# PUBLIC-PRIVATE PARTNERSHIP (PPP) IN THAILAND: A CASE STUDY OF BANGKOK MASS TRANSIT SYSTEM (BTS)

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# ABSTRACT


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| **Title of Dissertation** | Public-Private Partnership (PPP) in Thailand: A Case Study of Bangkok Mass Transit System (BTS) |
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A basic administrative challenge in Thailand regarding basic transportation projects is the lack of sufficient funding. Since 1990, the public-private partnership (PPP) is an option for the government in developing basic transportation and maintaining economic growth in Thailand. Bangkok Mass Transit System (BTS) was the first successful mass transit system in Thailand and was originally funded totally by private parties, at 100% private investment. However, the project has faced many problems and obstacles caused by many factors and these have resulted in delays in project expansion.

The objectives of this study were as follow: 1) to explain the process of the PPP in the BTS project from the beginning of the project until 2014; 2) to analyze the determinants of the efficient and sustainable collaboration between the public and private sectors in the BTS case, including four different factors-the political factor, the economic factor, the managerial factor, and the social factor-during three different phases: the preparation phase, the construction phase, and the operation phase; 3) To analyze the situations that caused problems and obstacles of the PPP in the BTS case, including four different factors-the political factor, the economic factor, the managerial factor, and the social factor-during three different phases: the preparation phase, the construction phase, and the operation phase; and 4) to propose policy recommendations for Thailand's future PPP projects.

This study is a qualitative research which collected data in form of the in-depth interviews with key persons that were in charge of management or in entities

related to the operation of the BTS project in the study time space of 1990-2014. The study also reviewed comprehensive data from related documents, concession contracts, and amendments in order to explain and analyze the factors affecting the project. The conceptual framework highlights four significant factors affecting the PPP project which were: 1) political factors; 2) economic factors; 3) managerial factors; and 4) social factors. The project management theory and the typology project phase models by Griffith-Jones were used as this study's foundation. According to Griffith-Jones, BTS can be divided into 3 phases: 1) the preparation phase (1900-1992); 2) the Construction Phase (1992-1999); and 3) the Operation Phase (1999-2014). This study shows that each factor has had a different impact on the project during different phases, resulting in different consequences.

The results of the study indicate that those four factors have had different impacts on the project in each phase. In the preparation phase the idea of harmony between the local and central government facilitated investment. Additionally, at that time the economy was booming due to Chatchai's government policy, which made the private party have confidence in the investment in the BTS project. However, during the construction phase the project was major adjustment from a light rail system to a heavy rail system and suffered from the financial crisis in 1997. This adjustment and the crisis raised the debt that the project owed from 15,000 million to 50,000 million Baht. There were also some civil society movements against the construction plan during this phase. After that, the project was transformed from PPP to public procurement due to the political conflict between local and central governments and the lack of the financial capability of the private party to invest in a route extension project as a long-term consequence of the 1997 financial crisis.

It is recommended for future solutions to improve PPP cooperation that the central government play only a supervisory role and should not intervene in the project. This could be done through the decentralization of power to designated agencies to be particularly responsible for the project. Before the project begins, there should be a comprehensive study and a master plan should be complete which is clear enough and includes necessary survey, risk assessment, and public hearing. A revision and adjustment of the plan should be done only if really necessary.

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Krit Lertsethtakarn

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# CHAPTER 1

# INTRODUCTION

Public infrastructure has been a vital success factor for any country in competing against other countries in terms of economy and development, especially in the current globalization era. As a result, every country's government has placed great emphasis on basic infrastructure development since the 1990s. However, infrastructure development projects are typically long and complicated, and thus confront a number of administrative challenges, oftentimes due to limitations in budget and the number of public officers.

Adding to that is the current trend and increased pace of economic growth, which in turn requires faster development of public infrastructure and services. Consequently, the public sector alone cannot provide basic infrastructure and services at a satisfactory pace; thus this calls for the contribution from the private and business sectors to meet the demand of all economic players, which is impossible to be satisfied, with efficiency, by the public alone.

Putting this argument concisely, in the previous years, many governments in the world have been the only operators that have managed and provided public utilities; the general concept of traditional procurement has been outdated due to the faster pace of economic growth and higher complexity regarding the public service projects of the general public service itself. The idea that has gained popularity and become more common is the idea of jointly managed and operated projects between the public and private sector, known as the public-private partnerships (PPPs). To date, there are a number of PPP projects across the globe, and governments in various countries, both developed and underdeveloped, have adopted the PPP concept as a framework for many of their basic infrastructure projects, most of which were critical to and were a foundation of each country's economic success.

Private delivery of public services has increasingly gained popularity as a tool to speed up basic infrastructure provision; and for that reason PPPs have become one

of the most researched topics in public administration, political science, and economics. Several researchers have acknowledged the importance and growing trend of PPPs in their work. For example, Megginson (2005) noted that "the scale of private involvement (in its various forms) in public services is now vast. For example, it is estimated that by 2003, $3.24 trillion of assets had been transferred from the public sector to the private sector in the preceding 20 years, a significant proportion of which consists of public services. This was about 18% of the global stock market value and 39% of the non-US total value".

The degree of the importance of PPPs to the economy is also evident in the stock markets, especially in developed countries. In their study on stock market components, Megginson and Netter (2001) pointed out that private companies offering public services account for a significant portion of the stock markets, e.g. 13% in Germany and 12% in Australia. Blanc-Brude and Strange (2007) further added that by 2007, more than 1,000 PPP projects in the European Union, most of which focus on public service offerings, had reached financial foreclosure with a total capital investment of approximately €200 billion. Further, Kappleler and Nemoz (2010) noted that more than 1,400 PPP projects have been signed in the European Union countries over the past two decades, with a value totaled at €260 billion. Among the several types of PPP projects, transportation projects accounted for approximately 40% of the total value of the projects worldwide, while in the European countries alone the number goes up to 75% of the total value of the projects.

PPP projects are no less evident in Thailand. Presently, Thailand has been experiencing the ever-increasing attention of many economic stakeholders regarding public-private cooperation. During the past two decades, not only political, economic, and business players have been involved in PPP projects, but also social players, such as civil society and Thai citizens as well. This phenomenon further strengthens the PPP projects by uniting all of the stakeholders around the PPP projects, thereby creating a learning society where all of the stakeholders are cooperating, thus leading to sustainable economic and social development.

## 1.1 Statement of Problem Significance

The regular procedure is for public- and state-owned enterprises to share the annual government expenditure, where the size of the share will be determined according to the annually-announced statement of expenditure. Additionally, public- and state-owned enterprises can also use loans, and in the case of state-owned enterprises, revenue is another possibility. Unfortunately, all of the sources of funds are limited, thus restricting the rate of growth of the government projects.

Moreover, according to the information provided by the National Economic and Social Development Board (NESDB), not only the availability but also the stability as well. According to the 2011 NESDB report, the proportion of the government budget spent on investment activities has been decreasing consistently since 1997. Particularly, in 1997, 42.2% of the government budget (380,050 million Baht) was spent on investment activities, while the number dropped to 12.5% (212,689 million Baht) in 2010 (2553 BE)[1].

[1]After that, there was a small increase in 2011 where the investment expenditure rose to 16.6% (344,495 million Baht) of the annual budget (NESDB, 2011). However, I consider this an exogenous shock and thus I would focus on the overall trend that the investment expenditure has been decreasing for over ten years in a row.

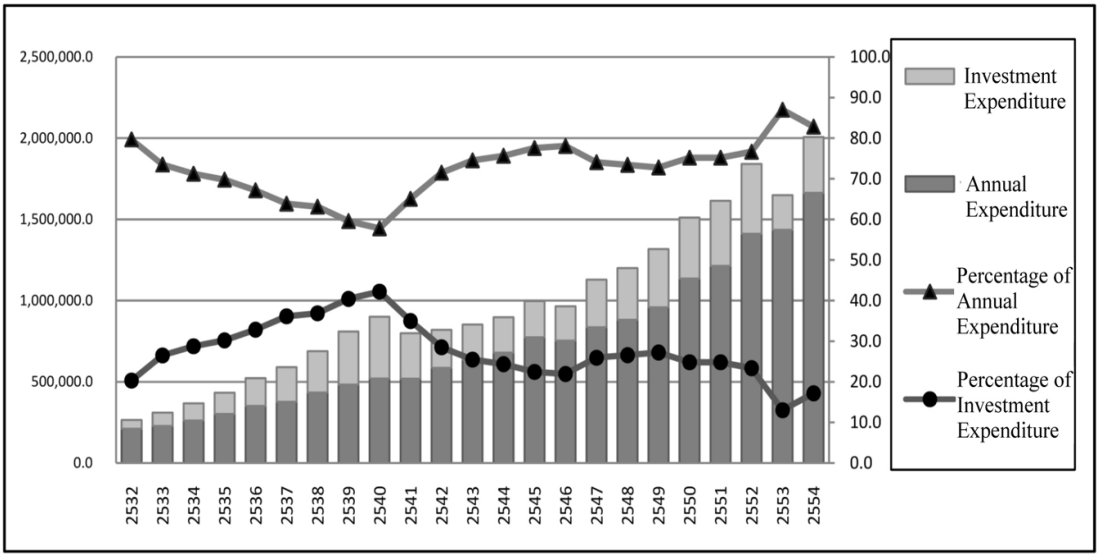


**Figure 1.1** The Proportion of an Expenditure Budgeting Structure, Budget Year 1989-2011

**Source:** National Economic and Social Development Board, 2011.

According to Figure 1.1, the country's investment budget has been on a decreasing trend since 1997 (2540 BE), whereas the total annual expenditure, which includes expenditure on education, public health, and public service, has been increasing every year. This is not a good sign for the strength and sustainable growth of the economy because limited investment means restricted public service procurement to citizens, which therefore hinders the future prospect of stable economic growth.

Because the public sector lacks the ability to provide adequate public services and infrastructures to people, it is necessary for the public sector to bring in outsiders to help. As stated in the 2011 NESDB report, one of the alternatives is for the public sector to "cooperate with the private sector in project investment in order to solve the government investment problem of provide adequate basic infrastructures to people to maintain the country's competitiveness in the global economy" (National Economic and Social Development Board, 2011).

In addition to the limited budget issue, improved technology and communication also induce people to be more aware of public policy and thus they

are more likely to be involved. Moreover, for the same reason, technology also increases people's expectations from the government; and because technology allows for easy monitoring, people place more pressure on the government because of their belief about the government's role and obligation to provide high-quality public services to the society, which under current circumstances, the government is unable to do.

Given the issues discussed above, the Thai government has recently explored the possibility of letting the private sector become involved and provide the high-quality services required and demanded by the society. The key idea is to allow the private sector, whose financial capacity and technology competence are well above those of the government, to engage, manage, and operate public services at a price and quality that meet the demand of the economy (Pongsiri, 2002).

The basic idea of PPPs is that they aim to offer quality public service, but by assigning the procurement of public infrastructure projects or partial public service to the private sector, while the public sector remains the "owner" of the public service. In PPP projects, the public sector should take responsibility as the manager of the project, which controls and is responsible for the partial risks associated with the project. The role of the public sector in this concept has been coined "controlling rather than rolling" by the researcher for its responsibility as a controller rather than as an executor. The private sector, by contrast, takes the role of a facilitator whose responsibilities include construction, management, and/or operation. Overall, the private sector is the public sector representative, so the public sector does not have to operate all projects by itself. However, this results in the private sector taking most of the risk responsibility from the public sector (Fritz, 2004; Osborne & Gaebler, 1992).

## 1.2 An Overview of Public-Private Partnerships in Thailand

The population of Thailand is more than 66 million people. After the financial crisis in 1997, Thailand has gradually recovered. From 2000 to 2007, the average annual growth rate was over 4%, with a more developed basic infrastructure, a free-enterprise economy, sound investment policies, and growing export industries.

However, the global economic depression in 2008 affected Thailand's exports severely, and caused the country's economic growth to fall to 2.2%. Subsequently, the growth rate of the Thai economy had gradually increased but only up to the year 2008, when there was a global economic downturn, after which Thailand's economic growth was largely unstable. According to Figure 1-2, the economy was upside with GDP growth in the second quarter of 2012 reaching 4.2% and economic growth reached 5% in 2013.

Despite several domestic instabilities, Thailand remained at a BBB+ credit rating in 2013 with a stable outlook for the country going forward according to the U.S. credit rating agency Standard & Poor's (S&P). Moreover, according to the Global Competitiveness Report 2011- 2012, Thailand's infrastructure was ranked 42nd out of 142 countries. The report also indicated that infrastructure is developing, yet there remains room for improvement (Economic Research Institute for ASEAN and East Asia, 2013). With its effort to retain Thailand's growth, the Thai government has a vision of investing in both ongoing and new projects so as to enhance the people's quality of life and foster the country's competitiveness. However, the implementation of this strategy requires strong national fiscal discipline based on the principle of transparency and accountability, all of which are questionable characteristics of the country's government at that time.

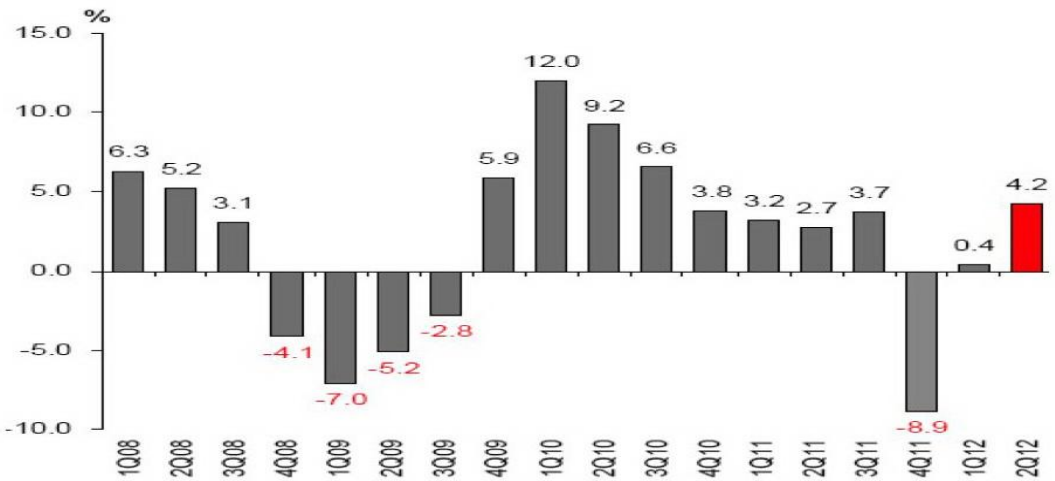


**Figure 1.2** Thailand GDP Growth by Quarter from 2008-2012

**Source:** Economic Research Institute for ASEAN and East Asia, 2013.

One of the ways in which the government has proposed to get around the problem is through the use of PPPs. In Thailand, the term “PPPs” has long been used to cover private investment in public infrastructure projects based on a concession with a traditional financial structure. This kind of project financing has been found in many sectors in Thailand for many decades, such as energy, telecommunications, and transportation. However, in view of the PPPs, the provision of public service procurement can now take many different forms, and picking a PPP form to implement could be a challenge, as the ideal form would depend on several factors that include but are not limited to laws and regulations and practices, financial sources, and potential of private sectors. An ideal PPP would require both the public and private sectors to provide resources and use their expertise properly (Kolk, van Tulder, & Kostwirder, 2008). Specifically, the public sector must clearly encourage the private sector to participate in project administrations, and it must perform the leader role to impose policy and to aid in policy implementation continuously, while the private sector must utilize its capacity and expertise as the executor of the project (Schwab, 2008; Seitanidi, 2010).

Despite being more sophisticated than the earlier forms of public service offering, presently the PPP concept has been widely used in several parts of the world, for instance, the U.K., the U.S.A., Canada, Australia, and New Zealand, including many developing countries around the world (Pongsiri, 2002). In terms of statistics, Public Works Financing (PWF), which is a journal that collects information regarding PPPs and related projects worldwide, stated that in Europe alone investment in PPP projects was above 353 billion U.S. dollars, which is as much as 45% of the total investment in the region (Pacific Wrestling Federation, 2011). The PWF noted that PPPs are a viable option for the government to continue to stimulate economic growth in any country where the government has trouble with inadequate budget in providing necessary public services to people. In spite of that, there seems to be mutual agreement among PPP experts that the government or other public authority must still continue to play a vital role in promoting PPP projects for the projects to be fully efficient (European Commission, 2004a; United Nations Economic and Social Commission for Asia and the Pacific, 2009; United Stated Department of Defense, 2008; World Bank, 1998).

In Thailand, many government projects follow the PPP framework, many of which have been successful though some have not been. Examples of successful PPP projects in Thailand include BTS Sky Train, the concession of public transportation in Klong Sansap and Klong Mahanark, and the Independence Power Producer (IPP) electricity generation project. Nevertheless, some projects have not been as successful, such as the second-level expressway project, which in fact was partially completed but confronted toll problems that eventually led to a shutdown, followed by a lawsuit because the operation could not be performed at the time specified in the contract. Pongsiri (2002) pointed out that the major reasons were late delivery for Bang Na, Bang Pli, Bangpakong expressways, and a number of other financial reasons, such as the Baht devaluation. Other reasons for the failure included poor risk diversification, unclear regulations and project conditions, and other opportunistic behavior such as corruption.

## 1.3 Why mass transit is important is important to Bangkok?

Within about a 969 square kilometer area of Bangkok, its population is around 1,300 people per square kilometer. This figure reflects what a densely-populated area Bangkok is. The national record in 2007 shows that there were around 8.2 million people in Bangkok (National Statistical Office of Thailand). However, it seems that actual population is much greater than the record indicates. This is also a phenomenon as seen in other major cities in the world. The actual population not only includes Thais, who move from other areas of the country to Bangkok, but also migrants from neighboring countries as well. In the period between the 1980s and 1990s alone, the number of unregistered migrants not counted in the official record increased. With that amount taken into account, the actual population could possibly double in number.

Besides the population, Bangkok seems to be among the big cities with a very high number of personal car registrations. Research shows that 82% of journeys into and through the city are by personal car, which causes a heavy traffic volume resulting in the average traffic speed of only 10-20 kilometers per hour in the city center. This is a major factor that makes the Bangkok traffic condition and air pollution one of the worst in the world.

In order to deal with traffic problem arising in the Bangkok area, the government originally expanded existing roads and built more expressways. However, this plan was not well-achieved due to the rapid increase in the number of personal cars commuting in the Bangkok area, which further worsened the situation and caused more traffic problems. The attention later turned to improving public transportation, which was seen as inadequate and incomparable to other big cities around the world (BTSC, 2008). As a result, there was a joint effort between domestic city planners, along with consultants from the Massachusetts Institute of Technology (MIT), the European Commission, and the Japan International Cooperation Agency (JICA) that led to the recommendation that Bangkok concentrate on developing a rail transit system around Bangkok's outer center, following the pattern in Tokyo. The rationale was that an outer circle rail system would not only help develop the outer area of the city, but would also help to reduce the congestion problems in Bangkok. Unfortunately, the project cost, which was estimated at over $1 billion, was well above the capacity of the government, and thus other options including public-private partnerships (PPPs) were explored.

## 1.4 Brief History of the rail PPP projects in Thailand

In Thailand's history, there have been three rail PPP projects that are worth mentioning.

### 1.4.1 The Hopewell project

Hopewell is a project where the private sector invested and paid concession fees to the government. As specified in the contract, the private sector would operate the project for 30 years. The objective of the Hopewell project was to transport people and goods from suburban areas to Bangkok by focusing on the major routes of cars, public buses, and trains in order to offer people the highest convenience. The project aimed to reduce the intersections of cars and trains, which forced the traffic to stop frequently and were seen as the major cause of traffic problems at that time. Although the construction was partially completed, the project confronted numerous problems beginning in 1992, which led to a complete shutdown in 1998. Among the problems, the financial problem was in fact the major issue.

