufficient to provide and/or improve the basic public services developing countries. According to IFC (2010), in order to keep a stable economic growth and decrease poverty, the investment amount for essential infrastructure ought to be between 7-9% of GDP. However, this amount for infrastructure investments on average in developing countries is less than 4% of GDP per year. Therefore, this brings the need of private sector involvement into view for public sector to be able to fund the financial gap (IFC Advisory Services, 2010).

Authorities in all over the world have started to approach PPPs in healthcare due to the funding gap for healthcare infrastructure as well as all other public services, (Bult-Spiering ve Dewulf, 2008 as cited in Celik and Tekin, 2012).

UNECE *et al.* (2012), defines healthcare PPPs in more particular way as "models of cooperation, consisting of various types, with the common objective of improving health care, combining the best the state (regulation protection of the public interest) and the private sector (creativity, technology, management and finance) have to offer and avoiding the excesses of either an exclusively state run services or a fully private one".

Governments have the pressure to be able to handle the challenges in healthcare sector as to improve the quality of services and provide a broaden access to the services for communities while trying to keep the cost at optimum levels; simply because nowadays there is a larger spectrum of diseases, broader complexity of healthcare services, more educated patients, increase in costs of services, and continuous improvement in healthcare technologies. Additionally, countries also look for solutions to be able to implement Universal Health Coverage with the aim of Sustainable Goal 3 ("to ensure healthy lives and promote wellbeing for all at all ages") by 2030 which will consequently require additional need in investments in healthcare infrastructure especially in developing countries. (PwC, 2018).

As shown in the Figure 2.3 among the other sectors having transportation on the top and against the significant decrease in education sector (EUR 958 million in 2017, EUR 1.6 billion in 2016), healthcare became the second most leading sector in 2017 in project value terms having nine projects achieved financial closed with an aggregate value of EUR 3.8 billion (EUR 2.1 billion in 2016). That is mainly because of the five healthcare transactions closed in Turkey (European PPP Expertise Centre (EPEC), 2017).

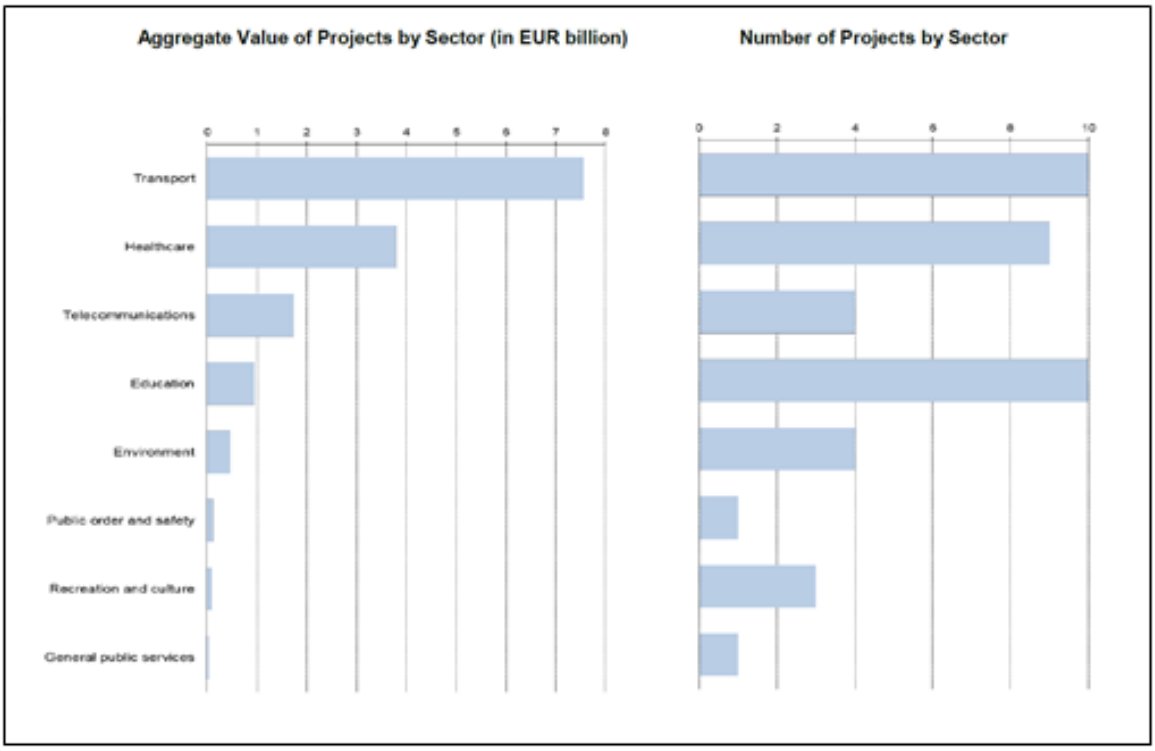

Figure 2.3. Sector Breakdown by Value and Number of PPP Projects in 2017 (EIB, 2017).

Up until today, despite the fact that the PPP projects all over the world are seen mostly in upper-income countries and not in healthcare sectors - transportation taking the lead, the number of PPP project implementations in healthcare are increasing in middle- and lower-income countries. However, it is not easy to estimate the accurate figures related to the healthcare PPPs worldwide due to many reasons (e.g. various types of PPPs in healthcare, varying development levels of PPP projects implemented) (PwC, 2018). Therefore, PwC (2018) relies on Project Finance and Infrastructure

Journal (IJ Global)'s data as being the most reliable world-wide data regarding all PPP project sectors which covers mainly international infrastructure projects. According to IJ Global, globally there are approximately 600 infrastructure projects in healthcare sector mostly of which are implemented as PPPs.

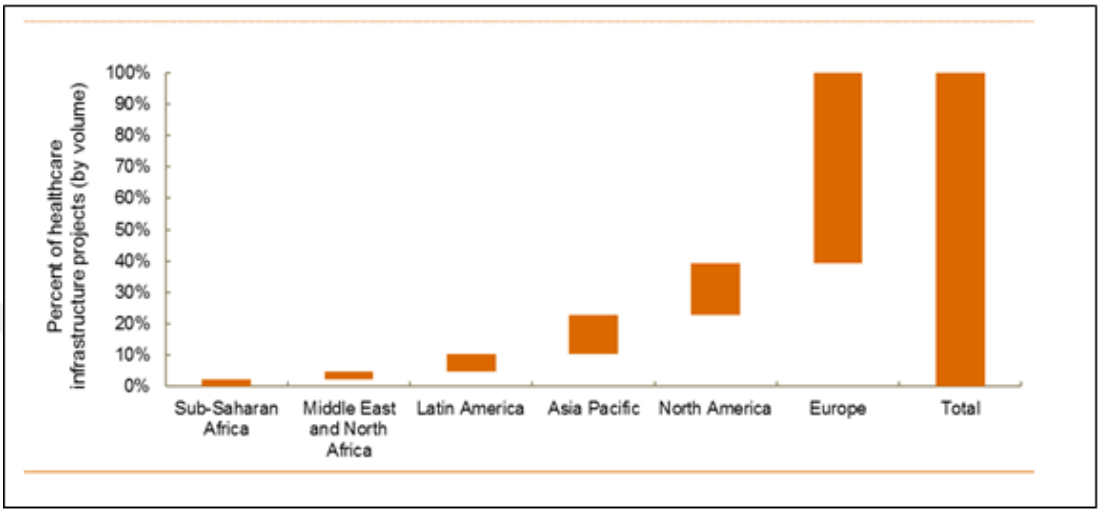

Figure 2.4. Healthcare infrastructure projects by geographic region (IJ Global Project Finance and Infrastructure Journal Project Database, 2017).

For last two decades, while the number of healthcare partnerships have been swiftly increasing but along a more prudent path, there has been various necessity in healthcare system to be improved which are related to all stages of the procurement of healthcare services such as construction and operation of the facilities. Most common type of PPP applied in healthcare projects is "design, build, finance and maintain" which is a similar model to the hospitals delivered through the Private Finance Initiative (PFIs) in United Kingdom, but a growing number of authorities are seeking for more aggressive healthcare PPP implementations as such that private sector delivers also the clinical services (PwC, 2018). According to the analysis of PwC (2018), there are there main models for healthcare PPPs as follow:

(i) Infrastructure-based model - to build or refurbish public healthcare infrastructure,
(ii) Discrete Clinical Services model - to add or expand service delivery capacity,
(iii) Integrated PPP model - to provide a comprehensive package of infrastructure and service delivery.

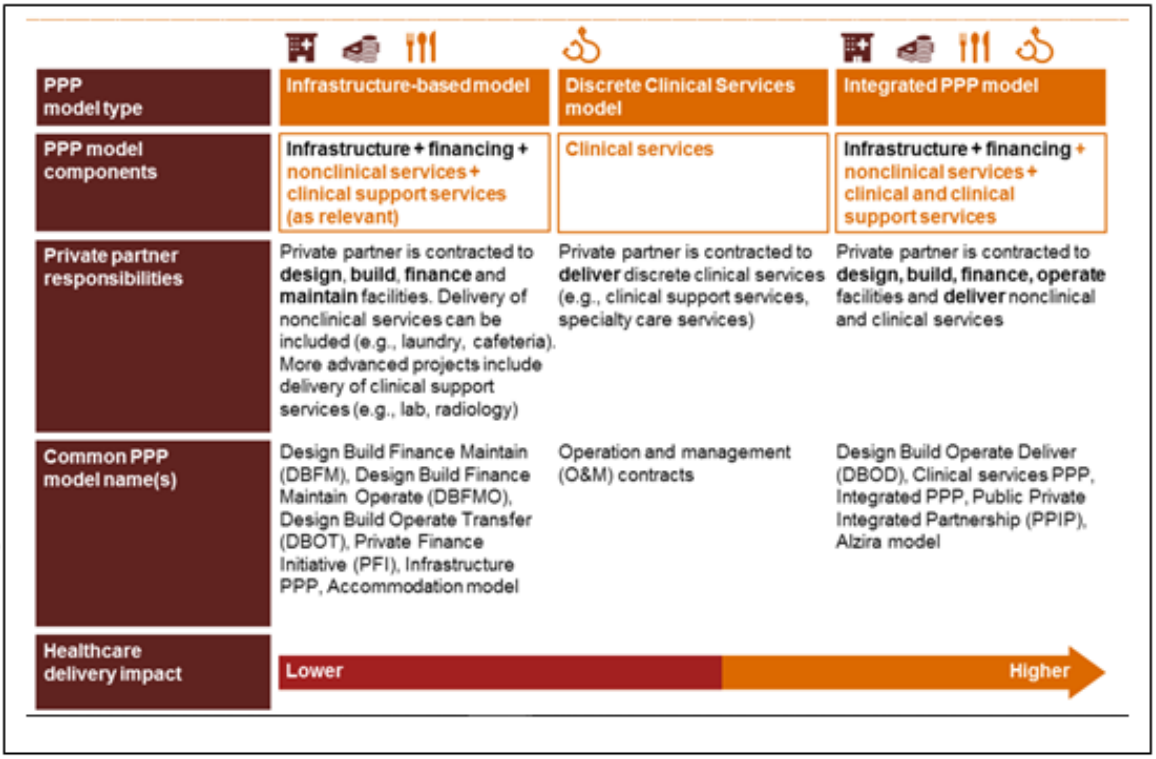

Figure 2.5. Overview of the three most common PPP business models in healthcare (PwC, 2018).

Among these three main types presented above, the infrastructure-based model has become the most commonly used model for global PPP healthcare projects for almost 30 years in the countries which includes Egypt, Italy, Australia, Japan, South Africa, Canada and across Latin America. More than 50 PPP healthcare projects with a total value of 14 billion USD have been provided via the infrastructure-based model since 2003 only in Canada (PwC, 2018). As in the next chapter it will be explained in detail, the PPP model applied in healthcare in Turkey can be also covered under the infrastructure-based model so called as the most common used model by PwC.

Furthermore, 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 way of the proper risk allocation and incentive structures benefiting of the lessons learnt. On the other hand, it will be a complex step to include medical services

within a healthcare PPP structure which requires more scrutiny.

In the procurement of healthcare infrastructures, the projects mostly are contracted as design-build-finance-maintain (DBFM) models with the authorities which would also cover various non-clinical services (e.g. security, catering, cleansing, parking etc.). Moreover, DBFO or DBFM Design, Build, Finance and Operate or Maintain) is the most common PPP model for the delivery of healthcare services. Under this model, private party will take the full responsibility of design, construction and maintenance of the infrastructure in return for 25-30 years on average operation of the facility without any clinical service delivery (UNECE *et al.*, 2012).

Most of the OECD authorities have well-developed PPP healthcare programs or are still working to enhance their program however with significant differences in the scope of these programs. For instance, there are almost a hundred public hospitals which have been provided via PPP over the last decade in the United Kingdom. In France, the DBFO model has been implemented for over 40 PPP healthcare contracts which allows the public party to be responsible for all clinical services whereas the private side setting up a special purpose vehicle to design, build and maintain the hospital providing non-medical services only during the whole concession. Canada has similar type of PPPs under the PPP healthcare program. However, Australia mainly prefers to provide the healthcare services through both private and public partners as having almost 33% of the hospitals are operated by private sector operators by 2004, whereas in Germany there are few hospitals operated by private partners (Stemmer, 2008).

The main PPP models being implemented globally can be summarized as in the below table which are categorized according to the participation of private and public partners in terms of the level of responsibility and risk allocation between two parties (Stemmer, 2008):

Table 2.1. Main Forms of Hospital PPPs (Stemmer, 2008).

Model	Description
Service Contract	Provision of a defined service (e.g., laboratory services, catering): the outsourcing can be for non clinical, clinical or specialized services
Franchising	Public authority contracts a private company to manage clinical and non clinical services in an existing hospital
DBFO (design build finance operate	Private consortium designs facilities based on public authority's specified requirements, builds the facility, finances the capital cost and operates their facilities
BOO/T	Public authority purchases services for fixed period after which ownership remain with private provide / Reverts to public authority.
BOLB (build, own, lease back)	Private contractor builds hospital; facility is leased back and managed by public authority
Alzira model	Private contractor builds and operates hospital, with contract to provide care for a defined population

2.3. Evolution of PPP in Turkey

Turkey has always become one of the promising countries at the intersection of Eastern Europe and the Middle East and its development and urbanization have started to speed up in the last 30 years. Together with this remarkable growth, the need in public infrastructure in Turkey has also increased and started to be provided with the involvement of private sector as well as in all over the world and various type of PPP structures have been applied in Turkey since then (Gurgun and Touran, 2014; Cekirge, 2006).

In the 80s, PPP has started to be implemented in Turkey first for electricity production. In the following years, the models such as build-operate-transfer (BOT), transfer of operation right, build-operate (BO) in transportation projects were used. Moreover, there are evidences that PPP model has its legal origins form the time when Ottoman Empire ruled over. In the 90s, the credibility of the PPP model started to be questioned due to the various reasons such as political instability, political and economic structure of the country and legal sanctions and inaccuracy in structuring the contracts.

However, starting from 2003, it has started to appear under Turkish government's investment policy by virtue of the aggregate arrangements and legislations of EU and the funds committed by EU (Tekin and Çelik, 2012).

In Turkey, in general the following PPP models have been used for the procurement of infrastructures: Build-Operate-Transfer (BOT), Build-Lease-Transfer (BLT), Build-Operate (BO), transfer of operating rights. As mentioned previously, the first substantial implementations of the model in Turkey came to realize in 1980s and the Build-Operate (BO) model was used first in 1984 to build electricity power plants. In this first model used in Turkey, the private sector holds the right to build and operate the power plant and sell the electricity produced to the public sector. By the end of the concession, the private partner stays as the owner of the plant. However, in the Build-Operate-Transfer model, the private partner has the right to build an infrastructure on a land owned by the public partner and operate the facility providing also the maintenance services for a limited period under a contract where the risks are shared properly between the public and private sectors and at the end of the contract, the facility is to be transferred to the public partner. The BOT model can be implemented in many different infrastructure types such as bridges, tunnels, factories, national parks etc.

Furthermore, along with the Build-Lease-Transfer model (Turkish Law N.6428), the private partner is allowed to build, operate and maintain the infrastructures (schools, hospitals, dormitories etc.) during their whole concession life and transferred to the public authority at the end of this period. However, as opposed to the BOT model, the private partner is entitled to receive availability payments in return for keeping the facilities available during the operation period, (Directorate of Strategy and Budgetary of Turkey, 2018). The main rationale of using PPPs in Turkey stated by the Ministry of Development (2017) is that the PPPs;

- are complementary and supplementary to limited conventional financing,
- help to attract foreign direct investment,
- enhance the quality, effectiveness and efficiency of the public services,

- facilitate know-how and technology transfer.

In order to support of the enhancement of the PPPs, as indicated in PIPPP Report (2018) prepared by involvement of World Bank, institutional regulatory frameworks are essential for the governments and relatively it is also important to centralize the know-how and experience in PPPs constituting a single PPP unit. Moreover, the success does not depend on only the facilitating the unit, but also other parameters related to each country's economic conditions such as its size and administrative structure.

According to Akbıyıklı et. al (2010), there is an increasing demand to set a comprehensive regulatory legal framework along with the increase in the popularity of the PPP applications, as the existing legislations for PPPs are not gathered under a single roof. It has therefore become necessary for Turkey to analyze and have a detailed understanding of the PPP models in order to implement well-grounded PPP models due to the significant need in infrastructure.

In 2007, due to the lack of a global policy and strategy in delivery of PPP applications under Turkish Law, a draft PPP law has been started to be prepared by MoD to be replaced by the law already in place and following that a single PPP unit was set up under MoD, (Emek, 2015) where it is placed under the General Directorate of Investment Programming, Monitoring and Assessment of the Ministry of Development.

Therefore, along with the draft law prepared the deficiencies in the existing legislations were identified and accordingly it was accepted that there was a need for a reform in this specific area in order to be complaint with the best international PPP practices. In this regard, the 10th Development Plan of Turkey suggested new policies and legal frameworks considering the insufficiency in the current system (MoH, 2013).

Following that, the final PPP law number 6428 was in force in 2013 and it was amended accordingly in the second half of 2014 during the period of commercial closure of the PPP healthcare projects in Turkey (Directorate of Strategy and Budgetary,

2018). Nevertheless, Turkey has showed that it has a remarkable competency in delivery of PPP projects in various fields (e.g. hospitals, telecom, transportation, energy and water) with the evidence of wide range of PPP projects which have been provided in the recent 20 years (Emek, 2015).

According to the data base of 11th Development Plan prepared by the Directorate of Strategy and Budgetary of Turkey (2018), in Turkey as of 2017 December, the number of PPP contracts executed since 1986 is 225 in total, where 191 of them becomes already operational and 34 of them completed their commercial close. Recently in 2017, there is 10 PPP projects of which the contracts have been executed.

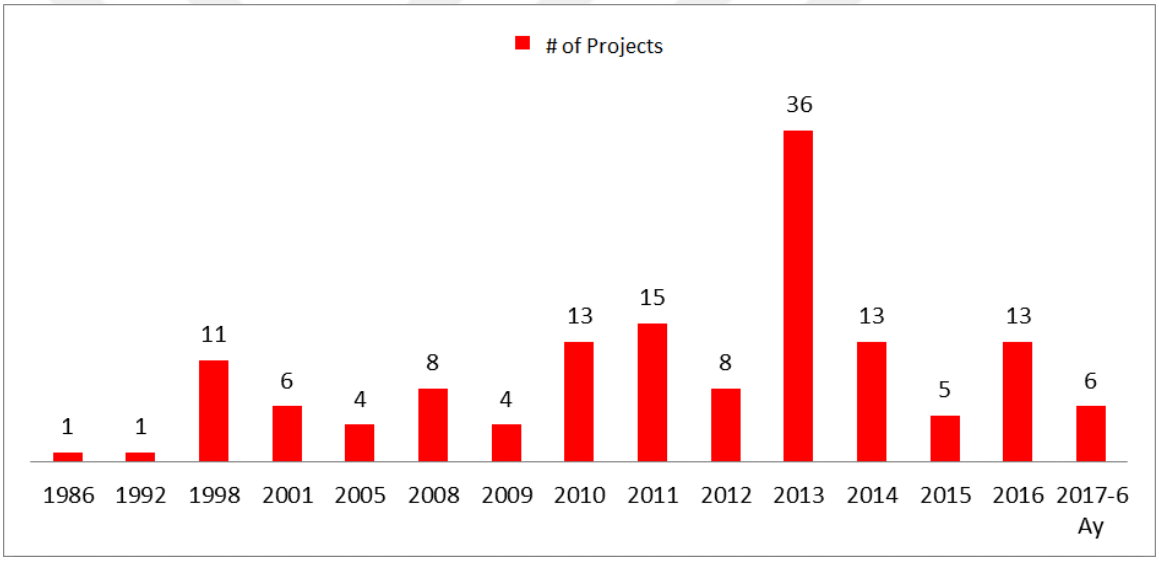

Figure 2.6. PPP Projects in Turkey by Number of the Projects (1986-2017 H1) (MoD, 2018).

The investment amount of aforementioned projects above executed since 1986 is 61.7 billion USD in total as of 2017 and in 2017 alone this figure reaches 4.5 billion USD (Directorate of Strategy and Budgetary, 2018).

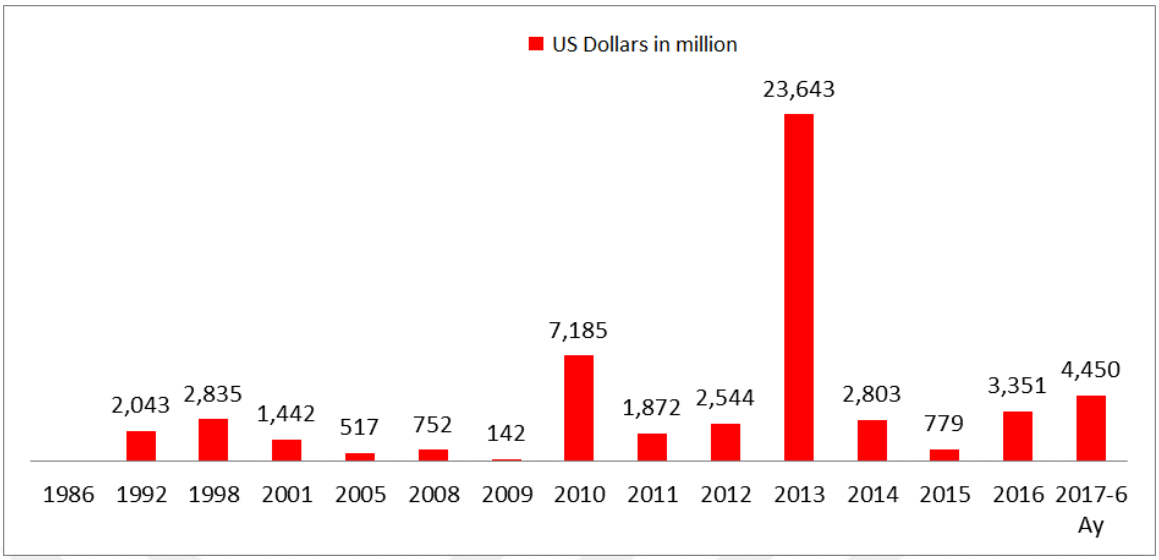

Figure 2.7. PPP Projects in Turkey by Value of the Projects (in m USD) (1986-2017 H1) (MoD, 2018).

Moreover, as per the Ministry of Development Data, the contract value of the projects between 1986 and 2017 reaches 135 billion US Dollars where the total contract price of the projects implemented in the year of 2017 is c. 6.3 billion US Dollars.

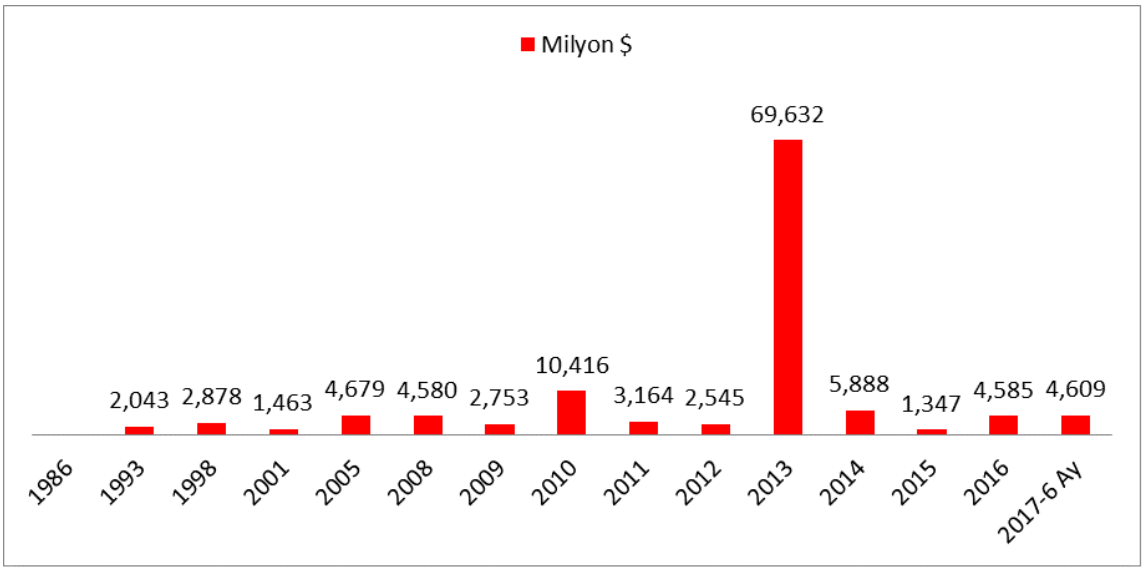

Figure 2.8. PPP Projects in Turkey by Contract Value of the Projects (in m USD) (1986-2017 H1) (Directorate of Strategy and Budgetary, 2018).