### 1.4.2 The Metropolitan Rapid Transit (MRT)

Controlled by the Mass Rapid Transit Authority of Thailand (MRTA), the construction of Thailand's first underground mass rapid transit system has been very successful. The MRT is the first successful PPP project where the public sector invested in all of basic infrastructure and the private sector invested in materials and equipment for operations. The MRT followed the typical global PPP format, where the private sector rented the railway construction from the public authority for a thirty-year period. In contrast to the Hopewell project, the purpose of this project was to offer people another option for public transportation in Bangkok, thereby reducing the use of private cars. The project officially opened on July 3, 2004, and continues to operate today.

### 1.4.3 The Bangkok Mass Transit System (BTS)

The BTS project was the first successful rail PPP project in Thailand. The BTS project costs were approximately 50,000 million Baht and it was built and operated solely by a private company, the BTSC, which received a privilege from the government and did not need to pay a concession fee or any other fee for a period up to 30 years. This privilege enabled BTSC to collect all of the profits without giving the government its share. Unlike the MRT, the BTS project is above different from group so the project has fewer operating costs. Another interesting feature of the BTS project is that the project was the first solely privately financed transit system in the world. However, this also put significant risks in the lap of the private parties because revenue and cost recovery would depend entirely on ridership and cost structure, i.e. there would be no support from the government whatsoever. Adding to this financial risk was political risks due to the unstable political condition at the time. During construction alone, six different governments were in charge, and this led to significant project instability. There were also several other problems, for example, the train garage construction problem at Lumpini Park, the problem of the construction of the Matae De Ei station, the problem of using the Mo Chit market area, and the problem of nonstandard contractors. Despite all of these, the BTS project was successful and opened to the public on December 5, 1999, and has continued to operate until the present.

## 1.5 Why BTS?

There are various PPP projects in Thailand and virtually in every important industry: energy, mass transit, airport, road, telecom, and water and sanitation industries, to name a few (Pongsiri, 2011). However, given the main interest in mass transit in the capital city of Thailand, there are only two projects that fit the criteria, which are the BTS (sky train) project and the MRT (subway) project. Among the two, the author chose the BTS project for the following reasons. First, BTS is not only the first successful railway project in the country, but also is the first privately-funded mass transit system in Thailand. Moreover, regarding the scale of the project, BTS is the bigger than the MRT and the Hopewell projects.

Additionally, what makes the BTS project more appealing for research is that the project confronted several obstacles from many different stakeholders that were involved since 1991, all of which led to problems such as delays, protests, economic crisis, etc. An obvious problem was the failure to complete the initial plan, which was to complete the total distance of 291 kilometers by 2009. Adding both the distance serviced by both the BTS and the MRT would account for only 52 kilometers, which means that there were still 239 kilometers remaining to achieve the plan. This leads to the major question for this dissertation, which is "Why have these problems happened and how can we prevent them from happening again in future PPP projects in Thailand?"

## 1.6 Research Objective

The main research objective is to answer the question posed above, which will identify the reasons for the problems and determine ways to prevent them from happening in the future. The research objective can be formally summarized as follows:

1) To explain the process of the PPP in the Bangkok Mass Transit System (BTS) project from the beginning of the project until 2014

2) To analyze the determinants of the efficient and sustainable collaboration between the public and private sectors in the BTS case, including four

different factors-the political factor, the economic factor, the managerial factor, and the social factor-during three different phases: the preparation phase, the construction phase, and the operation phase

3) To analyze the situations that caused problems and obstacles of the PPP in the BTS case, including four different factors-the political factor, the economic factor, the managerial factor, and the social factor-during three different phases: the preparation phase, the construction phase, and the operation phase

4) To propose policy recommendations for Thailand's future PPP projects

## 1.7 Scope of Research

This study will focus on PPPs and, using BTS project as a case study, it will analyze the project in three different phases: the preparation phase, the construction phase, and the operation phase, in order to determine the influential situations, persons, or groups that affected the success of the project. In particular, the analysis will be broken further into four factors: the political factor, the economic factor, the managerial factor, and the social factor, all of which are factors that are believed to have an impact on and are vital in determining the success of any particular PPP project.

For the reasons discussed above, the BTS project is an ideal case for the study of PPP projects because of its huge scale and long project length, during which various political and economic obstacles, as well as other financial problems and objections from the society, arose. Therefore, a thorough analysis of the BTS project should provide valuable policy recommendations for other PPP projects in the future.

In this study qualitative research is employed. The methods used are in-depth interviews, using project history data from key informants, and in-depth review documentary research. The sector participants include both private employees and public officers, including related government agencies.

The dissertation will proceed as follows. The next chapter is an in-depth review of the existing literature, where an overview of PPPs will be provided, including a brief history of PPPs in Bangkok, and other related theories. At the end of

chapter 2, the conceptual framework will be presented, which will break the analysis of each phase into five factors. Chapter 3 then summarizes the methodology used in this study. Subsequently, Chapter 4 provides a narrative of BTS project in Thai political context used in Chapter 5 to analyze the situations and problems that the BTS project confronted during each phase. Finally, Chapter 6 concludes the dissertation by summarizing the study and proposing policy recommendations.

# CHAPTER 2

# LITERATURE REVIEW

The main purpose of this chapter is to review the literature and discussions associated with public-private partnerships (PPPs) definition, concepts, scope, and various models associated with PPPs. This section will also discuss the beginning of mass transit in Bangkok as well as rail projects in other countries that use the PPP as a basis for their project development. I will then proceed to discuss the typology PPPs project phase and other related theories, such as governing with the network model, project management theory, inter-organizational relations theory, followed by elaborating on the political risks and opportunities related to PPP projects and Thailand's political background, before ending the chapter with an analysis on the PPP legal framework in Thailand and the conceptual framework which will be crucial in our discussion later on in the dissertation.

The study of PPP projects is much more difficult than that of other traditional government infrastructure development projects as the process includes analyzing sophisticated PPP contracts that involve several parties. Therefore, before we go more deeply into the analysis, it is important to have a solid idea of what PPPs are, as well as their characteristics and their merit over traditional methods of public delivery (Wong, 2006), all of which are discussed in the literature review below.

## 2.1 Public-Private Partnerships: Retrospective

The idea of Public-Private Partnerships originated from the gradually declining power of conventional classical economics proposed by Adam Smith, the "father" of classical economics, in the late 18$^{th}$ century. According to Adam Smith, any government intervention is considered welfare reducing, and thus liberalization is "best" in terms of maximizing welfare to the society. He proposed the term "invisible hand" as the "tool" that will guarantee free market functions efficiently. This belief

was well taken until the great depression in the 1930s, when John Maynard Keynes challenged the then-mainstream economic belief by suggesting that government should play the role of a regulator. In practice, this means government intervention is preferred (Rothschild, 1994).

Next, during the period from the end of World War II to the late 1970s, the dominant approach to a country's economy and politics was the implementation of "Keynesian-type" policies, which promoted state or government intervention (Bourdieu, 1998; Harvey 2005). Keynesian economists argued that the "invisible hand" as proposed by Adam Smith was insufficient in providing necessary public services and infrastructure, such as housing, roads, and hospitals; as the public would only perform those tasks when it is profitable to do so (Harvey, 2005).

These public services are typically freely accessible. In other words, they are, unlike privately provided, market-determined services that are non-excludable, which means that users cannot be excluded from consuming the goods. Moreover, they are also non-rival, which means that consumption by one user does not reduce the supply available to others (Whitfield, 2006). Such public services normally are provided as a result of the coordination and integration of services and functions, security and continuity of service, and knowledge of local requirements, all of which are an important part of major services, as well as of their quality.

Further, the public sector is required to comply with legal requirements with regard to financial transparency and human rights laws to prevent illegal unequal treatment or social exclusion so as to improve accessibility and participation in the delivery of services. The public sector also has a duty to provide public services in broader contexts and with a view of the objectives of society (Hearne, 2009). For all these reasons, it is undeniable that the government's involvement is significantly useful.

However, many free-market approach supporters, such as Margaret Thatcher and Ronald Reagan, argued that the Keynesian approach was a significant root of economic and financial crisis in the 1970s and 1980s (Harvey, 2005). The ideology of this Neoliberalist is against the idea of the welfare state and reduces labor standards and trade union influence through the re-implementation of market initiatives such as privatization and deregulation (Hearne, 2009). They believe that the private sector is

more efficient and productive than the public sector in terms of providing and managing, and this is reason why the private sector needs to be involved in most mega public service projects. This belief was supported by the Washington Consensus, which promoted deregulation, stabilization, privatization, and liberalization.

However, several countries experienced the fact that deregulation and privatization led to issues regarding service provision. Some countries even found that deregulation and privatization led to higher, not lower, costs of service provision, or even lower accessibility. Therefore, in the early 1990s, the countries that adopted social democracy, e.g. New Labor Party in England, began to lose faith in Neoliberalism. This occurred simultaneously with the gradual decline of state capitalism in Eastern Europe. These two trends led to another Neoliberalism belief, namely "Third Way" proposed by Anthony Giddens, who aspired to strike a balance between Classical and Keynesian beliefs by creating cooperation between the public and private in the form of PPPs (Giddens, 2013). The concept of PPPs demands the best of both worlds. It demands financial strength, expertise, and efficiency in business management, and the risk management that the private has to offer, while also requires the power, responsibility, accountability, and ability to reach the whole society, all of which can only be provided by the government. This "Third Way" idea has been widely adopted in many well-developed countries. A notable example is England during the era of Tony Blair. To date, England has developed a number of PPP projects with a combined worth of over 52.8 billion GBP. The success in England and in many other countries suggests that PPPs are effective and are here to stay for many more years to come.

## 2.2 An Overview on Public-Private Partnerships

The researcher can summarize the definitions of public-private partnerships (PPPs) as shown in the literature as follows: PPPs refer to arrangements between the government and one or more than one private entity for the purpose of providing public infrastructures, facilities, and related public services. PPP infrastructure development can take place at the regional level in a large scale in the form of, for instance, cross-country tunnel construction, cross-country border bridges, roads, or

railway construction, or at an urban level on a small scale, for example, with city waste water treatment, hospitals, schools, and sewerage rehabilitation (Linder, 1999; Pongsiri, 2002).

Before the PPPs became a general phenomenon, private and public sectors were clearly separated. While the private sector focuses more on customer satisfaction, return on investment, risk allocation, and ultimately profit maximization, the public sector arranges public offerings with a clear interest in social responsibility, accountability, and risk avoidance with an ultimate goal of maximizing overall utility and social welfare (Grimshaw, Vincent, & Willmott, 2002; Scharle, 2002, p. 233). However, with the development of a free market economy, the two sectors have been moving closer to each other more than ever before.

Pongsiri (2002, p. 487) stated that "as a result of the development of the free-market economy, most countries are engaged in radical changes, not only in their economic function, but also in the characteristics and the respective roles of the state and the private sector. The traditional concept of autonomous private sector acting in pursuit of its own immediate goals, profit maximization is no longer immediate. At that time the concept of public sector with discretionary power being the only player in the economy with objectives aiming toward the pursuit of long-term public interest objectives is also challenged." According to this statement, the free market has challenged the traditional concept of the obvious separation between the public and private sector. The concept does not reflect the dynamics or interdependencies of economic and societal environments in the modern era.

Additionally, Murray (1975) claimed that the situation is changing because of a "mixture of public-private and government-market decision making," where the separating line is blurring rather than there being a distinction of the two parties' responsibilities. Presently, the concept of cooperation between public and private sectors in the form of inter-organizational partnerships has become a worldwide phenomenon and will continue to grow, especially in the countries where privatization of public projects is facilitated. The private sector is increasingly participating in the provision of public services, and partnerships have become a generic form of its participation in the public sector (Nisar, 2006; Field & Peck, 2003, p. 495).

Carr noted that “the public-private partnership can provide a wide umbrella which can protect the public interest, while bringing in the investment potential and added value that the private sector can offer.” Throughout the 1980s-1990s, PPPs were perceived as an aftermath of the privatization, which was considered fascinating among the conservative leaders in Western regimes, particularly in the U.K. and the U.S.A. (Linder, 1999, p. 36).

## 2.3 Definition of Public-Private Partnerships

In arriving at the definition of the PPP stated earlier, it is vital to discuss how researchers and practitioners worldwide define the term. Unsurprisingly, the term PPPs has no consensus regarding its definition, as it is broadly defined and typically varies from researcher to researcher. In this section, we will elaborate on a variety of definitions of PPPs as given by researchers and adopted by governments of various countries.

According to the European Commission (2004), the term PPPs is defined as “the form of cooperation between public authorities and the world of business which aim to ensure the funding, construction, renovation, management or maintenance of an infrastructure or the provision of a service” (European Commission, 2004, p. 3).

Additionally, the International Monetary Fund (IMF) also gave its own definition of PPPs as “an agreement between public and private sector where the private sector supplies infrastructure assets and services that are traditionally provided by the government adequate risk transfer from the government to the private sector is a key requirement if PPPs are to deliver high-quality and cost-effective services to people and the government” (IMF, 2004). Notice that the definition provided by the IMF extends beyond the relationships between two parties to what constitutes good PPPs.

PPPs can also be defined more narrowly and abstractly, as seen in academic research as “a cooperation of the sustainability between public and private actors in that they jointly develop projects and services and share risks, costs and resources that are connected with these projects or services” (Hodge & Greve, 2008).

The table below presents various definitions of the PPP as given by researchers. Defining distinctions between PPPs and the traditional model of public infrastructure provision is not easy. Much of the challenge is because of the many forms of private sector involvement that PPPs can entail (Boyer, 2010; Forrer, Kee, Newcomer, & Boyer, 2010; Weihe, 2006). For instance, PPPs in transportation projects will likely involve the private sector in several additional responsibilities beyond constructions, as seen in the traditional design-bid-build model of infrastructure procurement.

**Table 2.1** Definitions of PPPs

| Definition by Researchers | Authors (Year) |
|---|---|
| The project cooperated and contracted by public and private sectors in order to maintain, manage and operate the given project where the two parties has mutual acceptance of joint risk in terms of the estimate costs and expected returns, and where the objective is to satisfy both commercial and social goals. | Reijniers (1994) |
| A form of "hybrid" contracts, alterations on traditional models that allow individual private contractors (rather than government) to handle more than one function in road construction, road management or road maintenance projects. | Henk (1998) |
| The cooperation between private and public sectors in the areas of technical, professional, or educational tasks, as well as in research, management and public policy projects. | Mitchell (1990) |

**Table 2.1** (Continued)

| Definition by Researchers | Authors (Year) |
|---|---|
| (PPPs is) partnerships that involve more flexible methods of operating and financing of services. | Dexter (2001) |
| Cooperative ventures that involve at least one public authority and one private sector entity as partners. | Carroll and Steane (2000) |
| (In the area of Private Finance Initiative or "PFI", PPPs refers to) procurements of infrastructures and public services under a hybrid approach to mutual funding. | Owen and Merna (1997) |
| PPPs can be defined as long-term agreements between private entity and public authority for the construction or operation of public infrastructure facilitated by the private entity, or the procurement of services by the private entity on behalf of public authority | Grimsey and Lewis (2002) |
| PPPs are situations where governments and private entities are working together in collaborations that involve mega-projects in order to have better performances and outcomes than if a single party delivers projects on its own. | Osborne, S.P. (2000) |
| PPP project are cooperated projects where each sector has certain specialties and characteristics that complement each other in completing particular tasks. | Gunnign and Rajput (2010) |
| PPPs are projects where public and private sectors are together in long-term partnerships for mutual benefits. | Hodge & Greve (2011) |

**Table 2.1** (Continued)

| Definition by Researchers | Authors (Year) |
|---|---|
| Public-private partnerships are arrangements between governments and private entities for the purpose of providing public infrastructure, community facilities or related services. | Pongsiri (2011) |
| PPPs are collaborations among business or non-profit organizations and government authority in which risk, resources, and skills are shared in the projects and benefit each partner as well as the community. | Garvin (2010) |
| A PPP project is a contractual agreement between a public agency (federal, state or local) and a for-profit corporation. Through this agreement, the skills and assets of each sector (public and private) are shared in delivering service or facility for the use of the general public. In addition to the sharing of resources, each party also shares risk and reward potential in the delivery of that service and/or facility. | Nation Council for Public Private Partnership (NCPPP), USA (2011) http://ncppp.org/ |
| PPPs bring public and private sectors together in long-term partnership for mutual benefit. | HM Treasury, UK (2010) |
| (PPPs are about) achieving outputs by creating a business opportunity for the private sector, while providing value for money to government, and outcome is align with public interest. | Victorian Government (2001) |
| (PPPs refers to) long-term partnering relationships between the public and private sector to deliver services. PPP is approach that government adopts to increase private sector involvement in the delivery of public services, especially services which require developments of new physical assets. | MOF Singapore (2004) |

**Table 2.1** (Continued)

| Definition by Researchers | Authors (Year) |
|---|---|
| (PPPs are a form of) risk sharing relationship between the public and private sectors that is based upon a shared aspiration to bring about a desired public policy outcome. | Commission on Public Private Partnership (2001) |
| (PPPs are) partnership cooperation of public and private sector organizations with the objective of a better economic fulfillment of public tasks. | |

Furthermore, the table below shows the definitions of PPPs as given by governments or institutions in different countries.

According to the variety of definitions of PPPs shown above, it should be straightforward to see that there exists no consensus on their definition. Grimsey and Lewis (2005) and Malone (2005) presented the idea that there are, in fact, various terms of PPPs used in different contexts, e.g. the private finance initiative (PFI) in the UK or PPP in a number of countries. However, the core idea of PPPs is that they have to involve arrangements that constitute a long-term commitment between public and private sectors where both parties act together in public service delivery a central idea of what the concept public-private partnership is all about.

Garvin (2010) summed up the definition of PPPs nicely by pointing out three dynamics associated with them. First, there must be a long-term contractual arrangement between the public and private sector to deliver a project that generates joint benefit. Secondly, the private sector must engage in one or more of the following: facility design, construction, financing, operations, and maintenance. Third, the risks and rewards regarding the project are shared among the parties.

## 2.4 Scope of PPPs

The scope of PPP projects varies widely in different countries. Akintoye and Chinyio (2005) mentioned for example that PPP projects might cover a wide range of services, including project or facility deliveries (e.g. new airport terminal and staff accommodations); service provisions (e.g. water treatment, energy provision, and telecommunications); as well as equipment provisions (e.g. generators). In some countries, the scope of PPP projects does not cover privatization or outsourcing, or projects without private finance. However, in many countries privatization also counts as part of the scope of PPPs and can be thought of as another extreme to pure public delivery (Zhang & Kumaraswamy, 2001; Victorian Government, 2001).

Generally, PPPs are a form of institutional arrangement, or more specifically, an institutionalized form of cooperation between public and private sectors where, despite the two parties working together towards a mutual goal, they at the same time stick to the basis of their own original objectives (Nijkamp et al., 2002). Originally PPPs were seen as a result of privatization. However, there is a consensus on the definition of PPPs-that it is more than an application of the market mechanism and privatization to public service. PPPs also cover a dimension of collaboration in order to achieve the mutual purpose of sharing resources and capabilities (Pongsiri, 2002; Nijkamp, Van der Burch, & Vidigni, 2002; Jamali, 2004).

Although the above statement of the scope of PPPs provides a broad definition of PPPs, in fact, the concept of PPPs covers a wide range of relationships between public and private sectors in an attempt to cooperatively provide services to society. There exist multiple PPP examples that vary with regards to legal status, governance, management, policy-setting prerogatives, and contributions and operational roles. All in all, it should be emphasized that the core idea of PPPs lies in the collaboration between private and public sectors in the pursuit of common objectives (Figure 2.1).

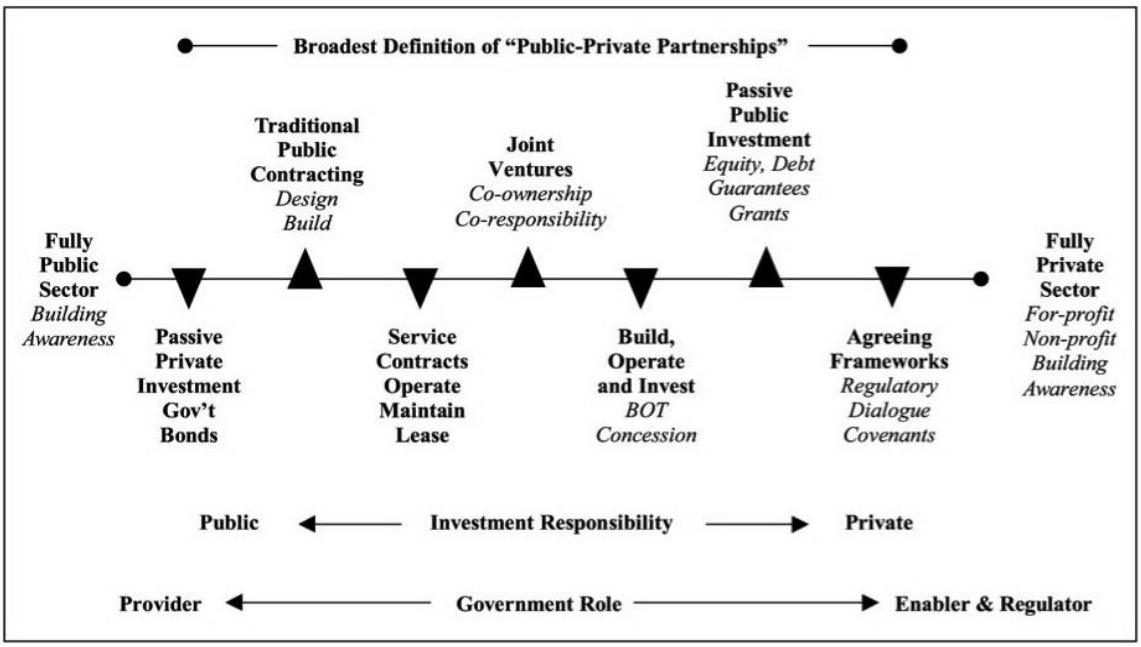


**Figure 2.1** The Spectrum of Public-private Partnerships
**Source:** Gidman, Blore, Lorentzen, & Schuttenbelt, 1995.

As regards the benefits from PPP projects, it is possible that in developing a PPP, both public authorities and private sectors may search for mutual advantages, particularly when the two parties co-operate through "trust, openness, fairness and mutual respect" (Jamali, 2004). The benefits to the public sector from PPPs include better performance, more cost-effective operations, more effective service provision, and more appropriate risk allocation and responsibility assignment (Pongsiri, 2002). Assuming that trust, openness, fairness, and mutual respect conditions are met, the "good faith approach" shows that private participation results in both lower costs and reduced risks for the public sector (Leitch & Motion, 2003; Miller, 2000).

In contrast, the private sector normally expects monetary rewards, e.g. profit, investment potential, and opportunities for business expansion. From the perspective of the private partner, a good return on investment is the main concern (Scharle, 2002); though acceptable, this in turns mean that the public authority must have a framework and monitoring system in place to ensure that the private partner performs PPP tasks efficiently.

## 2.5 Different Models of PPPs

PPPs are a generic term and thus PPP projects can take various forms. Different types of PPP projects are named differently according to the roles taken up by the private sector in the project (Gidman, Blore, Lorentzen, & Schuttenbelt, 1995; Pongsiri, 2002; ADB, 2008a; Deloitte, 2006; Phang, 2009b). There are six different roles of the private partner in a particular PPP project and each role is assigned its own abbreviation: Design (D), Build (B), Finance (F), Operate (O), Own (O) and Maintain (M). The form of a particular PPP project comprises several of these letters put together depending on the role, for instance, design, build, and operate (DBO); design, build, finance, and operate (DBFO); build, operate, and transfer (BOT), or build, own, operate, and transfer (BOOT). A PPP project can be any permutation of these letters. For this reason, different PPP projects are basically a unit on a spectrum of this permutation of public and private arrangement, varying in the degree of private sector involvement in the project.

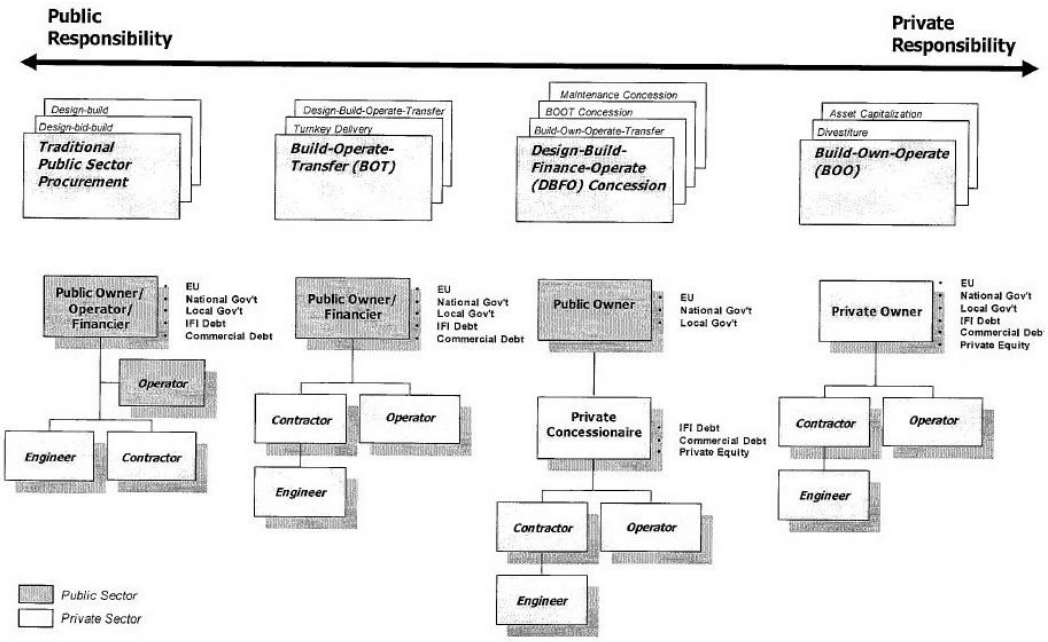


**Figure 2.2** Project Procurement Options

**Source:** ADB, 2008a.

Figure 2.2 presents four project procurement options, separated depending on the level of responsibility for the public and private sector. The option where the public takes sole responsibility is the traditional public sector procurement, followed by BOT, DBFO, and BOO respectively, in which the private is more and more involved. Please also note that there are several other procurement options that lie on this spectrum but are neglected for the sake of clarity and simplicity.

### 2.5.1 PPP Model: Traditional Contracting

In traditional contracting, the private party is responsible only for designing and building the public facility, which is financed and owned by the public sector. Here the private sector has to, by itself, deal with design and construction risks. This PPP model is appropriate for capital projects which, despite the size, contain modest operating requirements, as well as those where the public sector wishes to retain operating responsibility. Traditional contracting leads to projects for which construction is directly funded by the government agency through debt or bonds, and where the facilities in question are operated by public sector personnel (Siemiatycki, 2006).

One notable benefit of traditional contracting is the total transfer of design and construction risks to the private sector, while the public sector bears the cost of potential conflicts in planning and environmental considerations, as well as the possibility of increased operational risks. The drawbacks of this approach include limited incentives for the private sector to take into account long-run cost considerations, as the ownership will soon be transferred to the public sector. Lastly, this type of procurement option does not typically attract private finance.

### 2.5.2 PPP Model: BOT

The build-operate-transfer (BOT) is one of the most popular PPP models. The main feature of the BOT model is that the project is designed, built, and operated by a private party for a defined period, after which the public facility is handed back to the public sector. The facility is originally financed by the public sector and later remains in public ownership throughout the contract.

The strength of the BOT model is that the public sector is able to transfer design, construction, and operation risks to the private sector, and because the private sector bears part of the operation risks, the long-term costs of the project are also of concern. In addition, if managed properly, the BOT model could also promote innovation in the private sector, improve value for money (VFM), and induce quality operation and maintenance. Like traditional contracting, the BOT model could not solve conflicts between planning and environmental considerations. Moreover, contracts between the two parties in BOT projects can be extremely complicated and thus the project's tendering process can take a very long time.

### 2.5.3 PPP Model: DBFO

The Design-Build-Fund-Operate model is where the private sector designs, builds, funds, and operates a public facility for a defined period, after which the facility is returned to the public sector. In this type of PPP project, the facility is owned by the private sector for the period specified in the contract, during which it recovers costs through public subvention. The major advantages of this PPP project type are the ability to utilize private financing and the transfer of design, construction, and operation risks to the private party. This model is typically suitable for projects associated with important social functions, roads, and water and waste projects, in particular.

### 2.5.4 PPP Model: Concession

The concession model is very similar to the DBFO expect that the private sector in this case recovers costs through charges collected from users. This PPP model fits well with projects that allow the private sector to charge for usage. Notable examples are roads, and water and waste projects, for instance. Though the concession model sounds ideal on paper, it is rarely accepted by political parties.

### 2.5.5 PPP Models in Hong Kong

Previous discussions show that there is a wide spectrum of PPP models where each presents a different degree of public and private sector involvement, and a different measure of risks, which lead to different results in terms of the project's cost,

quality, and required time. Additionally, each PPP model has its own limitations and opportunities as compared to other models, and none can be deemed ideal (Higton, 2005).

Consider primarily the rail mass transit projects; the Hong Kong government has successfully implemented a unique form of a PPP model that captures a tripod relationship between the public sector, the private railway company, and the property developer (OECD, 2000)[2]. Through all of the building, funding, owning, and operating the rail transit services, as well as developing associated real estate property, this PPP approach allows for cross-subsidization between investments in infrastructure and benefits from property development.

In contrast to the traditional three alternative PPP models explained above, Tang and Lo (2007) introduced an entirely new system of classifying the PPP model that captures the PPP model in Hong Kong by focusing only on different roles of public and private partners with regards to five basic actions: building, funding, owning, operating, and developing property. In this new system, the four models are BRFRORORDR/D, BRFGORORDG/D, BGFGOGORDG/D and BDFDOGORDD, where BFOOD is the standard pattern that represents five actions-build, fund, own, operate, and develop property, respectively, while the subscripts denote the responsible party where R, G, and D represent the railroad, government, and developer, respectively. Table 2.2 below summarizes these four models and illustrates the responsible party in each action.

[2] However, it is important to note that these models in Tang and Lo (2007) may not be entirely applicable to recent railway projects in Hong Kong, which normally face difficulty in fund raising through financial markets without reputable financial or operating track records. This is especially true in Hong Kong even when the government helps facilitate fund raising, as previously seen in the early stages of the MTR project.

**Table 2.2** Roles of Public and Private Partners in Hong Kong PPP Models

| Model | Government | Railway Company | Property Developer |
|---|---|---|---|
| 1. $B_RF_RO_RO_RD_{R/D}$ (Heavy Rail) | | | |
| Build | -- | ✓ | -- |
| Fund | -- | ✓ | -- |
| Own | -- | ✓ | -- |
| Operate | -- | ✓ | -- |
| Develop Property | -- | ✓ | ✓ |
| 2. $B_RF_GO_RO_RD_{G/D}$ (Moderate Rail) | | | |
| Build | -- | ✓ | -- |
| Fund | ✓ | -- | -- |
| Own | -- | ✓ | -- |
| Operate | -- | ✓ | -- |
| Develop Property | ✓ | -- | ✓ |
| 3. $B_GF_GO_GO_RD_{G/D}$ (Heavy Government) | | | |
| Build | ✓ | -- | -- |
| Fund | ✓ | -- | -- |
| Own | ✓ | -- | -- |
| Operate | -- | ✓ | -- |
| Develop Property | ✓ | -- | ✓ |
| 4. $B_DF_DO_GO_RD_D$ (Heavy Developer) | | | |
| Build | -- | -- | ✓ |
| Fund | -- | -- | ✓ |
| Own | ✓ | -- | -- |
| Operate | -- | ✓ | -- |
| Develop Property | -- | -- | ✓ |

**Source:** Tang & Lo, 2007.

These Models can be Elaborated in More Detail as Follows.

1) $B_RF_RO_RO_RD_{R/D}$ (Heavy Rail)

The $B_RF_RO_RO_RD_{R/D}$ model can be called a “heavy rail” partnership in which the railway company is involved in every aspect of the project. Hong Kong’s MTR is one example of this, where the railway company builds, funds, owns, and operates the railway as well as jointly with the private developer develops real estate property on top of railway stations. In this model, the government has no immediate inclusion aside from during the time spent arrangement detailing, key arranging, authoritative endorsement, and administration checking.

2) $B_RF_GO_RO_RD_{G/D}$ (Moderate Rail)

In the $B_RF_GO_RO_RD_{G/D}$ model, the involvement of the railway company covers less, thus leading to the informal name “Moderate Rail.” In this project, the private company owns the rail system, and engages in building and operating the railway, while the government funds the project and forms cooperation with the private developer to develop property. An example of this model type is the Hong Kong West Rail, where the railway is built by KCR, which is a privately-owned business obtaining direct financing from the government as forthright value infusion. While KCR remains the proprietor and administrator of the railroad, it just takes responsibility as the operator for the government in developing property on top of rail route stations, and is obliged to give back all of the mutual benefit to the government.

3) $B_GF_GO_GO_RD_{G/D}$ (Heavy Government)

The $B_GF_GO_GO_RD_{G/D}$ model is also known as the “Heavy Government” model because the government is heavily involved in almost every aspect of the project, except operations. In this model, the private company is involved only in the operations phase, and the private developer jointly develops the property with the government. Further, government continues to be heavily involved. This Heavy Government model is the most common approach to rail transit project development all over the world (ADB, 2005; World Bank, 2007). In Singapore, for example, the whole mass transit system was created by the Land Transport Authority and separately authorized to the SMRT Corporation and SBS Transit Limited for the operations of various lines of the framework. Another example is the use of an electric system for the East Rail in Hong Kong, where the private party assumes a

smaller part as compared to the two models above. One disadvantage of this model is efficiency deficiency due to the lack of private participation (ADB, 2005; Zhang, 2006).

4) BDFDOGORDD (Heavy Developer)

In the BDFDOGORDD model, the private developer is more heavily involved in building and funding the rail transit project, as well as solely developing the real estate property. Hence, this model is called the "Heavy Developer" partnership. Later when the project is completed, the developer would transfer the ownership of the railway back to the government, after which the government assigns the project to a railway company to run the transit service under a concessionary agreement. In other words, the transfer of ownership is the start of the operating phase under the government. Presently, none of the railway lines in Hong Kong follows this model. Moreover, there are not many successful cases of this model in the world (Mak & Mo, 2005) because normally any mass transit rail project would take over a decade to complete, which is often a longer time period than any private property developer's strategic planning cycle, making it difficult for the property developer to effectively commit his or her financial resources for the project to be financially viable and to be successful. Moreover, the property developer will have more incentive to place greater emphasis on the profitability of property development, which is its core business, than to focus on rail transit projects; therefore, this model is extremely risky as a railway procurement option. This risk was reflected in the extensive delay of the Jubilee Line extension of the London Underground and the failure of the Hopewell Project in Thailand (Gwilliam, 2002), both of which are examples of railway projects in which property developers were heavily involved. In addition, the success of a project of this type is also subject to the cyclical factor of the property market. A cyclical slump in the property market, for example, might make the respective developers withdraw their investment from the projects completely.

All in all, for projects that involve property development, it is important that the private developer manage risks from both the public and private sector (Oncala, 2004; ITA, 2004). In retrospect, the critical success factor for projects of these types depends on the creation of a win-win-win outcome for all parties. Through this

discussion on Hong Kong's PPP models, we learn that the scope of PPP models is wider than the traditional PPP concept, and thus Thailand can adapt the Hong Kong models in order to find its own unique PPP model that is more practicable and suits it better. The author should also learn the main issues connected with each model above in order to avoid problems as the scope of involvement of each partner in the PPP model is planned for Thailand's own transit development projects.

## 2.6 The Procurement Process of PPP Projects

The PPP infrastructure procurement process in different governments follows different rules of procurement depending on each government's rule. As compared to traditional procurement, the PPP involves a more complex procurement process, which consists of two major parts: tendering and contract negotiation (Dexter, 2001). Therefore, before opting for the PPP as a method of procurement, responsible authorities need to carry out a thorough financial and socio-economic analysis in order to confirm that the PPP is more cost-effective than the traditional procurement method of project delivery (Tanczos & Kong, 2001).

Table 2.3presented below summarizes the procurement process of PPP projects in a number of countries, from which we see some similarities between them; this will be discussed next.

**Table 2.3** The Procurement Process of PPP Projects Worldwide

| **Countries (Institution if applicable)** | **PPP/PFI Procurement Process** |
|---|---|
| United Kingdom (Treasury Task Force) | 1) Establish Business Need<br>2) Appraise the options<br>3) Business case and reference project<br>4) Developing the team |

**Table 2.3** (Continued)

| Countries (Institution if applicable) | PPP/PFI Procurement Process |
|---|---|
| | 5) Deciding tactics<br>6) Invite expressions of interest; publish OJEC notice<br>7) Pre-qualification of Bidders<br>8) Selection of bidders (Shortlisting)<br>9) Refine the proposal<br>10) The invitation to negotiate<br>11) Receipt and evaluation of bids<br>12) Selection of preferred bidder and the final evaluation<br>13) Contract award and financial close<br>Contract management |
| Australia (Department of Treasury and Finance) | 1) Establishing the business need<br>2) Preparing the business case<br>3) Procurement planning<br>4) Project development<br>5) Competitive procurement (bidding and contract negotiation)<br>6) Contract Management<br>7) Post-implementation Review |
| South Australia (Partnership SA) | 1) Project Initiation<br>2) Outline Business Case<br>3) Project Development<br>4) Ministerial Approval and Market Testing<br>5) Cabinet Approval and Tendering |

**Table 2.3** (Continued)

| Countries (Institution if applicable) | PPP/PFI Procurement Process |
|---|---|
| | 6) Assessment of Bids<br>7) Commitment to Proceed<br>8) Negotiation and Contractual Agreements<br>9) Contract Summaries and Review |
| Hong Kong (Efficiency Unit) | 1) Mobilization and development of a business case<br>2) Funding<br>3) Consultation and Land Requirements<br>4) Expression of Interest Exercise<br>5) Policy and Financial Approvals<br>6) Procurement and Selection<br>7) Service Commencement<br>8) Payment and Contract Management |
| Singapore | 1) Invitation for Expressions of Interest (Market Sounding)<br>2) Pre-qualification of bidders<br>3) Request for Proposal from selected bidders (Invitation to Tender)<br>4) Market Feedback Period<br>5) Issue of Final Tender<br>6) Closing of Tender<br>7) Contract Award / Financial Close |

**Table 2.3** (Continued)

| Countries (Institution if applicable) | PPP/PFI Procurement Process |
|---|---|
| Thailand | 1) Initiate Project<br>2) Feasibility study PPP<br>3) NESDB and MOF approval<br>4) Cabinet approval (Approve principle)<br>5) Private selection (Project agency, Draft TOR & contract)<br>6) Line Ministry approve TOR<br>7) Cabinet approval (Final approval)<br>8) Signing Contract (Setting monitoring committee) |

**Source:** Treasury Task Force, 1999; DTF, 2002; South Australian Government, 2002; Efficiency Unit, 2003b; MOF Singapore, 2004; NESDB, 2011.

Although there are some distinctions between the procurement procedures in different countries, the major theme can be summarized according to the following three primary steps:

1) The first step in any PPP procurement procedure is the establishment of business needs. The government has to identify whether there is a need for the facility or service, and if so, the government would then need to define the service objectives.

2) The second step is the development of a business case, where the key steps in the process determine whether the project will receive funding approval or not. A good business case should outline the project schedule, necessary resources, forecasted benefits, estimated cost, expected outputs to be delivered, as well as any requirement of government support, etc.

3) The final step is to perform a market testing once the development of the business case is completed. This step is mainly to consider the potential level of market interest associated with the project. During this stage, a project team should be formed and a detailed project plan should subsequently be written. If there exists sufficient market interest, the bidding process then begins and the interested parties are invited to bid for the project. After evaluating all of the submitted proposals, the preferred bidders are then selected and the negotiation phase begins, after which the winning bidder is determined and the PPP contract is signed.