Having said that, further investments in Turkish infrastructure is required in

order to enhance the service quality. The total population and investments in public services together is shown in the Figure 2.9 against the GDP evolution in Turkey. The figure points the need in the investment per capita as having the two variables being in the inverse proportionality. One would expect the government to invest more on public services given an increasing population. However, the trend in Turkey does not support this idea. When the below figure is analyzed, it is observed that till 2000, the relationship between population and investment has been opposite. After that point although there have been some improvements about the investment, there are fluctuations.

Therefore, Emek (2015) reads the situation as there is still a long way for Turkey to improve the delivery of PPPs with the aim of reaching the OECD average in terms of quality.

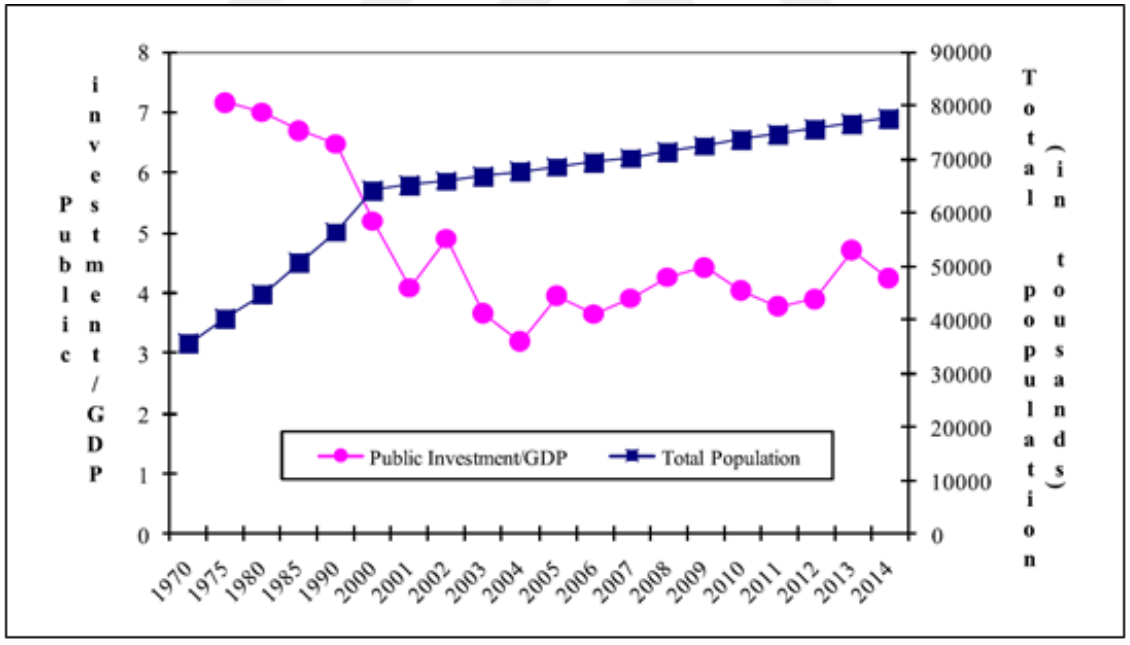

Figure 2.9. Public Investments/GDP (%) and total population (in thousands) in Turkey (Emek, 2015).

2.3.1. PPP Healthcare Projects in Turkey

Roehrich *et al.* (2014) believes that most of the European countries are in a need for further large healthcare infrastructure investments and this is not solely because of the countries who have just joined to the EU or candidates to be a member but also mostly western European countries which requires advanced healthcare infrastructures with the cutting-edge technology. Roehrich *et al.* (2014) also supports the right parameters to measure performance for a hospital PPP could be building new and advanced healthcare facilities, procuring more qualified and efficient healthcare services, innovative risk allocation and enhancement in performance.

On one hand, EU countries require enhancement in healthcare facilities, on the other hand, in Turkey as a developing country, the access to healthcare services in the public hospitals prior to 2003, had some inequalities where only a minority population could reach healthcare services timely manner with relatively high-level quality. This main challenge led Turkish Government to initiate a reform in public healthcare sector which was called Health Transformation Program (HTP) in order to increase the quality and efficiency of the healthcare system and enhance access to the public hospital network with the introduction of a number of reforms which would end up strengthening the overall public healthcare system serving the community under the coverage of social health insurance (IFC, 2016).

PPP structures are more appropriate to implement for the projects requires major investments such as infrastructure investments in schools, power plants, hospitals. In Turkey, the model has been implemented in some of those areas, but not healthcare sector of which applications are mostly seen in France and England. In 2006, observing the financial gain in other countries, Turkey also focused on the studies and assessment for the healthcare sector (EIB, 2015).

Furthermore, the need of modernization in technology in most of the healthcare facilities in Turkey was also one of the main concerns in the healthcare system as the country did not have up-to-date infrastructures and the technologies for the services.

The target of the Government of Turkey for the new hospital beds with this transformation program is more than 90,000 by 2023 having the fact that the bed number per person (2.6 beds per 1,000 people) in Turkey is considerably less than the average of OECD figures (3.6 beds per 1,000 people), (IFC, 2016).

Following the launch of the Health Transformation Program (HTP), Directorate of Strategy and Budgetary of Turkey (2013) declared under the 10th Development Plan Report that PPP model would be preferred to build new healthcare infrastructures as the public funds are not sufficient to provide financing for those. Moreover, as the aim would be to apply PPP models in the construction and renewal of the hospitals in the most efficient way in several aspects, the public expenditures reserved for the healthcare sector will also decrease. Findings of research done by Celik and Tekin (2012) supported the idea that with the launch of HTP, MoH was expected at that time to succeed major healthcare investments in a very short timeframe and would finally renew the infrastructure in Turkish healthcare sector which would be much beneficial to first patients and then health personnel including doctors, student and workers.

According to PwC (2018), the main reasons where the authorities prefer to use the PPP models in healthcare infrastructures are as follow:

- lack of new or modernized hospitals,
- insufficient public funds,
- necessity of enhanced administration skills to provide healthcare services with higher quality and cost efficiency,
- need for stronger and more efficient procurement and supply chain,
- necessity for additional services/skills (e.g., specialty services) or enlarged service capacity.

During the development of HTP and prior to that, MoH benefitted from several international, independent institutions, advisors experienced in the sector. MoH assigned dedicated technical, financial and medical teams composed of employees from

other departments within the Ministry to work in the monitoring function of the whole implementation process, as well as hiring experts as an external consultant. Furthermore, several other development finance institutions (DFIs) were the strong supporters of the healthcare PPP program in the region in addition to the participation in the financing of various PPP project in the program. For instance, at the initial feasibility stage, these DFIs provided grant for initial Value-for-Money (VfM) analysis, which will be explained in detail in further chapters (World Bank Group, 2018).

In parallel, starting from the time MoH awarded the first project, they have been in communications with awarded bidders and several bidding parties along with the participation with the international lenders to be involved in the projects thus enhancing the HTP's legal and contractual framework to amend necessary laws and regulations to be able to attract further investment in the healthcare sector. The MoH has also considerably expanded its implementation team to manage the negotiations of the PPP program and has been increasing its resources at a steady pace to effectively manage the oversight of PPP services that will be provided by the Project Sponsors in different Projects (World Bank Group, 2018).

There is a various type of PPP implementations in healthcare sector all over the world. In some countries, public healthcare centers continue giving the medical services provided by public partner, whereas support clinical services are procured by the private partner. There are other countries which prefer private sector also manage the public hospitals or in different examples governments would like to engage with a private partner to build a new healthcare infrastructure and hold the right to rent the structure to the government for long term periods. As another type, the existing healthcare facility operated by the public sector can be sold to the private party to be operated as a hospital or any other business operations (Bult-Spiering and Dewulf, 2008; Yescombe, 2014).

Under the PPP type classification made by Yescombe (2014), generally schools and hospitals are procured as the 'accommodation-based' type which is typical for social infrastructures delivered via PPP model. Within the context of that model,

private partner builds a new facility for the use of public side where provisions of support services are also carried out by also private side. The main aim of the private partner here would make the facility available for the community use. Yescombe's (2014) 'accommodation-based' model describes the same type as 'infrastructure-based' model defined by PwC (2018) where the infrastructure and non-clinical together with the clinical support services procurement is managed by the private partner. The implementation of the PPP hospitals in Turkey have been done using also this model.

The Health Transformation Program initiated by Turkish Government have around 50 PPP healthcare projects in the country with an approximate total value of investment of 20 billion EURs, the program aims to provide bed capacity in higher number by bringing the private sector contribution mainly in the services especially in areas like woman and child health, rehabilitation, oncology and cardiology. The Program's main target is to achieve a remarkable improvement in the accessibility and procurement of public healthcare services enhancing the quality and efficiency in order not only to improve the existing services in today's Turkey but also fulfill the healthcare need of the next generations in the country. Having the procurement of the hospitals through the PPP scheme, the awarded private partner will carry out the financing, construction, operations and maintenance of the hospitals whereas the Ministry of Health will be responsible of provision of the medical services, (IFC, 2016).

HTP developed by MoH includes 30 PPP healthcare facility with 42,000 beds in total. In the first half of 2017, the bid of 19 out of 30 hospitals in addition to the Turkish Public Health Institution building were completed and the corresponding PPP contracts were signed and the feasibility studies and bid preparations of the remaining 11 facilities with around 11,500 beds are currently going on. The health facilities are named as 'City Hospitals' or Integrated Health Campuses' which will be replaed with the existing old hospitals located in the city centers (Emek, 2017).

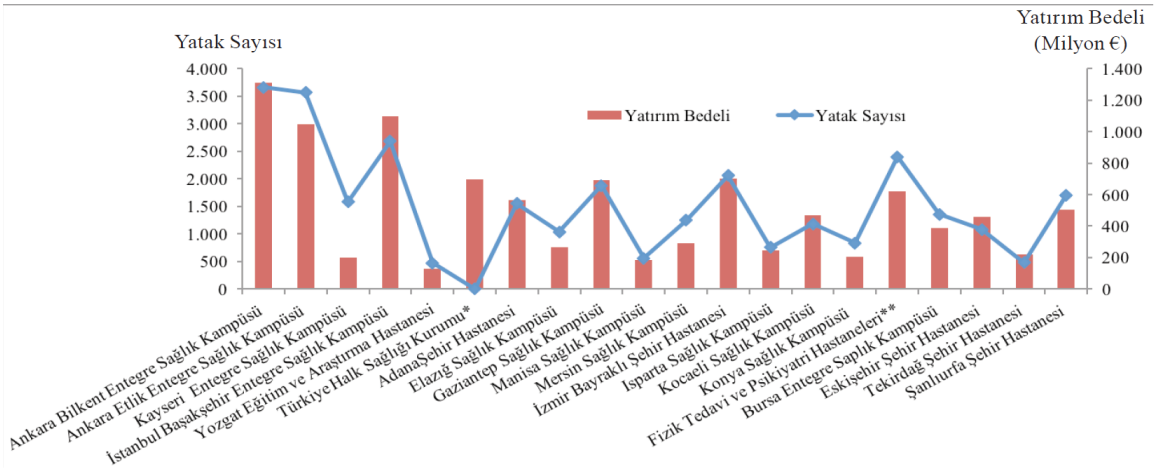

Figure 2.10. PPP Healthcare Projects in Turkey by Value and Beds (Emek, 2017).

According to Emek (2017), by the first half of the year 2017, only 12 transactions out of 20 projects commercially closed achieved financial close and the three of them completed the construction and commenced the hospital operations.

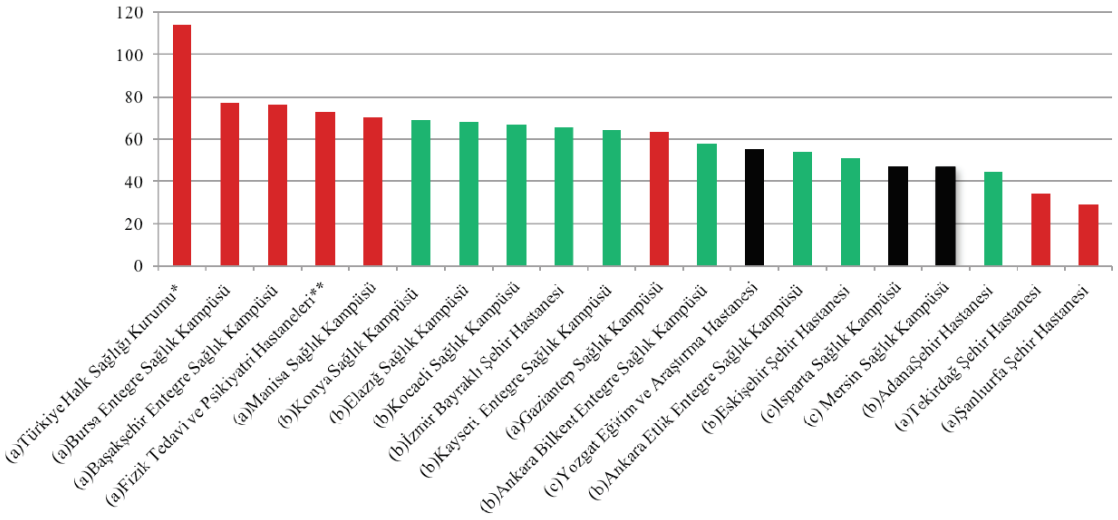

Figure 2.11. (a) Financing phase (b) Financial close completed (c) In operations (Emek, 2017).

As shown in the Figure 2.11, among the European countries, Turkey became leader with the total investment amount of the PPP transactions closed in 2017 which increase to EUR 6 billion from 1.5 billion in 2016; and UK was the leader having the

largest number of PPP transactions completed their closings (12 financial closings) in the same year.

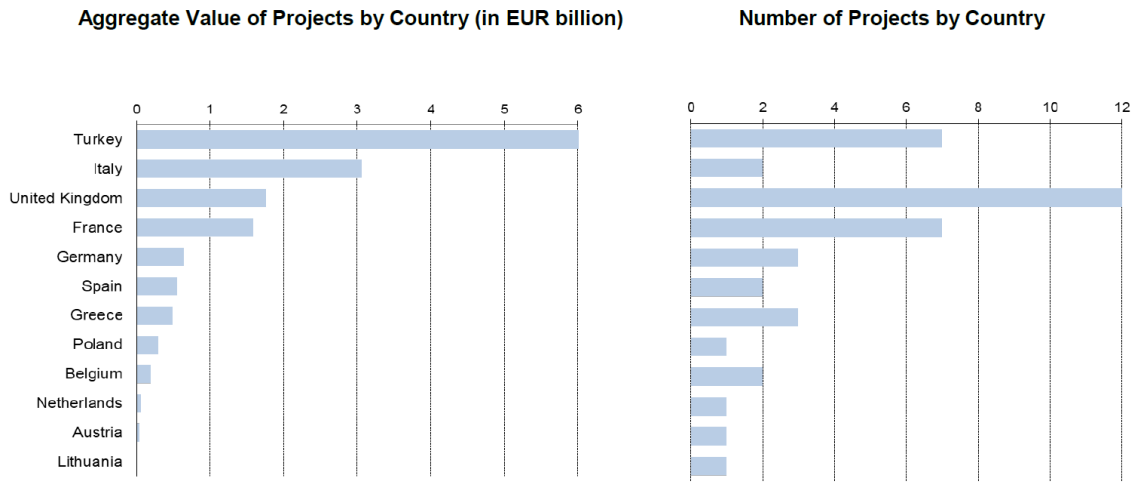

Figure 2.12. Country Breakdown by Value and Number of PPP Projects in 2017 (EIB 2017).

According to the data again prepared by EIB (2017) related to the PPP projects in number and investment amounts by sector, healthcare sector was ranked as the second most active area where the facilities are implemented through PPP structure among the other top sectors such as transportation, telecommunications, education, environment, public order and safety (Figure 2.13). Nine PPP healthcare projects achieved financial close in 2017 with a total investment amount of EUR 3.8 billion which has been increased by 1.7 billion comparing against the figures in 2016. Main reason for that increase was 5 PPP hospitals in Turkey which completed their financial closes in the same year.

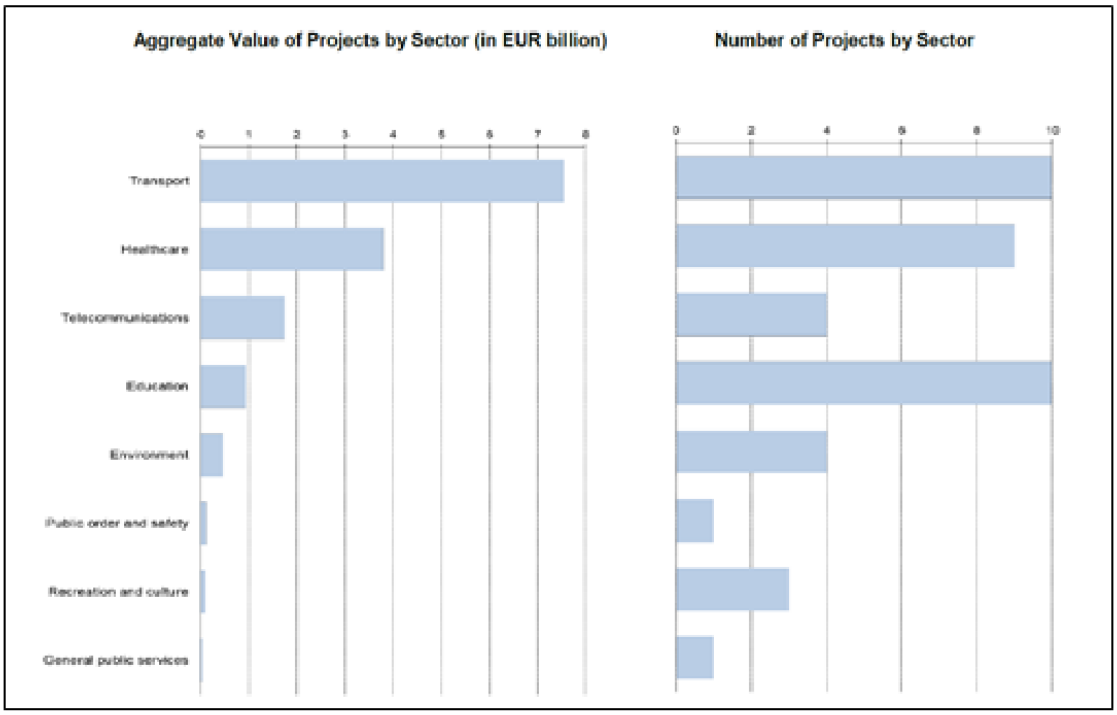

Figure 2.13. Sector Breakdown by Value and Number of PPP Projects in 2017 (EIB 2017).

Yescombe (2014) underlined that the risks are allocated to the party which will be able to manage the relevant risk best under a PPP model. That is why according to Karasu (2011), the Ministry of Health is responsible of provision of medical services and the private sector will take care of the medical support services (e.g. laboratory, sterilization) and non-clinical services like catering, laundry, car parking etc.). Therefore, the MoH of Turkey will have the hospitals built and operated by the private sector except the clinical service delivery so that private partner will be paid for financing and building the healthcare infrastructure and provision of the secondary services under a long-term PPP contract.

Although the implementation of the PPP program is currently seen as a success story by MoH and some private sector players, Emek (2017) mentions that under the HTP initiated in 2005, 12 deals out of 20 transactions commercially closed previously completed their financial close by the first half of 2017. The first amendments to the legal framework related to the PPP was done in 2005 and the first bid of the PPP

healthcare projects was materialized in 2009. However, there were only 3 hospitals started to operate in the first half of 2017. The longer the period between the bid and the financial close of a project becomes, the more the investment cost is vulnerable to the externally driven elements in both positive and negative directions. Thus, PPP contracts failed to complete the projects within the envisaged time and budget.

In accordance with the data recently provided by MoH (2018), the table which demonstrates the latest status of the healthcare campuses under the program of MoH can be found in Appendix A.

Having the recent literature review done under this thesis, it can be mentioned that the HTP took its grounds from a long process carried out by MoH with cooperation of the international institutions, consultants, various bidding parties and equity investors which brought know-how and experience in the market (IFC, 2016); whereas it is also said that even this being the case 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). Therefore, the process itself requires to be scrutinized in order to have a better understanding of the challenges confronted throughout each phase and the way and solutions how the stakeholders overcome those challenges and further recommendations.

2.4. PPP Structure Overview

2.4.1. Initial Feasibility

The process for a new PPP infrastructure initiates for a government to make a decision on whether the PPP scheme would be the best option for the project. There are several ways for a public entity to measure whether a PPP project or a public procurement would be feasible. According to Yescombe (2014), while deciding on a project delivery to be done through a PPP scheme, the main elements to be considered can be listed as below:

- Value for Money (VfM),
- Affordability,
- Balance-sheet treatment.

With respect to IFC (2010), Value for Money is one of the basic analysis to identify whether a PPP procurement for a project would be more feasible in comparison with the same project to be delivered as a public financed one. While public sector doing a VfM analysis, it is also important to understand the 'affordability' of the project. Depending on the risk allocation and payment mechanism of the project, if it is not a user-pay infrastructure, authority also should ensure to set a proper budget for the project taking into account all potential marco-economical changes during whole concession life, or again the public side needs to be sure that the community/public would be able to afford the charge fee of such an infrastructure if that is a user-pay project. Lastly, the balance sheet treatment also requires for a public authority whether a PPP infrastructure to be "on-balance sheet" or not which can be done in accordance with the Eurostat's rules regarding the accounting systems for the governments taking the basis from System of National Accounts ('SNA') (Yescombe, 2014).

World Bank Group (2018) states that in many countries a PPP project requires an approval process on the government side. The initial element to achieve a proper PPP delivery is therefore to identify the project so called as "outline business case" whether it would be better under a PPP scheme to procure. This whole process can be called as initial feasibility on the public partner side as the selection procurement method as PPP scheme for a project delivery. Completing all official procedures on authority side having required approvals in place, the project becomes open to public and presented as a "Business Case". After that, as the next step, government needs to form a team to manage the process as the project manager representing the public party (Yescombe, 2014).

Following the approval of an infrastructure as a PPP procurement, 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 mainly define the liabilities

and the risk allocation among the parties. Those major terms should suffice for parties who are 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 enough with a view of defining very well the responsibilities, liabilities, risk sharing mechanism and compensation mechanisms for any changes (World Bank Group, 2018).

Development of main principals of the commercial terms composes a detailed project agreement design which comprises the treatment to any changes, contract management provisions like dispute resolution, termination (World Bank Group *et al.*, 2014).

Mainly the PPP contract terms 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 (World Bank Group, 2018).

As regards to Yescombe (2014), the overall life of a PPP procurement composes four main phases which will be explained in detail in the following sections.

2.4.2. Procurement Phase

Under the procurement phase, following the decision for a project to be delivered within a PPP model, proposals for the tender are collected and subsequently authority decides on which bidder would be awarded with the project according to the evaluation criteria under the tender call documentation. Yescombe (2014) categorizes the tender procedures in three alternatives:

- 'Open' procedure: where any bidder is permitted to join the tender,
- 'Selective' procedure: where the public partner prefers to refine the bidders via a

pre-qualification procedure before the final tender,

- 'Limited' procedure: where public partner communicates directly with the pre-defined bidders without setting up a bid process (with or without pre-qualification).

Open and Limited procedure are very unlikely to be appropriate for PPP procurement laws and procedures. Therefore, the most common tender alternative is the selective procedure which also includes several alternatives to select the final bidders where authorities decides which one to be used based on the jurisdiction and project conditions (e.g. complexity and size of the project, corruption risk during the process, Yescombe (2014).

In general PPP practice, a due diligence including detailed feasibility and design studies is required to be carried out by experienced advisors on behalf of the public partner prior to the preparation of bid documentation following the preliminary feasibility analysis pursuing a well-structured project (Dewar, 2011).

Before announcing a bid, in order to refine the potential bidders, private partners are invited for a prequalification procedure which enables the public partner to assess the potential bidders' eligibility to submit a robust bid proposal considering their financial capacity, previous experience and technical capability to deliver the project. The requirements expected from the private sector are listed under the official proposal request document so called as 'Request for Qualifications' (RfQ) or call for 'Expressions of Interes' (EoI) which is announced in official broadcasting areas (Yescombe, 2014).

With the intend of creating a competitive environment for a bid, the government should make the selection of the short-listed bidders in accordance with the expectations related to the project such as financial, business and technical capabilities (EIB, 2018).

There are several alternatives for the period when the PPP contract negotiations should be done with the private partners suggested by Yescombe (2014) as such that it can take place before the prequalification, or in between the prequalification and

the tender process which solely based on the project, sector and the country factors. However, the key is to keep the negotiations on the PPP agreement prior to the bid submissions, otherwise the process after the bid would not be easy to manage.

Tender documentation should be time wisely prepared by the public side as usually to be ready to be published right after the announcement of the short-listed bidders list. Any information needed for pre-qualified bidders to be able to bid requires to be included under the bid documents. Hence, authority's consultants should take enough time to work on the tender documentation ensuring that the bid structure allows bid requirements to be comparable with the purpose of an effective PPP contract negotiation process (EIB, 2018).