## 2.7 PPP Projects in Other Countries

Since the 1990s, PPPs have turned out to be progressively mainstream as an approach to delivering public infrastructure or public service projects. Examples of PPP projects are transportation projects, rail systems, roads, bridges, tunnels, hospitals, schools, telecommunications, electricity, prisons, and waste and water treatment facilities, to name a few. PPPs can be in the form of the private sector entering into long-term contract agreements with the public sector for the construction, the private sector managing public infrastructure facilities, or the private sector providing services for the public (Grimsey & Lewis, 2002).

PPPs have become a phenomenon in virtually every continent around the globe, though not common to the same degree in all of them. During the last two decades, PPPs are seen most often in Europe, whose PPP projects account for a whopping 45 percent of the nominal costs of PPP infrastructures worldwide (Public Works Financing, 2011). Figure 2.3 presents this graphically.

Retrospectively, the traditional form of procurement, i.e. design-build, was commonly used. However, at the present time more complex versions of PPPs, such as the DBFOM model where the private party designs, builds, funds, operates, and maintains the facility, are implemented more often (Istrate & Puentes, 2011). Most importantly, it looks as though the trend towards more sophisticated PPP models will continue, and hence in studying the PPP projects in Thailand, Thailand must be forward looking in designing its own sophisticated version of the PPP procurement process as well.

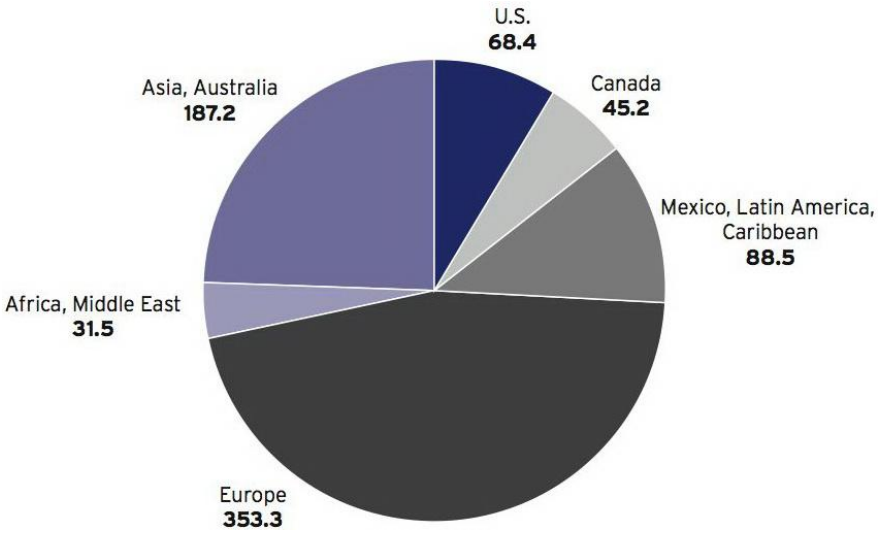


**Figure 2.3** Revealed Public-private Partnerships (PPP) Projects Worldwide (in billions USD) since 1985 to 2011

**Source:** Public Works Financing, 2011.

**Note:** Includes funded road, rail, buildings, and water projects through October 2011 in nominal dollars converted into U.S. dollars at the time of financial close. Excludes U.S. design-build projects.

## 2.8 Starting Point of the Mass Transit in Bangkok

Thailand has been facing a serious traffic problem for a long time, and several public agencies have been consistently pushing to build a mass transit system in Bangkok to solve the problem. Since 1971 several studies have been conducted on the optimal mass transit system that would eventually solve the long-standing problem. Unfortunately, despite all of the attempts for a period of over 20 years, nothing has been actualized, and the reasons are due to two major factors. First, mass transit system requires huge investment. The Thai government wanted to let the private sector take the initiative, but the investment conditions associated with the project were so restrictive that no private entity could comply with them. Secondly, the political situation during that period did not contribute positively to the project. As the governments were unstable, the Bangkok mass transit system was severely interrupted, and no private party wanted to take the risk (BTSC, 2008).

There was a significant time period before the mass transit system project got closer to reality in 1992, when the Royal Decree Establishing Metropolitan Rapid Transit Authority B.E. 2535 (1992) was promulgated, whereby the Metropolitan Rapid Transit Authority was set up. The organization subsequently became the Mass Rapid Transit Authority of Thailand (MRTA) under the Mass Rapid Transit Authority of Thailand B.E. 2543 (2000). The discussions below present a number of important events regarding Thailand's traffic situation and Bangkok's mass transit system development, which took place between the years 1971-1992.

1) In 1971-1975, the Thai Government received assistance from the German government, which sent a group of experts to Thailand to study, survey, and lay out a master plan for traffic and transportation in Bangkok. The German experts proposed that Thailand adopt a policy to promote public transport as a principal means of transportation and that the Thai Government should invest in a mass transit system. In response to the Germans' advice, the Thai Government assigned the challenging task to the Expressway and Rapid Transit Authority of Thailand (ETA).

2) In 1978-1981, the ETA, assisted by a consultant company, conducted a feasibility study on economic and engineering appropriateness, and drafted and designed the first stage of the mass rapid transit system project.

3) In 1981, the ETA issued an invitation to tender for the construction of the First Stage of the mass rapid transit system project, but the project was canceled due to a change of government.

4) In 1982, following the new government's policy, the ETA announced its intention to grant concession to a private entity willing to invest and manage the First Stage of the mass rapid transit system project. Unfortunately, no bidder met the requirements.

5) In 1983-1985, the ETA conducted a study on other possible approaches to project implementation, for instance, establishing a corporate entity which is partially invested by the government and other public agencies, granting concession to private company to operate while the government taking care of related civil works, etc.

6) In 1986, the ETA invited the private sector to invest and operate First Stage Part 1 project of the project mass rapid transit system. The ETA

committed that the government investment would not exceed 25% of the total capital shares.

7) The ETA received four proposal submissions on March 1988 and later made contact with two bidders whose proposals qualified. In September 1990, the cabinet approved the Lavalin Group to invest in the First Stage Part 1 project of the mass rapid transit system. Subsequently, the Hope Well construction began in 1990.

8) In 1992, the concession contract for executing the mass rapid transit system, Stage 1 Part 1 project, between the ETA and Lavalin Group was declared invalid and devoid because the company Bombardier failed to confirm their participation in the project within the given time frame specified in the contract and Lavalin Group was unable to find a new partner within the time limit. As a result, the project was suspended by the 1st government of Anand Panyarachun in 1992[3]. Later on in the same year, the Cabinet approved the establishment of the Metropolitan Rapid Transit Authority as a state enterprise under the Office of the Prime Minister to operate the mass rapid transit system in the greater Bangkok area. After that the Bangkok Mass Transit System (BTS) project was set up by the Ministry of Interior (MOI) in order to fulfill the transport policy, and this project used a network approach to transportation in order to effectively solve the chronic Bangkok traffic congestion problem.

Although many international institutions like the World Bank group, the United Nations Economic and Social Council for Asian and Pacific (UNESCAP, 2009), the Asian Development Bank (ADB, 2008a), the European Union Commission (EC, 2003), and the United Nations Economic Commission for the Europe (UNECE, 2008) have previously addressed PPP issues in a number of ways, mainly providing governments with educational guidelines, advisory services, and training on PPPs, evidence over the last decade has led to the belief that the public sector officers are still incompetent and lack experience with PPPs. Furthermore, the regulation

[3] Later, the project was finally halted by legal acrimony in 1997 with only 10-13% completion before being cancelled completely in 1998.

framework is still very inconsistent. Therefore, PPP growth has been somewhat restricted over the last decade (Majanen, 2011).

Thailand is not at all an exception as it also has trouble understanding the essence of PPPs to the level that it can effectively benefit from it. For the past decade, the legal framework of PPPs in Thailand had been inconsistent and so unclear that its objectives left so much room for interpretations that it created a lot of problems (Pongsiri, 2011). However, in 2013 Thailand introduced its own PPP legal framework with clearer objectives, making the process a lot more practical (New PPSU, 2013).

## 2.9 Railway Sector Definition

This chapter focuses particularly on the PPPs in the rail sector. To begin with, the researcher defines the railway sector before moving on to a comprehensive review of many rail PPP projects in both developing and developed countries, all of which took place in the last two decades, before arriving at a conclusion on the successful and failed conclusions of rail PPP projects that are discussed in this retrospective study.

The infrastructure of a PPP railway project requires the construction of rail tracks, a signaling system, an electric system, and stations. The project might also include construction of bridges and tunnels. Furthermore, due to the nature of PPPs, the responsibility to build the common railway facilities such as stations, maintenance ports, and storage facilities is assigned to a private party.

Aside from construction, PPP projects may also refer to the activities performed on existing railway infrastructures, e.g. maintenance or repair, whether it is on rolling stocks, locomotives, railroads, or other parts to fulfill the railway network (Majanen, 2011; Dehonorny, 2012). The scope of PPP projects may be extended to downstream activity, in which case PPP activities include operating railway infrastructures. In this case, service quality becomes the most important mission. Service quality includes, for example, safety, surveillance, and general services on the trains and stations.

Light rail systems are a subset of many different railway services, e.g. underground metro, commuter, or even tram lines in big cities that help reduce traffic and offer options for public transportation (Majanen, 2011).

In the following section, the researcher will offer a number of rail PPP examples from various countries and from which it is expected to gain a general understanding of PPPs in the rail sector. The research will focus on airport rail links, high speed rail, rolling stock, and conventional rail systems, which cover every major rail PPP project in the world.

However, in order to reduce the set of projects to study to a reasonable size, previous research was followed by restricting the analysis to only projects that met the following conditions (Dehonorny, 2012):

There was a contract signed between the public sector (referred to as public authority) and a private company (referred to as concessionaire) for the design, construction, operation, and maintenance of a specific material asset.

The asset in question is a rail system (including high-speed rail) or any sub-system (track, signaling, rolling stock, etc.).

1) After the contract's termination, the public authority retains ownership of the asset.

2) The concessionaire bears the risks related to construction, financing, and operation and maintenance costs, but may or may not bear the risks related to commercial revenues.

## 2.10 Rail PPP Projects in Other Countries

This dissertation aims to study the process and progress of cooperation between public authorities and the private company in order to identify problems and other potential obstacles that arise in PPP projects throughout every phase, beginning with the preparation phase and through the operation phase, while using the rail PPP, or in particular, the Bangkok Mass Transit System project, as a case study. Hence, in order to understand the case study better, it is important to review briefly the rail PPP projects in other countries so that the problems and obstacles can be identified in those cases. The five rail projects that will be discussed here are the CTRL, the

Subway Links at the Madrid-Barajas International Airport, Vancouver's Canada Line, the MTR (Hong Kong), and the Gauteng Rapid Rail Link, all of which are successful rail PPP projects. This section offers an overview of every project and gives provides general facts about each project's cooperation process between the public and private parties. While all of the following PPP projects were carefully selected, as they all share the feature that they all had to overcome political, legal, management, and financial obstacles, each project is unique, and the uniqueness is as follows.

First, CTRL is a mega scale PPP project and is Britain's first high-speed railway in history. CTRL trains can run up to 300 km/h and required enormous amount of investment in development. During its initial phase, the project confronted the problem of ambiguous development goals, which led to failure in the first part of the project before succeeding in the second part. The project also needed monetary support from the government throughout the process (Health and Safety Executive: HSE, 2005).

Next, the rail PPP project at the Madrid airport is an example of a "failed case," as the project had initially overestimated the number of consumers during the planning stage, which led to the project requiring support from the government in the later stages. The Canada Line was selected to represent an example of a rail PPP project that was successful ("strong successful case"). Not only did the Canada Line have timely construction, but it also faced only small problems from the opposing political party.

Hong Kong MTR was selected as a project that represents a really good case study for Thailand, as it was an Asian project and thus has a cultural similarity with Thailand projects. Further, the project presents a different PPP format implication from that in other countries. Hong Kong MTR is considered a "strong successful Asian case" and should be a useful case study for Thai PPP project development.

Lastly, South Africa's Gauteng rapid rail link is studied, which was built during the 2010 FIFA World Cup, as another "strong successful case." A critical success factor of this project was the South African government's excellent preparation for the environmental impact assessment (EIA) through thorough business and feasibility study in order to define the full scope of the project as well as the effective in-depth planning. Another uniqueness of this project is the success of the

project despite the challenging time and budget constraints, both of which South Africa managed to maintain very efficiently.

### 2.10.1 Channel Tunnel Rail Link (CTRL)

The CTRL is the first main railway of the U.K. It connects the Channel Tunnel to St. Pancreas and has a distance of 109 km. Moreover, it is also Britain's first high-speed railway where trains are capable of running up to 300 km/h (HSE, 2005), and this high speed railway joins London and Kent. The project was completed in 2007, which was a long delay from the initial plan.

CTRL's procurement process was launched in 1998, but the initial procurement was cancelled soon after that due to efficiency concerns. After several adjustments made to the PPP objectives, the procurement was re-launched in 1994. Given a remarkable effort by the U.K. government to successfully end the procurement procedure, the winner was identified and it turned out to be a very efficient one (EC, 2004a).

There are a number of studies that seek to identify the causes of the delay during the first procurement process, all of which pointed to poor objectives and design of the CTRL project itself. Moreover, the U.K. government was under significant pressure from the British people and thus was forced to make suboptimal project preparations and decisions. The second procurement was successful because the project was redesigned and the objectives were adjusted to be more realistic and focused more on efficiency (EC, 2004b).

The CTRL case presents a great example of the importance of government collaboration and the effort made for the success of PPP projects. It proves that not only does a PPP project require government support, but also plans ought to be adjusted and modified to complement private initiatives and goals. In this case specifically, the government sought engineering experts' advice on fixing the project design in 1998, and formed alliances with several parties to improve the project's efficiency in multiple aspects, leading to improved estimated project outcome and thus the private sector was more willing to invest in it.

CTRL's construction began in 1998 and consisted of two phases, with the first completed in 2003 and the second in 2007, both on time and with no significant

problems. The first phase was in fact finished ahead of timetable and the actual cost was 5 million EUR below the estimated budget (EC, 2004). Although CTRL satisfied its main purpose of offering travelers a high-speed rail alternative that significantly shortened travel time (London to Paris in 2:15 hours, London to Brussels in 1:15 hours, etc.), the number of customers had been far below the projected level (HSE, 2005). Part of the reason stems from the inability of private party to operate, market, and commercialize the railway business, though it did a good job in the construction and engineering aspect (EC, 2004b).

The weakness of the private partner later led to many problematic issues, with the financial issue being one notable example. Originally, the CTRL project followed the PPP model of Design, Build, Finance, and Operate, and the duration of the contract between the private and public parties was over 90 years. However, the PPP contract was then forced to be renegotiated due to financial issues when banks refused to lend more money to the concessionaire in 1998, which was two years after the construction began. In fact, the origin of the problem began even before the construction started when the private sector, London and Continental Railways (LCR), was not able to raise the required investment capital of 1.2 billion GBP for the construction. The company itself was facing an internal financial problem and this thus affected the PPP project. The problem was even more pronounced because of the uncertainty of the forecasted revenue[4] from the project, leading potential investors to be reluctant to provide additional funding and the government denial of additional public funding to the company. Also, the government refused to spend public funds to additionally subsidize the LCR. This leads to the LCR's attempt to negotiate with the government for special arrangements in detail a few years later. As a result, in 2002 the government had to step in and subsidize the project by nationalizing the PPP and transforming it into a traditional Design-Built (DB) contract (Majanen, 2011, Dehornoy, 2012). This simply shifted the responsibility of railway operations from the private back to the public sector. This renegotiation resulted in a deal between the

[4] It was difficult to accurately predict revenue because of risks from terrorist attacks and huge competition from low-cost airlines that provide highly substitutable services.

private and public parties where the private sector would design, build, and finance the project, but once the construction was finished, the private would need to sell the infrastructure to the U.K. National Railway Infrastructure Company. From this special arrangement, the government consented to ensure that the LCR could take a loan from the government to fund the construction. The first stage of construction was completed in 2003 on time and within the budget, while the second phase was completed in 2007 with a minor delay (Majanen, 2011). All in all, the failure of the CTRL before this point was due to suboptimal management practices, leading to failure to perform commercially, and the lack of collaboration between the private and public sector.

### 2.10.2 Subway Links at the Madrid-Barajas International Airport

Madrid-Barajas International Airport is the biggest airport in Spain and is amongst the busiest airports in the world with approximately 45 million visiting passengers per year. In 2006, the new terminal was constructed since the capacities of the old facilities were inadequate to cope with the rapid increase of air traffic. Under the limitations of land use, the new terminal was forced to be located far from where the old terminals had been. Therefore, a quick and effective transportation connection was required to interface the new terminal to the old ones. In 2006, the Spanish government decided to go on a PPP route to connect the old terminal with new terminal by expanding the subway link between them (Soliño &Vassallo, 2009).

In March 2007, as a result of the procurement process, a partnership was created between the construction specialist and the infrastructure company, and the construction work was completed a few years later in the summer of 2010.

Although the procurement and construction stages were completed very smoothly, the Barajas International Airport subway project faced a huge commercial challenge in the operating phase due to a lower-than-expected number of passengers. The problem caused a huge reduction in the value of the project and thus a huge financial risk (Soliño & Vaissallo, 2009). An important reason behind this failure was that the low-cost airlines were against moving to the new terminal, and thus a majority of customers did not need to commute from the old terminal to the new one to make their connections. Despite this, the overall service performance had been

excellent and the airport won numerous praises and awards in this area (Majanen, 2011; Soliño & Vaissallo, 2009).

The case of Barajas International Airport subway project is a good example of how a project can survive with great initial planning for the possibility of risks associated with uncertain demand. Specifically, although the Barajas International Airport subway project faced huge commercial risks, the management was able to overcome potential financial trouble by explicitly specifying certain compensation mechanisms between the private partner and the government early on in the contract negotiation stage. This showed the importance of great project management and forward looking planning during the initial stage in eliminating potential demand risks that may happen later on in the project. This could be done in the following way. The private partner could conduct demand estimation of and identify a tolerable range of customers. Once the number of passenger is below the tolerable range, the government should step in and provide subsidies for the private partner. On the other hand, when the number of passenger becomes higher than the tolerable range, the private partner should be obligated to pay an extra dividend to the government. This approach would help eliminate the risk from unpredictable demand and provide the private partner with better financial stability (Soliño & Vaissallo, 2009).

### 2.10.3 Vancouver's Canada Line

In 2004, the Canadian government launched a project of an urban rail system (sky train) between central Vancouver, Richmond, and Vancouver's international airport; namely, the "Canada Line." The operating line covers the distance of 19.2 km. The procurement originated in the year 2003 in the form of competitive bidding and the contract was awarded and signed in 2004 between the government and the consortium in TransitBC. The Canada Line was funded both by the government agencies and partially by the private partner as well. The Canadian government planned that this project would be part of a high scale plan to enhance the whole railroad network and to fill the service gap in Vancouver. For this reason, the government had a long-term plan for the project, and thus adopted the Design, Built, partially Finance, operate concept with a contract length of as long as 35 years, and the total cost of the project was approximately 1.9$ billion (Phang, 2007; Phang,

2009a). After several years of construction, the operation began in August 2009, which was a few months ahead of schedule and in time for the 2010 Winter Olympics.

However, the project was subjected to a number of controversies, especially from advocates and detractors. For example, the advocates were against the idea of the PPP in general as they believed that private involvement was not the ideal. Moreover, the advocates pointed to the cost estimation and passenger projection being questionable. They also claimed that a PPP posed an unnecessary long-term risk for taxpayers.

Truthfully, part of the concerns was on point. Before the project launch in 2003, the Canada Line attracted ten consortiums to bid for the project. The procurement was short but an efficient one with the winning partner being announced only a year later. However, the project was subjected to a highly-controversial cost estimation problem where during the procurement process, the true cost of the project was increased by 300 million above the projected cost by the government (true cost was at 1.9$ billion, higher than initially projected by the government at 1.6$ billion). This posed higher financial responsibility for InTransitBC, which still managed to continue and complete the project even with the cost increase. Along the process, InTransitBC and the Canadian government were engaged in several project renegotiations, and some details in the terms of the contract were adjusted to match the situation change. Notable changes included reducing the scope of the project, the number of stations, and the number of daily train operations, all of which contributed to cost reductions and thus made the project more financially viable from the perspective of the private partner (Majanen, 2011; Siemiatycki, 2007).

Although the collaboration between the public and private partners was efficient, collaboration among the different public authorities was not. There has been criticisms about some of the details in the contract that were made confidentially to a number of public authorities engaged in the project before the renegotiation was continued. For instance, some engineering authorities were driven away from the project design decisions after the project was forced to be redesigned, and the local trains of some local representatives were taken out of the project in order to cope with cost escalation (Siemiatycki, 2007).

The most controversial issue was, in fact, the timing of the occurrence of the problem that forced renegotiations. In specific, the renegotiations that led to changes

made to the construction design happened only a year after the initial contract was signed. This showed that it was the government's mistake regarding cost projection since the market conditions normally take a longer time to change. The mistake could easily have led to trust issues between potential private partners and the government in later collaborations. There was also criticism of the poor internal collaboration between the public authorities and related authorities being neglected.

However, it is undeniable that the short procurement process demonstrated the effective preparation for the Canada Line PPP project. During the procurement process, the scope of the project was carefully reviewed and various assessments were conducted before the procurement took place. In addition, feedback from stakeholders was collected and studied, and was used in the initial government planning. Viewing the renegotiation positively, it showed that the Canadian government placed emphasis on successfully completing the project rather than stalling, though this came at the expense of having to neglect a few parties from the process (Siemiatycki, 2007).

The Canada Line project also exceled in terms of construction efficiency. The well-managed and effective operation made the construction phase complete and the infrastructure ready four months before the deadline, and the expenses were kept well within the budget. The developer was able to successfully deliver the infrastructure before the Olympics, which was the ultimate goal of the project (Siemiatycki, 2007).

Researchers were interested in identifying the key success factors of the Canada Line, and most arrived at the following. The most important factor was perhaps the careful preparation and promotion stage. Despite the financial and cost concerns, the involved parties were able to renegotiate and arrive at an alternative plan with realistic time and financial goals. The adjustments made to the scope of the project gave the private partner the ability to effectively control its construction cost (Phang, 2009a). The Canada Line also is a great example of how great collaboration is vital to project success, especially during the construction stage.

The operating phase of the Canada Line was no less problematic. In the first year of operation, the number of customers was lower than the projected demand, but the number of customers increased during the second and subsequent years. Currently the approximate number of Canada Line daily customers is around 200,000 passengers. Despite the PPP project generating a continuous positive cash flow, the

current revenue stream can barely cover all of the deficits from the construction phase. Nevertheless, the Canadian government has noticed this and admitted that railways are not always profitable, and that it is exploring the possibility that it could subsidize the Canada Line in the near future (Siemiatycki, 2007).

### 2.10.4 Mass Transit Railway (MTR) in Hong Kong

Mass transit services are vital to every big city. Among all types of mass transit, rail transit is often the selected choice for its ability to provide mobility and accessibility. Rail projects are called for in developed countries that aim to reduce car dependence and eliminate the need for further highway expansions, as well as to help reduce congestion and environmental problems. Rail transit is also ideal for reshaping the pattern of urban development in developing countries, as it serves the rapidly-increasing demand for urban traffic and is a good long-term investment for countries that are looking for ways to capitalize on their economic growth. For example, China is currently undergoing a mass transit railway construction that once finish will cover over 1,700 kilometers in various cities nationwide (ADB, 2006).

For instance, Hong Kong is one of a few pioneers in Asia with the successful development of mass transit railways (MTR) through the use of PPPs. The MTR metro system is a mass transit system run by MTR Corporation Company Limited. In 2007, the MTR Corporation merged with Kowloon Canton Railway (KCR), thereby increasing the distance covered by the services of the MTR metro system to 211.6 km, and this is expected to increase to 300 km in the near future.

As mentioned earlier, the MTR adopted the unique Builds-Funds-Owns-Operates (BFOO) PPP model, which means that the project needed to meet a quality standard as well as be financially practicable without the government's subsidy. The Hong Kong model went beyond the scope of the conventional PPP models where the participation of the private sector is normally restricted to Build-Operate-Transfer (BOT) or Build-Finance-Operate-Transfer (BFOT), where the concessionaire (private party) constructs the railroad with or without the public sector's funding and manages the railway for a certain period of time (Tang and Lo, 2008).

To elaborate the Hong Kong model even further, Figure 2.4 below describes graphically the three sector relationships (tripod relationship) between the government, the railway company, and the property developer.

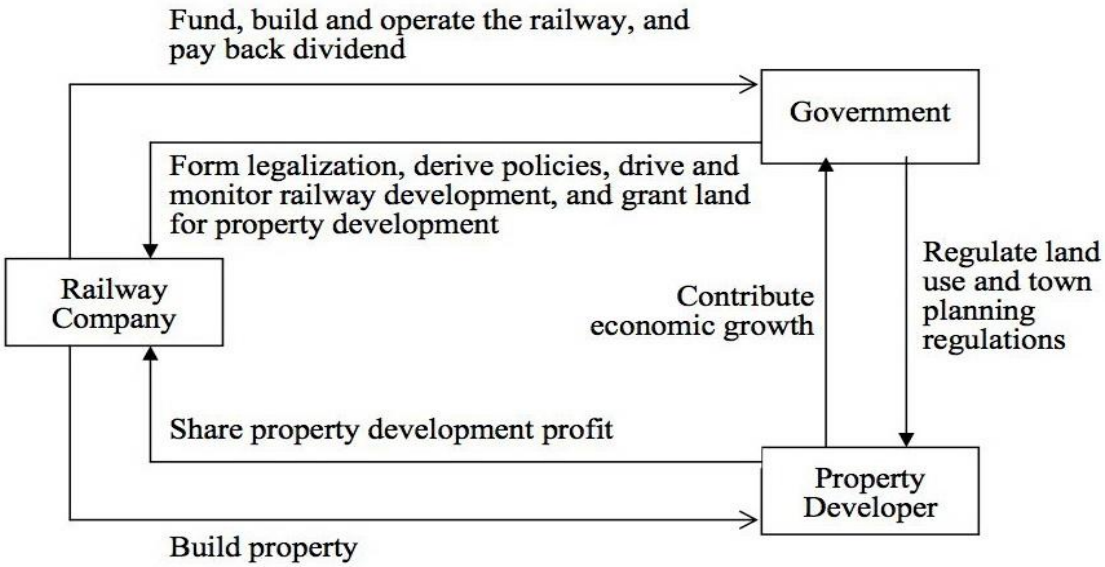


**Figure 2.4** Tripod Relationship of Public-Private Partners in Hong Kong
**Source:** Tang & Lo, 2008.

Figure 2.4 reveals the relationship among the three sectors in the Hong Kong PPP model. The first sector is the railroad company which builds, funds, owns, and operates the railway, while receiving exclusive rights for property development along the railway line in return.

The real estate property was developed on top of railway stations through joint venture between the railway company and the private property developer. This was in accordance with the town planning framework and regulations set by the government. Through this real estate development, the joint venture received profit which was then used in infrastructure investments, and also for possible future expansion, as well as for paying back to the government, who was considered a shareholder, as a dividend (OECD, 2000; Tang & Lo, 2007).

The idea of developing property projects on top of railway stations was very successful. Not only was the huge capital investment in the rail transit system recovered by the profit from the property development, but also the transit-residential-commercial integrated hubs that were built around the railway stations significantly stimulated economic activities around the community and nearby property development in the surrounding area. An interesting fact is that the government had

no direct involvement with the project; however, the government played a critical role in determining the necessary policies regarding transportation and land management to establish a legal framework, to commence and collaborate railway development, and to control the quality of service (OECD, 2000).

The success of the rail PPP in Hong Kong, both in planning, construction, and operation, as well as in the strategy used to induce private sector participation, has become a role model for mass transit railway projects in several parts of the world, especially among Asian countries (ADB, 2005; OECD, 2000; Higton, 2005). Several research studies have sought to identify the key success factors of Hong Kong rail projects, which can be listed as follows:

1) The government took a lead in formulating a railway development plan in collaboration with the private company, and monitored to ensure that the railway network was expanded in good co-ordination with the overall development (Tang & Lo, 2008).

2) The government also established a legal base for construction and operation of the railway. For instance, a number of different laws explicitly determined the fare that the railway company could charge, and consequently the railway company enjoyed stability over revenue and was able to effectively manage financial and operating risks (Tang & Lo, 2008).

3) The strong political, administrative commitment ensured that not only were the objectives and client requirements of the railway project clearly and properly defined since the beginning, but also the general public accepted and was aware of the benefits of the participation by the private sector.

4) During operational stage of the project, the government only took a monitoring role, leaving the railway company, which was equipped with the necessary technical expertise, to build and operate the railway, as well as to manage the risks associated with the project.

### 2.10.5 Gauteng Rapid Rail Link (Gautrain)

The project of the Gauteng rapid rail link was launched in 2000 before South Africa won the 2010 FIFA World Cup hosting bid. The project was signed in 2006 and it was a 20 year PPP contract between Gauteng Provincial Government and

Bombela International Consortium, which includes Murray & Roberts Construction, the Empowerment Organization Strategic Partners Group, Bombardier, Bouygues, and various other minority shareholders. Gautrain connects Johannesburg, Pretoria, and the OR Tambo International Airport, and the project was planned to open for service in 2011.

Cooperation between the Gauteng Provincial Government and domestic and international specialists was established in order to provide an effective and modern transportation network, which would also be the biggest PPP project in Africa. The project was a large-scale infrastructure project worth $3.7 billion (Calitz & Fourie, 2010). The 2010 football World Cup had been a powerful motivation that moved the project forward because the South African government expected the first part of the construction to be completed and ready to service football fans from around the world (Engineering News-record, 2009).

Although every activity-from planning and preparation to pre-procurement-was efficient, problems started to appear once the project entered the procurement stage. Researchers pointed that the main cause of the problem was a lack of competition as there were only two consortiums that took part in the bidding, and for an unknown reason the government stalled the procurement process, turning the procurement into an unnecessary lengthy and complicated process. Ultimately, complications and problems in the procurement stage led to a financial deficit.

Despite the financial deficit, the Gauteng project is widely acclaimed as a very successful PPP project. A vital reason behind the success was a very strong preparation and promotion phase. Before beginning the procurement, the South African government carried out a large-scale evaluation on the conditions, benefits, and risks of the PPP, which included, for example, environmental impact assessment (EIA), a feasibility and business study, and many more. These processes reflected an effort to examine every aspect of the project, which have not been done regularly in PPP projects. Through a comprehensive plan, the government could effectively determine clear objectives of the PPP well prior to procurement, thereby leading to greater efficiency of the project in the long run.

Another good takeaway from the success of the Gauteng project was the importance of flexibility in the contract written and agreed between the private and

public sector. Although the Gauteng project was strongly motivated by the 2010 World Cup, South Africa had committed to the project some time before that. The South African government realized that the Gauteng project could be useful in hosting the 2010 World Cup, so the government and private partner agreed to adjust many contractual conditions to make sure that the project was completed before the World Cup began. Without the great degree of flexibility of the contract, this would not have happened and South African would not have been able to capitalize on the use of their PPP project in one of the most watched sporting events in the world.

**Table 2.4** Summary of Rail PPP Projects in Other Countries

| Rail PPP Projects | Summary |
|---|---|
| Channel Tunnel Rail Link (CTRL) | 1) CTRL is the Britain's first major railway.<br>2) The project was completed in 2007, after a long delay from the initial plan.<br>3) There are two construction phases; both are completed on time and without any major problem.<br>4) The delay is in the first procurement process and is due to poor objectives and design.<br>5) CTRL project proves that government collaboration and effort are vital to success of PPP projects. |
| Subway Links at the Madrid-Barajas International Airport | 1) The project started in March 2007 and originated from a partnership between a construction specialist and an infrastructure company.<br>2) Construction work is completed in the summer of 2010.<br>3) Passengers were much fewer than expected, leading to huge reduction in the value of the project.<br>4) Despite financial risk, management was able to overcome the potential financial trouble by explicitly specifying certain compensation |

**Table 2.4** (Continued)

| Rail PPP Projects | Summary |
|---|---|
| | mechanisms between the private partner and the government very clearly early on in the contract negotiation stage. |
| Vancouver's Canada Line | 1) The procurement was originated in the year 2003 through competitive bidding and contract is signed in 2004.<br>2) The project was subjected to a number of controversies, especially regarding cost estimation.<br>3) Procurement process of the project is relatively short. This shows an effective preparation for Canada Line PPP project.<br>4) Construction efficiency is also relatively high.<br>5) Vancouver's Canada Line shows that the most important factor in overcoming issues is a careful preparation and promotion stage. |
| Mass Transit Railway (MTR) in Hong Kong | 1) Hong Kong MTR is one of a few pioneers in Asia that use PPP in public development.<br>2) MTR adopt the unique Builds-Funds-Owns-Operates (BFOO) PPP model.<br>3) MTR has real estate projects developed on top of railway stations with no direct involvement from the government.<br>4) The success of MTR depends highly on the role of government in formulating development plan, establishing legal base of construction and operation, and monitoring during the operational stage of the project. |

**Table 2.4** (Continued)

| Rail PPP Projects | Summary |
|---|---|
| Gauteng Rapid Rail Link (Gautrain) | 1) The project was launched in 2000 and signed in 2006.<br>2) The project is worth $3.7 billion and is the biggest PPP project in Africa.<br>3) Problems occurred in the procurement stage due to lack of competition.<br>4) Complications in the procurement state led to a financial deficit, which was overcome by strong preparation and promotion phase.<br>5) An important takeaway is the importance of flexibility in the contract. |

## 2.11 Risk Allocation in PPP Projects

A major benefit of PPP projects is the ability to allocate risks between the public and private sector (Tiffany et al., 1998), or specifically the capability to shift risks from the public to the private sector that possesses higher capacity to endure risks (Dexter, 2001; Jackson 2004). Gallimore, William, and Woodward (1997) discussed in great detail that the associated risks include legislative risks, commercial risks, political risks, and financial arrangements, all of which the private sector has a higher ability to manage than the government.

However, risk transfer should not be uncompensated. Because the private sector bears the risks for the government, the private sector must be paid either in terms of special treatment or in any other approach that allows it to generate extra profit from the PPP project to pay off the cost of the risks.

However, there are concerns about how to accurately quantify risks and how to properly compensate the private sector (Tiffany & Hall, 1998). For that reason, several researchers have pointed to an alternative that, rather than risk transfer

compensation in monetary value, the government could allocate risks to authorities that are effective at managing them (Akintoye, Beek, & Hardeastle, 2003; Akbiyikli & Earon, 2004).

## 2.12 Typology of PPPs Project Phase Model

This part of the present study describes the typology of large-scale infrastructure projects by using Griffith-Jones (1993) model, who proposed that the typology of PPP projects is typically divided into three phases: the promotion and preparation phase, the construction phase, and the operating phase. The typology specifies that every phase has its own unique risks and obstacles, all of which are critical to the success of the project as a whole. Table 2.5 presents the typology as seen in Griffith-Jones (1993, p. 22), with three project phases and risks associated with each phase.

**Table 2.5** A Typology Project Phase of Risks

| Project Phase | Risk |
|---|---|
| Promotion and preparation | Failure of feasibility study |
| | Unsuccessful bid |
| | Planning/environmental consents delayed or |
| | Obtained; other legislative difficulties |
| Construction | Delays and cost overruns attributable to |
| | contractors; |
| | Technical non-or underperformance |
| | Delays due to force majeure |
| | "Policy" risks; e.g. non-completion of associated |
| | Infrastructure, changed environmental regulations, |

**Table 2.5** (Continued)

| Project Phase | Risk |
|---|---|
| Operating | Transport policy development<br>Inflation / Currency risk / Interest rates<br>Technical difficulties<br>Revenue shortfalls and excess costs for commercial reasons. Revenue shortfalls or cost overruns due to "policy" Changes (competing infrastructure, environmental Regulations, etc.) |

**Source:** Griffith-Jones, 1993.

The important information contained in Table 2.5 that is important to this study concerns the risks associated with each phase for the success of the PPP process and on which the strong cooperation between the public and private sector rely. Table 2.6 delves more deeply into the primary risks, as well as their subgroups. For instance, the primary risks of the promotion and preparation phase include commercial and political risks during the procurement process, while the primary risks of the construction phase and operating phase are construction risks, e.g. cost overruns and delays in construction, and political risks, e.g. changes in government policy, as well as commercial risks, e.g. insufficient revenue or exceeding demand.

**Table 2.6** The Major Risks in Different Infrastructure Project Phases

| Phase Name | Primary Risk | Risk Subgroups |
|---|---|---|
| Promotion and preparing phase | Commercial and political risk | Competitiveness risk, Legislative delay risk |
| Construction phase | Construction and political risk | Technological risk, Supply risk, Regulatory risk, Government Intervention risk |

**Table 2.6** (Continued)

| Phase Name | Primary Risk | Risk Subgroups |
|---|---|---|
| Operating phase | Commercial and political risk | Demand risk, Revenue risk, Technological risk, Government intervention risk |

**Source:** Griffith-Jones, 1993.

Because this typology reveals the specific risks associated with different phases of large infrastructure projects, it is therefore suitable for analyzing rail PPP projects. This typology is especially useful in examining projects that are longer in length and complicated, both of which are characteristics of a typical traditional procurement project, and in particular the BTS project for the purpose of this study.

Moreover, another reason for choosing the Griffith-Jones model is because the model provides a good framework for analyzing the cooperation process between the public and private sector in the BTS project, and is able to categorize the cooperation that occurred during different phases and examine them individually.

For example, short procurement during the preparation phase means reducing the costs of the project. The construction phase contains civil work and electrical and mechanical (E&M). The operating phase is related to operations and maintenance service (O&M). Therefore, the Griffith-Jones' typology phase was considered to be useful and practical for this study.

## 2.13 BTS Project Phases Analysis

### 2.13.1 Promotion and Preparation Phase

During the preparation and promotion phase, the government plays a significant role because the success of this stage is highly dependent on how the government manipulates the procurement of the PPP projects. The final goal of this stage is to promote competition because high competition will eventually drive down

the cost of the PPP project, not only the true cost of the PPP project but also indirectly through opportunity cost savings from shortened procurement time.

No PPP project can ever succeed without political support. This argument is especially true for the procurement process because without political unity, problems such as legislative delays are likely to occur. In a rail PPP, for instance, there might be difficulties when the PPP Company applies for approval of the project from governmental authorities as required by law.

During this stage, the government can take several actions to improve efficiency. First and foremost, the government can improve project efficiency through good preparation, which is to carefully consider every aspect of commercial and political risk, as shown in Table 2.6, for instance, unsuccessful bids and poor feasibility study.

Secondly, because there are a number of steps in preparing and selecting before the contract signing, and the complications normally lead to delays, the government can help promote competition and speed things up by making the procurement process more transparent, providing clear bidding conditions and requirements, and doing its very best to avoid legislative delays.

Third, the government should make the purpose of the project absolutely clear from the beginning, which means even before the announcement of the procurement. The government should deliberate on what needs to be achieved by the project-a clear purpose will not only be more attractive to private-sector actors than unclear or vague project details, but also because once the purpose is clear, the negotiations could proceed immediately to the project details. However, for the government to be absolutely clear about the purpose, this requires all related government authorities and officials to be as well.

All things considered, commercial and political risks are always present during the preparation and promotion phase. Therefore, the most critical success factor of this phase is the government’s strong political engagement, mutual project objectives and expectations, as well as the government’s ability to create a competitive procurement environment. In this study, the preparation phase was from project initiation until the contract was signed (1990-1992).

### 2.13.2 Construction Phase

The most obvious risk during a project's construction phase is the possibility that the construction may not be finished by the specified deadline. As presented in Table 2.6, the risks associated with construction phase are mainly political and construction risks.