Yescombe (2014) states that a standard PPP project bid process kicks off with the official tender call along with the documentation published where a point of contact to be assigned on the authority side to manage the communications with the potential bidders. The bid package released to the bidders generally include the legal framework, construction and performance standards, any support to be provided by public side, any available data related to the corresponding market, risk allocation and a timeline for whole process including the bid deadline along with the bid evaluation criteria. During the dialogue with the bidders, there might be some amendments to the bid documentation including the PPP agreement where the bid schedule needs to be revised accordingly.

After the bid proposals submission, as ideally the authority eliminates already the bidders who do not suffice the requirements set at the prequalification stage, public partner's assessment should be based on mainly the quantitative aspects of the proposals which include the elements comprises the proposal such as financing assumptions, construction price, forecasted revenues etc. Moreover, the contractual features and relationships under the bidding consortiums where the subcontract arrangements to be analyzed. Finally, the authority should decide the awarded bidder with the project within the most transparent and fair mechanism ensuring that the bidders have enough comfort to believe objectivity of the process (Yescombe 2014, IFC 2018).

Yescombe (2014) listed the main three EU tender procedures as follow:

- Restricted Procedure - which does not allow any discussions with post-bid,
- Negotiated Procedure - which allow limited discussions post-bid,
- Competitive Dialogue - which allow limited discussions post-bid.

According to EIB (2018) and Yescombe (2014), following the bid award, EU procedures do allow bidders only restrictive changes or request for additional explanations to the bid documentation or PPP agreement which would not be any fundamental or material amendment to the PPP contract. Additionally, EIB (2018) states that changing anything under the PPP agreement or any amendment made to the bid documentation after the bid award would violate the essential principals of a successful PPP procurement procedure because with the different terms and conditions under the bid, evaluation results could be different. Nonetheless, Yescombe (2014) believes that although long discussions might lead the projects in a more favorable direction for private partners, it means a higher cost at the same time in terms of time and money as the bidding cost of a private partner is at full-risk in case of losing the award. Thus, subject to which tender methodology followed by the authority, the signing of the PPP contract is taken place right after the bid award or within a certain timeframe after the award set out in the bid documentation (at average 4-6 months in EU countries) which is called as 'commercial close' in project finance literature (World Bank, 2018).

In parallel to the bid process, or right after the bid award, the bidding consortium set up the special purpose vehicle so called '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. Therefore, SPV has a shareholding structure composed of the parties who has submitted the bid previously. SPV shareholders who be named as 'sponsors' or 'equity providers', or 'investors' will invest the required capital or 'equity' in the SPV for the PPP project procurement. The sponsors might be typically infrastructure fund managers, private equity funds, project developers, construction or operation firms (World Bank Group, 2018).

The standard PPP project structure can be shown as in the Figure 2.14 which demonstrates the main contractual relationships between the parties involved in the project.

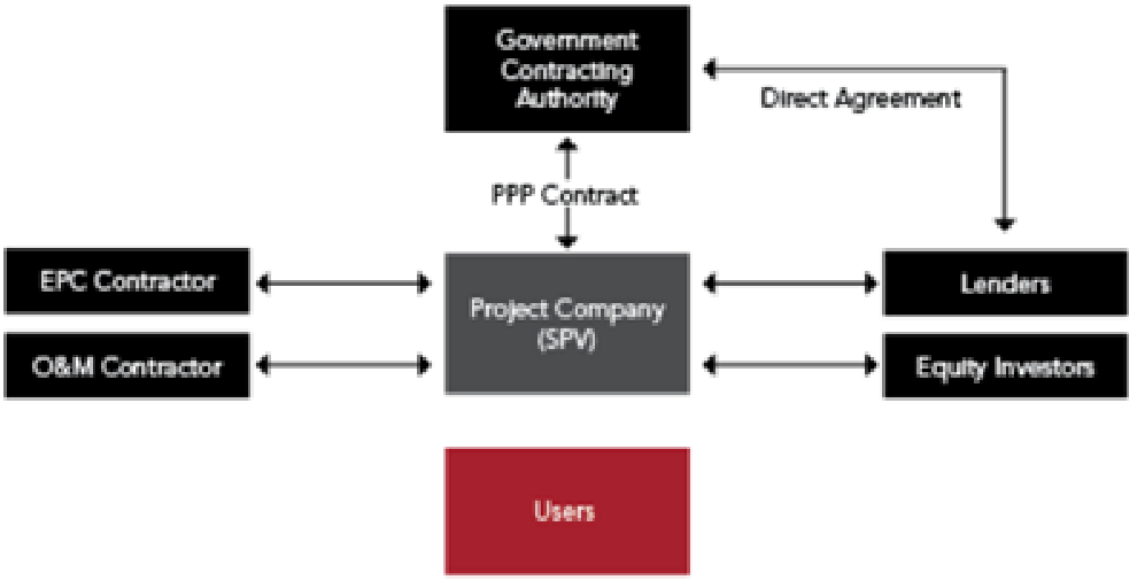

Figure 2.14. Typical PPP Project Structure (World Bank Group, 2018).

As presented, the main counterparty with the public entity under the PPP agreement is the SPV where the obligations related to the construction works and operations can be passed down to the subcontractors via generally called as an Engineering, Procurement and Construction contract, or EPC contract), and operations and maintenance (OandM) agreement within the 'back-to-back' principal (World Bank Group, 2018).

In respect with the principals of real project finance, PPP structures are generally designed on non-recourse basis which means the debt provided to the project can only repaid from the project cash-flow without asking any liability/guarantee from the sponsors who have initially invested the capital of the project cost. The debt size varies depending on the regulations in the country and the market availability, however the common range for a debt size for a PPP investment can be between 70 and 95% of the total project cost usually called as 'senior debt'. The larger debt sizing is allowed, the more supportive the project risk structure will be for sponsors to

undertake the risks (Yescombe, 2014). Lenders in most of the developing countries are usually formed of a group of development financial institutions, commercial banks and financial institutions, institutional investors like World Bank Group or pension funds or insurance firms.

The sponsors generally take the full responsibility of financing the project under a PPP deal (Roehrich *et al.*, 2014) where the lenders or financiers are the ones who provide the liquidity for the investment together with the sponsors where both parties carry out a robust due diligence evaluating the risk associated with the project and contractual structure provided by the sponsors. The due diligence process carried out by the independent consultants equipped with decent experience for both lenders and sponsors is a continuous period starting generally from the tender phase and going on till the financial close where the project financing is fully completed (World Bank Group, 2018).

After the commercial close, sponsors continue working on their own final due diligence process in parallel with the lenders' due diligence process pursing a successful financial close in accordance with the timeline set under the PPP agreement executed. Due diligence process is very crucial for both parties to scrutinize the project in respect of major aspects such as technical, financial, tax and accounting, legal, environmental and social, governance and insurance. An effective due diligence conduction is the key element on the decision making for an investment. In the meantime, prior to the financial close, authority also needs to run its own detailed analysis on various aspects of the project provided by the sponsors like contractual and financial structure along with the all financing agreements and subcontracts (Yescombe, 2014).

Following a fully completed due diligence process, the lenders and sponsors will be able to collect their approvals to lend or invest in the project and once the financing agreements together with the corresponding project agreements are signed that will be called as 'financial close'. Singing the finance agreements will allow SPV to disburse the committed loan which enable the SPV and so the EPC contractor to initiate the works at the site where there might be some 'conditions precedent' to be completed prior to

any cash flow to the SPV such as injection of equity first, providing the building permit secured or any security for loans to be provided (EIB, 2018).

Yescombe (2014) makes a reference to the commercial close as well where the PPP agreement agreed and signed however the effectiveness of the PPP agreement will be also subject to the financial close or fulfillment of the conditions precedents like drawdown of the loan.

2.4.3. Construction and Operation Phases

Once the sponsors secure the financing and project reaches the financial close, satisfying all conditions precedents, the construction phase of the infrastructure will start as the equity and senior debt will be available to be disbursed (Yescombe, 2014). In parallel, the public partner requires to arrange both contract and project management from the commencement of the construction during the whole concession life which includes a non-stop monitoring and execution of the PPP agreement obligations and relationships administration between the stakeholders (PPIF *et al.*, 2014).

Before construction completion date, a commissioning and acceptance period needs to take place in line with the timeline and the requirements set under the PPP agreement. It is very significant to have a well-managed commissioning period for all stakeholders in order to prevent any future issues between the parties. In good practice, the authority leads the commissioning period usually with the support of an independent technical advisor where all performance tests and requirements are fully fulfilled in accordance with the specifications set under the PPP contract (EIB, 2018).

Once the project receives officially the acceptance certificate, the operations can start from that date called as 'service commencement date'. The operation phase is the remaining period under the whole concession life after the construction completion. During the operations, public partner maintains its contract management and continuous monitoring along with the regulatory role for the relationships having external consultancy where necessary. In parallel, the SPV keeps the responsibility to operate

and maintain the infrastructure via its subcontractor(s) whereas the repayments of the senior debt provided by lenders and sponsors' dividends distributions are made through the project cash-flow (Yescombe, 2014).

2.5. Risks and Challenges for PPP Projects

One of the significant measures for a PPP structure is the risk sharing mechanism between the private and public partners which is going to also have an impact on the incentive characteristics of the contract itself, (European Commission, 2011).

Ministry of Development of Turkey (2017) lists the key elements for a successful PPP as to have proper risk allocation, coordination and planning and contract management. Having the challenges and problems during the whole life of a concession which cover the period starting from the bid till the end of operations of a project. The essential factor for a successful and efficient PPP implementation is to allocate the risk properly between public and private sector and this main factor should be identified and analyzed in detail in order to increase the efficiency of PPP Healthcare projects in Turkey. According to the 11th Development Report prepared by the Directorate of Strategy and Budgetary of Turkey (2018), PPP scheme is preferred to bring financing for the need of infrastructure of a country, however it is currently seen as a tool which leads a efficient use of the management skills of the private partner where the public partner would focus on the planning, coordination of the investment and making policies.

PPP structures in general with 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. In order to target a cost-efficient and successful PPP scheme, the main principle is an effective risk sharing mechanism between the parties which would incentivize a productive project management. Therefore, "Risk should be allocated to the party that is best able to understand, control and minimize its cost", (Roehrich *et al.*, 2014).

Furthermore, Bing and Akintoye (2008) supports the idea that the PPP structure contains many different parameters including the management of its risk. Therefore, due to the nature of the business, risk management can be stated as the most significant of the parameters of a PPP scheme.

It is essential for decision makers (authorities) to evaluate the risk structure before choosing the procurement type of the project because it is very likely for a government to renounce developing the project as a PPP due to an increase in risk sharing cost. With the purpose of procuring a PPP contract with risks allocated properly among the parties, the both parties should have a good understanding of the risk perspectives and choices of each other. Then, the management of the risk can be very well achieved during the whole concession life, if there is an efficient risk matrix between the parties (Bing *et al.*, 2005).

Risk analysis and the control of the identified risk parameters for a PPP project is not easy to be assessed which requires a long and complex study. Consequently, managing the risk in the right way is the main aim of a PPP modeled project for both private and public sector and procurement of a right risk allocation in a PPP project from the beginning of the development of the project would be the most important driver for a successful PPP delivery (Ministry of Development of Turkey, 2017).

It is obvious that the risk allocation for the PPP scheme is the most common subject assessed in the literature review (Bing *et al.*, 2005; Bult-Spiering and Dewulf, 2008). The allocation of risks associated to a PPP model has the 2nd rank of importance on the list of the critical success factors prepared under the study done by Bing (2015) which also leads to the idea that the risk allocation and the assessment of the risk under a PPP scheme is the most substantial matter.

Considering healthcare PFI/PPP experience in UK, having risks in the hospital PPPs is inevitable, however the key point to mitigate those risks is to place a proper risk sharing mechanism for this partnership, (Roehrich *et al.*, 2014).

Regarding the lessons learnt study prepared by IFC (2010) for healthcare PPP infrastructures, the critical point for an efficient risk allocation is to comprise the views of all parties involved in the process and as the findings of study the key identified risks can be summarized as follow:

- design risks;
- construction risks- cost and time overruns;
- equipment related risks which may result in cost overruns and delay;
- operating risks.

The main risks under a general PPP model can be listed also as below (European Commission, 2011):

- volume of demand, changing demographic and health trends, including planning risk due to long lead times;,
- construction risk (higher costs, delays, accidents, design flaws);
- operating risk (operating inefficiencies, errors, unavailable and excessive outages, labour and staffing issues) and,
- contract management risks, financial risk (interest rate, funding shortfalls, credit risk of the payer).

Stemmer (2008) has stated that it is also an essential necessity under the healthcare PPP to have an improvement on the associated risk structure. One of the quality measures for private side is the risk allocation and any incentive related to a PPP project for a private partner to be involved in such a corporation with the government side. The specific risks associated with the healthcare PPPs need to be clearly defined and introduced to the vehicle purpose companies to be undertaken for their investments: for instance, construction/operation risk, political and completion risk; instead of listing the similar risk elements that a standard PPP project would encounter with.

Even though each PPP contract may its own risk distribution between the parties, main focus around the risk management would be generally the investment risk, revenue

and market risk (European Commission, 2011).

Furthermore, Stemmer (2008) lists the ones more specifically related to the healthcare PPP project as revenue risk, indexation and cashflow risk, operating risk, government fiscal capacity and termination risk and each of them are explained detailly as follow.

Revenue risk: for the healthcare PPP projects, revenue risk is one of the crucial risks to be mitigated providing a direct link with the paying entity such as an agency under the government or the treasury itself. The payment mechanism under the healthcare most common used type is based on an availability payment which can be in largely high figures and could be the basis of any corruption and overhead risks. The revenue stream to the private sector should be therefore direct as much as possible which also help to decrease in the level of budgetary risk on the authority side (Stemmer, 2008). Furthermore, within an availability payment structured healthcare PPP contract, service payments are paid separately depending on the scope of services provided by the private partner. For the public PPP hospitals like in Turkey where the non-clinical services provided by the private partners, during operation service payments are made by the government to the SPV in arrears like monthly or quarterly where authority has the right to deduct amounts depending on the performance of the services. Therefore, in the case that the performance of the services is not in line with the specifications set under the PPP contract, the private partner (SPV) is able to pass through the deductions to the subcontractors where the subcontracts are designed fully back-to-back with PPP agreement, (Clayton UTZ, 2013).

Indexation and cashflow risk: in general practice, healthcare PPP payment mechanism is based on availability payments which is a structure composed of fixed payments to the private partner during the concession life of the project. According to Stemmer (2008) Depending on the terms and conditions under the project agreement, these payments are subject to the inflation adjustment (mostly indexed to the CPI) however, in most common practice, the private partner is expected to bear this risk via an operational reserve account. Beyond question, to have this operational reserve on

the public side would be more favorable for the private sector. However, such a security via a letter of credit for a certain period (e.g. the equal tenor to the debt service provided to the project) would not be affordable under a PPP structure whereas an escrow account mechanism should give enough comfort to the private partner in the case that the authority does not fulfill the payments requirements to the private side under the contract.

Operating risk: one of the main risks seen often in healthcare PPP projects is the over-capacity infrastructures or in other words the wrong planning of the need vs. capacity. Mitigations for those operating risks recommended by Stemmer (2008) could be a proper planning and regulatory systems which would permit the parties to provide healthcare services based on not only definitive measures but also subject to a special certificate depending on the outcome of need-capacity analysis on the government side. Besides, avoiding over-capacity could be a mitigation also for fiscal risks via instruments such as the Hospital Plans of German Bundesländer, (European Commission, 2011).

Government financial capacity risk: regarding the studies related to the unsuccessful PPP projects, it can be said that the projects improperly structured or prepared in a hurry mostly end up with over budget problems. In general, the public entity (sovereign entity) is perceived as the side contains no-risk, however this is not always the case, (European Commission, 2011).Therefore, it is very significant to complete a due diligence during project development phase for private partner to make sure that the financial capacity of the public side would be sufficient to manage such fiscal risks (Stemmer 2008). Furthermore, at the planning period, European Commission (2011) emphasizes that public entities should do a proper market sounding in order to have a detailed risk assessment. Additional to the value-for-money analysis, authority should measure the financial capability of itself considering each aspect of a project finance structure including any contingent, long-term liabilities which may have a material impact on the budgetary issues for the PPP program.

Termination risk: Termination risk for both public and private sectors is one of the crucial aspects of the PPP structures to be very well designed. In case of a termination

event, healthcare infrastructures opposed to most of the others, cannot be abandoned by the private party operator in a sudden to be delivered to simply public entity or handed over immediately to another private operator since it is a hospital which has the patients need continuous healthcare service delivery. In addition, this would also bring some risks for private partner such as reputation and employment related issues. Therefore, Stemmer (2008) states that a healthcare PPP agreement should be structured to include an efficient termination clause disincentivizing the private side to go for such a termination and which also allow different level of payments for the public side to be sure that the operations of the hospital would not be disturbed in such an event.

Furthermore, European Commission (2011) mentions some other risks to be evaluated under the PPP structure may not be anticipated prior to the event occurrence which can be related to any feature of the country or the region of demographics, macro movements, natural events (like flood, earthquake), epidemics, changes in weather or technology. Therefore, PPP contracts should also make it very clear the compensation mechanism for any loss/gains caused by any such event. Usually, the insurance requirements set by the authority under the contract would cover most of those risks (e.g. an accident at the construction site). However, in case of an earthquake or a civil war should be called as 'force majeure' events and in general practice those are expected to be undertaken by the public side. Clayton UTZ (2013) also confirms that the public sector should bear the risk in case of any changes related to the need of the services provided under the PPP infrastructure committing for a partial compensation mechanism for any charges/losses or termination compensation in case of an early termination due to a lack of need for the facility built. Moreover, any insurable risk needs to be covered by an insurance coverage to be taken care by the private partner for the sake of continuity of the works and services.

In addition, under the literature review there are other main risks identified also can be clarified as below:

Capital investment risk (risk for construction and financing): the risk of invest-

ment for the project generally is structured to be on the private partner. However, according to the report prepared by European Commission (2011), there are some projects with the arrangement for public partner to share the risk of the up-front investment where it is responsible to provide a guarantee for the operator of the hospital. Furthermore, Visconti (2016) explains that in a PPP project within the project finance concept, the financing risk is generally placed to be on the private partner who is the most proper party to manage it. Main drivers materially affecting the initial investment cost (e.g. equity and quasi equity cost, subordinated and senior debt cost, WACC) can be listed as follows:

- Concession life,
- Financing unavailability (capital rationing),
- Bankability of the PPP contract,
- Liquidity in the market,
- Maturity of the senior financing,
- Availability of institutional investors and other qualified fund resources,
- Currency and interest rate risk (which might bring to an Assets and Liability mismatch sometimes for the SPV),
- Any available subsidy amount/timing, the availability payment and other revenues.

Market risk for the private partner: under some circumstances, a hospital could be a player of the competitive environment in its own sector which could be among private and/or public healthcare centers. European Commission (2011) confirms that this could be seen mostly for specific healthcare services (e.g. special surgeries, cancer therapies). Such a demand/market risk for the private partner can be mitigated through a proper risk allocation under the PPP contract or any other regulatory system in the country with the following couple of example solutions: commitment of a minimum guarantee of patient volume, or insuring availability payments, or providing an exclusiveness for certain services for such particular region. Furthermore, in Germany and France examples of effective competition has been observed in PPP structures as a mitigation for fiscal risks.

Design/cost risks: Moreover, according to the analysis of previous PPP/PFI hospital projects in UK, they could not be successful on developing a reformer design which expects to lead the project to be a cost-efficient, more sustainable infrastructures in an advanced quality due to the lack of incentive for a more innovative design and construction. Roehrich *et al.* (2014) mentions that this failure was caused by two factors: The first reason is due to the timing of the development of the design which was done in parallel to the tender process. So that, the bidders wanted to avoid any discussion on the design not to take any risk of being eliminated at the next tender stage. Secondly, public partner defined the risk allocation at a very early stage of the tender process, therefore, the bidders refrained from being more creative on the design solutions and they preferred to submit the offers with more conservative designs. Therefore, Roehrich *et al.* (2014) supports the idea that the hospital PPP program previously applied in UK did not allow more modern and advance design solutions such that would be able to adopt to any changes in the future.

Construction risk: Construction related risks are usually considered as insurable risks and can be anticipated at very early stages of the project which are positioned fully on the private sector in accordance with the common PPP practice. Those case be delay in construction completion, excess in construction price or any improper management on the contractor side. Whereas the planning risk is structured to be on the government side, as long as the private partner fulfills the requirements under the project agreement, (European Commission, 2011).

In common practice, any risk related to the site access for private partner is placed on the public partner. Responsibilities regarding the delivery of the site generally include procurement of access to the construction site, providing any permits, licenses and approvals needed for the construction including building permit and any changes to those with a time and/or cost impact on the project (Clayton UTZ, 2013).

Payment mechanism: Different type of PPP projects can have various payment mechanisms. All healthcare PPP projects payment mechanism is based on a regular "availability/rental" payments which is generally inflation adjusted where the any per-

formance damages are structured to be deducted from that fixed amount (European Commission, 2011). On the other hand, there are other type of PPP infrastructures of which project revenues are based on a volume of users where private partner bears the revenue risk in the case of having less revenues than expected. Although, in some deals governments can provide a revenue stream structured with a minimum level of guarantee like in Sydney Harbour Tunnel and Sydney Airport Link projects, Clayton UTZ (2013).

Economic stability of the region and the country is also very important in order to achieve a successful procurement of a PPP healthcare project. Any economic crisis can cause a decrease in amount of the general infrastructure investments (including PPPs), as the crisis would have an impact on the financing environment which may end up material increase in credit risks, interest rate risk, inflation and currency risk.

Moreover, one of the risks considered as also very critical is political risk. Due to the nature of a PPP scheme, the private party engages with one of the bodies from the government side (e.g. ministry, municipality etc.) as partner. Hence, it is very critical for a private partner to take enough comfort from the given support and strong commitment by the government side for the project. Otherwise, it will be that easy to have serious investors being interested in the project simply because no bidders would like to put a serious amount of time and money at risk for a project which may end up nowhere (PwC,2010).

Hayford (2006) suggests several mitigations for the most commonly seen risks in a PPP structure. As the public side is the party who propose the first risk allocation together with the tender announcement and documentation, it should be very careful to write a PPP contract including the most efficient risk allocation. This should be very clear on public side and they should not allow a market sounding on the risk sharing which would lead higher pricing on the tender proposals as the bidders at a tender stage prepare/price a bid according to the risks associated with the project to be on the private side. Findings of a study prepared by PwC (2010) also supports the idea that it is very crucial for parties to have crystal clear understanding of the project

itself and the contract. For example, in UK some projects presented to the market as PPP were not clearly defined and could not be able to have the sufficient attraction of the bidders at the first stage. Therefore, it is essential to make the project and contract very scrutable.

In some cases, European Commission (2011) supports that the public side among the decision-making mechanisms can be demonstrated as the origination of the planning of the PPP infrastructure investments. Indeed, at the beginning of those projects, public sector can be seen alone due to the reason that there are no private project developers which have sufficient creditability. However, after project developed and construction completed, project might be considered as an investable one when it becomes mostly risk free. Having the risk allocation very important for an effective PPP contract, in the case of a situation stagnation in the PPP market, this risk allocation can be accommodated accordingly where necessary in order to make public side holding more project related risk like providing government subsidy or subordinated debts, further guarantees. According to the outcomes of the study carried out by Ke *et al.* (2010), the preferences in terms of risk allocation in various regions in PPP projects are identified and shared risk allocation preferences among UK, China, Hong Kong and Greece is shown as in the Table 2.2 which might be a helpful guidance for potential investors so that they can accommodate their strategic road maps accordingly. Ke *et al.* (2010) mentions that the study is based on the questionnaire of Li *et al.* (2005) via three-level meta-classification in relation to the risk associated with the projects. The macro-level risks represent the originations of the risks regardless of the jurisdiction, meso-level risks stand for the project specific ones whereas the micro-level one is regarding the relationship between the stakeholders between the parties involved (Li *et al.* 2005).

Table 2.2. Shared Risk Allocation Preferences among China, Hong Kong, U.K., and Greece.

Group	Subgroup	Risk	Pu.	Pr.	Sh.	Pu.	Pr.	Sh.	Pu.	Pr.	Sh.	Pu.	Pr.	Sh.
Macro	Natural	Force majeure	6	15	79	13	13	74	18	16	68	32	4	64
Macro	Political	Unstable government	62	17	21	66	15	19	58	25	17	69	4	27
Macro	Political	Strong political opposition/hostility	53	12	35	63	7	30	63	21	16	69	4	27
Macro	Political	Poor public decision-making process	59	12	29	57	7	36	69	7	24	73	0	27
Meso	Construction	Labor/material availability	2	79	19	0	72	28	0	94	6	4	80	16
Meso	Construction	Construction cost overrun	0	77	23	0	88	12	0	92	8	0	80	20
Meso	Construction	Poor quality of workmanship	13	79	8	3	82	15	3	92	5	0	100	0
Meso	Design	Unproven engineering techniques	13	79	8	0	77	23	0	97	3	4	76	20
Meso	Design	Design deficiency	14	79	14	0	82	18	0	95	5	8	64	28
Meso	Operation	Operation cost overrun	12	69	19	0	88	12	0	97	3	0	75	25
Meso	Operation	Operational revenue below expectation	10	59	31	6	76	18	3	89	8	0	60	40
Meso	Operation	Maintenance costs higher than expected	12	70	18	6	76	18	0	97	3	0	84	16
Meso	Operation	Maintenance more frequent than expected	13	74	13	6	76	18	0	92	8	5	82	13
Meso	Project finance	Financial attraction of preject to investors	11	66	23	13	59	28	3	70	27	20	56	24
Meso	Project finance	High finance cost	9	62	29	0	81	19	3	76	21	9	72	19

According to the study results, it can be concluded that the UK as a well-developed European country, manages well most to transfer the know-how among the public entities. The study further proves that regardless of being a developed or developing country, the private side is expected to take more responsibility in managing the meso-level risks. However, it is very certain that the private partners are much more eager to take more risks in PPP projects where PPP market becomes more mature (Ke *et al.*, 2010).