Political risks can take various forms. Since there are many public authorities involved in a PPP project, different public authorities may have different requirements, e.g. increased standards or permissions and impact assessments after the signed contract, all of which the PPP project needs to satisfy and this thus puts pressure on private contractors to meet all the requirements, which may stop the progress of the project and cause delays. Construction risks are potential problems related to project construction. Examples include fluctuations in input prices, supply availability, moral hazard problems[5] with the subcontractors, all of which could potentially lead to cost overruns and delays. Additionally, the government can also be a cause of delay during the construction phase. For instance, the government can demand assessments during the construction that could halt the progress of the project.

In summary, construction and political risks are the two most important risk factors during the construction stage. In order to minimize these risks, good project and risk management is required. For the BTS project, which is the scope of the current study, the construction phase was between 1992-1999. As will become clear shortly, this phase was the period during which the project confronted several obstacles and it was literally the most challenging phase for the BTS project.

### 2.13.3 Operating Phase

The operating phase is the last stage of the model, which is where operations and maintenance (O&M) activities, as well as their efficiencies, are the main concerns.

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[5] Moral hazard problems include performing less than agreed regarding quality standards, as well as subcontractors leaving the project altogether.

Normally at this stage of the project, political and commercial risks are the most evident. One of the major political risks at this point is changes in government policies. Government policies are changed frequently in Thailand, due to both the nature of Thai politics and low political stability. Oftentimes changes in policies could lead to dramatic consequences that end up costing the private sector a great deal of expense. Sometimes what seems to be a small change in policy could lead to vital change in the project, which demands significant time and money to cope with.

In addition, the operating stage is also important for the project financially. If the project has reached the operating phase that means that it has successfully passed the first two initial stages and thus the concessionaire would find it an ideal time to recoup the investment. However, the revenue stream is unlikely to flow immediately as the project enters the operating phase, despite the high expectations from the lenders that the project has been operating and therefore they should be receiving a return on their money. Because of this expectation, the first few periods after openings are therefore critical because they provide essential information concerning whether the project will be profitable in the long run. Every party sees good performance during the initial stage as a promise of regular and continuous revenue, while the opposite typically yields worries and concerns that raise more serious problems over time. It is undeniably clear that commercial risk is the major concern at this stage, and that the project's return on investment (ROI) is perhaps the most important challenge during this stage of the project.

While political and commercial risks are the major concern, it is worth noting that other types of risks, such as technical, market, and regulatory risks, can also affect the success of the project at this stage.

For the BTS project, the operating phase was from the year 1999 onwards. An interesting point is that this phase was the longest of the project, during which several extension projects had been initiated, leading to new preparation phases. Although this phase mainly concerned about commerce and operation, there were many political and legal problems as well, for instance, the new legal framework in the 2013 PPSU Act.

## 2.14 A New Model of Management: Governing by Network

One management model that is worth mentioning is the idea of governing by network. The network model in management points out that the traditional hierarchical bureaucracy is not fit to deal with rapid changes and complicated problems anymore e. The limitations of the old-fashioned hierarchy include the lack of information and human resources and the insufficiency of expertise or specialty required for the task. Furthermore, legal difficulties are also another reason why the government or its agencies cannot effectively tackle problems.

To work as a network for public solution is one choice of management. Government agencies usually have limited capability to deal with problem and solve them. Building a network across various sectors by inviting other players such as non-profit organization or a private company to engage in a public task is an effective approach today. Theoretically, bringing the necessary skills and specialists from other sectors that possess the required capability is consistent with the idea of "putting the right man with the right job," which is believed to create productivity and efficiency.

Goldsmith and Eggers (2004) explained that in the past, public tasks were exclusively done by the government. After that the idea of privatization and the PPP partnership came to replace the traditional approach, as they were more effective. The network approach is something more than privatization, as it is the management of public affairs by the cooperation between a government agency with other entities, which could be another government agency, non-profit organization, and/or private company. Such cooperation is not normally a bilateral cooperation but is a network that includes many players across different sectors.

The main difference between the traditional approach and the network approach is that the traditional one relies on the top-down management, where the public officers possess the skills and expertise to act within it responsibly through top-down control and command, while the network approach is more horizontal, as all the players will deal with the problem together. This horizontal approach will help remove the limitation of the traditional approach where one government agency's capability is limited to its responsibility by engaging more entities in the network that have a certain specialty or the technical skills required for the project.

Goldsmith and Eggers (2004) also proposed that the public administration should overcome the traditional bureaucracy and apply the network approach, which would change the roles of the government agency. However, there are two important skills required for this network approach. First are the skills and the specialty to complete the task, which the government agency generally possesses, as it normally completes the mission by itself. This skill is how an agency manages the project and controls the people to finish the task. However, for a mega or complicated project which requires many and various sets of technical skills, one government agency is likely not able to manage the project by itself effectively anymore. This is therefore the rationale for having a second skill required, especially in the network approach, which includes network organizing and role and resource assigning. The new role of the government is to manage the network to complete the mission, not to do it by itself anymore. The ultimate goal of the network approach is not different from the traditional approach, as it also aims at providing maximum value to the public but with different types of management.

Working as a network is therefore a new concept and form of public administration. It is so important that the chief of the government agency adopted this approach and appropriately implemented this idea where it was practical and suitable for project operations nowadays. The significant vision is to seek a suitable and efficient private partnership. In order to insist with this networking concept, Goldsmith and Eggers (2004) claimed that the networked government should maximize collaboration and network management capabilities. The figure below illustrates such a claim.

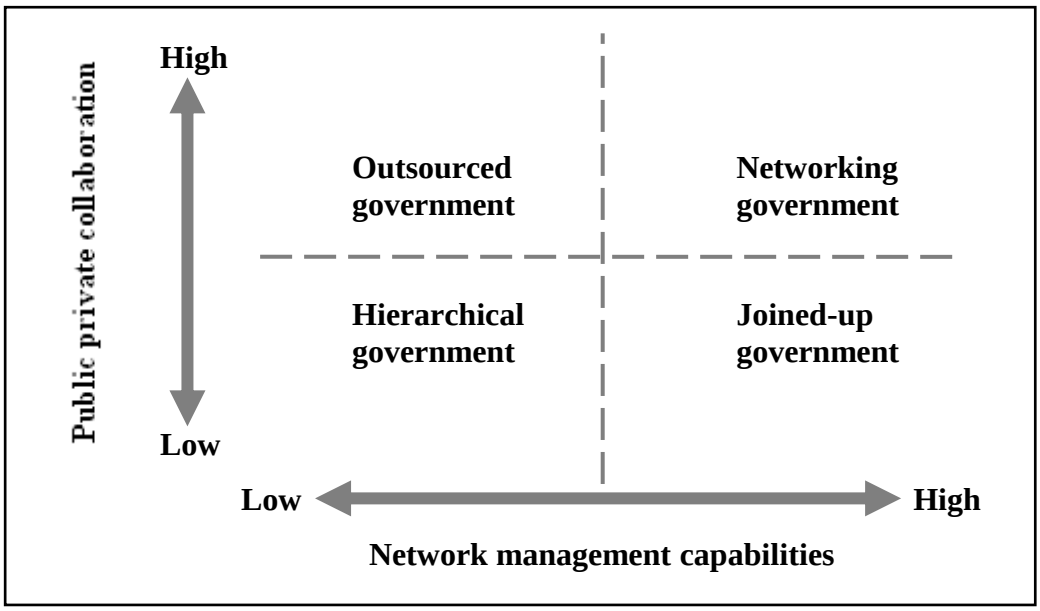


**Figure 2.5** Four Models of Governments

**Source:** Goldsmith & Eggers, 2004.

The figure not only shows the maximization of public-private collaboration and network management capabilities but also four models of government evolution over time. The hierarchical government as mentioned earlier refers to the government in which the organ or agency completes its mission on its own depending merely on its capability to manage and carry out the project. The second model is the outsourced government, which means the assignment of the public task to a third party, who is normally a private entity, to deliver the public service on behalf of the public agency. The benefit of this model is to obtain capability from the private party through collaboration in providing more effective services or goods to the general public, as the private sector selected to take this role is usually specialized in the related field of the project. The third model is the joined-up government, which means the execution upon the collaboration between more than one government agencies. When all project managers are from public agencies, they will have a similar way of working together, which enhances their capabilities for network management. The final form, which can be called a networking government, is an integrated form of other models because in order to complete a certain project or mission all stakeholders will be invited to

participate in the project. The benefits are clearly stated early with regard to bringing the best skills from all players together to do the right task, which will result in maximum public value.

Working as a network can take different forms. Goldsmith and Eggers (2004) described six forms as follows.

1) Information dissemination or information sharing
2) Civic switchboard
3) Channel partnership
4) Ad hoc network
5) Supply chain network
6) Service contract

One factor that moves the model “governing by network” is the expansion of non-government organizations which engage in public service provision. These organizations have different essential resources that are required in the public service provision so they are very important players in the network. In addition to such expansion, government agencies tend to jointly complete certain tasks related to them. The regular form that we can see is the establishment of the joint committee for a specific task as the decision making body. The advance of communication technology is another important evolution that facilitates the network approach as it creates a real-time channel for inter-organizational communication and reduces the cost for communication.

Goldsmith and Eggers (2004) added that governing using the network model has its strengths and limitations at the same time. The first strength is that networked government helps enhance the capabilities as each component of network brings its best to the project. Additionally, the cooperation between entities in the network creates innovation and new solutions to tackle problems at issue. Furthermore, the way in which the network approaches the problem is faster and more comprehensive, especially when a part of the network is a non-government entity, which is more effective and timely. The presence of a non-governmental organization also fulfills the lack of resources, specialists, and necessary technology.

Despite all of the benefits gained from the networking government, the management of such a network is not a simple task to achieve. There might be some

managerial difficulties which, in the worst case, can possibly cause the failure of the project as a whole. The first thing that is required in network management is agreement regarding the principal concepts, goals, and processes. It is therefore important to build a network based on the selection of each part in the network in order to fill the gap with the entities that have similar visions or visions consistent with each other in having a mutual goal. The second is that the network usually works as a whole; if any specific part of the network fails to complete its assigned role, it might delay the project as a whole. Another important role is to monitor and ensure that the plan will be implemented by the responsible entity. An appropriate monitoring process must be designed to be followed by different components in the network. However, this monitoring framework should not interfere with the discretion of responsible entities and should not be too strict as it would limit the creativity and flexibility of those entities, which were supposed to be the strength of having a working network. Problems in communication and cooperation between organizations are also threats to the efficient work as a network. Different organizations across various factors might have different working cultures, ways of communications, and so on. These differences can cause big trouble for the project.

What project managers should keep in mind is how to exploit the benefits from the strong points of working as a network and how to get rid of as many of the limitations mentioned above. The establishment of a working network requires two additional components that should be taken into account. The first is how to appropriately assign responsibility among network members with the mutual goal of obtaining public value under the principle of accountability. The second is how to adjust the current structure of public agencies to be ready for the network-building approach.

The biggest challenge of working as a network is how to transform or improve the traditional structure of providing public service to be more supportive for the networking government. The change from a vertical command system to horizontal cooperation is not easy to achieve as the traditional approach has been used for a very long time. Goldsmith and Eggers (2004) provided guidance for governing via the network step by step.

Step 1 Network Design: the project should begin with the determination of the objectives and scope of the network needed for the project. The network does not exclude the responsibility of the public agency but enhances capability and gains more access to solutions of problems. In the selection process, getting members to join the network, the project agency should take into account the capability, background, and performance of the entities. The public agency needs the skill to engage those entities in the network together in order to set up the clear direction they will implement. The public agency might choose to direct the network and monitor its performance by itself or assign this role to another organization dealing with the network. In case the public agency does not want to directly deal with the network, it can still perform a facilitating role and follow up on the progress of the project.

Step 2 Network Connection: the connection between network members is a method of harmonizing the operation in a consistent manner. This process will overcome the differences in culture, technology, and information among the components in the network and smooth the cooperation in the network. The first important element for the connection is the communication system between entities in the network. Another significant process in information and knowledge sharing.

Step 3 Organization Restructuring and Human Resources: the network requires a horizontal relationship, not the traditional hierarchy. It is necessary for government agencies to adapt the operating system and human capability to respond to the needs of the network. The structure of agencies should be more flexible regarding the mission of the organization. Furthermore, the agencies should prepare the officers for the network building.

Governing by network is another approach for a modern public administration. This approach reflects how government is evolving. This approach fits a mega project such as the PPP project, which requires a lot of resources and capabilities and a lot of stakeholders involved, both directly and indirectly. It is how we might maximize the public value finally gained from the project.

Managing a PPP project using a network seems to be an ideal approach for a mega project such as the BTS. However, many difficulties might be overcome through the use of a network; especially the lack of organizing skills regarding cooperation in the case of the BTS was found as one of the reasons why the project was delayed. This will be discussed later.

## 2.15 Project Management Theory

The majority of the project managers these days convey their official accreditation from the main expert affiliations, for example, the Project Management Institute (PMI) or the International Project Management Association (IPMA). These two internationally-acknowledged institutions are educators of project managers around the globe from various industries.

The project management standards globally promoted by both the PMI and IPMA were inherited from Traditional Project Management (TPM) theory (Whitty & Maylor, 2009). The roots of project management development can be traced to the establishment of the PMI in 1969 (Hebert & Deckro, 2011). The project management underlines the significance of how the contracts are written for the success of the project throughout its whole life cycle. A strong assumption that project management theory makes, though, is that all future risks associated with the project can be mitigated totally by careful and thorough planning during the initial stages.

Retrospectively, it can be argued that project management began after the development of the Program Evaluation and Review Technique (PERT) and the critical path method in the late 1950s and was stimulated by the creation of the PMI in 1969. Then, TPM was developed and has produced numerous project management tools. Currently, TPM is one of the most dominant theories in the project management discipline, even though it has been often criticized for not catching up with the rapid changes and dynamic situations nowadays (Koskela & Howell, 2002; Williams, 2005; Hass, 2008; Fernandez & Fernandez, 2008; Saynish, 2010).

This study chose project management theory as it is one of the most common practices internationally acknowledged in the field of management, for its wide support of project managers and for its strong empirical support and evidence. One reason that clearly explains the mutual acceptance of project management is the practical approach found in the theory and its theoretical simplicity and clarity. Finally, the pragmatic tools available for project managers seem to be the most important aspect of the theory. For these reasons, it should be reasonable to believe that knowledge in project management is utilized in managing PPP projects and will become even more useful in an era where PPP projects have become a global phenomenon.

Researchers have previously discussed in more detail the essence of project management. Wysocki (2006) noted for example that project management is about planning and controlling everything around the project throughout its life cycle. As it puts great emphasis on controlling, project management theory therefore stresses heavily the importance of a strict controlling system. According to project management theory, in the case of PPP projects, the "client" that possesses controlling power is the public actor. The satisfactory outcome of the project should be where the public actor achieves not only what it wants, but also when it wants; and in the case of PPP projects, both are demanded of the private sector. Likewise, the satisfactory "control" of the project would be to design a mechanism that achieves the outcome above with complete efficiency (Wysocki, 2006).

Wysocki (2006) further discussed the idea that efficiency is not achievable without a clear and carefully-deliberated plan from the beginning point of the project, and careful planning relies on the project manager's ability to map all risk factors that can possibly have an impact on the success and efficiency of the project, understand the influences of all factors, realize the necessary actions to complete the project, assess all possible risks, and accurately evaluate all costs for the project. Putting project management theory in a nutshell, the future is predictable if project manager can control all of the important variables surrounding the success of the project. For this reason, any change in the environment that causes trouble in any chain of the project is seen as careless planning, and thus external shocks can never be used as excuses in project management (Wysocki, 2006).

Project management theory can be merged with the typology project phase in order to aid in studying PPP projects, which are complex in nature, i.e. long project duration, several internal and external factors that cause uncertainty and unexpected changes. Adopting project management theory, sophisticated PPP projects can be analyzed by breaking them down into small components, while all of which still remain parts of the whole system (Dombkins & Dombkins, 2008; Hass, 2008), which is exactly what the typology project phase does by breaking a particular project into three phases, and later performing analysis phase by phase.

Another feature of project management is the assumption that uncertainty is always an important feature of any particular project, and the more complex the

project becomes the more uncertainty surrounds it; and that is because as the scope of the project expands, the more factors there are that may have an influence on the project. As a result, the project becomes more difficult to predict, and mapping all of the potential risks associated with the project become virtually impossible, especially with projects as sophisticated as PPPs (Dombkins & Dombkins, 2008; Hass, 2008).

## 2.16 Inter-Organizational Relations Theory

In the PPP literature, in order to provide public services, it is recommended that both public and private sectors strongly cooperate. This is very applicable to the case of the BTS mass transit because the project was the first skytrain project in the country, let alone being one of a few projects with PPP concession. Moreover, both the quality of service and the level of fares were significant, thus cooperation was really important in terms of driving down costs and improving service quality. Being a mega project that involved long-term cooperation, the BTS project required great reliability and trust in order to diminish problems from human and environmental factors. In order to understand this more clearly, in this section the author will discuss inter-organizational relations (IOR) theory, which is a theory that can be used to analyze the mutual cooperation and reliability between two or more sectors, and therefore helps with the analysis of PPP projects.

IOR represents the concept of partnerships among organizations in trading. Capability sharing can be goods, services, resources, or technology, or even skills and knowledge. The major propose of IOR is that organizations aim to exchange and share capability in order to gain market insight and to obtain cost reductions through developing network connections between themselves. Several researchers have examined the IOR (Ouchi, 1980; Hill, 1990) and it can be summarized that the relations can take two formats (Pongsiri, 2003):

1) Contract-Centered Approach-This approach is the original format. It prevents opportunism on the part of the signatory and focuses on the content of contract enforcement in order to control opportunistic behaviors.

2) Relationship-Centered Approach-The basis of this approach derives from a foundation of trust development or relationship between accomplices. It

focuses on open collaboration mechanism and interaction (Madhok, 1995) to prevent opportunism in transactions. The idea is to create mutual trust by focusing on discussion and communication. Incremental comprehension will reduce opportunism, which will ultimately reduce transaction costs.

In this dissertation, Project Management Theory will be applied together with IOR to study the influential factors that affect collaboration between the public and private sectors in the case of the BTS project. Ultimately, the aim is to derive a set of factors that were influential regarding the BTS project, and then use the findings to point out a set of factors that are influential for PPP projects in general.

## 2.17 Political Risks of and Opportunities for PPP Projects

Political factors can be both risks and opportunities for PPP projects. Strong political situations can help promote PPP projects by providing support rather than resistance, and providing evident signal of the government's intent to commit to and support PPP projects. Government stability will also benefit greatly to the extent to which the private sector can cooperate with the government. Furthermore, government stability is the main criterion when the private sector is deciding whether to borrow money and invest in a PPP project. However, although political commitment is welcomed and necessary, the degree and the extent of the commitment must still be dealt with appropriately by all the stakeholders that are involved.

The first important factor in political risks is government stability. Government stability is very important to the private sector's investment decision because it affects significantly its confidence in whether to invest in PPP projects (Ibrahim Price & Dainty, 2006; Li, Akintoye, Edwards, & Hardcastle 2005; Zhang et al., 2005; Zou Wang, & Fang, 2008). This is especially true in the big PPP projects such as a mass transit project, which is our case study here.

Looking at how political stability impacts the success and condition of PPPs in other parts of the world shows that, in Europe, there exists the European Commission (EC), or particularly the Directorate General "Internal Market," which promotes PPP projects by incentivizing EU members to implement them through various approaches. In doing this, the European Commission is pursuing a mission to open

markets in basic industries to competition, for example, in the sectors in transportation, public healthcare, public security, waste management, and water supplies.

In Asian countries, it is evident that PPP projects have been more successful in countries such as Singapore, Hong Kong, and Malaysia, whose political situations are also strong. This is not true in Thailand, where the political situation is subject to occasional turmoil. A strong political condition gives the private sector great confidence in considering whether to invest in PPPs.