According to a study including some interviews done by PwC (2010) with a group of people who took roles in several PPP hospitals, Director at Health Department Spain also agrees the idea that the government should provide a right risk sharing mechanism

considering the main skills and abilities of each party, supporting that the private sector should concentrate what it really knows best such as advance technology in medical market or business experience in the sector.

One of the developing regions in terms of PPP infrastructure, Republic of South Africa, which has a developing PPP environment with several major projects (IFC,2016), has also made a risk analysis for the PPP projects identifying the risks with the suggested mitigations presented in the below Table 2.5 (Republic of South Africa Treasury, 2014). The Republic of South Africa Treasury (2014), concludes that the main principles to develop a successful and well-balanced PPP project is to analyze all risk diligently, carry out an integrated due diligence with the aim of delivering a PPP project structured with a proper risk allocation between the parties involved and considering all parties' sake.

Table 2.3. Project Risks and Mitigations (Republic of South Africa Treasury, 2014).

General PPP risks	Mitigations
1. Market, demand or volume risks	
- Insufficient income - Poor demand - Falling prices - No scope for increasing prices - Increased costs on supply side - Unavailability of supply	- PPP Agreement to include - Authority to increase unitary payment or tariffs - Extension of the project term - Experienced advisors - Business interruption insurance
2. Construction risks	
- Construction subcontractor entity (construction joint-venture - Cost and time overruns - Design risk: quality requirements - Site risk	- Construction subcontractor JV agreement - Joint and several liability - PPP agreement - Institution responsibility for expropriation - Performance bond / letter of credit - Liquidated damages -Construction subcontract - No residual construction risk with private party - Fixed price - Insurance

Table 2.3. Project Risks and Mitigations (Republic of South Africa Treasury, 2014)(Cont.).

3. Operating risk	
- Cost overruns - Industrial action - Failure to obtain necessary consents or rights - Failure to meet operating performance criteria / output specifications - Technology	- Operations subcontractor JV agreement - Joint and several liability - Operations subcontract - No residual operations risk with private party - Fixed price - Interface with construction subcontract - Insurance
4. Political risk	
- Institution's credit worthiness sovereign debt defaults - Nationalization - Expropriation - Privatization	- PPP agreement - Relief for "Unforeseeable Discriminatory Government Conduct" - Breach clause - Termination clause - Lenders' step-in rights under a direct agreement
5. Environmental risk	
- Legal liability - The Constitution - National Environmental Management Act 1998 - Environment Conservation Act 1989 - Regulatory bodies	- Insurance - Due diligence - Party conducting it - Environmental Impact Assessment - Environmental Management Plan - Construction and operations subcontracts - Environmental management - Indemnification

Table 2.3. Project Risks and Mitigations (Republic of South Africa Treasury, 2014)(Cont.).

6.Financial risk	
- Inflation risk - Interest rate risk - Foreign exchange risk	- Hedging - Exchange rates - Interest rates - Commodity prices - Fixed rate loans - PPP agreement - Revenue adjustment formula - Escalation / indexation
7. Regulatory risk	
- Capacity to contract - Well-developed body of commercial law - Consistent application and interpretation - Independent judiciary - Security of tenure and title - Enforceability of project documents	- Attomeys - Local counsel - Legal due diligence and legal opinion - Choice of law - Jurisdiction - Alternative dispute resolution mechanisms

It is one of the main principals of project finance to transfer the risk from public partner to the private partner but also to optimize the allocation of risks among the parties. Visconti (2016) also agrees that the risk sharing mechanism should be one of the core elements of a PPP contract ensuring that the risks stay with the sector best able to handle it.

Moreover, Hayford (2006) agrees over a decade, PPP scheme has been dominating the infrastructure sector like in Australia. Therefore, following a proper risk analysis, allocation and negotiation of the related risks are the key principals for a PPP structure. However, in order to achieve an appropriate risk allocation, there are some main elements to be considered with the aim of having a balanced risk sharing mechanism such that the risk matrix should:

- be able to reach the financial close smoothly being in line with the market conditions and staying in the envisaged budget
- be strong enough to challenge any risks which would realize during the concession life of the project.
- be enough flexible to accommodate any changes which are not anticipated initially.

Healthcare sector is more dynamic in terms of development comparing to other infrastructure areas as it is directly linked to "today's" technology having a continuous change. Thus, it is very significant for a healthcare PPP contract to have a certain flexibility which enables a project to adopt to changes. The director of Health Department Catalonia, Spain confirms that "Flexibility can help ensure that the private sectors offer cutting edge technology without altering the contract each time." who was interviewed under a study done by PwC (2010).

Variation risk under the PPP risk matrix is also one of the most significant risk elements as it will have material impacts on the project in cost perspective. For both parties, it is crucial to ensure that each party's liabilities are very well defined in case of a variation call over the concession period. According to Clayton UTZ (2013),

generally if the authority would like to make a change on the requirements set under the PPP agreement, it needs to compensate SPV for variation request which would result in additional cost and delay for the project. Following that in general practice, this risk is covered under the back-to-back mechanism so that SPV will compensate the main subcontractors accordingly. As a common practices of project finance in a PPP structure, the risks associated with the construction and operations are transferred to the sub-contractor as design-construct sub-contractor and facility manager who will operate the facility. So that, SPV passes corresponding risks under the PPP agreement to its subcontractor (Clayton UTZ, 2013).

In a typical PPP structure, SPV is the party who engages with the public partner and bears full responsibility under the PPP agreement as the counterparty. However, SPV sets its contractual relationships subcontracting the works under the contract to an EPC contractor for construction works and an operator for the operations of the project which usually includes the maintenance of the infrastructure. While allocating the works to the third parties, SPV needs to make sure that the project will be completed on time and in budget as well as in a good performance condition. In order to manage the risks which might arise from these subcontracting, those contracts need not only to be designed on a back-back basis but also be inclusive of certain securities so called "liquidated damages (LDs)" which are mostly liquidity for any default in any requirements under the subcontract like delay in construction completion or insufficient performance Clayton UTZ (2013). A structure incentivizing the risk transfer also leads the parties to think in different ways and produce alternative solutions such as a back-to-back principle for private partner with its subcontractors or finding out an insurance help under ambiguous sector conditions (Hayford, 2006).

Furthermore, since PPP project are designed as sophisticated structures in terms of major aspects like financing, technical and legal, there is a need for qualified resources not only at the private side but also on the government side to be able to manage those kinds of complex structures. Especially on the authority side, that created know-how and experienced gained from the PPP projects in the past should be transferred to the future projects where currently Spain, UK and Australia have been chosen as pilot

projects for advanced partnerships (PwC, 2010).

In addition, setting the legal grounds for PPPs projects are extremely important key element for achievement in the sector which could also help the transfer of experience and how-know in certain ways. Robustly created regulatory frameworks will not only support producing more sustainable projects but also providing a standardization in the overall process which would lead a better risk and contract management Public partner sets the national policies and regulations whereas the local authorities will be the ones whom mainly apply those and provide feedbacks from the sector itself (e.g. healthcare personnel, patients) like having 75% of Japanese healthcare PPP projects managed by local authorities. Furthermore, Romania has mainly smaller clinics and now brings more flexibility in the system with the aim of more simple procedures to be carried out. Additionally, German experts also mentioned that the system as being complex requires a disciplinary management and procedure to be placed in (PwC, 2010).

Additionally, during the preparation of the mega projects, public parties are generally unlikely to accept stakeholders' participation or any contribution due to the uniqueness prejudice of the project. In Turkey, at the very beginning of the planning of the PPP healthcare projects, Ministry of Health of Turkey did not have any experience in PPP projects. On the other hand, due to the several energy and transportation projects performed as PPPs, Ministry of Development, Ministry of Finance and Undersecretariat of treasury have a serious know how and experience in PPP structures. However, throughout structuring process of the legal and administrative framework and the project development period, MoH did not benefit knowledge and experience of these institutions. Having said that, it has been understood that help not only structuring an effective administrative capacity, but also decreasing the financial costs of the project (Emek, 2017).

As particularly contract management is a key success factor for infrastructure PPP implementations, it is very crucial that governments have the sufficient know-how and experience in dealing with the contracts in order to have projects proceed

(project agreement, service agreements etc.). Challenges mostly seen as outcomes from various countries in Europe regarding the contract management and related operational key terms can also be summarized as setting the performance mechanism including determining the KPIs and deduction and award mechanism, any incomplete contract and accommodating the variations any technological changes, (UNECE *et al.*, 2012).

Akintoye *et al.* (2003) also lists the main risks under a categorization of the parties involved in a PPP project as presented in the below Figure 2.15:

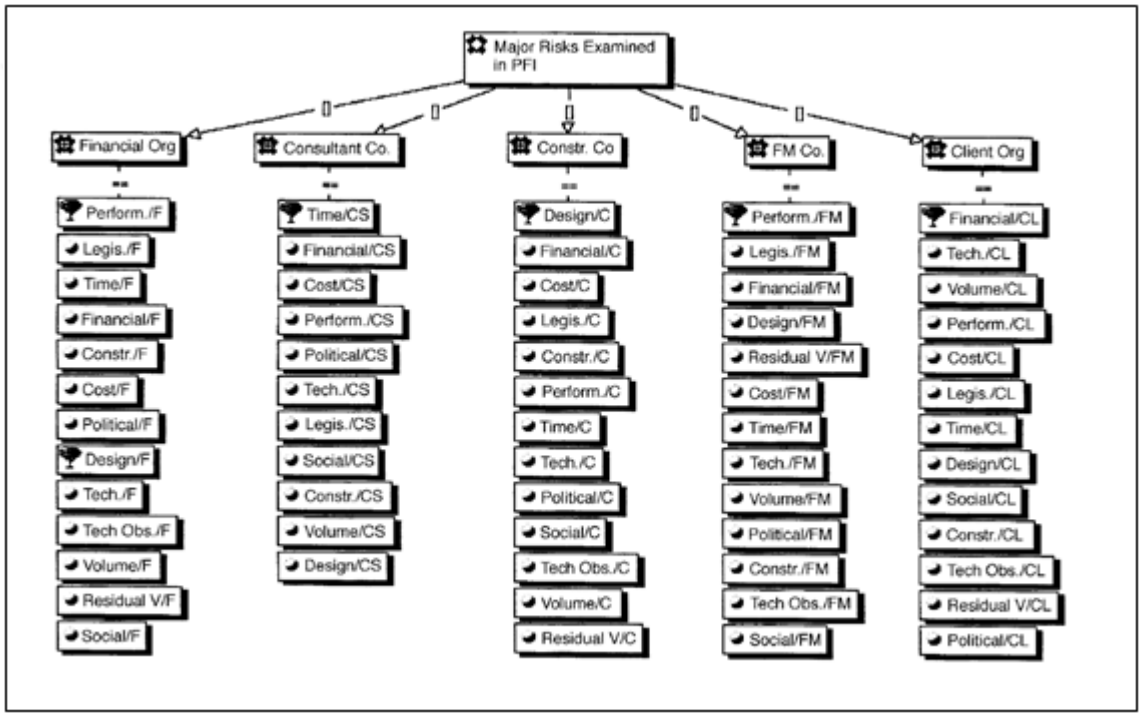

Figure 2.15. Major Risks Examined in PFI .

Li *et al.* (2005) made a research to analyze the most proper risk allocation between the private and public sides for the PFI/PPP projects in UK using the three-level meta-classification method as previously mentioned in this chapter. And it is said that UK government has made risk sharing mechanism more standardized in the development stage to attract only the serious investors for the projects and then prior to the final bid it should be ok to have the discussions with the prequalified bidders. According to Li *et al.* (2005), the Table 2.6 shows categorized catalogue of PPP/PFI project risk factors which is used to understand PPP/PFI participants' perceptions of

risk allocation for UK construction projects.

With respect to the study results, Li et al (2005) concludes that the site availability and the political risk should be placed for the public partner. However, unpredictable event risks, change in law and relationship risk can be manageable having it balanced on both sides. The rest of the risks mainly the meso risk levels are suggested to be kept on the private sector. Finally, there are four of them to be examined for induvial cases as follow: public commitment level, variation, inexperience, permit and approvals.

Further Li *et al.* (2005) suggests with respect to the outcome of the analysis, having the risk allocation agreed between the parties before awarding is required for a successful value for money on the government side. In addition, well designed risk sharing mechanism set before the bid will also help both parties during the PPP agreement discussions throughout the commercial close.

There is a growing interest in PPP scheme for the delivery of healthcare infrastructures and services which has been also supported by the government's commitments during the overall procurement process. Akintoye and Chinyio (2015) emphasizes the importance of an efficient risk allocation and management as a continuous and integrated part of a project development strategy with the intent of having a successful value for money analysis. Furthermore, Akinyote and Chinyio (2015) recommends that the methods how to manage and allocate the risks suggested under the literature also should be investigated further in the view of identifying mitigations to the risks associated with the complex healthcare PPP deals.

Table 2.4. Categorized Catalogue of PPP/PFI Project Risk Factors.

Risk meta-level	Risk factor category group	Risk factor
Macro level risks	Political and government policy	- Unstable government - Expropriation or nationalization of assets - Poor public decision-making process - Strong political opposition/hostility
	Macroeconomic	- Poor financial market - Inflation rate volatility - Interest rate volatility - Influential economic events
	Legal	- Legislation change - Change in tax regulation - Industrial regulatory change
	Social	- Lack of tradition of private provision of public services - Level of public opposition to project
	Natural	- Force majeure - Geotechnical conditions - Weather - Environments
Meso level risks	Project selection	- Land acquisition (site availability) - Level of demand for project
	Project finance	- Availability of finance - Financial attraction of project to investors - High finance costs
	Residual risk Design	- Residual risk - Delay in project approvals and permits - Design deficiency - Unproven engineering techniques
	Construction	- Construction cost overrun - Construction time delay - Material/labour availability - Late design changes - Poor quality workmanship - Excessive contract variation - Insolvency/default of sub-contractors or suppliers
	Operation	- Operation cost overrun - Operational revenues below expectation - Low operating productivity - Maintenance cost higher than expected - Maintenance more frequent than expected
Micro level risks	Relationship	- Organisation and co-ordination risk - Inadequate experience in PPP/PFI - Inadequate distribution of responsibilities and risks - Inadequate distribution of authority in partnership - Differences in working method and know-how between partners - Lack of commitment from either partner
	Third Party	- Third Part Tort Liability - Staff Crises

Among the examined risks for the healthcare PPP projects specifically, there are some recommendations listed to follow for a better risk management and allocation prepared by European Commission (2011):

(i) For public partner, before the decision made for the procurement method of a healthcare infrastructure, the project should be evaluated whether it is robust

and suitable in terms of medical, social, environmental and financial aspects.

(ii) An accurate value for money analysis should be carried out and made sustainable during all development stage.

(iii) PPP contract should be very well balanced in terms of flexibility and risk allocation which will turn into a bankable deal eventually.

(iv) During a healthcare PPP project development phase, it is important to have all stakeholders involved in the process actively. However, for the procurement of a hospital PPP project, the involvement of the medical personnel is very crucial, as those are the people who may support or cripple the project with their associated know-how and experience and especially if that PPP affects their work environment and conditions.

Having said that, it is recommended to the authority side to define the risks very clearly under the PPP agreement not try to implement the "catch-all" principle. This brings not only a well-risk balanced, clearly drafted and negotiated contract which would help eventually saving time and money, but also avoids the private partner ending up with a risk which is not anticipated at the time of signing the deal. Furthermore, it is important to emphasize that both public and private sides certainly need to have time to discuss on the project risks and come to an agreement in order to achieve a proper risk allocation (Hayford, 2006).

3. RESEARCH METHODOLOGY

Therefore, a case study methodology is used in this study, in which interviews are used 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 Turkey. Case studies try to answer the how and why questions in research, allowing a more in-depth analysis (Yin 2003). There are four quality measures required to conduct case studies, as explained by Yin (2003): (1) construct validity, i.e., the quality of conceptualization or operationalization of the relevant concept; (2) internal validity, i.e., the causal relationships between variables and results; (3) external validity, i.e., the extent to which the findings can be generalized; and (4) reliability, i.e., repeatability with the same results.

Both interview data and supporting documentation on the challenges and mitigations in Turkish PPP Healthcare sector provided by the interviewees are used in the analysis with the aim of enhancement of the validity. In order to suffice the internal validity, a detailed literature review has been completed. Multiple case studies are conducted for the purpose of satisfying the external validity. Gathering interview voice records, transcripts and all documentation made available, a case study database is prepared with the purpose of reliance and replication of the study in the future. The structure of the case study method is explained in detail in this section.

3.1. Definition of Case Study

A case study methodology is defined in various ways under the literature. According to Schramm (1971, cited in Yin 1989: 22-23):

"The essence of a case study, the central tendency among all types of case, is that it tries to illuminate a decision or set of decisions: why they were taken, how they were implemented and with what result".

Whereas, Merriam Webster Dictionary (2013) defines a case study as follow:

"Case study is an intensive analysis of an individual unit (as a person or community) stressing developmental factors in relation to environment".

On the other hand, there are other views about a case study definition which support the idea of a case study being not an official method for research. However, it is anticipated as an exploratory part of another type of research methodology. For instance, Dictionary of Sociology (Abercrombie *et al.*, 1984) is one of the examples of this opposition which uses a definition for a case study as below:

"The detailed examination of a single example of a class of phenomena, a case study cannot provide reliable information about the broader class, but it may be useful in the preliminary stages of an investigation since it provides hypotheses which may be tested systematically with a larger number of cases".

A study case represents the first form of the cases whereas the second is the case for research, (Yin, 2009). Two different perspectives which are implemented for these two types can be stated as below:

"A case study is an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident".

"The case study inquiry copes with the technical distinctive situation in which there will be many more variables of interest than data points as one result relies on multiple sources of evidence with data needing to converge in a triangulating fashion and as another result benefits from the prior development of theoretical propositions to guide data collection and analysis".

The case study can be called as a research strategy which comprises the logic of design, data collection methods and specific approaches to data analysis (Yin, 2003).

Having said that, Stoecker (1991) agrees that the case study is neither a data collection method nor a sole design aspect but a comprehensive research strategy.

3.2. The Case Study as a Research Method

The case study is one of the commonly used qualitative research strategies in different areas in order to analysis real life problems and assist the decision-makers. Case studies have mainly exploratory nature and a focus on providing a hypothesis as opposed to testing a theory due to main features of the methodology, (Thies and Volland, 2010). According to Yin (2003), there are three types of case studies that can be implemented:

(i) Explanatory case studies are used for causal researches where an investigation of an event and its interrelationships are carried out in detail.
(ii) The aim of exploratory case studies is finding out a new research area when the question is not clear where they provide motivation and support to define hypotheses.
(iii) Descriptive case studies collect data from specific features of a problem where a phenomenon is defined and analyzed in detail.

According to the table prepared by Yin (2003), three conditions presented consists the type of research question, extent of control the researcher over actual events and degree of focus on contemporary event as against to the previous events. Furthermore, Table 3.1 demonstrate these three conditions and how relevant they are with listed five different research strategies: experiments, surveys, archival analyses, histories and case studies.

Table 3.1. Relevant situations for different research methods (Yin, 2003).

Strategy	**Research Question**	**Control of Events**	**Focus on Contemporary Events**
Experiment	how, why	Yes	Yes
Survey	who, what, where, how many, how much	No	Yes
Archival Analysis	who, what, where, how many, how much	No	Yes / No
History	how, why	No	No
Case Study	how, why	No	Yes

Among the all conditions presented, it can be said that the most signification one is the research question. The table shows that the who and where research questions generally leads to survey methods or analysis of archival records as in economic or political research mostly with the aim of understanding the impact of predominance of a phenomenon or anticipations of certain events. On the other hand, how and why questions are usually used in case studies, history and experiments as being more explanatory where these questions address a process requires monitoring over time as opposed to frequencies.

Another important condition is the extent of the researcher?s control over and access to the events. For instance, as a research strategy history method is used as when there is not any access or control of behavioral event thus dealing with the past whereas case studies are preferred to investigate contemporary events. Although two research strategies have very similar research techniques, case study has additional two evidence tool which cannot be applied in historians? methods: to make interviews with people experienced the events and observe directly the events being investigated. This extensive variety of evidence including documents, interviews and observations therefore makes the case study a very robust research strategy, although the techniques under history and case study are overlapped (Yin, 2003).

As a conclusion, Yin (2003) believes that as case study method is explicitly favorable advantages as a research strategy, it is preferred in certain cases when:

"A how or why question is being asked about a contemporary set of events over which the investigator has little or no control".

Hence, the answers of questions how and why are expected to be in this research, case study is the most appropriate research strategy to be applied in this thesis. The research aims to explain decisions made by the way of finding reasons of them. Th researcher has no control over the events in this research which leads the researcher to case study research strategy. The focus was on contemporary events during the whole investigation process.

3.3. Strengths and Weaknesses of Case Study

Siggelkow (2007) lists the three major implementations of case studies which can be seen as strengths of the research strategy:

(i) An illustrative instrument: concrete examples of theoretical knowledge which make readers to have an easy understanding of the conceptual arguments where case data procures a more convincing argument about causal relationships than pure theory or empirical research can do.
(ii) Motivating the research question: discussion in a real-life content makes a case a more convincing argument than a pure theoretical motivation.
(iii) Inspiration for new ideas: enhanced data can be provided by the cases from the real life which might be tools to improve existing theory, especially in cases where theoretical knowledge is limited.

On the other hand, the main disadvantages of case studies can be listed as follow:

(i) If there is a small amount of cases, it cannot generally be a representative data for a specific population. Thus, case studies cannot be used for the benefit of statistical tests for significance.
(ii) In some cases, case study findings might be so clear to reader which is called as the problem of ex-post obviousness.

(iii) Case studies can easily turn into very detailed data which does not allow to develop a beneficial theory. Hence, it is significant to avoid an over determination in the case study.

The Table 3.2 presented by Flyvbjerg (2011) shows different features of case studies and statistical methods and compares them to be able to prove that there is a strict complementarity between these two research strategies.

Table 3.2. Complementarity of case studies and statistical methods (Flyvbjerg, 2011).

	Case Studies	**Statistical Methods**
Strengths	Depth	Breadth
	High conceptual validity	Understanding how widespread a phenomenon is across a population
	Understanding of context and process	Measures of correlation for populations of cases
	Understanding of what causes a phenomenon linking causes and outcomes	Establishment of probabilistic level of confidence
	Fostering new hypotheses and new research questions	
Weaknesses	Selection bias may overstate or understate relationships	Conceptual stretching by grouping together dissimilar cases to get larger samples
	Weak understanding of occurrence in population of phenomena under study	Weak understanding of context, process and causal mechanisms
	Statistical significance often unknown or unclear	Correlation does not imply causation
		Weak mechanisms for fostering new hypotheses

3.4. Requirements of Case Studies

A research must set statements in a logical way and related to those logical tests any structure provided must be proved. Moreover, fulfilling certain requirements is also significant while performing a case study. Yin (2003) points out the following four criteria which enables a case study to be persuasive and reliable in terms of a

methodological perspective: construct validity, internal validity, external validity and reliability.

(i) Construct validity is linked to the quality in operationalization of the concept to be investigated. In order to suffice the construct validity, multiple source of evidence must be used where a chain of evidence is to be formed where the research adopts to various point of views in order to understand the issue in different standpoints.

(ii) Internal validity requires only if there is an explanatory case study where an investigator tries to find out whether an event leads to another. In the case that the investigator does not succeed to confirm that there is casual link between two events determining that there is a third element is a cause for that event, the research design will not suffice the internal validity. A causal relationship may be determined by building explanation, explicit research design, rival explanations, pattern matching techniques and use of logical models.

(iii) External validity addresses the issue of knowledge if a study's results can be generalized beyond the immediate case study, as there is no available enough statistical generalization for case studies. Nevertheless, analytical generalizations still can be achievable by techniques of pattern matching techniques with the comparisons of the empirical studies design with theories in the literature. Having said that, case study selection should be explicitly verified and by replications of findings of the study, a theory must be justified for also a second or third environment where the same results are obtained.

(iv) For the reliability sufficiency, by following the same procedures applied earlier by another investigator, new researcher should conduct the same case study which results in the same outcomes and findings as the previously conducted. In other words, the study can repeatable where it would conclude with the same results without any error with the intent of minimizing biases and errors.

The recommendations and useful tools for a successful case study can be listed in Table 3.3 (Yin, 2003). Interviews and archival records form the main data collection method used under this thesis for the validity construction. A detailed literature review

and analysis made for this research help providing internal validity. Furthermore, In order to set the research design, multiple case studies are determined among the PPP healthcare projects provided in Turkey and conducted for the purpose of the external validity. Finally, to ensure that the research is sufficiently reliable, a data base of a case study is comprised.

Table 3.3. Case study tactics for four design tests (Yin, 2003).

Tests	**Case Study Tactic**	**Phase of Research in which Tactic Occurs**
Construct Validity	Use multiple sources of evidence	data collection
	Establish chain of evidence	data collection
	Have key informants review draft case study report	composition
Internal Validity	Do pattern matching	data analysis
	Do explanation building	data analysis
	Address rival explanations	data analysis
	Use logic models	data analysis
External Validity	Use theory in single case studies	research design
	Use replication logic in multiple case studies	research design
Reliability	Use cases study protocol	data collection
	Develop case study database	data collection

3.5. Sources of Data

Main two source of data in case studies can be presented 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. The sources for a case study are defined by Yin (2009) as follow:

(i) Interview is seen as a qualitative form of data which can be used as a source of data in case study research method. The interview should be very well designed for data collection and subsequently the data collected to be analyzed diligently.

Some of the interview types which can be used for data collection are listed as open interviews, semi structured interviews and structured interviews. Interview questions for case study might turn into obtaining causal actions and references in favor of the research. On the other hand, questions prepared improperly might cause biases in the research as these can lead interviewee to give responses in the direction led by the interviewer.

(ii) Documentation can be documentation such as diagrams, reports, documents, agreements and memos etc. As having those documentation prepared for specifically related to the event under research, the data can be helpful for the interviewer to understand the situation in a better way, where the corresponding agreements, credentials and reports may not be easy to be obtained.

(iii) Archives are quantitative and precise ones among the other sources of data which can be also out of the organization. Very similar advantages and disadvantages are also valid for archives as in listed for documentation. Additionally, due to the confidentiality reasons, archives may not be disclosed for research purposes.

(iv) Direct observation depends on the observations done by the researcher who is not within the case organization. Any requirements for continuity for the study is determined by the researcher where this may however cause bias in the data collected having the subjectivity in decision making mechanism.

(v) Physical artifacts can be a tool, instrument or technological device which might be collected or provided during a visit related to the research. Although, these might be less relevant to the case study, once there is link, they can become very significant for the case study. In addition, it can be mentioned about two downsides of the data collection method as follow: availability and selectivity.

4. RESEARCH FINDINGS AND DISCUSSIONS

In this chapter, answers of the respondent projects are evaluated. Results of the interviews are presented as case studies for each project regarding the key challenges that the respondents faced in relation to the projects and recommendations for strategies to solve those problems.

The following paragraphs will give some ideas about the projects regarding their size, general aspects, locations, current status and financing type. As indicated in Table 4.1, the experience of the interviewees in the sector range between 9 and 23, ages and titles of the interviewees are also given on the table.

Table 4.1. Respondent projects involved in the interviews.

#	**Project**	**Age**	**Experience (years)**	**Title of the interviewee**
1	A	32	9	Investment Director
2	A	43	20	Senior Investment and Region Business Development Director
3	B	36	13	General Manager
4	B	41	19	Investment Director (Legal)
5	C	36	11	Chief Operating Officer (Legal)
6	C	50	22	Legal Head of Project Finance
7	D	32	10	Senior Investment and Region Business Development Director
8	D	41	19	Associate Director
9	E	48	20	Senior Investment Director
10	E	55	23	Legal Head of Project Finance

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 south eastern 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.

Project B comprises the design, build, finance and maintain of a city hospital with a range of beds between 400 and 750. The project includes main hospital and a technical area in nearly center of Turkey with an operation period of 25 years following a construction period of 2 years which was financed by commercial senior debt and equity and is currently under operation.

Project C is design, build, finance and maintain PPP health campus with a range of beds between 1000 and 1500. The project includes general, cardiovascular diseases, women and children, oncology and psychiatric hospitals and location in southern part of Turkey. 25 years operational period of the hospital already started followed by 3-year construction. The project was financed by commercial senior loan and equity and is currently under operation.

Project D is a PPP health campus with a range of beds between 1000 and 1500 including the design, build, finance and maintain of the facility. The campus comprises general, oncology, cardiovascular diseases, women and children, physical medicine and psychiatric hospitals in eastern part of Turkey for an operation period of 25 years following a construction period of 3 years. The project was financed by a bond issuance in addition to equity and currently under operation.

Project E is a health campus with a range of beds between 1500 and 2000 to be procured based on a PPP scheme including the design, build, finance and maintain of the facility. The campus comprises general, physical medicine and psychiatric hospitals in south eastern part of Turkey for an operation period of 25 years following a construction period of 3 years. The project was financed by commercial and intuitional loan in addition to equity and currently under construction.

4.1. Findings

4.1.1. Project A

Interviewee 1 mentioned that it was not a classical bidding for them as they started to look at the project after the bid award. As he confirmed that the project agreement was not bankable at all at the time which was the first big challenge in the process and they had negotiations with the 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. Interviewee 1 listed the main concerns under the project agreement for the project were the termination compensation structure, payment mechanism, force majeure events and variation mechanism and eventually they have a well equilibrium under the contract for private and public partner.

Under the project agreement, Interviewee 2 also explained the main areas that they have discussed with the MoH after the bid and amended in order to have a bankable project contract. Indexation formula under the initial version of the project agreement did not provide the proper protection and was one the biggest financial risk aspect of the project. Thus, a well-structured payment mechanism was invented setting a floor mechanism for the foreign currency investments as the revenues are in Turkish Liras. Another challenge for Interviewee 2 was variation clause as one of the main concerns that they had during the discussions of the project agreement. It was very critical for them to have the variations limited under the contract. As he was giving an example of a project managed in one of the EU countries where the variation was not limited in the contract, the SPV and contractor of the project had eventually faced several variation requests coming from the grantor where they could not reject.

Arbitration clause was also another challenge during the discussions of the project agreement as Interviewee 2 mentioned. Since it was very difficult to have an arbitration seat out of the country for a government, the negotiations took a while to agree on a working solution for both public and private party. At the end, since the arbitration

clause was much more important to lenders, the funders' direct agreement which was signed between SPV, the lenders providing financing to the project and the MoH, was set as to have the arbitration seat in London so that this risk was mitigated.

After having all those changes in the project agreement, Interviewee 1 thinks that the amended project agreement is well balanced, totally bankable and has a very good standard comparing to global PPP contracts and added that a global PPP unit at the global government level is always preferable. However, it does not necessarily mean that having a global PPP unit would bring concrete achievements in terms of closing projects. As opposed to the many countries in Africa with the PPP units but not any successful project, he underlined that the MoH of Turkey proceeded 19 projects in the first phase in parallel and most of them reached their financial closes which is a great success. Moreover, he emphasizes with regards to the PPP standards "if we need to compare Turkey with any other country in that respect, we should compare with US, Canada, Germany of France."

Furthermore, Interviewee 2 stated that one of the important challenges that they have faced with the institutional capacity of the MoH. 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, which was not good for the public side as they were one team as against to the several teams of consortiums to be managed in parallel. Interviewee 2 believes that the situation really made MoH frustrated and resulted in improper risk allocation for the project. In order to mitigate the problem, the authority should have enough resource within their bodies to be able to manage the projects under with the aim of having a right risk allocation. Another solution to the challenge proposed by Interviewee 2 is to start with a medium-size project to have the MoH to learn this project as being the pilot project so that it can transfer what is learnt during the first one to the other projects in the pipeline upcoming. Another challenge during the discussions on the project agreement mentioned by Interviewee 2 was high turn-over rates after the first project agreement signed by the bidders in 2013 till the revised version signed in 2014. The negotiation process was inefficient due to incomplete discussion sessions as having the

head of PPP unit under the MoH changed three times during this period. Moreover, the MoH personnel involved in the negotiations were not familiar with the contracts at all.

In addition to what Interviewee 2 clarified above, Interviewee 1 declared that at the bid stage, there were 18 other hospital projects under the tender. This situation caused lots of problems like the delay in decisions as the MoH personnel to handle the projects were not enough as resources and not capable to understand and the manage the projects well according to the project agreement executed which can be called as lack of institutional capacity. However, this could be mitigated in several ways as follow: at the very beginning MoH should have determined a pilot hospital project with a medium size instead of bidding 19 projects at the same time and should work with consultants with international PPP hospital experiences in to evaluate technical, legal, financing aspects of the projects and prepare for each stage of the procurement accordingly starting from the process prior to the tender 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 are essentials for a government to be able to implement successful hospital PPPs.

As a further step at a higher level according to Interviewee 1, more permanent solution to this problem which also considers the transfer of knowledge, it is suggested that the public entity should certainly centralize the PPP experience under the national PPP unit which needs to be well established to concentrate on the general knowledge and experience in PPP projects however differentiating for each sector. So that, the government bodies would be able to transfer what is learnt their know-how through this unit with very much shorter learning period.

According to Interviewee 1, it is not extraordinary to have discussions on the project agreement for amendments after the bid stage. However, in Turkish hospital PPPs especially for Project A it was mentioned that this negotiation process was so long that it affected the process and the amendments in kind of a negative way in terms of the proper risk allocation between the parties. Therefore, it is suggested as

a mitigation to limit the time for negotiations giving a deadline under the project agreement.

Additionally, Interviewee 1 explained that environmental and social impact assessment should have been completed by the public side and ideally prior to the bid this study should be fully completed so that both partners can evaluate the risks accordingly. Further to that, public partner should be more aware of the consequences of such a project not only on the environment but also the people around and prepare an action plan to be able to manage the risks on its side properly. Interviewee 1 added that it is also critical to develop the project in accordance with the IFC and EBRD environmental and social standards/requirements in order to procure the project with international best practices.

In terms of services, PPP applications in healthcare sector in Turkey excludes the medical scope of the work as mentioned Interviewee 1, as they have seen other implementations in different countries like in Canada, Chile where the clinical services are also provided by private partner through PPP scheme. However, it was added by Interviewee 1 that under the current scope of the project, there is medical support services where the private partner also provides the medical equipment like MR machines, laboratories. The key risk to be considered here is that to clearly define the borders between the responsibilities of private and public partner to be able to manage well the interface issues between the medical staff of the MoH and the service provider' personnel.

Another problem as per the Interviewee 1 for not only the Project A but also whole projects in the program, the awarded bidders for projects are mostly the contractors which have short-term vision in terms of investment. Therefore, the main focus was to discuss and find out the risk during the construction rather than thinking also operational challenges. As a long term investor with their contractor partner Interviewee 1 said that they also did not fully analysis and embrace the project with a long term view comparing their experience in Turkey with a road project in Europe where the investors focus not only the construction related risks but also mainly on

the operating risks such as lifecycle of the road (e.g. pavement etc.) considering a long term vision. This was mainly because there is a lack of stakeholders who would be able to manage the hospitals for such long terms as "service provider" in Turkey. Interviewee 1 expressed that for a successful implementation, the project should be considered in the long term but not only construction and the lifecycle of equipment under the service requirements of the project agreement. There should be more workshops on the operational side and the service provider should scrutinize the service requirements with the support of a technical advisor. The main idea should be the planning of the whole concession life very well with a well-studied lifecycle budget.

Moreover, related to the long-term operational perspective, Interviewee 1 suggested the grantor to define long term maintenance program of the hospital in detail prior to the bid stage so that EPC contractor and service provider would do the most appropriate optimization for the design purposes. For instance, if the conditions of the facility were very well defined at the hand-back, this could help the project company/service provider to for the maintenance and lifecycle schedule of the hospital.

In relation to the financing of the project, the Interviewee 1 has expressed that the most significant challenge they have faced with was to finance the project during the procurement of the project. Due to no sufficiently developed local financing and long-term debt or bond available (i.e. 25 years) in Turkey, it required to bring the financing out of the country. He mentioned that in order to finance different hospital projects in the program successfully (as they have invested in more than one PPP hospital in Turkey), they have managed to close the deals in different time intervals not to be dependent on the lenders' liquidity by contacting with different banks. Having MoH being flexible while the process of achieving a bankable project agreement was the most significant mitigation for financing challenges. As an international investor, Interviewee 1 mentioned that they took the initiative for bringing the international commercial banks to lend for their hospitals PPPs in Turkey. Thus, those banks also provided financing in other hospital projects in the program which increased the liquidity level in the country. Furthermore, Interviewee 1 emphasizes that it was very important to work with EPC contractor with large financial capacity, simply because for a serious

time EPC contractor of the project continued the construction prior to the financial close which enabled SPV to save time in the process. Moreover, Interviewee 2 stated that the attractiveness created by MoH was very successful, DFIs were quite interested and supportive during the process. This support was so effective on the procurement of the overall program as they have provided several trainings and advisory services to the MoH prior to the bid and after the bid stages.

Interviewee 2 also told that as the project was one of the first PPP hospital in Turkey to start operations within the program which reached the financial close, it was a path finder for all stakeholders as each problem encountered during every stage was solved first for this project. However, the critical question for financing was whether there was enough liquidity for the project and the financial requirements of IFIs and commercial banks would be applicable in Turkey. In other words, it was understood that the challenges were solved out while experiencing those as concurrently.

During the financing of the project, Interviewee 1 added that there was no deadline for the financial close under the project agreement unlike in the European PPP project agreements which was one of the important challenges for the authority. There was only a timeline set for the construction, that is why the negotiations took much longer time than expected. However, as under the international PPP contracts, the deadline for the financing of the project needs to be fixed under the project agreement to incentivize the SPV reach the financial close as soon as possible which strengthens the enforcement of the public side for a successful implementation.

Furthermore, Interviewee 2 thinks that the number one challenge at the financing stage was the lending liquidity and it was solved with the support of the DFIs and international commercial banks' participation. However, there was another problem related interest rate for a long-term financing. Comparing to lending liquidity, the interest rate swap liquidity is less available among the banks which is a financial product more difficult to find in the market as most of the banks do not intend to take this risk for such long periods as it requires more capital reserve which starts to decrease the profitability. In order to fix that problem, after long discussions, some of the

commercial banks providing lending to the project received special approvals from their credit committees for providing hedging as well.

Regarding financing process, Interviewee 2 confirmed that financing of the project was completed with the EU standards with the differentiations in the commercial terms with the risk assessment done for Turkey as a developing country. Interviewee 2 stated that the lenders/financier for the project, took comfort from the fact that the assigned EPC contractor has the sufficient financial capacity to complete the project so that the project was financed with the European standard terms and conditions.

While the negotiations of the concession agreement, Interviewee 1 stated that it was concerned about the commissioning process and the way how it is defined under the contract not being sure whether the acceptance can be hold unreasonably or might be done in a very short term without paying attention to the preparedness level of the hospital which was one of the challenged they could not mitigate at the time. Interviewee 1, therefore, believes that the commissioning and acceptance of the project was not smoot at all as we could not mitigate this risk previously. Although that was the case, comparing to the duration of the project commissioning in European PPP projects, the completion of commissioning process was reasonably shorter. The key mitigation for the problem that they suggested also at the commercial closing is to set up a mechanism for the commissioning process. According to the Interviewee 1, the decision to start for commissioning should be dependent on a mutual approval from MoH and an independent certifier on behalf of SPV which would make the MoH ensure that the project is well prepared for the commissioning and so acceptance.

With regard to the operational aspect of the project, Interviewee 2 shared a challenge that they have encountered during the beginning of the operations due to the lack of collaborative work and miscommunication between the GDHI and GDPH so called as ‘providers’ and ‘users’ on the public side. For instance, due to the regional sensitivity, while going in the Physical Therapy and Rehabilitation building in project, women and men patients do not want to use the same entrance as understood from the local medical personnel in that city. However, this was figured out by the private

partner only after the whole design and construction completed. That is why in order to accommodate this change, Interviewee 2 mentioned that as private partner they bear the cost and re-build different entrances for the male and female patients which was a cost overrun for the private partner. Moreover, the Interviewee 2 expressed another problem that they had to handle at the time of the opening of the hospital. In the city of the project, the number of births has been gradually increasing due to the demographic changes in the city as previously mentioned. Although the patient inflow is not over capacity, the waiting room for the patient relatives are not sufficient at the moment; simply because the special design and the capacity needs of the local community were not taken into account during the design stage by the MoH. In order to solve this problem, according to Interviewee 2 the need of the region of the hospital to be procured, especially service divisions, should be determined well advance. Thus, GDHI team certainly needs to work with the GDPH employees especially local medical personnel as there is no one can know the region better and what is needed in the region as per the local factors to able to answer questions such as how many surgery rooms would be needed or that much laboratories would be really required.

Furthermore, Interview 1 also believes that there is no qualified personnel under the MoH both investments and operations side and they are not also aware of the complexity and size of the investments they have been taking care for a while. This is still an essential problem on the public side that there is no sufficient human capital. The personnel working for the ministry do not have the knowledge of the project agreement to be applied by the MoH to be able to manage the project. Since there is no contract management function on the public side which cause poor decision making many times, any need for a decision to be taken requires to be escalated to the Ministry himself which also leads to longer approval process. In order to carry out the process adequately on the public side with the aim of timely delivered projects, Interviewee 1 suggested that there should be conscious on the public side regarding the size and complexity of the projects under their management and the management departments should be structured accordingly. In general, Interviewee 1 thinks that the MoH PPP Unit is understaffed and unfortunately does not have the required know-how and experience. However, Interviewee 1 added that people with the greatest experience and

know-how in medical sector, PPP hospitals and service requirements should be working on the investment part under the GDHI as those are the largest hospitals in Turkey to be delivered. Knowing that this experience and knowledge already exist under the capacity of GDPH, this certainly needs be transferred to the investment side of the MoH for a successful procurement and implementation of the PPP hospitals. Therefore, it is a must that the GDHI personnel should be a part of the process starting from the bid preparation.

A related challenge as mentioned by Interviewee 1 above about the operations of the project, the Interviewee 2 explained that due to the lack of a contract manager at the hospital, SPV has to communicate with the medical staff primarily the head of the hospital, and all monthly service payment details are disclosed to the medical personnel in the hospital who also becomes aware the unbalance among the unit prices of the services. However, due to the reason that the medical personnel of the hospital are partially paid by the revolving fund, they start to think that the service revenues lead a decrease in their budget and again which cause rivals around against to the SPV and OandM at the site as a challenge. As a mitigation suggestion by Interviewee 2 to the miscommunication, MoH should certainly train its personnel regarding the structure of the healthcare PPPs in Turkey providing all details in terms of financing, operations all contractual structure, so that the local medical personnel will have a better understanding the scheme and how it really works and not a good one indeed. Interviewee 2 explained that, under the OandM contractor's capacity, Interviewee 2 explained that they organized trainings and workshops to inform the medical employees in relation to the project scheme and applications. Otherwise, even the responsibilities started to be questioned and interface issued raised between the OandM contractor employees and the clinical staff.

As a commercial aspect of the project, Interviewee 2 confirmed that medical support services payment mechanism works based on the unit prices pre-set under the project agreement according to the Health Practices Communique (HPC) which includes laboratory or radiology services which unfortunately the unit prices do not match the market prices. He therefore stated that the service prices under the SPV

structure were prepared as a package in order to compensate the loss that they are having from the medical support services. Although this seems like a mitigation, having the service prices unbalanced caused lots of conspiracies among the clinical personnel who has the knowledge about the unit prices and triggered partial oppositions to the PPP hospital applications. To be able to mitigate these problems, he recommended two alternatives. One of them is to exclude the medical support services provisions from the PPP Hospital projects scope of work or the other option could be to apply a reasonable adjustment to fix the prices as of today and thereafter and make it subject to a proper indexation like the other services. Interviewee 1 added as a further suggestion to solve this issue from the beginning the adequate prices should be studied at the stage prior to the bid.

4.1.2. Project B

As a foreign investor, Interviewee 3 mentioned that the biggest problem for the project they considered was having a project agreement not bankable at the time of when the project was tendered. There was even no attribution of financing of the project under the project agreement (e.g. any commitment, timeline for financing) and no environmental and social impact analysis available. Therefore, Interviewee 3 declared that the main reason they did not participate in the bid was the bankability issue as a foreign investor, because they were not able to take such a risk especially in Turkey where the project finance is mature yet. Suggested mitigation for such a risk by the interviewee would be do a more international publication for the tender with a bankable project agreement to attract more foreign financiers. Additionally, well prepared feasibility studies and a ready environmental and social due diligence undertaken by the grantor prior to the bid would help an equity provider to take comfort and to be able to trust in the project and see as a successful PPP project at the European Standards. However, even though the project agreements were not bankable at the bid stage, with the negotiations between the bidders and grantor after the bid, the project agreement was turned into a bankable one which was the mitigation of the significant risk taken by the project. This was another biggest challenge in the process according to the Interviewee 3, because in order to be able to amend the

project agreement, the law and underlying regulations were completely changed, and Interviewee 3 added "If the Grantor was so flexible to discuss and change the project agreement post bid, the projects would not be bankable".

In addition, Interviewee 4 also underlined that one the biggest problem during the bid stage was not have a bankable project agreement which hold them to be able to join the bid for the project as the risks under the contract were considered as not being manageable by the private side. The main clauses that made the project agreement non-bankable at that time were the payment mechanism, arbitration place, unspecific termination clauses and no protection for uninsurable events from public side. Interviewee 4 mentioned that a process longer than enough was taken by MoH together with awarded bidders and contract negotiations were completed in order to achieve a bankable solution under the contract.

Further to that, with respect to bankability issue, Interviewee 4 explained that in case of a termination event, the senior debt payment is covered under the compensation termination mechanism. However, the direct agreement signed with the lenders was a schedule to the project agreement and lenders concerned about the validity of the schedule in case of a termination. In order to mitigate this risk, to have a bankable project, the direct agreement with the lenders was made a standalone agreement even it is still a schedule of the concession agreement. In order to avoid such a process after the bid as suggested by Interviewee 3 and Interviewee 4, there should be process that the public authority can study on the project agreement with the international consultants to be able to prepare a bankable contract with the aim of succeeding proper project financed PPP projects with a global view.

Nevertheless, Interviewee 4 believes that the termination clause under the concession agreement is not structured with a proper risk allocation. The reason for that under the current contract, in any termination event regardless whose fault is that, the equity injected by the private partner is paid back to the private partner whenever the termination event happens. According to Interviewee 4, this termination compensation for capital invested by the SPV should be paid under certain circumstances for example

in the case that the contract is terminated due to the SPV's fault. Therefore, in order to implement a successful PPP project, Interviewee 4 thinks that the contract need certainly provide enough disincentivize for the private partner to procure the project decently, at least there should be a mechanism for compensation ensuring that the SPV would lose a part of the equity invested under those certain events.

Interviewee 3 underlined once again the environmental and social impact assessment was a very crucial process in terms of risk perspective. The lack of this study caused serious concerns and uncertainties. The rationale of the investment for the project and in general for hospitals can be predictable as there is a critical need in the country. However, there was no available information regarding the impact of the project prior to the bid which was a significant risk at the time. Therefore, as a mitigation to the risk, an environmental and social due diligence was completed to understand the potential impacts of the project and followed the action plans on private partner side during construction and operation. Further mitigation as an essential solution to that problem advised by Interviewee 3 is to have this impact assessment before the bid at the planning stage of the projects even though it extends the process, eventually it would really help to overcome many challenges which would come out during the implementation of the project. Hence, the public partner should be fully aware the impacts of the projects on the authority side well advance. As previously mentioned by Interviewee 3 under the assessment done, there were several important areas identified that the Authority should have taken care earlier; for example, the situation of the existing hospitals in the city of the project and what the plan is for the existing employees of those hospitals or the access to the project itself.

After the bid stage, at that time, Interviewee 3 mentioned that the institutional capacity of the Ministry of Health of Turkey was questionable, and they were not sure whether the government would really be able to procure the project or not. As private partners, Interviewee 3 mentioned that they could support the government to transfer the know-how through trainings, workshops. Instead, Interviewee 3 believes that the MoH being left in the dark, took many decisions by way insistence of private partners and did not challenge the amendment requirements. Thus, in the case that public

side does not have the enough institutional capacity, as per Interviewee 3's suggested strategy public side should work with the advisors who have the sufficient experience and know-how not only legal but also technical and financial perspectives of PPP hospital projects on an international platform. It is required for the authority to have a better understanding of the underlying liabilities set under the project agreement, such as how the market testing mechanism would work, or medical support services should really have been included in the scope of service provider.

Following the bid stage, Interviewee 4 thinks that the variations on the design came into fact due to several reasons including lack of clear technical specifications at the bid stage and very long contract negotiation process after the signing of the first draft of the project agreement. Interviewee 4 did not believe that the VfM analysis for those variations were properly done before those decisions were taken and MoH proceeded mainly depending on the requests coming from the contractors and did not show enough resistance in that stage. As a reasonable mitigation there should be more prescriptive work breakdown structure under the tender documentation as well as restrictions on the development stage to be included setting deadlines under the project agreement because the longer the process from the bid stage and commercial close till financial close is, the more variation on the works would be needed.

In relation to the service requirements that set under one of the schedules of the project agreement were not detailly prescribed even at the time of financial close as underlined by Interviewee 4. Moreover, it was so questionable how adequately the service requirements are linked and matched with the performance criteria which was one of the main risks for both private and public parties. The challenge was whether those target performance level were achievable or not and would work in practice properly. As a mitigation, the deductions due to improper performance of the SPV were capped by the grantor under the project agreement however in that case it was suspicious how reasonably enough those deductions caps were for the MoH to manage the performance in the hospital. Interviewee 4 mentioned that this risk was not balanced for both sides, as those caps do not bring sufficiently deterrent financial liability for private partner.