Secondly, another important component of political risks is good governance. In the neo-liberal political literature, PPPs arose as a form of governance in Western democracies, which emphasize the efficiency of market competition in the provision of public services and the importance of introducing management reforms to make government more like business (Linder, 1999). More recent views also support this view, as seen in newer ideas such as the new public management (NPM) concept and the idea of "reinvent government movements" as seen in Osborne and Gaebler (1992). Specifically, PPP is a result of the increase in complexity and interdependence between issues and also between players. Therefore, the policies and solutions devised for one issue in one area must be developed in conjunction with policies and solutions for other issues in perhaps other areas as well. Organizations recognize that they cannot operate effectively in isolation, and therefore both public and private sectors consider the implementation of PPPs (Rodal & Mulder, 1993, pp. 29-30).

Several researchers have elaborated on this. Rhodes (2000) used the idea of governance of public administration and public policy as a basis for indicating that the boundaries between public, private and, voluntary sectors are changing. Rhodes (2000, p. 55) described the word governance as a concept that "can be used as a term to signify a change in the meaning of government." He pointed out that basic elements of good governance are the participation of all stakeholders, accountability, transparency, minimization of governmental power, and vertical relationship. He explained "governance as the result of interactive social-political forms of governing" (Rhodes, 2000, p. 58) and stated that people or private sector participation (steering) are "synonyms" for good governance. In his own words, the "public sector should be run with less government and more governance" (Rhodes 2000, p. 56). Another

similar but more straightforward idea was provided by Barten, Montiel, Espinoza, and Morales (2002, p. 134), who stated that "governance could be considered the result of the participatory approach to development," which stresses the importance of cooperation between many different parties in development.

Despite the definitions above, governance in PPPs are open for different interpretation. Governance refers to the process in which the government takes action and the ways in which policies are implemented. Governance of PPPs is somehow associated with project quality and the effective implementation of policy (UNECE, 2008).

However, there are several challenges to PPPs. An important and perhaps the most challenging thing is misaligned incentives between the two parties. In contrast to the objective of the government, the private sector aims to make a profit, and looks forward to better investment and business opportunities. Investment return is certainly important, if not the most important, objective of the private partner. For this reason, public authorities should have a practical and carefully-planned PPP framework that not only promotes the involvement of the private partner, but also monitors very closely that the private partner is approaching the project as efficiently as possible (Scharle, 2002).

With all things considered, good governance is important at every stage of PPP projects. One requirement that constitutes good governance is that all stakeholders must be engaged. It is evident that many PPP projects have failed without good governance, which has led to opposition from civil society or other players (Gunnigan & Rajput, 2010), and this has further led to increased costs of projects, delayed project completion, ultimate risks, and inefficiency of public services (Grimsey & Lewis, 2002), all of which negatively impact the success of any particular PPP project.

It is also important to note that one possible way to improve good governance is to send signals of good governance to stakeholders through communication. The lack of good communication with the main stakeholders may lead to misunderstandings and unnecessary project disruptions. As perfectly stated by UNECE (2008), political actors are responsible to society not only to do, but also to communicate what they do.

## 2.18 Political Background in Thailand

This section aims at understanding the political context of public administration in Thailand, which is a long process of political evolution dating back over 80 years. Before 1932 (2475 BE), Thailand was under absolutism for 700 years. Therefore, Thailand has been under a long traditional regime of having the king as the "master." The King, who was the founders of dynasties, was the warrior that unified cities and states or ousted foreign invasion, such as the Burmese invaders (Bidhya Bowornwathana, 2011). The royal bureaucratic regime was determined by kings and nobles as a crucial tool to control and direct the nation (Graham, 1912).

This study will examine Thailand's political background during the years between 1980 and 2014 because this was the period in which the situations were related to and affected the BTS project, the subject of the present study. Table 2-5 shows Thailand's political context in chronological order beginning in 1980 and continuing to the present.

**Table 2.7** Thailand's Political Context in Chronological Order

| Time Period | Thailand's Political Context (1980-present) |
|---|---|
| 1980-1988 | 1) General Prem Tinsulanonda's government since March 1980<br>2) Compromise between bureaucratic elites and politicians on the assignment of cabinet positions in the 1979, 1983, and 1986 general elections.<br>3) Multi-party systems and the formation of coalition politics and government |
| 1988-1991 | 1) Chatchai Choonhavan's coalition government<br>2) Most ministerial positions are filled by politicians. |
| 1991 | 1) Military coup, by the National Peace Keeping Council (NPKC), overthrew the Chatchai Choonhavan's government in February 1991. |

**Table 2.7** (Continued)

| Time Period | Thailand's Political Context (1980-present) |
|---|---|
| 1991-1992 | 1) Anand Panyarachun (1st) became the Prime Minister from March 1991 to April 1992.<br>2) BTS project started. |
| 1992 | 1) In May 1992, urban middle-class protested against General Suchinda Kraprayoon's government.<br>2) Suchinda Kraprayoon resigned on May 24, 1992 after the "Black May" (also known as "Phruetsapha Thamin").<br>3) Anand Panyarachun (2nd) became the temporary government.<br>4) Civil Service Act of 1992 (2535 BE) |
| 1992-1995 | 1) Chuan Leekpai won the general election in 1992.<br>2) Chuan's government (1st) began and the Democrat Party became the leader of the coalition government.<br>3) Ministerial positions are filled by politicians. |
| 1994 | Civil servants Code of Ethics |
| 1995-1996 | 1) Banharn Silpa-archa became a Prime Minister from 1995 to 1996.<br>2) Chart Thai Party became the leader of the coalition party<br>3) Elected politicians assumed ministerial portfolios. |
| 1996-1997 | 1) General Chavalit Yongchaiyudh won the general election in 1996 and took control of the government from 1996 to 1997.<br>2) General Chavalit Yongchaiyudh's New Aspiration Party became the leading party in the coalition.<br>3) Ministerial positions are filled by politicians.<br>4) Political reform movement occurred. |

**Table 2.7** (Continued)

| Time Period | Thailand's Political Context (1980-present) |
|---|---|
| 1997 | 1) New constitution (which is based on Governance principles, and supported by pro-governance citizens)<br>2) "Tom Yam Kung" Financial Crisis in 1997 |
| 1997-2001 | 1) Chuan Leekpai won the general election for the second time in 1997.<br>2) BTS opened on December 5, 1999. |
| 2001-2006 | 1) Thaksin Shinawatra, under Thai Rak Thai Party, won the general election in 2001.<br>2) Thaksin Shinawatra's government (1st) is considered a government with "businessman as the master"<br>3) A number of ministries were raised from 13 to 20. |
| 2006 | 1) Thaksin Shinawatra won the general election again in 2006<br>2) Thaksin Shinawatra's government (2nd) confronted the 2006 "Yellow Shirt" mass protest (Anti Thaksin by People's Alliance for Democracy: PAD), and Thailand's political crisis started.<br>3) The crisis led to a military coup led by General Sonthi Boonyaratglin who overthrew the Thaksin's government (2nd) in the name of Council for Democratic Reform under Constitutional Monarchy (CDRM) in 2006. |
| 2006-2008 | 1) General Surayud Chulanont was elected by the CDRM and become the prime minister from 2006 to 2008.<br>2) New 2007 (2550 BE) Constitution (a revision of the 1997 (2540 BE) Constitution) |

**Table 2.7** (Continued)

| Time Period | Thailand's Political Context (1980-present) |
|---|---|
| 2008 | 1) Samak Sundaravej of the People's Power Party won the general election in 2008.<br>2) Somchai Wongsawat, also from the People's Power Party, took control of the government shortly after that.<br>3) "Yellow Shirt" or PAD mass protest occurred again in 2008.<br>4) However, the military was reluctant to stage a coup this time. |
| 2008-2011 | 1) Abhisit Vejjajiva constructed a coalition government in 2008 and was the prime minister from 2008 to 2011.<br>2) "Red Shirt" mass protest occurred. |
| 2011-2014 | 1) Yingluck Shinawatra of the Pheu Thai Party won the general election in 2011.<br>2) The BTS project was transformed to traditional public contracting in 2012 by the BMA.<br>3) Once again the political crisis occurred between 2013-14 resulted in the People's Democratic Reform Committee (PDRC) mass protest.<br>4) Military coup, by the National Council for Peace and Order (NCPO), overthrew Yingluck's government in 2014. |
| 2014-present | 1) General Prayuth Chan-ocha, who led the military coup and who was the head of NCPO, became the prime minister.<br>2) Ministers are filled with military officers. |

**Source:** Bowornwattana, 2011.

The chronological background of Thai politics above can be broken down into three periods as follows:

### 2.18.1 From 1980 to 1992: Before the Preparation Phase

This period began when General Prem Tinsulanonda came from the military to manage the government in March 1980, and stayed in position until August 1988. General Prem Tinsulanonda was chosen to be the prime minister after General Kriangsak Chamanan's retirement in 1980. General Prem Tinsulanonda led three administrations and shifted coalition partners by dissolving the parliament three times: 1) the 42nd Administration (March 12, 1980-March 19, 1983) 2) the 43rd Administration (April 30, 1983 - August 5, 1986) and 3) the 44th Administration (August 5, 1986-April 28, 1988). Currently, General Prem is serving as the President of the Privy Council of the King of Thailand.

In 1988, the Thai Nation Party led by General Chatchai Choonhavan won the general election in August, and General Chatchai Choonhavan was chosen to be head of the government after 12 years of dictatorship, namely. General Chatchai's contribution included improved relationships between Thailand and Vietnam, and Cambodia and Laos, all of which had become Thailand's rivals during the period of the Cold War. Furthermore, the government also did well in promoting international trade with several other countries, including the countries listed above. General Chatchai's well-known slogan was to transform the Indochina region "from a battlefield into a marketplace." One of the actions that clearly supported the slogan above was the government's encouragement of Cambodian Sihanouk's government.

Further, General Chatchai's government also initiated several projects with regard to the national basic infrastructure, including an expansion project for a telecommunications network in cooperation with the Telephone Organization of Thailand (TOT), a development project on the Eastern seaboard of Thailand, as well as a road and rail network project in the greater BTS project, for example. General Chatchai's contribution is evident from the country's annual growth rate as high as 13%.

However, under Chatchai's administration, rampant corruption appeared. It was reported that the parties and politicians in Chatchai's government competed for better positions in order to obtain power to control the dissemination of the public budget. The Thai press called them the "buffet cabinet," which had the meaning of their "take-what-you-like" behavior. This allegation was brought to the attention of

Chatchai by the press. His answer was normally the phrase, “no problem” whenever he was inquired by the press with uncomfortable questions about the corruption of the members of his government. At that time, his phrase became the title of a famous song called “no Plomplam” arranged by Aed Carabao with the intent to create a parody.

Chatchai’s administration government facilitated businesses investment and was involved in profitable government contracts. Chatchai’s government reinforced the role of Parliament, in which politicians from different provinces were strongly represented, in contrast with the unelected power elites in the administration and military which had been the individuals that made political decisions during the tenure of Chatchai’s predecessor. Prem Tinsulanonda and Chatchai’s government were pretty much focused on economic development and promote military expenditure. Unfortunately, through these policies, Chatchai indirectly challenged the country’s traditional elites.

In February 1991, the National Peace Keeping Council (NPKC), a military junta, overthrew Chatchai’s government. The leader of the NPKC was Army Commander Suchinda Kraprayoon, Supreme Commander Sunthorn Kongsompong, Air-force Commander Kaset Rojananil, and members of the 5th Class of the Chulachomklao Royal Military Academy. After the coup, the junta leaders also imprisoned the leaders of the democratically-elected administration in Chatchai's government. Like previous coups, the military formed an NPKC to run the country and appointed an interim prime minister; in this case it was Anand Panyarachoon.

It has been reported that Anand Panyarachoon had a good relationship with the palace, and respected by both the bureaucracy and the business community, and was accepted among citizens and the international community. Upon taking the Prime Minister position, Anand quickly declared that he disagreed with the coup and that he would not follow any of the junta’s instructions, as he would work without influence of the junta. Anand also insisted that the imprisoned Chatchai should be immediately released. Anand was given relatively a high degree of freedom to select his own cabinet members. Soon after that he decided to dissolve the Parliament.

In March 1992, General Suchinda was appointed Prime Minister. After Suchinda became the Prime Minister, there was a big protest in Bangkok against his

government that led to a military crackdown called “Phruetsapha Thamin.” Up to 200,000 individuals showed up in Bangkok and protested against General Suchinda. This ended up with a military crackdown in May 1992. As a result of the military crackdown 52 individuals were confirmed dead and hundreds of people were injured. Furthermore, there were many disappearances and over 3,500 arrests.

Suchinda then resigned on May 24, 1992, after a conciliation by the King, which stopped the violent military crackdown by Phruetsapha Thamin. After that, Anand was recommended by Arthit to once again be the interim government. Anand then formed a new cabinet which consisted of twenty well-regarded technocrats that had ministerial positions during Anand’s first period as prime minister. The primary tasks emphasized by the Anand’s government this time were to rehabilitate the economy, to organize fair elections, and to remove some of the top armed forces commanders from their posts. Anand was not in power for a very long time, after being succeeded by temporarily-appointed Prime Minister Anand Panyarachun, followed by the democratically-elected Chuan Leekpai in 1992. It is important to note Anand Panyarachun’s effectiveness in initiating economic and political reform. One notable example was the drafting of Thailand's "Peoples' Constitution," which was effective in 1997 and was revoked later in 2006. In 1997, Anand was also rewarded a Ramon Magsaysay Award for Government Service.

### 2.18.2 From 1992 to 2001: the Construction Phase

Chuan Leekpai’s first term as prime minister began in 1992 after “Phruetsapha Thamin” following the 1992 general election, in which the Democrat Party won the majority of seats, with 79 seats, compared to the Chart Thai Party with 77 seats. After the win, Chuan formed a coalition government with the Phalang Dharma and Ekkaparb parties; the Democrat Party became the core of the coalition government and minister positions were filled by politicians. Nevertheless, Chuan’s government was alleged to have corruption, where the cabinet members were involved a project and unjustly profited from projects according to “Sor Phor Kor 4-01”, the certificates of ownership in Phuket, Thailand, which were illegally distributed to the cabinet members of Chuan’s government. After this illegal distribution of “Sor Phor Kor 4-01” there was strong criticism from the public and the press, leading to the dissolution of the Parliament, which ended Chuan’s first administration in 1995.

After that, Banhard Silpa-archa became the prime minister in 1995 and remained in position for only one year until 1996. During Banharn's government, the Chart Thai Party was the coalition party leader. Before becoming Thailand's prime minister, Banharn made his career in politics and had been part of several different cabinet portfolios in many governments. In 1994, he became leader of the Chart Thai Party, and won the prime minister position in 1995. However, Banharn was in the position only for around one year as his parliament was dissolved in 1996. Moreover, his party was also dissolved by the Constitutional Court, and from that court decision Banharn was banned from politics for five years.

Next, in the 1996 general election, the New Aspiration Party, led by General Chavalit Yongchaiyudh, won most of the seats in the Thai Parliament. General Chavalit was supported by five coalition parties, including Chart Pattana, Social Action, Thai Citizen, Seri Dhamma and Mass Citizen. After winning the election, General Chavalit was selected by the House of Representatives to be the 22$^{nd}$ Prime Minister according to royal decree on November 25, 1996.

Unfortunately, during Chavalit's government, Thailand confronted first Asian Financial Crisis, which in fact began in Thailand and was nicknamed first "Tom Yum Kung" crisis. The crisis was so economically destructive that many financial experts worried that it might cause a global economic meltdown. One major setback from the crisis was that first Thai government was compelled to float the value of the Thai Baht as a result of the insufficiency of foreign money to maintain the fixed exchange rate, cutting its peg to the USD, which was the initially implemented exchange rate policy to support the pre-crisis economic growth. As a result, Thailand was stuck with a huge burden of foreign exchange debt that virtually bankrupted the country, and the size of the burden was as well multiplied after the collapse of the Thai Baht. As the impact of the crisis expanded, Japan and most of Southeast Asia suffered from the depression of their currencies, the diminished value of stock markets, and the decline of price of other assets and a steep increase of private debt. The crisis also affected businesses, especially importers that were heavily hit by the exchange rate change. The BTS project was no exception. Due to its negative impact on virtually every part of the economy, the crisis caused the Thai stock market to drop by as much as 75% in 1997. As an aftermath of the crisis, Chavalit's government was pressured by a huge

number of Thai people and political movements that then opposed him to decide to resign and he declared his resignation on November 6, 1997.

After Chavalit's government, Chuan Leekpai and the Democrat party won the 1997 general election and took control of the government on November 9, 1997. This was their second time acting as a government with 6 parties in coalition and 12 independent supporters from the seventh party that had betrayed the Prachakorn Thai Party. In October 1998, the coalition raised its seat majority by involving the Chart Pattana Party. This was during the period in which the BTS project was officially completed and was opened to the public for the first time on December 5, 1999.

### 2.18.3 From 2001 to 2014: the Operating Phase

In the 2001 general election, the Thai Rak Thai Party led by Thaksin Shinawatra won the national election and Thaksin therefore became the new prime minister at that time. Thaksin's government was coined "big businessmen as master" for the prime minister was a very successful businessman before taking the reign as prime minister. Thaksin's government was able to complete a full term of four years. He was the first prime minister that was in office for a full term. His administration was agreed to be one of the most outstanding in Thailand's political history as he launched many notable policies that had not existed before. The policies varied from the economy to education, the social order, public healthcare, energy, drug prevention, and international relations. Thaksin initiated various efficient policies focusing on the reduction of poverty in rural areas and the provision of cheap and nationwide accessible healthcare. These policies attracted many people to become Thaksin's supporters with his emphasis on poor people, especially in the northeast of Thailand. For these reasons, he won a deserved reelection in 2005 (Bowornwathana, 2011).

Thaksin's cabinet consisted of people from different fields of expertise such as academic personnel, student leaders, and former key persons in the Palang Dharma Party, including Prommin Lertsuridej, Chaturon Chaisang, Prapat Panyachatraksa, Surapong Suebwonglee, Somkid Jatusripitak, Surakiart Sathirathai, and Sudarat Keyuraphan. Thaksin's government was, however, alleged to be a dictatorship, with widespread corruption, conflicts of interest, violations of human rights, the exploitation of loopholes in law, and threats against the press.

#### 2.18.3.1 Super CEO Authoritarian Rule, Centralization, and Big Government

The rules of "CEO" Thaksin Shinawatra changed the public administration system. Bowornwathana (2004a) stated that "former Minister Thaksin Shinawatra ran the country as his company. Thaksin's model of government consisted of the following assumptions: the Prime Minister is the Super CEO of the country; government growth is a sign of the company's prosperity; a CEO management style works well in government; employment by contract in government increase efficiency; destroy business competitors, silence government opposition; voters are like customers, they must be kept happy; marketing techniques must be employed in government; government must serve business interests of government politicians; and government fairness is defined in capitalist terms."

In the 2005 general election, the Thai Rak Thai Party won again, and Thaksin for the second time became the Prime Minister. During the period of 2005-2006, there was a severe political crisis in 2006 in the form of a mass protest by the "Yellow Shirts" (Anti Thaksin movement called the "People's Alliance for Democracy: PAD").

The country's political crisis in 2005-2006 led to the September 2006 military coup under the command of General Sonthi Boonyaratglin, which took down Thaksin's government. The military coup was named the Council for Democratic Reform under Constitutional Monarchy (CDRM). The coup took control of the Bangkok area on September 19, 2006 while Prime Minister Thaksin was participating in the U.N. Summit, which took place in New York. The army sent approximately 50 soldiers to take possession of the Government House, commanding the police officers in the area to surrender and disarm. A fair number of soldiers were also sent to occupy the government's TV station and satellite station. The next day army vehicles were found commuting around the Bangkok area, especially at important government buildings and the Government House.

Deputy Prime Minister Chitchai Wannasathit and the Minister of Defense Thammarak Isaragura na Ayuthaya were caught by the order of the CDRM. The CDRM declared many grounds for the coup, such as widespread corruption by politicians, the intervention into state organs, and worse political conflicts. It claimed

that it was necessary to control the situation and make it ready to have a general election as quickly as possible.