In relation to the financing of the project, according to Interviewee 3, due to the lack of DFIs' interest in the project, as they were providing liquidity to another project in the program, the financing was another type of challenge simply because commercial banks take much comfort from just presence of any DFI in terms of risk assessment. According to the Interviewee 3, they took the advantage of the well-advanced technical preparation of the project, the design was completed, and the foundation of the facility was almost done. Moreover, it was mentioned that they succeed bringing a couple of new lenders in addition to a few banks which invested in their other project financial closed. Eventually, the sponsors of the project managed to find the debt size doubled of what was required at that time which helped to increase the competitiveness and made the lenders more accommodative in terms of financing conditions.

The biggest challenge for the operations of the project, Interviewee 4 stated that "the authority to deliver the projects as investments and the authority to operate the projects as hospitals are different even, they are both placed under the MoH structure". It was clarified that the whole procurement process of the PPP healthcare projects is managed by the General Directorate of Health Investments (GDHI) which is not familiar with the hospital operations up until start of the operations of the hospital. After that, the General Directorate of Public Hospitals (GDPH) fully take over the management of the hospitals where the problems started to come out. However, it was criticized that there was a serious lack of coordination and communication between two bodies under the MoH.

Including design and bid stage, Interviewee 4 clarified that GDPH was not involved in any stage the project procurement prior to the beginning of the operations and did not participate any discussion while determination of the list of required equipment for the hospital, the local need and dynamics. MoH PPP Unit under GDHI did proceed without taking any assistance and visibility from the medical people working under the GDPH which is the authority expected to manage the PPP hospitals at central and local level starting from the acceptance. This situation caused lots of challenges for the project Interviewee 4 expressed that they had to demolish and re-build the entire emergency part of the hospital as the GDPH employees did find the design

neither appropriate nor efficient as per the healthcare facilities standard in local terms. Another example of the problem, the GDPH requested different equipment than the ones previously defined under the project agreement which caused financial variations to borne by the SPV or OandM. Furthermore, another example was shared that in the city of the hospital, there is a serious need for gynecology department having an gradually increasing number in births. However, unfortunately, the design was not made to serve the purpose anticipating the demographic features of the city.

As a mitigation recommendation from Interviewee 4, the employees working for GDPH called them 'users' of the facility, absolutely need to review the design and medical equipment list required for the project prior to the bid stage and to be actively involved and work in collaboration with GDHI during the whole procurement process where they can provide any comment or advise in order to deliver a successful, adequate and effective healthcare facility as the same application in UK PPP healthcare projects. Hence, Interviewee 4 listed the areas in detail where the personnel GDPH should really be involved in the process since the very beginning and provide certain comments and feedbacks for any necessary amendments:

- Branch need: need of each branch in each hospital and location needs to be determined depending on the feedback from the local medical personnel of GDPH so that a capacity will be placed to match the need of the community.
- Design of the general facility: due to the reason that the hospitals are very complex and large, the design certainly should be prepared in coordination with the clinical personnel in order to utilize the facility for the use in the most efficient way.
- Medical equipment: the medical equipment list and the quantity estimations are also very decently identified based on the need of the community living in the specific location as they are involved in the initial investment to be provided by the private partner. Therefore, the medical personnel need to work on the preparation of the medical equipment with the GDHI prior to the bid together anticipating the long-term needs of the hospital in order to have an accurate feasibility study and avoid any future variations should public partner have during the operations.

In addition to the technical operational problem, at the time of start of the operations, the Interviewee 4 explained that they experienced several contractual problems related to the payment mechanism as being one of the first PPP hospitals to start operations. The challenge was lack of communication between the central MoH departments and the local units of the MoH in addition to insufficient know-how of the personnel at any level of the MoH related to the contract and the payment mechanism. Moreover, according to Interviewee 4, the MoH was not aware the long-term impacts of the projects under its procurement, because there were qualified personnel who would be able to assess those aspects of the projects especially under the local MoH units. Therefore, in order to solve out this issue, Interviewee 4 recommends that MoH PPP Unit needs to train its personnel about these projects, contracts and their implementations globally before any of them starts to operate; whereas MoH PPP Unit, itself should have a pro-active monitoring system to be able to well evaluate and assess the course of operations of the projects. Furthermore, MoH can benefit institutional capacity improvement trainings which are made available by DFIs.

Related to the monitoring of the project, Interviewee 3 stated that having the PPP payment mechanism based on a performance basis, it is very significant to have a proper monitoring mechanism during the operations. Therefore, the lack of central control function is one of the key challenges; simply because currently there is no system in the center that MoH can monitor the hospitals operations and be reported instantly. Interviewee 3 thinks, thus, in order to have a successful implementation, a system should be set up at the level of MoH PPP unit which collects information in the Hospital Information Management System (HIMS) of each PPP hospital and centralized the information for MoH to monitor and follow-up the operations of the hospitals adequately as per the concession contract. Hence, the mechanism is also going to play an important role for contract management. Together with this system set up at the MoH PPP unit, Interviewee 3 believes that the duration of the commissioning periods will be reduced, and the process will be more efficient.

Moreover, during the commissioning period, Interviewee 3 believes that the preparation of the hospital for the commissioning was not properly done and it was one of the

biggest challenges whether the hospital was ready to start the operations or not. Interviewee 3 also thinks that the project was not adequately inspected and was accepted in very short term by the MoH. As per Interviewee 3's experiences, the commissioning process should have initiated very well advance or MoH should have taken enough time to assess the hospital requirements and accept the facility for operations. Like in European PPP procurements, SPV also should have more active roles with regards to the planning in order to be able to manage the subcontractors better.

With regard to the commissioning process and the mechanism, the Interviewee 3 complained about the overall that first there was no clear process during the commission of the project, the commissions were composed of only MoH employees and SPV can only join the process as an observer without any objection right which Interviewee 3 thinks is not right. It was added that the specifications for the acceptance unfortunately were not clear in the project agreement which allowed MoH to ask for additional requests. This was and still one of the biggest challenges that Interviewee 3 for the other projects are closing to the operational period. In order to be able to open the hospitals, SPV of the project finally agreed with MoH on a solution and accepted to complete the variation requests which were not even included under the contract or any schedule with the condition of a set-off mechanism for the payments to be received from the MoH during the operation. Knowing the fact that there is no set-off rule for such variations during the acceptance of the hospital, this was again being incompliant with the contract and out of order a standard European PPP application.

As a successful application for this, the commissioning process and acceptance procedure and the acceptance conditions need to be very well prepared and should be very prescriptive under the project agreement. For instance, although under the existing project agreement, an observer should visit the site every 3 months to understand and do the required inspection and report if there is incompliance with the specifications, MoH observers did not follow what is written under the contract and the all modifications were requested at once at the commissioning process which also caused delays and cost overruns. Comparing to the size of the project, Interviewee 3 underlined that the penalties for delay in start-up are so small in amounts, they have

not experienced any delay or problem regarding this as they have been working with one of the biggest contractors in Turkey. However, this really needs to be considered during the contract preparation and for the public side's sake the penalties under the contract should be sized with a balance according to the project's size and complexity.

Another key challenge is the market testing under the project agreement which will be applied to all services except the extraordinary maintenance and repair services as explained by Interviewee 4. It is a mechanism that every service will be subject to a benchmarking in every 5-year and be tendered. After receiving all proposals, the SPV has the preemption right and match the lowest price or that specific service will be provided by a third party which may not be necessarily a sub-subcontractor of OandM of the SPV. Having said that, Interviewee 4 emphasized an inconsistency under this mechanism regarding the Building and Land services which is also subject to the market testing whereas the long-term maintenance and repair services of the facility are not. As the hospital has not reach the 5th year of operations, he walked through an assumption of the case which a third party would give a very low price that OandM could not match with and lose the Building and Land Services. In such a scenario, the concern is related to the interface issues between the new comer and the SPV, as OandM and SPV together will stay as the responsible party of the facility in long term. Hence, Interviewee 4 certainly disagrees with the idea that the ordinary maintenance of the building cannot be transferred to any other third party with very low prices which might result in very negative impacts in terms of quality as well and should stay with the party who takes care of the extraordinary maintenance of the building for 25 years.

Related to the market testing, Interviewee 4 also said that the market testing mechanism set under the concession agreement is not clear. The provisions of any services except the heavy maintenance can be transferred to a third party who would give the lowest price during the market testing. However, it is a bit vague drafting about who will manage the new service provider, whether that would be sub-sub-contractor to the SPV or it will be directly to be engaged with the authority. This is still a very serious question mark in the concession agreement regarding the market testing which

have the potential adverse impact on both public and private side to be immediately clarified. Moreover, under the Interviewee 4 commented on the rationale behind the market testing mechanism comparing the application of the market testing in UK Hospital PPPs. Interviewee 4 clarified that the system in UK is implemented with the aim of a real market test in other words 'benchmarking'. As a result of this study, the service prices are assessed whether they are at a reasonable level with the market prices or under the market prices. In the case of being under the market prices, the SPV's prices will be adjusted accordingly. In a sense, the benchmarking mechanism in UK is set for the sake of the private partner and adopt SPV's prices as per the market conditions in a better direction. However, the market testing under Turkish PPP hospital model does not work in that way which certainly bears a significant risk for SPV of losing the all services except the extraordinary maintenance services and eventually going for a bankruptcy. Therefore, according to Interviewee 4 in order to mitigate this risk, the market testing clause should be re-drafted as to be like the one applied in UK healthcare PPPs to protect the SPV's position with the required adjustments where necessary.

Regarding the service payments, Interviewee 3 commented that since the medical support service payments are subject to a pricing determined under the "HPC" (Healthcare Applications Communiqué) and with a fixed discount defined under the project agreement, those unit prices stay below the market prices for very significant healthcare services such as radiology or laboratory. This was a very big challenge for both SPV and the service provider while having the discussions of service prices due to the unbalanced unit prices. In order to mitigate this risk, Interviewee 3 proposes a global indexation to be applied to unit prices of the medical support services and should be subject to the HPC.

As a general comment made by Interviewee 3 was that although they are one of the first hospitals who started the operations, they understand from the other concessions that they also experienced the same challenges at the beginning of the operations. Interviewee 3 thinks that this is totally not a positive sign which means that the authority managing those projects do not learn from its failures and experience. Thus,

it is advised the MoH to utilize a center to collect the lessons learnt from the relevant departments in order to be able to produce a lessons-learnt data platform and transfer those when and if needed for any other implementation of the PPP projects in the national government.

4.1.3. Project C

The most important challenge mentioned by Interviewee 5 that in general not only for Project C, the MoH initiated the tenders for the projects without an institutional capacity and so not bankable project agreement. During the bid preparation, there was no substantial background in terms of technical, financial and legal as features of the project. Therefore, it was decided to have a reference project agreement taken from another country was used during the preparation which was translated to English and then Turkish. However, at the time MoH never considered that the scheme of the PPP agreement would properly work under the Turkish PPP healthcare projects' model and ignored the fact that there should be adequate risk allocation under the project agreement. Interviewee 5 defined the approach of MoH during the procurement of the hospitals in the program as the phrase is "make it up as you go along" which was a clear mistake as commented by the Interviewee 5.

During the bid stage of the project, Interviewee 5 declared that unfortunately the bid documentation under the data room presented by MoH was incomplete and not sufficient for the bidders to be able to evaluate the project risks and do a proper financial analysis in order to prepare a right proposal for the tender. In order to do a successful bid, the data-room should be complete and having an authority who has the know-how, the concession agreement together with the tender documentation should be very clear at the bid stage for the bidders.

After the bid award, Interviewee 6 stated that engaging with the potential banks and lenders were initiated and it was figured out that the project agreement was not a bankable one at all. Following that, in order to mitigate this risk, MoH demonstrated flexibility and was open to have discussions with them in order to make the

project agreement bankable together with the other consortium of the other PPP hospitals since the concession agreement was not complete and having some deficiencies and inconsistencies. After the negotiations with MoH, the PPP contract was amended according to the lenders' comments. Although, amending the PPP contract was considered as a mitigation at the time, the one of more concrete mitigations suggested by Interviewee 6 is that the participation of the lenders should be prior to the bid so that they could provide their comments before the bid. Thus, the authority would be aware of the bankability issues and try to solve out those well before the tender process. In addition to that, more globally, the authority needs to structure the projects to be compliant with the international project finance scheme providing the participation of all stakeholders and considering the sector related dynamics. Furthermore, in parallel doing this, all due diligences should be completed in main perspectives of the project and prepare the project agreement taking into account the bankability issues with the help of the advisors who holds the experience in PPP hospitals globally to be placed on the public side. Moreover, there should be transparency on the MoH side and assignment of the advisors to the ministry should be also done through a tender so that authority can ensure to assess and choose the consultant with the most appropriate competences.

Additionally, the key issues regarding the bankability under the concession agreement are listed by Interviewee 6 as follow:

- Arbitration: lenders did not want to have the seat of arbitration so only for funders' direct agreement the arbitration seat is in London however will be subject to Turkish Law.
- Payment mechanism: the revenues paid to the SPV are in Turkish Lira, there was a currency protection concern on the investors and lenders' side and having the currency floor mechanism the risk was mitigated sufficiently.
- Termination: was one of the important clauses especially for lenders for the reason of repayment of the senior debt in case of a termination event regardless of whose fault. Therefore, the rights of both public and private partners were stated very clearly in order to mitigate the risk of a termination.

Nevertheless, Interviewee 6 pointed out that as material changes made to the project agreement after the tender was completed, the fairness principal which a PPP project tender should certainly have was destroyed. Interviewee 6 also said that during the negotiations were going on among the them and the MoH, as they understood each project agreement was amended at the project specific level which was another issue during this process. This also caused several problems during the procurement process. As a mitigation of this issue, the project agreement should be standardized and not be open to any further amendments unless there is very crucial mistake or need.

Furthermore, Interviewee 5 expressed that one of key challenges was the mindset of the personnel under the MoH PPP unit as they were trying to treat the private partner as if they are Ministry's contractor like in the traditional publicly funded projects. In order to fight this issue, first the MoH personnel's the perspective should be changed, and the employees need to understand the concept of a PPP hospital structure gaining know-how again with assistance of consultants who can bring the experience and knowledge. Additionally, the authority also should realize that these PPP projects contain long term 'partnerships' with the private partner to benefit its experience and know-how and transfer the risks where appropriate.

At the time when the bid was completed for the project, Interviewee 5 stated that there was no proper regulatory framework for the PPP hospital projects which was one of the biggest issues in the process. This is still the case. Hence, in order to have a successful application for a PPP hospital Interviewee 5 recommended MoH to have all stakeholders around the table including international lenders, investors, doctors, operators, contractors to amend the PPP law with the conditions which can be efficiently implemented in practice. Interviewee 5 also underlined that "On the MoH side, there was a resistance to look at the projects as a partnership, therefore MoH proceeded in many situations acting like a boss". Which led a bad contract management on the public side.

Furthermore, in relation to the contract, technical specifications and the service requirements defined under the annexes to the concession agreement was full of grey

areas and inconsistencies at the time of the bid stage declared by Interviewee 6. However, those two schedules of the PPP contract still include several inconsistencies and deficiencies. As suggested by Interviewee 6 at the bid preparation stage, tender documentation and PPP contract should be detailly prepared which include the technical specifications having the advisory from the people who have the best international knowledge in the sector. Moreover, technical specifications for construction Interviewee 6 also stated that the standards are not complaint with the latest technology and not clearly defined.

Therefore, it is also critical to have those standards under the concession agreement prior to the bid very prescriptive making sure that it refers to the cutting-edge technology. This would also keep the variation need at minimum level during construction.

Having said that, just prior to the opening of the hospital, it was still not certain which hospitals would be closed and how many patients and medical personnel would be transferred to this hospital an example of those deficiencies and uncertainties. Interviewee 6 expressed that this was a difficult planning challenge for them to handle and listed the global strategies for mitigation as below:

- The need of the hospital: MoH should identify the need of the region in terms of medical departments and under the capacity of these department which services will be provided with which equipment and standards also should be defined under the concession agreement.
- Existing hospital planning: MoH should do the assessment to identify which hospitals should be closed and when and how many the patients and medical personal to be transferred to the new hospital which need to be very well defined as a separate workstream to be carried out in parallel with the new hospital procurement.
- The capacity need: MoH should do a study to analyze the what the bed capacity needed in the location of the new facility considering the how many hospitals with how many beds will be closed at the time of the new hospital being operational.

Land transfer was one of the main problems for the project Interviewee 5 declared. Due to the reason that MoH does not have any land to be rent by the private partner for 25 years, it has used available lands under the capacity of the Treasury of Turkey with the help of providing a right of usufruct to the SPV. In addition to that, if there is any problem with the land transfer, it would directly impact the project timeline as all deadlines which are linked to the land transfer and so cause cost overruns. Therefore, in order to anticipate the risks related to the land to be transferred to the private partner, a due diligence regarding the land including infrastructure and accessibility studies should be done prior to identifying the land to make sure that the land is proper and ready to be used for the project.

Following the land transfer, during construction, the process of design approvals was also an issue to be solved out as said by Interviewee 5. Under the PPP contract with the MoH, a clear procedure with the definitive deadlines were not included. It is currently saying that it shall be approved within 15 days, but this by itself does not mean too much regarding the process practices. Because of these uncertainties, SPV experienced several delays in the approval process which cause unexpected cost increases eventually. Therefore, under the concession agreement, it should be clearly stated how the final and implementation designs would be approved under which deadlines and according to which criteria.

According to Interviewee 6, during the commissioning there was various demand coming from the MoH which were not stated under the project agreement and the SPV had to accept to complete the work as requested to be able to have the acceptance and open the hospital for operations. This was one of the main challenges during the commission. Interviewee 6 explained another key issue regarding the lack of independent technical advisor approval for the commissioning. That enables the MoH to approve the hospital to proceed with the operations which makes this decision unfortunately is solely dependent on public side's discretion. As this is very crucial issue for the hospital having the long-term operational view, in order to solve out this problem, Interviewee 6 certainly believes that the commission and acceptance process should be structured on a very solid ground having an independent third-party view to be binding on au-

thority side. As an example, Interviewee 6 gave that during the commissioning period it was understood that the number of the surgery kits set under the specifications and requirements will not be sufficient. Thus, the MoH requested to increase the number of kits from the SPV. given the specifications are incomplete and include deficiencies at the time of bid, SPV did not include the cost of those unexpected requests in the submitted proposal, this would have an impact on the budget both public and private partners.

As Interviewee 5 clarified that HIMS is the hospitals information management system currently managed by the private partner. On the other hand, the same system is used to keep the records and monitor the performance of the services provided by the private partner as a monitoring system of the operations on behalf of the MoH. Having said that, the SPV keeps own monitoring system by itself at the hospital which creates a conflict of interest and lack of monitoring from the public side. MoH should establish its own monitoring mechanism in order to be able to monitor the performance of the SPV closer and adequately for a proper deduction determination.

Interviewee 5 thinks the market testing mechanism will not work as the equipment lifecycles do not match the market testing periods of which financial impact was reflected on the service prices by the private partner in order to mitigate the market testing risk. Moreover, it was mentioned that the in the case of change of service provider for one service at the end of market testing, it is not clear that which provisions will be followed during the replacement of the service provider. For instance, in case of a medical support service provider changed by market testing, how the medical equipment previously placed in the hospital will be taken out given that it is a hospital which requires a continuous provision of services. for a decent mitigation, the procedure and provisions of market testing should be made very clear under the PPP contract and the lowest price principle should be supported with other criteria to ensure keeping the quality of the services.

About the operational period, Interviewee 6 stated that on the Ministry of Health side, unfortunately there was no preparation for the opening of the healthcare PPPs

in terms of trainings. Since the personnel at the hospitals did not have adequate knowledge about the PPP hospital practice, several challenges were faced related to the segregation of duty in operations of the facility. For instance, previously in the public hospitals, waste management was not so precise and there was no strict split in terms of how the medical and recyclable waste to be collected. However, in the new PPP healthcare, all duties are precisely segregated and assigned to the third parties who are professionals on their areas. Having said that, a nurse did not pay attention and not split the waste accordingly which caused health and safety problems at the sub-sub-contractor level under the OandM contractor. Hence, having the PPP scheme in healthcare sector as a new era, the MoH personnel both medical personnel who will work in those new hospitals also the employees at the MoH PPP Unit level should be trained prior to the start of the operations simply because the structure of the management of a PPP hospital totally different than a public or a private hospital.

As linked to the above challenges, in the course of the procurement of the project Interviewee 6 declared a fact that there is no standardization for a hospital procurement in Turkey. Although there are several specifications that MoH needs to follow how a hospital needs to be delivered with which performance criteria, Interviewee 6 believes that all these specifications should be merged, and a single comprehensive and very prescriptive hospital procurement specification needs to be produced which should be applied not only in PPP hospitals but also in all hospitals to be built in Turkey. Therefore, there can be a standard of the procurement of a hospital with the best practices where each detail is to be included such as how many m2 an emergency room should be or the which branches in a hospital should be adjacent to the each other. In the meantime, since the existing specifications do not enable to accommodate any local specific features of the hospitals for the implementation, the global specification to be produced should also be accommodative for minor amendments to the certain extent according to those different needs and dynamic of the specific regions in which the facility will be built. Interviewee 6 added further that these required changes as per the location need to be identified again prior to the bid stage at the preparation of the project in cooperation with the medical doctors and personnel who are the best to know those necessary variations.

Regarding the service provisions, Interviewee 5 commented on the unit prices reality for the medical support services, the prices set under the concession agreement do not currently reflect the actual prices in the market. Therefore, this is very likely that this can have negative impacts on the provision of services in terms of quality. To mitigate such a risk, public partner should do a decent price analysis before the tender so that none of the prices would not be under the market conditions. Interviewee 5 emphasizes the importance of any service quality is crucial as the project is a hospital not a hotel or so.

Additionally, another problem was stated by Interviewee 5 related to the medical equipment hand-over mechanism which is also not clearly defined under the current version of the PPP contract. Even though there seems a long way to reach to the end of concession, this is indeed a very significant risk on public side especially as being the owner the facility to be transferred back to the authority after 25 years. Thus, this risk needs to be very significantly scrutinized and mitigated by making the hand-over conditions and requirements very clear under the contract so that each party will know the responsibilities and take actions accordingly during the life of the project and at the bid stage.

Regarding the contractual structure Interviewee 6 mentioned that this was the first project finance experience for her and as requested by lenders contractual structure was formed for the project on that basis. The main principle was to be able to have a non-recourse financing for the project. In order to be able to do that, the SPV engaged with the two main subcontractors: EPC contractor construction works during construction period and OandM contractor for the service provision during the operations on a back-to-back basis which is the standard contractual structure under a typical project financed PPP project. Hence, by doing this, SPV passes down construction risk to the EPC contractor, and the service risk to OandM contractor. Furthermore, Interviewee 2 confirms that in order to cover the interface issues from the commissioning to the operations they included an interface agreement under the contractual structure between EPC Contractor and OandM contractor.

In addition, with a different angle, Interviewee 6 explained that as the sub-sub-contractors for different services under the OandM may also interfere with each other, between these subcontractors also several interface agreements were executed to regulate the possible interactions such as who will be liable if the cleaning employee working for sub-sub-contractor x does something wrong while cleaning the medical equipment and it breaks down that the sub-sub-contractor y is responsible for. Specifically in relation to the selection of sub-contractors of the project, the key concern from the lenders and equity providers was the financial capability of the firms to make sure that the construction and operation will continue smoothly and in case anything goes wrong with the both process due to the contractors' fault, for a protection lenders and equity providers asked for parent company guarantee for their liabilities from both subcontractors which is not something any company can provide.

4.1.4. Project D

At the time of the bid, Interviewee 7 stated that the most difficult challenge was to have a project agreement which was not bankable and MoH became unfortunately aware the situation only after the bid process with the participation of the international lenders in the deal. A long time after the bid completion, the project agreement turned into an investable one. However, this should have been anticipated already having the banks, lenders involved in the process during the bid and contract preparation giving couple of examples of standard European bid process that generally require some initial letter of interest or commitments from the potential financiers who intend to provide financing to the project after the bid award. So that, the authority and the bidders would have an idea in advance about the future financing which is required to reach the financial close and initiate the construction.

As mitigation, it is suggested that letters of interest from lenders as minimum should be required under the bid documentation for the bidders which would enable the authority to be aware any comments of the potential lenders regarding the bankability of the project agreement and to have a chance to amend that accordingly.

Interviewee 7 also underlined that the bankability problem becomes more important in developing countries as opposed to the developed countries due to the risk perspective that the investors and lenders will be exposed to. For instance, in an economic crisis in a developing country, in case of one of the subcontractors under the SPV in a PPP structure goes bankruptcy, it will not be easy to find a subcontractor to replace with the existing one as there will be not be many alternatives who has the will to take over the works. On the other hand, if this happens in Europe for example, there will be various contractors who have the capacity and the interest to hand over the services. This was another challenge for the project as expressed by Interviewee 7 which was mitigated with a fully bankable project agreement execution.

Interviewee 8 added that the bankability is the most crucial point for a concession agreement under a PPP structure. Another most important point is to define the responsibilities and liabilities for both public and private side very clearly. Agreement should be therefore drafted detailed and balanced in terms of risk allocation. At the very early stage of the project, the concession agreement was not bankable due to the following specific clauses which later on amended as a result of mutual discussions: dispute resolution: which is very standard for PPP projects that if the arbitration takes place in the country of the client, the concern would be that the process may not be a fully objective one. However, the MoH did not want to change the arbitration seat location under the project agreement as the global one but changed it as London in the funders' direct agreement, which was executed between the financiers, MoH and the SPV.

Payment mechanism: the payment formula presented under the payment mechanism of the project was not working properly and providing the necessary protections for the investment. Hence, the mechanism was amended as to be a properly working one with not only Turkish Lira variations but also the currency changes. change in law: was initially drafted without any protection for private partner against any targeted change in law which would directly point the project itself and cause a loss for the investment. Thus, it was mitigated by way of avoiding any law change which would point out specifically the project.

Interviewee 8 gave a little bit background of the process on the government side regarding how the PPP structure was first initiated under the MoH. MoH was trying to find out the solutions for the new investments of hospitals which were the essential for Turkey at the time. Therefore, the MoH decided to apply the PPP scheme which has become very famous all over the world for 20 decades and would like to use the PPP agreement implemented for hospitals in Spain as a reference. However, as mentioned by Interviewee 8, the main problem was that MoH did not evaluate how appropriate the PPP agreement structure taken from Spain is for the country and also the hospital program and did not adapt it properly to the existing realities of the projects. Due to those reasons, the tender was completed with various missing schedules and uncertain clauses under the project agreement including technical specifications for construction and service requirements for the operations. Thus, after the bid, with the support of the potential lenders and technical advisors those specifications and requirements were prepared and added to the project agreement which could be considered as a half way mitigation. However, the same technical construction specifications and operational requirements were included in the project agreements as the same for all projects under the HTP which Interviewee 8 thinks a clear mistake was. Therefore, it is suggested that initially while adopting a PPP contract which was applied in another county or sector, the MoH should have revised the contract taking into account all conditions and aspects of Turkey and the hospital program in order to accommodate the changes accordingly. Additionally, as each healthcare PPP project has its own specialties in terms of design, location, demographic aspects of the location and bed capacities; the PPP agreements need to be structured considering all those differences accommodated where relevant under the contracts. Likely, the project did not experience many problems especially regarding the service requirements because of the learning period set and the deductions for the private partner was capped under the concession agreement.

It was emphasized by Interviewee 8 that the institutional capacity is one of the most important as aspect for an authority to achieve a successful implementation. One of the challenges mentioned by Interviewee 8 that the process before the bid and especially after the bid was not effective at all due to the lack of institutional capacity of the MoH. What should be done in the case that an authority does not have the enough

institutional capacity on the applications of the PPP scheme is to bring the sufficient experience and know-how having the right advisory in place to support the public side during the whole procurement process with respect to not only legal aspects but also technical and financial aspects of the project. Interviewee 8 explained that in fact there were advisors who helped the MoH but simply because the budget restrictions by law on ministry side, they could not have the best teams in place for the procurement of the project. In order to mitigate such a risk, first the MoH or the globally the public side should be aware the complexity and the magnitude the projects to be procured via PPP and then accommodate the conditions on government side to provide the required experience and know-how around the structure having the international best practices.

Moreover, during the communications with MoH, Interviewee 8 declared that unlike in international PPP implementations, MoH preferred to contact and solve the problems discussing only with the local partner in the SPV as well as the EPC Contractor of the Project ignoring the conflict of interest between those entities. However, MoH should have been talking to the representative of the SPV of the Project A not to the shareholder and/or contractor. In order to have a successful communication between the private and the public parties, the authority should determine an authorized person and contact with that person and in the meantime, SPV should also more pro-actively involved in managing the project.

In addition to the institutional capacity, Interviewee 7 commented that "Know-how transfer is a further challenge during the PPP implementations, that countries face with, regardless of being a developed or developing country". Interviewee 7 criticizes why there is no communication and transfer of knowledge in between the government bodies. As observed, although there is one body under the authority learns how the PPPs should be implemented and managed very well in a specific sector, once one other decides to apply the PPPs in another sector, it does not become interested in benefiting the lessons learnt, gained experience and know-how gained on the other body under the government side. Interviewee 7 certainly believes that this has been experienced during the procurement of the PPP hospital projects knowing that the MoH did not connect with Ministry of Transportation of Turkey who has the know-how of the PPP

applications. Therefore, as key strategy to be able to implement a successful PPP, know-how transfer between the ministries and departments under the government is a must. Furthermore, as suggested by Interviewee 7 a structure for a global PPP unit needs to be set at a higher level than the ministries so that the knowledge can be centralized to be shared with the ministries or local units where necessary.

Regarding the financing of the project, Interviewee 8 mentioned that at the time of financing of the project, there was not enough lending liquidity in the market. Therefore, they tried to spread the need of financing also for the purpose of their next projects under the program and in the meantime, they were looking for alternative financing structures. One of them was greenfield bond financing which was totally unmatured with regards to terms and conditions in the country at the time as it requires an investment grade for the Project to be financed. Interviewee 8 emphasized that "Although it was very difficult to receive an investment grade, we achieved that for this project and did a social and green bond issuance by way of a genius credit enhancement structure which was formed of together an available Political Risk Insurance product of MIGA and newly invented liquidity product of EBRD which was a financial innovation not only for Turkish bond market but also the international ones. Hence, we managed to mitigate the risk of non-payment of availability payment by the grantor as well as the liquidity need during the construction." However, he added that to succeed that took more than a year and a half. During that time, working financially strong EPC contractor was a mitigation to unintentionally extended process till the financial close otherwise they would be very behind the construction schedule. Interviewee 8 added that during the process of that complex financing structure in 2016, even though they got an investment rating, to be able to reach the financial close also took more time than initially envisaged due to the political instability in Turkey at that time. It was told that unfortunately there was no mitigation for that problem other than waiting till the country stabilized.

Furthermore, regarding the development of the project, Interviewee 7 thinks that as the PPP projects are the public side's initiatives, they would need the political support in a way. The political will is required in order to achieve a decent PPP im-

plementation. Given the fact that there were many opponents to the healthcare PPP projects, the public party had to take care of those claims which made the procurement process longer and more cumbersome where various approval process overran due to only those challengers. For example, people were asking about how they would get examined in those hospitals and how much they would need to pay for the examinations. However, Interviewee 7 stated that these reactions would be different if the PPP healthcare project structures and how they will work within the current system were told and explained to the community and medical personnel. In general, Interviewee 7 believes that those objections could be mitigated being more transparent, descriptive to the public with an explanatory approach instead of being self-conscious but having more workshops, conferences where the MoH would be able to explain the whole program, targets and impacts to the people who will be visiting those healthcare centers in the future.

Regarding the construction risks, Interviewee 7 stated that it was difficult to keep the high standards of health and safety conditions due to the complexity of the project and working conditions under very strict deadlines. Couple of mitigations suggested by Interviewee 7 are as follow: EPC contractor should increase the number of health and safety trainings and train their employees at a higher standard as they expect them to work at a higher pace, MoH should set minimum hour loss target under the concession contract as an incentive to the private partner.

Related to the provision of the services at the hospital, Interviewee 7 declared that one of the substantial risks was related to the operations of the hospitals, there was a lack of service provider who has the enough experience and knowledge in the market to run the hospitals for such long terms. In that case, Interviewee 7 clarified that it was an issue for equity investors and also financiers of the project. In order to mitigate such a challenge, Interviewee suggested a listed couple of alternatives solutions that they have faced during the financing of the project for a smooth operation of a healthcare PPP. One of the options for lenders was to rely on the know-how of the shareholders of the SPV who have the experience to its service provider. In the case that there is no knowledge on the private partner, lenders may ask for a parent company guarantee

from the operations and maintenance (OandM) contractor as a financial support to be able to manage the risk during the operations. Moreover, as a third option, lenders could request the OandM to utilize an advisor internationally experienced in the PPP hospital implementations or bring one of them as a sub-sub-contractor of the OandM.

One of the critical challenges mentioned by the Interviewee 7 was in relation to the commissioning and acceptance period. The acceptance should be done very decently as the project will be an operational one after that moment and accept real patients to be examined which is something related to a person's health to be taken care very seriously. As stated that the acceptance period was not very efficient, and the hospital run the operations with many deficiencies which resulted in various problems during operations on both public and private side. This was because there was no binding third party consent required to make the acceptance under the concession agreement and the personnel on the public side who took roles during the commissioning also not enough qualified to make the necessary assessment according to the contract. For instance, Interviewee 7 underlined that the medical equipment list is to be approved by the MoH 12 months prior to the operations start, but MoH hold the approval for a while not considering the contract at all, purely because of the lack of contract management on public side.

Therefore, as advised by Interviewee 7, the commissioning and acceptance period should be carried out very diligently by a team who has the knowledge of the contract and the eligibility to lead the commissioning and approve the completion certificate on public's behalf together with an international third-party approval to proceed to the operations. It was underlined by the Interviewee 7 that this should be most important to the authority to make sure that the facilities perform properly without any deficiency as the hospitals will be turned to them at the end of the 25 years operations.

Having said that, a further mitigation proposed by the Interviewee 7 could be also to ensure that for the construction specifications should be 'fit for use' and in order not to have any problem during the commissioning, during or after defect liability period, the construction specifications also need to include very clear and exact terms of the

performance requirements for what needs to be provided by the EPC contract as to be used in the operational period of the hospital.

After the commission and acceptance of the hospital, Interviewee 8 confirmed that there were various problems with the healthcare personnel, as they were not familiar with the PPP structure for a hospital implementation. Having clinical personnel working in the hospital including the head of the hospital who is a medical doctor, the SPV interfered with them so often. However, Interviewee 8 confirmed that as the personnel did not have any idea about the project and scheme, SPV and the clinical personnel had disagreements related to the administrative work and the daily operational issues of the hospital which created serious risks during the first months of the operations. The main reason of this challenge encountered during the operations was the fact the main unit which manages the investments under the MoH and the management of the hospitals at the local level are the same and did not communicate with each other at all prior to the opening of the hospitals. As a mitigation advised by the Interviewee 8, the project and agreement details should be shared with the local management before the opening of the hospital as a top priority by explaining how a PPP hospital structure works and what are the responsibilities of public and private side.

Therefore, the medical personnel will have a better understanding about the project scheme and one of the key purposes of a PPP project for public sector which is obviously to benefit the experience and knowledge as well as the effective administrative skills incorporated on the private side. Additionally, prior to the opening of the project, the doctors who will work in the hospital including the head of hospital came to the hospital which was not a right application, the doctors, and the other employees from GDPH who will take a part in the administration of the hospital should have already been involved in the process very well advance even prior to the bid stage. This created several problems on the private side such as Interviewee 8 mentioned that they had to interfere with the head doctor of the hospital for the service payments.

Moreover, as declared by Interviewee 8 information sharing mechanism under the capacity of the MoH between the GDHI and GDPH was so poor that at the time

of the start of the operations of the hospital, the assigned head of the hospital did not receive any information related to the PPP scheme and even was not aware of the PPP contract which will be managed by himself from there on. The situation led many issues and interactions with the management of the hospital, as there were monthly service payments to be received by the grantor to be approved by the local management of the hospital who does not knowledge about the contract at all. In order to mitigate this challenge, at the site there should be people who know the project, its structure and the contract to be implemented very well. Then, Interviewee 8 explained the management system in the hospital PPPs in UK at the local level. In UK, there is one CEO at each PPP hospital other than the medical doctor who is the head of the hospital in medical terms. The CEO, however, is responsible for the contract management, coordination between the medical personnel and SPV, and all contract related issues for the hospital as the 'contract manager'. In the case that there is a request from the head of the hospital such as an extra medical equipment or any maintenance need, the CEO is the person who needs to manage as per the contract and determine the responsible party and monitor the process till the need is fulfilled as an interface mechanism between the private partner and the public administration on the medical side. Interviewee 8 thinks that this system is working very well and could be applied in Turkish PPP healthcare facilities having notable CEOs in place from the private sector in order to regulate the interactions and relationships and interface issues between the SPV and medical personnel of the hospital Otherwise, the head of the hospital will continue taking care of all administrative, contractual and financial workstream of the projects at the same time which would be too cumbersome.

In connection with the above, there is a further suggestion provided by Interviewee 8 that as they had to interfere with the head doctor of the hospital regarding the monthly service payments and they received the revenues with 3 months delay which should happen in a hospital where there is continuous service delivery. Since there is no clear procedure how those payments should be done to the SPV and in accordance with which provisions it needs be done. Interviewee 8 said that the provisions and procedures of any payments to the SPV needs to be clearly covered under the concession agreement.

Furthermore, under the project contract, according to Interviewee 7, there are many grey areas that needs to be clarified at the bid stage as those might lead adverse impacts on the operations of the services. As an example, under the service requirements the lifecycle of the medical equipment is determined. However, there is no clear indication on who will take care of the replacement of the medical equipment when the lifecycles are over before the end of the concession. Another example could be as Interviewee 2 declared that the boundaries between the responsibilities of medical personnel and the SPV's employees especially with regard to the medical support services should be made very clear and understandable under the contract. Thus, the grey areas under the contract especially related to the service requirements should be very detailly studied and made very clear in order not to have any future problems during the operations considering the all potential risk allocations.

4.1.5. Project E

In terms of bankability, Interviewee 9 stated that the concession agreement which was the part of the tender documentation at the bid stage was not bankable at the time. Even though it was obvious that the concession agreement was not bankable due to the significant clauses such as payment mechanism, termination and dispute resolution clauses, considering a future amendment to the agreement an offer submitted for the project by the project sponsors who were awarded with deal after and signed the contract with the MoH. Following signing the agreement, it was understood at the time, the winner consortiums of other projects had chance to discuss the project agreement and propose their suggestions over a certain period of time whereas Interviewee 9 criticized that their consortium was not aware the negotiations and not invited by the grantor for any participation as well. Nonetheless, the project agreement was revised in the same way as the other project contracts. However, it was explained that the big challenge was to understand that three important schedules were not amended although the other consortiums had new versions of three schedules to the agreement. Interviewee 9 confirmed that receiving the revised schedules took too much which caused a significant delay on the financial close process together with extra cost on SPV. As recommended by Interviewee 9, the PPP structure and process should be

transparent and fair as the all bidders and consortium being treated equally by the public side. Furthermore, Interviewee 9 thinks that MoH should be more proactively reacting to the requests or concerns from consortiums avoiding the internal bureaucracy and poor decision making which makes the process longer.

Another challenge explained by Interviewee 10 was that as the administrative structure under a PPP model is totally different than the private sector culture, Turkish traditional contractors did have difficulties to understand how a PPP scheme works regarding the management. For example, SPV should be the only party which communicates with the MoH as the counterparty or there cannot be a liability on the shareholders of the SPV as this is a non-recourse PPP project financing. In order to do a successful implementation, both public and private parties need to be more aware and consistent with the international best practices by way of trainings, special workshops and having the capacity of human resource who are the experts in PPPs.

During the development of the hospital PPPs under the program, Interviewee 9 declared that they know that the MoH would like to do a VfM analysis which would verify in which case the project would be more feasible whether the MoH procures those projects by itself or through PPP scheme. As a result of these studies for each project, it was confirmed that to procure the projects via PPP structure would be more feasible for the government. That was a huge mitigation to the strong oppositions and also as being a financial verification done by a DFI which demonstrated an important support from a financing perspective; it confronted the criticisms made against the MoH about the procurement of those projects through PPP structure.

At the time of tender, the MoH did not prepare any environmental and social analysis or even after the bid and sponsors took care of their own environmental and social assessment for the project as stated by Interviewee 9. Having this as serious aspect to be taken care diligently, Interviewee 9 suggested that MoH should carry out its own environmental and social impact assessment prior to the tender so that any risk related to the project in environmental and social perspective, would be also covered under the concession agreement with the proper risk allocation between the parties.

At the time just prior to the execution of the revised concession agreement for project, Interviewee 10 expressed that the MoH changed the land in a sudden which was initially determined for the project. This land was presented to the lenders and reviewed and approved by them as the final and official one. Interviewee 10 criticized the action taken by MoH as this was a material change even though only a groundbreaking ceremony took place and some minor works initiated at the site. The principle should be on the public side that after signing a contract, the parties should respect and keep it unless there is a real need for an amendment. This challenge can also damage the reputation of MoH in front of the lenders which is not good at all, but it was added that unfortunately MoH showed a big resistance not to accept the fact that lenders comprised the main part of the project by providing a financing up to 80% of the project cost and the consortium of the project cannot take any decision without the lenders' consent if there is a material change to the project. the key issue is, therefore, first to communicate and exchange with them for any change or relevant issue so that SPV can proceed swiftly bringing lenders approvals in.

As related to variations on the project agreement, Interviewee 9 talked about another change in the project which was related to the core design which was already approved. And again, the project agreement should be flexible enough to allow the changes up to a certain extent, but not the ones which will change the project dramatically. Nevertheless, it was said that SPV accepted the huge design change as a variation and started to construct the facility as per requested by the MoH. In the meantime, lenders figured out the issue and as this was accepted and started to be implemented without their approval, they stopped the drawdown the debt which was going during the construction period. This situation is not a good sign for both private and public party, so that first MoH should understand and learn to keep to the contract. However, having also having a serious lack of competent employees who have the know-how in PPP structures on the public side, the MoH ignored the presence of the lenders of the project for a long time and did not want to get in touch with them which is absolutely required for a successful PPP implementation. Hence, Interviewee 9 recommended that the competences and know-how together with the awareness of the presence of lenders should be increased on public side which can be done through

trainings or third-party advisors with the international PPP experience.

In relation to the variations, Interviewee 10 mentioned that even at the moment MoH would like to discuss with the SPV to make some amendments to the existing concession agreement after years execution of the contract. Although some minor changes to the contracts can be acceptable, any change which would result in a material impact on the project cannot be agreed. MoH should take more supportive positions for sponsors especially if there is an instability in the country where the government needs the support of the international investors.

Additionally, regarding the construction process, Interviewee 10 commented that the design approval process took much more time than what is stated under the concession agreement. Despite the fact that the design approval procedure made clear under the contract, the MoH did not stick to the contract during the approval process which also creates again cost and time losses. In order to avoid the problem, it is very essential for both public and private partners to follow the contract where the contract management on public side becomes more crucial.

Moreover, having the construction stage as one of the riskier periods during the concession of the project, Interviewee 9 told that health and safety issues are not the best taken care in Turkey. Thus, the health and safety culture and the provisions applied at the site are poor. The recommendation made by the Interviewee 9 for a mitigation for this problem could be to increase the trainings for both workers as making them aware that those are very complex and huge projects which might be surrounded with different risks in terms of health and safety that they have never encountered with.

With regard to the penalties and guarantees under the project agreement, Interviewee 9 stated that although the final total project cost differentiated the one under the bid proposal, the initial investment amount was kept in the agreement as it was. Nevertheless, as performance bond was calculated taking into account the initial investment amount which was proposed at the time of the bid, this figure stayed so low

as opposed to a performance bond to be calculated for final project cost. It was advised by the Interviewee 9 that the project agreement should have consistency in all aspects and in order to be able to do that. As also referring to the above-mentioned challenges, MoH needs to be eligible enough to see the big picture of a PPP model. To achieve that with a more global mitigation, a PPP unit covering all ministries should be set up to centralize the know-how and have the standardized approach of a PPP model in all sectors with sector specific terms and this unit should be managed by the real experts in PPPs. Hence, the know-how transfer between the departments under the government will be much easier. Furthermore, this would also help to attract the international financiers to invest in the country taking comfort from the presence of the institutional capacity with this central unit which Saudi Arabia has been currently establishing such a structure for PPPs as a developing country.

Furthermore, the project agreement does not refer to a financial close deadline for the project, the timeline under the contract is very much dependent on the construction where the concession clock starts right by the receipt of the building permit. According to Interviewee 10, this is a big favor to be given to the private party. In order to solve this issue, MoH should have a better understanding the PPP structure which composes of also financing of the project of which the timeline to be included under the concession agreement with a long stop date reaching the financial close. Interviewee 10 added "doing this with your own kind of PPP scheme, the model will not work properly.".

Interviewee 10 stated that the political instability is also one the substantial challenges during the procurement of the project as a coup attempt happened in Turkey in 2016 during the financial close period of the project. As a negative consequence, Turkey was downgraded by the financial institutions and has started to go in economically difficult situations and the banks who would provide the financing for the project could not keep the interest rates at the level as previously discussed prior to the economic and political instability. Interviewee 1 mentioned that although there might not be many mitigations for this issue, keeping the periods from the commercial close to the financial close limited under the project agreement could be a mitigation so that the commercial terms also will not be at risk during the negotiations.

Another challenge encountered during the procurement of the project, Interviewee 9 stated that market testing mechanism set under the PPP contract. It is a mechanism that allows the public side to do a benchmark for the services provided by the SPV in every 5 year. However, it is not only a benchmarking mechanism, it would give a chance to the MoH to reduce the prices for certain services defined to be subject to market testing where the SPV has only a preemption right to match the price otherwise, has to replace the subcontractor with the one who gives the best price and stop giving this service but still to manage the new subcontractor. Having said that Interviewee 8 explained the issue with the market testing with an example. The medical support services for instance which includes the investment of the medical equipment is also subject to the market testing and under the current contractual structure of the project, the service provider as the subcontractor of the SPV currently carries out the services of the hospital. However, the envisaged lifecycle of those equipment invested by the service provider do not match the market testing intervals. And unfortunately, under the current project agreement there is no clear statement that the medical equipment of the existing service provider will stay and the new-comer will use those or they will bring their own equipment if they will be in the project. Interviewee 9 underlined that this is one of the real problems upcoming as the project getting closer to its 5th year in operations and suggested the public side immediately express the how the mechanism would work during and after the market testing. As a global solution of this, Interviewee 9 advised that terms for market testing should be studied considering the lifecycles of the equipment in the scope before the bid stage in detail with the technical advisors who has hospital PPP experience in order to integrate a system which also ensures that the market testing will not be done depending on a price based mechanism only but also to be complaint with certain quality standards pre-defined under the project agreement.

Furthermore, regarding the sustainability of the project, under the project agreement, Interviewee 10 declared that there is no prescriptive KPIs set for the energy efficiency of the project, it is only said that the project should be energy efficient one however without any target levels. Therefore, in order to produce sustainable structures, very well defined KPIs need to include under the contract and even the design of

the hospital should be accommodative any optimization regarding the energy efficiency.

Another vague area under the project contract is related to the hand-back procedure in connection with the medical equipment stated by the Interviewee 9. The current clause under the contract is not clear enough and saying that the facility and medical equipment will be "free from any encumbrance, annotation, charge or liability, in good repair, operating and in-service condition, except for normal wear and tear" at the time of the hand back which Interviewee 9 thinks is very subjective and vague wording. To mitigate this risk, the hand-back procedure should be amended as including a list of equipment of which need to be handed-over by replacing with the new ones and under which specific conditions and requirements drafted very clearly. According to the Interviewee 9, this is still a crucial risk under the contract pending to be clarified before waiting to reach the end of concession for the project.

4.2. Discussions

In the light of the findings of the case studies presented, it is observed that most of the challenges that were encountered with during the procurement of the PPP hospitals in Turkey are studied under the literature and covered for the developing countries. As case studies reflecting that some of those problems already were taken care and mitigated by the public side during the process with the support of the private partners and some of them can still be considered as challenges at the moment or will cause problems in the future during the concession life of the projects. On the other hand, there are some risks identified by the case studies are not emphasized in the literature. Furthermore, case studies demonstrate the potential mitigations to those problems, that the stakeholders are faced with during all stages, for a successful PPP implementation.

The most significant challenge at the tender stage and after is bankability of the project agreement as mentioned under all case studies, as under the literature it is clearly underlined that a PPP contract should be very well-balanced in terms of risk allocation and flexibility avoiding a 'catch all' principle (Hayford 2006, EU Commission

2011). This can be considered as an important problem solely because the project will not be alive without financing especially for a developing country because developing countries like Turkey with political instabilities are seen by lenders and investors riskier. The prominent clauses under the PPP contract which cause this challenge can be listed as payment mechanism, termination, the place of arbitration seat, change in law and uninsurable or force majeure events where those In order to structure a bankable concession agreement, the public authority should prepare a proper, clear and well-balanced risk allocation under the project agreement. With the aim of achieving that, the mitigations suggested by the respondents can be summarized as set of actions:

- authority to work with international experienced consultants during the preparation of the bid carrying out a decent due diligence for the project in technical, legal and financing perspectives,
- public side to have the participation of the lenders in the procurement process prior to the bid stage such as collecting some letter of interest from private partners as an evaluation criteria or more direct advisory involvement from international lenders similar in European projects which would make the public side be aware of the issues under the PPP contract,
- more globally prior to the bid authority to prepare and finalize the project agreement ensuring that all stakeholders are involved in the process to comment on the agreement in terms of bankability issues,
- authority to have an institutional capacity at the level of the body which would manage the project.

Moreover, institutional capacity presented as a mitigation to bankability issue is the second common challenge as criticized under all 5 case studies. UNECE *et al.* (2012) states that it is very crucial that authorities to have enough experience and know-how in dealing with the contracts in order to have successful project and contract management. Moreover, World Bank Group *et al.* (2018) also mentions that centralization of knowledge and experience in PPPs should be achieved by constituting a single PPP unit especially as a need for developing countries. In the light of case studies, as a developing country in Turkey, it is understood that the lack of in-

stitutional capacity can be considered as roots of several problems on the public side such as improper risk allocation, long-lasting contract discussions and poor contract management. Therefore, the list of recommendations in order to mitigate this risk is presented below:

- public side to educate the employees working under its capacity with an international view of PPP project procurements with the help of trainings, workshops from internationally experienced firms in order to have a better understanding of the international best practices for a PPP implementation in every aspect,
- authority to work and prepare for the procurement of a PPP project with advisors which have the enough experience and know-how not only legal perspective but also technical and financial and these consultants to be selected through a tender process for the purpose of transparency,
- regarding the development budgetary issues on the government side, the budgets to be arranged accordingly ensuring that the public side is well-aware the size and complexity of the projects being the biggest hospitals in Turkey,
- with a more global view the public side to initiate those kinds of program like HTP, starting first with a pilot project to be able to gain experience and know-how on a medium size project which would be applied for the future projects a kind of transfer of knowledge and experience,
- among the various bodies under the government, the authorities to be able to transfer of know-how properly; with a more global view, a national PPP unit to be established to centralize the know-how and experience in PPPs to be transferred between the authorities when and if needed.

Another challenge is identified by Project A, B and E regarding the material changes made to the project agreement at the end of the long negotiation process taken by the public entity and private partners as a result of no certain deadlines set under the project agreements in relation to the commercial close and financial close of the project post the bid. As a general perspective, EIB (2015) and Yescombe (2014) think that after the bid some amendments can be made to the project documentation unless they are not material changes to the project. Additionally, the longer discussion

processes might cause having a project agreement which is more favorable for the private partner (Yescombe, 2014). The case studies reflect exactly what is mentioned under the literature review, according to respondents it is also ok to have discussions with the public authority after the bid to make amendments to the project agreement, however in the case that those changes are minor or related to a significant mistake or need which are overlooked previously. Further mitigation to have an effective process after the bid till commercial close, case studies suggested a certain deadline set under the concession agreement for commercial close following the bid award which is also a general application in the European PPP projects as stated by World Bank Group (2018) having the commercial close within 4-6 months at average after the private partner wining the project.

In addition, even though it is understood that the challenges related to legal grounds were solved during the procurement process of the projects. According to Project A and C case studies, a well and detailly prepared legal framework is a substantial need which should be established before initiating such PPP projects in order to succeed a PPP delivery in good practices where the idea is supported by Akbıyıklı *et al.* (2010) and Emek (2015).

Furthermore, regarding the environmental and social risk perspective of the projects, case studies Project A, B and E criticize the lack of environmental and social impact assessment which was a fundamental issue during the bid stage. Considering the rationale of the projects, it can be easy to understand that there is a serious hospital need in a developing country as those are social infrastructures. However, it is criticized that there was no available impact assessment in terms of both perspectives. It is very essential to have better risk management to have a due diligence on the environmental and social aspects of the project producing an action and management plan to reduce the adverse impact of the project if any (EU Commission 2011, Republic of South Africa Treasury 2014). Therefore, as developing country, it is understood that Turkey should follow more international standards regarding the environmental and social matters especially for healthcare PPP implementations in addition to that these due diligences should be ready by the time of the bid announcement publication so

that the bidders would be able to review the risk assessment and consider those in their proposal preparation.

Lack of a long-term view procurement is one of the challenges observed in the case studies. Long-term procurement is the main element of a PPP project as developing the projects from scratch and bringing to the end of the concession for 28-30 years at average. In order to have a project structured with a long-term view, every aspect of the project should be considered avoiding focus on any other feature of the project. In that respect, all case studies show that there are various adverse consequences of having incomplete, unclear, full of uncertainties and not prescriptive enough service requirements, performance criteria and construction standards in the project agreement. UNECE et al. (2012) also expressed that most common challenges also seen in European countries are the performance mechanism including KPIs determination and incomplete contract with the variation accommodations. In order to mitigate this risk with respect to the outcomes of the case studies, the PPP contract should be very clear, detailed and prescriptive written in terms of service requirements and construction standards, in addition to the well determined KPIs for the performance of the hospitals ensuring that the penalties to be sized as being sufficient disincentive. Additionally, respondents of Project B and E clarified a related problem that the KPIs were not determined as per the project under the HTP according to the size and technical aspects of the hospital which should be also considered while setting the KPIs under the service requirements for a healthcare facility. Therefore, public side in Turkey needs to procure the healthcare PPP projects with a long-term view.

As a crucial example of these uncertainties, market testing is one of the highlights of the case studies which is seen as one of the grey areas under the project agreement by the respondents of Project B, C and E. The problem with the market testing mechanism is not clearly described under the project agreement which is incomplete and fully of uncertainties in terms of the process and responsibilities after the market testing. The mitigations suggested by the interviewees is to have a very clear and detailed market testing procedure under the project agreement including the limit of responsibilities of the public and private partners considering different scenarios depending on the results

of market testing. Additionally, if a sub-work is subject to the market testing, the original task which covers the sub-one should be also subject to the market testing in the same time intervals. For instance, if ordinary maintenance of the hospital is subject to a 5-year market testing, the extraordinary maintenance and repairs work needs to be subject to the market testing for 5 years. Otherwise, within this scope of work, the market testing will not work. Moreover, as a general comment made by the respondents, the market testing is called as benchmarking in PPP good practice in healthcare sector which enables the authority to monitor the service prices provided by the private partner periodically to be able to check whether the prices are at the market levels. The purpose is to protect both sides within the price and quality limits. However, under the current structure the evaluation mechanism is only based on the price. Hence, the mechanism needs to be amended as to be dependent not only the lowest price criteria but also ensuring to keep the level of quality of services.

One of the most important risks during the procurement of the projects is the financing of the projects stated as Project A, B and D respondents. At the time, there was no available long-term financing structure such as loan or bond issuance in Turkey to be able to match with the long maturities and margins existing in Europe. In the literature, liquidity problems for PPP projects are also emphasized by Visconti (2016). However, it is mostly seen in developing countries and mainly politically instable countries. Even though at the time of the bids the country was politically stable for a certain period of time, the respondents mentioned that finding enough liquidity was difficult having Turkey as a developing country in terms of risk assessment of lenders and also due to the fact that several hospital PPP projects were looking for some financing at the same time. During the financial close process, main elements can be considered as used by the private partners as mitigation can be presented below:

- existence of a bankable project agreement is the first condition to bring the international and even the local financiers, and the project agreement was amended as to be a bankable one,
- having global investors, contractors' interest in the deals attracted the international commercial lenders and DFIs,

- presence of the DFIs in the deal also gave comfort to the commercial banks to be involved in the financing of the projects,
- regarding the construction risk perspective, working and partnering with the EPC contractors which have strong financial capacities was also a mitigation to able to have proper financing conditions
- strong political support for the projects was also one of the driver for the financing.

Furthermore, the commissioning and acceptance process is one of the significant outcomes of all case studies under this research identified as a challenge except for Project E which has not started yet the commissioning and acceptance period and is still under construction. According to EIB (2015) and Yescombe (2014), a well-managed commissioning process is a must for the sake of all stakeholders in order to prevent any future problems in the project applying a good practice where the authority leads the process with the support of an independent technical advisor. Unfortunately, the global good practice was not available under the project agreements of the case studies and the commissioning period was taken care by only the MoH as the authority having a technical advisors' opinion only and SPV being an observer during the process. In order to mitigate this challenge, in the concession agreement there should be a clear procedure for a decent commissioning and acceptance process which clearly states that who will carry out the process under which conditions and fulfilling which requirements in the project agreement. Additionally, one of the key factors for a successful commissioning and acceptance for the project is to have an independent third-party certification in place for MoH initiate the commissioning and give the kick-off the operations of the hospital. Furthermore, together with the independent certifier, the personnel of the authority should be competent to be able to evaluate and assess the conditions and status of the project.

Another significant challenge regarding the operational key terms mentioned by respondents under all case studies, except the Project E as still being under construction, is the lack of communication between the General Directorate of Health Investments and the General Directorate of Public Hospitals during the whole procurement process of the projects. In the current structure, the projects are developed

and procured by the GDHI till the start of the operations and then GDPH takes over the hospitals with the local medical personnel. However, as mentioned by Project A, B, C and D, the poor communication between the ?user? and the ?producer? cause serios problems during the commissioning period which is particularly related to the PPP hospitals in Turkey and operations such as serious variation requirements with high cost overruns, delay in operations or payments.

Therefore, as the users GDPH employees including the local personnel should be involved in the procurement process starting from the bid preparation and work in cooperation with GDHI in order to do a successful planning with an adequate structure which matches the need of the communities in the cities and the overall country. Even though at the investment side of the MoH many medical doctors are on duty, those personnel might not be fully competent to understand the local need of the city where the hospital will be built. Thus, in order to have a successful PPP healthcare implementation, first the capacity and branch need of the city need to be identified together with a plan of any future closure of the existing hospitals. Following that, the design of the new hospital should be reviewed and commented at every stage of its development by GDHI ensuring that the design accommodates the specific requirements reflecting the local aspects and needs to be able to utilize a hospital for the use in most efficient way. Furthermore, medical equipment list and requirements need to be also prepared together with GDPH anticipating the long-term need of the hospital. Having all those actions applied during the procurement process will be the most adequate mitigation to this problem avoiding serious variations and delays during commissioning process and will lead a much smoother commissioning and acceptance period followed by a well-running operation of the hospital. Further to those above, as a more global solution suggested under Project C, one national comprehensive and prescriptive hospital procurement specification needs to be produced which should be applied not only in PPP hospitals but also in all hospitals to be built in Turkey.

Additionally, lack of contract management on the public side is another important challenge faced by respondents under the Project A, B, C and D during commissioning and operation period; whereas Project B and E experienced this problem also during

construction. The importance of the contract management is also pointed out in the literature listing it as one of the key elements for a successful PPP delivery (IFC 2010; Directorate of Strategy and Budgetary of Turkey 2018; EU Commission 2014). As these PPP healthcare projects are the first public-private partnership hospital projects managed by the MoH, there is not enough human resources who have the adequate know-how and experience to be able to manage the project and contract at both levels of the MoH, GDHI and GDPH. In order to solve this problem, as outcome of the case studies reflecting, more competent personnel who has experience and knowledge in PPP projects and contract management should be staffed under the MoH. Having these personnel with a private sector background could be also helpful in the process of managing the PPP agreements together with the private partners. Moreover, regarding the operational period of the hospital, the biggest challenge that private partners currently struggling during daily operations of the hospital is to have the head doctor of the hospital as the only manager of the PPP hospital like in the traditional public hospital administrative structure. Under the traditional public hospitals structure, this management style works properly as there is no private party involvement at the level of the hospital in terms of management or payment. However, in the PPP healthcare projects, the head doctor is also responsible for contract management, approval of service payments in addition to manage the interface issues between medical personnel and private partner employees in terms of the limit of the responsibilities on both public and private side. In order to mitigate these risks, as suggested by the interviewees, a CEO as a contract manager should be assigned to each PPP hospital who will work in cooperation with the head doctor in the hospital. Main duty of the CEO will be to manage any issues related to the PPP contract having the best knowledge of the contract and best international practice in the sector. Therefore, the medical head of the hospital will take care of the management of the hospital and patients whereas the CEO will carry out the operational works to be carried under the PPP agreement.

There are several challenges to be mitigated further determined under the case studies. However, some of them do not have material impact on the process, whereas some of them has not been experienced yet. The list of those challenges can be summarized as follow along with the suggested mitigations within the case studies:

- unbalanced service prices on the service provider due to the unit prices of the medical support services under the market conditions to be mitigated with an application of a robust indexation to the prices under the HPC.
- lack of a central monitoring system for operations at the hospital in terms of performance requirements to be mitigated having a well-designed monitoring system and team at the MoH PPP Unit level.
- lack of prescriptive energy KPIs under the project agreement with the purpose of sustainability to be mitigated further as having a very well-defined targets for energy consumption of the hospital applying sufficiently disincentivizing penalties.
- keeping the traditional communication style with the private partner at the ministry level which causes conflict of interest between the parties to be mitigated as having MoH to understand the standard PPP structure and communicate with the SPVs during the whole process not the local industrial partners in the deals.
- lack of conscious at the construction site regarding the complexity and size of the hospitals in addition to the strict deadlines under the contracts leading serious health and safety issues to be taken care by increasing the health and safety trainings for workers and creating awareness related to the project and schedules.
- missing VfM analysis for variations to be mitigated as making any material variations to the project to be subject to the VfM analysis to be able to verify the feasibility of the project comparing to the original project cost which might requires checking the impact on the affordability limits of the government.

5. CONCLUSION AND RECCOMENDATIONS

The main purpose of this research was to determine the challenges throughout the procurement process of a PPP hospital project in Turkey and strategies to mitigate those challenges in order to deliver a successful PPP project eventually based on the case study research methodology with a research framework including 5-project interviews made with 10 sector participants who have involved in the process. According to this framework, key challenges together with the strategies are investigated. Findings of the research are compared with the results reported in literature review.

The research investigated best international PPP practices and specifically hospital PPP implementations across the world and Turkey reviewing the literature from a risk perspective. The research outcomes show 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 is on the following:

- Government fiscal and institutional capacity,
- Revenue risk: payment mechanism, volume of demand, cashflow risk,
- Financial risks: inflation and currency, liquidity, interest rate, bankability,
- Contract management: material variations, delays, disputes,
- Construction risk: cost and delay overruns, variations accidents, design flaws,
- Operational risks: deficiencies, monitoring, performance, mechanism, incomplete contract, changes in demographic and technological features,
- Termination risk.

Based on the case studies performed, it can be concluded that the PPP hospital projects in Turkey have been experiencing similar problems as identified in the literature review, as well as challenges specific to the country due to such as the administrative or legislative structure variations related to the process. The main challenges identified under the research are presented as below:

- Lack of institutional capacity,
- Lack of transfer of know-how and experience at the government level,
- Rooted traditional mindset on public side,
- Lack of long-term view and planning for the projects,
- Incomplete and poor project documentation,
- Lack of bankable project agreement,
- Poor contract management and monitoring mechanism.

Having said that, further recommendations can be summarized in the following paragraphs for a successful PPP hospital implementation as a strategic road map for future hospital PPP project applications which can be also a guideline for global PPP deliveries in Turkey.

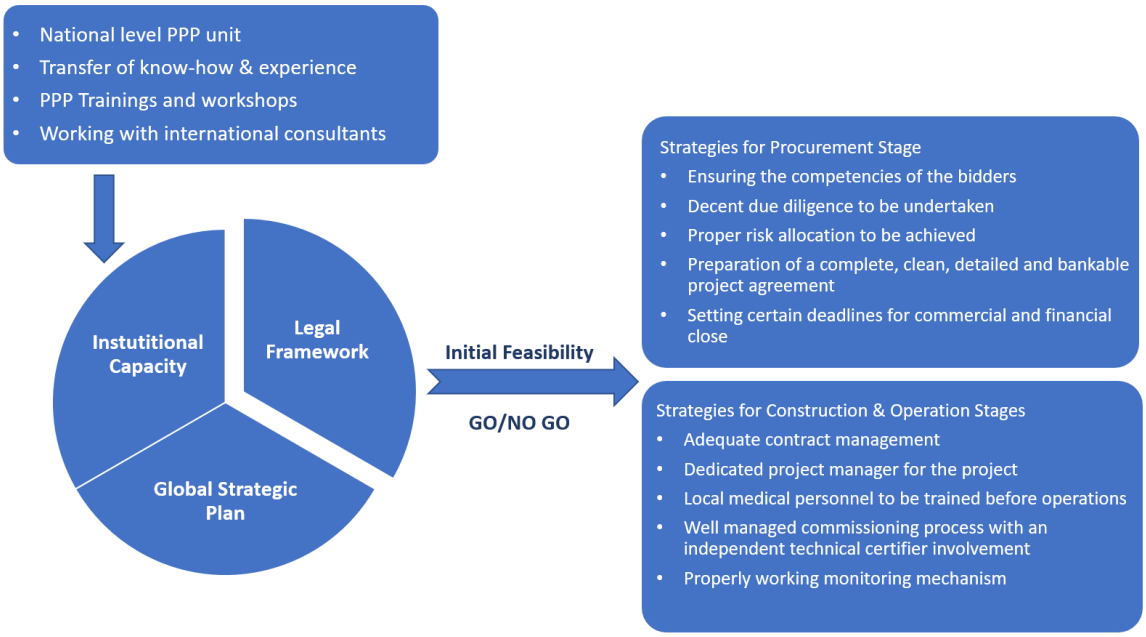

Figure 5.1. Strategies for Successful Healthcare PPP Implementation.

First of all, it can be also seen in the Figure 5.1, before initiating a procurement process for a PPP project, the authorities should ensure that there is a solid legal ground for the implementation which will be needed through the entire life of the project. In order to achieve this in the most effective way, the government should gather sector experts and stakeholders to study on the best international practices and

produce a well-detailed and prepared legal framework for PPP implementations.

As the next step in parallel with the preparation of the legal framework, the presence of an institutional capacity will play one of the key roles during the whole concession life of the project in addition to the procurement period prior to that. In order to be able to constitute such a capacity within the body of the Ministry of Health in Turkey, the suggestions can be listed as the following:

- A national PPP unit should be established to collect and centralize all know-how and experience in PPPs in all other sectors at a level which enables the unit to oversee the knowledge and data from all ministries.
- Considering that there is a rooted traditional mindset on the public side, existing MoH personnel should have trainings and attend workshops to gain required competences regarding the procurement and management a healthcare facility under the PPP structure focusing on legal, financial and technical aspects of the scheme. This will also help the public party to be aware what kind of projects that will carry out in terms of complexity and size.
- Additionally, the MoH as the client of the project to be procured should work permanently or temporarily project based with the advisors which have the international experience and best knowledge in global PPP hospital sector for not only legal aspects but financial and technical including construction and operational periods as well.

In parallel with establishing an institutional capacity, 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 taking into account the technological trends and demographic dynamics of the locations. In addition, there should be a decent planning for the existing hospitals to be closed or employees working under the existing hospitals to be transferred to the new PPP hospitals.

Following constitution of the institutional capacity in both MoH bodies who take care the investments and operations, initial feasibility studies should be completed. The

aim of the initial feasibility for a public entity is to identify whether a PPP project or a public procurement would be feasible. In order to ensure that a PPP procurement would be more feasible, a Value-for-Money 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 be dependent on the government cash-flow for a long-term such as 25-30 years.

After taking the decision to proceed with a PPP procurement for the hospital based on VfM and affordability analysis, the due diligence process should be initiated for the pre-qualification and bid processes with the support of the consultants. The parties should have a better understanding of the importance of having a pre-qualification stage prior to the bid, and considering a long-term view for the hospital operations, there should be a decent pre-qualification in order to ensure that the private partners are not only financially strong but also will bring full competences for construction and operations of such complex and big hospitals. Therefore, the pre-qualification process should be carried out with a more decent structure especially if it is known that there is no available party in that specific market which would be able to provide an important part of the works such as service provider or EPC contractor. For instance, in Turkish healthcare market, at the time of the pre-qualification and bid process there was no O&M contractor who is specialized in management of PPP healthcare facility. However, there was no sufficient requirement under the bid documentation to make sure that the private partner would be eligible to undertake the operations of the hospitals.

After pre-qualification prior to the bid process, there should be exhaustive study undertaken by MoH where 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 the gathered information and lessons learnt in order not to repeat the same mistakes. During the preparation of the bid documentation including project agreement, the design, service requirements and performance mechanism; the most important issue is to have an adequate risk allocation ensuring that the risks to

be kept by the party best able to manage it.

The second important point during the tender preparation can be considered as bankability. The authority needs to be sure that the project agreement is fully bankable in terms of every aspect being aware of the fact that the project will be financed by lenders up to 80% of the total project cost. In order to achieve that, under the bid criteria there should be a requirement regarding the involvement of the lenders such as letter of interest or any type of commitment which will make the lenders to review the project documents and share their comments or concerns if any prior to the bid.

Moreover, during the preparation of the tender documentation, it is crucial to prepare a project agreement which is very clear, complete and detailed. Additionally, it is also important that the construction related key terms including design, technical specifications, approval procedures, sustainability KPIs, performance criteria and health and safety provisions to be clearly stated without any uncertainties. Furthermore, operational key terms should be very well studied and determined under the project agreement and annexes such as commissioning and acceptance provisions, service requirements, payment procedures, deduction and performance mechanism, determination of KPIs, medical equipment list, market testing and hand-over mechanisms and conditions taking into account particular project and location features.

That being said, a successful PPP hospital tender process can be completed within good practices following all strategic action items mentioned above. The significant point here should be underlined that a well drafted bankable PPP contract will much ease the rest of the process including financing, construction and operations. However, there are other key areas which need to be highlighted and required to pay attention in order to have a smooth process after the bid during those stages of the project.

Having a bankable project agreement with certain deadlines for the commercial close and disincentivizing penalties in case of failing to meet the deadlines , following the bid, the project agreement should be executed within a certain time frame such as 4-6 months in order not to have long discussions between the partners which will

jeopardize the risk allocation set properly under the concession agreement. Commercial close will be followed by the financial close which also should be restricted with a deadline under the project agreement in order to ensure that the private partner will finance the project within that timeframe. Moreover, during financing period, one of the key drivers is the competency of the private partner to achieve a very carefully due diligence performed and well managed financial close process. One of the other important factors which may have an impact on financing can be political support for the PPP project by way of attracting the financiers and increasing the liquidity in addition to providing protection for the project in relation to any opponents which might arise.

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 the site during construction and operations. The key points during operation and construction stages that the parties should be very careful about can be listed below:

- 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 which will not allow any material variations during the construction or during the commissioning and acceptance stage.
- In order to ensure the construction goes well, each project should have a dedicated project manager on the public side who is capable to do proper contract management and site monitoring during the construction being responsible to manage the project and internal reporting during construction according the concession agreement.
- During commissioning and acceptance period, in order not to allow any discrepancies or incomplete works which might create adverse impact on the operations of the hospital, an adequate monitoring and contract management during the construction becomes essential. Additionally, for a smooth commissioning, the process should be undertaken by the authority however with an independent

technical certifier with the participation of SPV to be sure that the hospital is assessed objectively in terms of readiness for the operations considering that this hospital will be transferred to the MoH at the end of the concession life.

- Well ahead of the commissioning period, the local medical personnel who will work at the PPP hospital should also be trained and attend international workshops to understand the PPP scheme and get prepared to work in a different structure than the traditional public hospital.
- Following a smooth commissioning and acceptance provisions, the operations should be performed as per the PPP agreement with the aim of a hospital operated with the international best practices in terms of every perspective. This can be only achieved with a proper contract management having a well-prepared project agreement which contains well-defined service requirements, detailly prepared payment procedures, sized to be enough disincentivizing deductions and related performance mechanism, clear KPI targets for service provisions, medical equipment list, market testing and hand-over mechanisms and conditions.
- During operations, it is more crucial to have an adequate monitoring system in the center which can collect the data and oversee all hospitals in terms of performance requirements on the public side. This is very significant aspect of a PPP hospital since the services in the hospital are operated by a private partner except the provision of medical services. Therefore, the monitoring mechanism should be sufficiently stringent to measure the performance of the hospital and service provider as per the contract having in mind that the operations in a hospital should be carried out diligently.

Finally, for future studies, it can be suggested to design a more detailed case study to be undertaken with a higher number of case studies and interviewees who would experience all stages of a PPP hospital project procurement. That study can also contribute to be able to compare the findings and determine the additional challenges and new strategies for future successful PPP hospital implementation. Considering that in near future the number of PPP healthcare projects in operation will increase and the operating ones will continue experiencing new problems, interesting findings might be obtained.

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APPENDIX A: HEALTHCARE PPP PROJECTS IN TURKEY

In accordance with the data recently provided by MoH (2018), the below Table A.1 demonstrates the latest status of the healthcare campuses under the program of MoH.

Table A.1. Healthcare PPP Projects in Turkey.

#	Project Name	Number of Beds	Project Cost (m EUR)	Status
1	Adana Health Campus	1.550	541	Operational
2	Mersin Health Campus	1.253	380	Operational
3	Yozgat Health Campus	475	250	Operational
4	Isparta Health Campus	755	267	Operational
5	Ankara Etlik Health Campus	3.566	1.105	Construction
6	Kayseri Health Campus	1.584	420	Operational
7	Ankara Bilkent Health Campus	3.662	1.000	Construction stage
8	Konya Karatay Health Campus	838	370	Construction stage
9	İzmir Bayraklı Health Campus	2.060	775	Construction stage
10	Kocaeli Health Campus	1.180	414	Construction stage
11	Elazığ Health Campus	1.038	360	Operational
12	Gaziantep Health Campus	1.875	601	Construction stage
13	Bursa Health Campus	1.355	512	Construction stage
14	Eskisehir Health Campus	1.081	344	Operational
15	Istanbul İkitelli Health Campus	2.682	1.068	Construction stage
16	Manisa Health Campus	558	222	Construction stage
17	Bilkent (High Tech Biosafety Laboratories)	n.a.	735	Financing stage
18	Şanlıurfa Health Campus	1.700	625	Financing stage
19	Psychiatry and High Security Forensic Hospital	2.400	956	Financing stage
20	Tekirdag Health Campus	480	216	Financing stage
21	Kutahya Health Campus	600	156	Financing stage
22	Samsun Health Campus	900	358	Bid stage
23	Denizli Health Campus	1.000	398	Bid stage
24	Antalya Health Campus	1.000	398	Bid stage
25	İstanbul Sancaktepe Health Campus	3.800	1513	n/a
26	Aydin Health Campus	1.000	398	n/a
27	Diyarbakır Health Campus	750	299	n/a
28	Trabzon Fatih Gynecology & Maternity Hospital	800	319	n/a
29	İzmir Buca Health Campus	1.200	478	n/a
30	Ordu Health Campus	900	358	n/a