The CDRM appointed General Surayud Chulanont as the interim Prime Minister from 2006 to 2008. After General Sonthi overthrew Thaksin's government, General Surayud announced that as the interim Prime Minister, he would "focus on self-sufficiency, more than focusing on economic numbers." He said that he would "focus on people happiness than on GDP." He also claimed that he would be "friendly to every party, trying to receive information from every side and meeting people as much as possible" and that he would "lead the government based on justice."

The junta revoked the 1997 Constitution and enacted a temporary constitution to be in effect before the new constitution was ready to be applied as a new set of rules for the election. In order to bill the new constitution, the Interim Constitution of 2006 empowered the junta to select 2,000 people to form a National Assembly whose 20 members would be in the Constitution Drafting Assembly. At this stage, many scholars insisted that the drafting process should not be under any influence from the junta, so Prime Minister Surayud was pressured to ensure that the CDRM would not interfere in this process in any way.

In 2008, democracy was finally returned to the people, as Thailand had its general election, which the People's Power Party won and the party leader, Samak Sundaravej, became the prime minister. However, Samak was an alleged nominee of Thaksin Shinawatra and once again caused the 2008 mass protest by the PAD. During the heat of the political conflict, Samak stated the following: "I will never resign in response to these threats. I will not dissolve the House. I will meet the King today to report what's going on."

The situation got worse as over 30,000 protesters led by the PAD occupied the Government House and caused three regional airport closures and over thirty-five train cancellations. One of the airports targeted by the protesters was the Phuket International Airport. The movement resulted in 118 flight cancellations or diversions which affected over 15,000 passengers. On September 2, 2008, the clash between the pro- and anti-government protesters resulting in the death of at least one pro-government protester.

2.18.3.2 Court Decision

A problem associated with Samak's government concerned the complaint lodged to the Constitutional Court of Thailand (ConCourt) by the Senate President on June 2, 2008; soon after that, a similar complaint was submitted by the Election Commission of Thailand (ECT) on July 29 in the same year. The complaints were to request the ConCourt to decide whether Samak's government should be discharge based on Section 91, Section 182 Paragraph One (7), and Section 267 of the Constitution of the Kingdom of Thailand (2007). The outcome was that Samak was to be terminated by the ConCourt; the decision forced the executive members of the People's Power Party to appoint Somchai Wongsawat to replace Samak's position. Somchai Wongsawat was in fact the brother-in-law of Thaksin Shinawatra. His close relationship with Thaksin sparked another PAD mass protest in Bangkok. The political turmoil ended after Somchai was ruled out of political arena for five years partially due to vote-buying behaviors commenced by Yongyuth Tiyapairat, a former executive member of the People's Power Party, whose political rights were also prohibited for five years according to the Constitutional Court's ruling.

Following the court decision, Abhisit Vejjajiva successfully formed a coalition government in 2008 and was selected as Thailand's next prime minister. Abhisit's team included the PAD leader Kasit Piromya as the Minister of Foreign Affairs, construction business entrepreneur Chaovarat Chanweerakul as the Minister of Interior Affairs, and investment banker Korn Chatikavanij as the Minister of Finance.

During Abhisit's admistration period, the "Red Shirts" that supported Thaksin and that were against the Democrat Party initiated mass protests in Bangkok, northern Thailand, and in the northeast of Thailand. In response to the protests, Abhisit decided to dissolve the parliament, and organized a general election in 2011.

In the 2011 general election, the Pheu Thai Party led by Yingluck Shinawatra and become the first ever woman prime minister of Thailand on August 8, 2011. Yingluck was in power until 2014.

2.18.3.3 Political Crisis in 2013-2014

Thailand's political crisis in 2013-14 was again due to the People's Democratic Reform Committee (PDRC), whose objective was to remove totally any

influence of former premier Thaksin Shinawatra from Thai politics. The group once again played a leading role in the political crisis in 2013-2014, organizing large-scale protests in central Bangkok. The group leader was Suthep Thaugsuban, formerly a member of the Democrat Party, who appointed himself as the secretary general of the PDRC. The movement was supported by various organizations, including the Democrat Party, the People's Alliance for Democracy (PAD) (a coalition of those that opposed Thaksin), student activist groups, and state worker unions and pro-military groups. The PDRC's support stemmed mostly from wealthy people in Bangkok and the southern part of Thailand. Whistle-blowing was a central symbol of the PDRC protests.

Following the recommencement of protests and a number of other matters, the Constitutional Court ruled that a government proposed amendment to the 2007 constitution that would have made the Senate a fully-elected body was invalid. As a result, Prime Minister Yingluck dissolved the Thai parliament and announced a new election in accordance with the Thai constitution. However, the People's Democratic Reform Committee opposed the election announcement and stated that it would boycott the process. The PDRC leader said he would not negotiate with the government, or the military, or any other mediator for the matter, but he would fight until the people achieved the PDRC's goal to have a royally-appointed people's council to conduct reform before the election in order to permanently destroy the "Thaksin regime."

On May 7, 2014, after the discharge of Prime Minister Yingluck Shinawatra and some of her cabinet members from office, Niwatthamrong Boonsongpaisan became Thailand's acting prime minister. Shortly after that, the Pheu Thai government was officially overthrown by a military coup on May 22, 2014. Army Commander General Prayuth Chan-ocha was the military coup leader of a junta called the National Council for Peace and Order (NCPO) whose objective was to govern the country and assume power to control the prime minister.

Prayut was known as an extreme royalist since he was appointed as the chief of the army. He was seen as an opposition to Thaksin Shinawatra, the former Prime Minister. He held a leading position and played an important role in the troop that confronted the "Red Shirt" demonstration in April 2009 and from April to May 2010.

On July 31, 2014, a national legislative body was formed as required by a temporary constitution. The legislators, most of whom were from the military and police institutions, were all chosen by Prayut and included a younger brother of Prayut himself. The legislature unanimously selected Prayut as the new Prime Minister. As a result, Prayut simultaneously held three positions: army chief, NCPO leader, and Prime Minister of Thailand. However, later in October 2014, he retired as chief of the army.

## 2.19 PPP Legal Framework in Thailand

The legal framework that supports the PPP activities in Thailand is the Act on Private Participation in State Undertaking in 1992 (2535 BE) or the "PPSU Act 1992." However, the framework set by the act was not complete or appropriate because it provided a "fragmented hierarchy" where many bodies from different sectors were responsible for various levels of regulation (Valentine, 2008). The 1992 Act failed to provide the methodology for the evaluation of the project and the method for procurement in case the PPP projects were at an urban level and therefore these certain projects were governed by their own rules. It also did not provide a methodology to share the risks and responsibilities with the private party in the case that the PPP project was not commercially viable.

The 1992 Act provided checks and balance procedures and assigned the Cabinet power to approve the project as one of its anti-corruption tools (Pongsiri, 2011). However, the regulation was arguably ineffective and oftentimes subject to interpretation in several aspects (Susangarn, 2007). Rather than providing a supportive surrounding for PPP projects, some types of PPP projects that involved facilities, including Build-Operate-Transfer and Build-Transfer-Operate forms, were governed by the 1992 Act. Other types of projects, such as Build-Own-Operate and management contracts were not within its coverage. After that, the Ministry of Finance prepared a new bill with the intention to promote investment in PPP projects by providing a more facilitating framework for PPP project development.

The regular form of contracts associated with development projects or project financing was usually in the form of a long-term concession contract between a public

authority and one or more private companies. Different types were used for different projects based on the project's nature and how it would be implemented. Build-Own-Operate, Build-Transfer-Operate, and Build-Operate-Transfer are the most frequently found in Thailand.

Following the 1992 PPSU Act, the 1st and 2nd Ministerial Regulations of 1994 (2537 B.E.) were enacted as secondary rules. The main emphasis here was on the process and details of bidding procedure, which required a detailed process to provide a formal public invitation to the private sector, required the private sector's proposal, an invitation method, and a selection procedure which was required to be undertaken through bidding and the determination of a bid guarantee or performance bond and security (Pongsiri, 2011).

Additionally, the announcement of the Office of the National Economic and Social Development Board (NESDB) with regard to the topic of the submission of the results of project studies and analyzes required that the submission had to cover the feasibility studies to be used in the approval process. In addition to this, the PPSU Act also specified the qualifications of the consultants hired by project agencies to assist with projects exceeding 5 billion baht in size. These qualification requirements still had to be strictly followed. However, despite all of the interventions, the Thai government was not allowed to provide any funding guarantee for the private sector since the funding guarantee was especially applicable for government agencies and state-owned enterprises.

### 2.19.1 The Three Step Process of the PPSU Act

Given the importance of the PPSU Act to Thailand's PPP projects, the present researcher believes that is worthwhile to study in detail the implementation process of the PPSU Act. Reference into the PPSU Act shows that the Act implemented a three-step process that included project initiation, project implementation, and project monitoring.

1) First Step: Project Initiation

(1) Project study conducted by the project agency (feasibility study)

(2) Project study submitted to the responsible Minister of the project agency for approval

(3) Project study submitted to the Office of National Economic and Social Development Board (NESDB) or the Ministry of Finance (MOF), depending on whether the project is a new or existing project (Section 9)

(4) Project study submitted to the Cabinet for approval (Section 10) (approve principle)

2) Second Step: Project Implementation (after project study's approval)

(1) Project agency prepares an invitation letter for private participation in the project (Section 12)

(2) Project agency appoints a committee for the next stages of selection of the private sector entities (Section 13). A private sector entity is selected by the committee. (Section 14) (selection of the private sector by qualification)

(3) An agreement between the project agency and the selected private company is prepared

(4) The agreement is submitted to the Office of the Attorney General for approval (Section 20)

(5) Result of the selection, draft agreement, and relevant information must be submitted to the Cabinet again for final approval (Section 21).

3) Third Step: Project Monitoring

(1) Once the project agreement is signed, a Coordinating Committee is established by the project agency (Section 22).

(2) The Coordinating Committee supervises the implementation of the project and reports to the responsible Minister at least twice a year (Section 23).

With only 25 sections in place and over a hundred requests for Council of State opinions, clarifications, and interpretations, it should be obvious that the 1992 PPSU Act is limited in its scope to control and promote PPPs.

Another limitation is that the governing framework is unclear and inefficient. According to previous research, here are some examples of why that is so:

1) The definition of the PPP is unclear. For instance, there were cases where various problems arose due to the interpretation of the word "participation" alone. Due to the vague definition of a PPP project, many projects avoided the binding force of the law (Jaruvan Hengtrakool, 1992).

2) Many terms lack clear definitions, such as "PPPs," "project," "project's value or asset," "new or existing project," "state undertaking," "participate," etc.

3) There are no provisions which govern contract amendment or renewal.

4) To prevent corruption, project approval authority was transferred to the Cabinet, and the process requires complicated check and balance procedures, and takes too long until approval (Jaruvan Hengtrakool, 1992).

As a result of the unclear definitions and other defects of the Act, since 1992 the PPP projects that have been delivered in Thailand have been under various legal interpretations and inconsistent regulation.

### 2.19.2 The New PPSU Act

The new PPSU Act was announced in 2013 with the intention of updating the PPP law and fulfilling the legal loopholes or inconsistencies. The government anticipated that the new act would be an accelerator of the development of PPPs and a tool to reduce the time spent in order to shorten the process, especially the construction time. Under the new regulatory framework, it was believed that the PPP project would be more facilitated. The significant clauses found in the new PPP law draft are the following.

1) A Committee of Private Investment in State Undertakings, chaired by the Prime Minister, is obliged to determine a five-year strategic plan and submit it to the Cabinet for approval and to approve the general principle of a PPP project.

2) The details of the five-year plan must include policy with regard to investment in public project, proper types of the project, and the priority of the project. There must be a clear financing contribution in each project showing all funding sources (both public and private) to ensure that the use of funds is under the principle of accountability and appropriate fiscal discipline.

3) The secretariat office of the committee is the State Enterprise Policy Office (SEPO), whose main role is to provide strategic plans, project recommendations, and information regarding PPP.

4) The agency that is responsible for the project must have one or more consultant that will conduct a feasibility study the scope of which covers costs, costs, and value comparison, types of PPP, the impact of the project, risk indications, and risk management. The study must be included in the proposal, which will be submitted for approval to the related ministry, SEPO, and the committee.

5) The process under the new act will shorten the period of time spent for consideration and the action taken by related government agencies must be done in a reasonable period of time. Under the old framework it might take 2 years for the whole process to be achieved while the process for approval under the new framework is approximately 7-12 months long.

6) Once the committee approves the project, the selection committee must be formed and chaired by the representatives from the project agency, the MOF, the Attorney General's Office, and the Budget Bureau. This committee is responsible for TOR and draft contract approval and private company selection. After the selection process is complete, the committee must submit the result to the related minister, who will add his or her comment before passing the result and comment together to the cabinet for approval.

7) The PPP secretariat office will develop the procurement procedure and standard contract for the PPP in order to support and standardize the process. Contract management, such as criteria and clauses to amend or renew the agreement between the public and private sector, will be provided.

8) The MOF will establish a Project Development Fund (PDF) for the purpose of preparing strategic plans and conducting feasibility studies.

Presently, several projects have already been governed by the new 2013 PPSU Act. Those projects are mostly in the transport industry, for example, the second stage expressway (BTO), the Si-Rat Expressway (BTO), the Donmuang Tollway (BTO), the BTS (BOT) and (BTO), the MRT-Blue Line (BTO), the MRT-Purple Line (PPP Gross Costs), and the Catering and Ground Services at Suvarnabhumi Airport (BTO).

Looking forward regarding the Thai economy, PPP projects will definitely be a significant part as their value is in the amount of the new two-trillion baht projects, which is the amount that the government plans to spend for infrastructure investment in the period of seven years from 2013 to 2020. Therefore, it is beneficial to perform a study that determines the factors affecting Thai PPP projects so as to perfectly recognize the nature of the PPPs so that the associated authorities can do a better job of planning and managing future PPP projects. Such studies exist but only for PPPs in other countries, e.g. Awadall's (1995) "An Analysis Framework for Public-Private Partnerships," which aims at analyzing the officers' ideas about the success factors

affecting the Contract in Service Delivery in Saudi Arabia, or Fritz's (2004) "Public-Private Partnerships and Municipal Water Sector Reform in Ontario," which focuses on a similar question but regarding PPP water sector projects. The goal of this current study is to examine the factors affecting Thai PPP projects using the BTS project as the case study.

According to the literature review, it is straightforward that there are many factors that affect PPP projects. Given the definition, it is clear that the main purpose of PPP projects is the provision of goods and services to the economy. The analysis of the procurement process provides an idea of how managerial decisions may affect the outcome and success of PPP projects. The study of PPP projects in other countries suggests the importance of good management for project success. Furthermore, the risk and business can be seen in the Inter-Organizational Relations theory also proves the importance of business-related variables. Thus, in the next chapter, where the conceptual framework is proposed, managerial factors are one important factor in the model. Besides the managerial factors, the retrospective study suggested that PPP projects have been playing a vital role in economic development and providing public services for many decades. The study of PPP projects in other countries also proves that the economic condition of the country also plays a huge role in determining the success of a particular PPP project. In Thailand, too, the political situation has been unstable for quite a long time, and therefore in studying PPP projects in Thailand's context, it is impossible to ignore how politics and economic factors influence PPPs. Hence, two other important factors in the conceptual model concern political and economic factors. Lastly, PPP projects are big projects in general and typically have a widespread impact that brings together many stakeholders in the economy. That is, PPP projects normally concern the majority of people in the community. For that reason, the social players can be very important. Thus, adding to the political factors, economic factors, and managerial factors are the social factor, all of which it is believed form a framework that gives a complete picture of what may influence and impact PPP projects.

## 2.20 Conceptual Framework

In public-private partnerships, the private sector entities provide public sector goods and services to the market and substitute those provided by the public sector itself. Normally PPPs are seen in sectors such as power and water utilities, transport infrastructure, social services, and public real estate. There can be a number of reasons why the public sector would allow the private sector to do this, and those reasons were discussed earlier in this work.

Recently, PPPs have grown to be more and more common. In a joint study by the Asian Development Bank, the Japanese Bank for International Cooperation, and the World Bank (ADB, JBIC, and World Bank, 2005), it was evaluated that PPP infrastructure investment in 21 developing countries in East Asia alone could reach and exceed $200 billion per year over the next decade. One important reason for this trend is the role and ability of the private sector to be a significant financing source for meeting developing country investment requirements, as compared to the ability of the government. However, there are a number of reasons that prevent full growth toward this trend. This chapter will discuss four factors as seen in the previous literature, some of which may be seen directly in the PPP literature, while some of which are found to be indirectly related and might be able to explain the PPP situation in Thailand. Thus, in order to make the study as complete as possible, these are also included in the conceptual framework, which is summarized in the two diagrams below. The first diagram displays four factors as determinants of the efficient and sustainable PPP, while the second reflects the roles of the four factors in transforming a PPP to traditional public procurement in the case of the BTS.


**Figure 2.6** Conceptual Framework (association among four factors) as determinants of efficient and sustainable PPP

Note that the researcher will also study how these four factors play a role in transforming the PPPs into traditional public procurement, specifically in the case of the BTS. As will become clear shortly, the four factors above contribute to the effectiveness and efficiency of PPP projects. However, in the case of the BTS, even though the project is currently operating in a good manner, it was transformed into a traditional public procurement project despite beginning as a PPP. In order to fulfill the objective to thoroughly study the BTS project, it is necessary to study how this transformation took place, and how it can contribute to the efficiency and effectiveness of PPP projects in general. In addition, the researcher found that the four factors also contributed and complemented one another. Therefore, in the subsequent analysis in Chapter 5, the researcher will also provide a discussion on how these four factors were related during each phase of the BTS project.

In the discussion below, the researcher will elaborate on the four factors affecting the PPP projects, not only in terms of their profitability and effectiveness, but also in terms of how they contribute to the success of PPP projects in general.

### 2.20.1 Factor 1: Political Factors

A number of previous studies explained that the perception of political risk prevents the ability of any PPP project to gain financial assistance from financial markets, and thus the project is unable to live up to its potential. This is especially true in Asia where the governments usually lack the budget to meet their own infrastructure requirements and thus have to depend on the private sector to plan, finance, build, and operate infrastructure projects under long-term contractual agreements in the form of PPPs. However, the success of PPP projects depends greatly on stable political and legal environments, which are often absent in developing countries.

Several studies have pointed in the same direction as to how political factors may disrupt PPP growth. One of the most notable examples is perhaps a survey on risks and opportunities in transportation PPPs in Asia that shows clearly the relevance and importance that perceived political risks can play in PPPs.

Here the researcher shall follow several researchers by attributing the political factors to political risks, which are defined as “arbitrary or discriminatory actions

taken by home or host governments, political groups, or individuals that have an adverse impact on international trade or investment transactions". According to this definition, note that most of the political risks are directly attributable to government actions, such as restrictions on converting or transferring currencies, political violence, expropriation, or breach of contract, etc. However, there are a few political risks that are not directly attributable to government actions, for instance, changes in laws or changes in the government itself; however, in this analysis the researcher will simply group these together and discuss them broadly as risks attributable to politics and laws.

Because the political factor is the most important and most critical to Thai PPP projects, as well as the BTS project. The researcher will elaborate in more detail. According to the previous literature (Wang et al., 1999; 2000; Zhang and Kumaraswamy, 2001), the problems of PPP application in emerging markets can be categorized into the following items:

1) Guarantees and supports that are unrealistic and unreasonably made by the government to fulfill the contracts, resulting in default of payments by the government, especially during the change at expiration of office terms and change of key officers. For this reason, investors would be extremely concerned about the risk of credit-worthiness of local governments. Moreover, governments in the emerging markets often lack relevant experience and knowledge of the PPP, or might only genuinely care about short-term achievements during their reign of power, leading to unrealistic guarantees and support just to "trap" foreign investment. This incentive of the local government adds risk to the project and might even pose the future government a great deal of responsibility to maintain the stability of the project. Ultimately, if the governments are unable or unwilling to commit to their initial promises, the contract is then breached and it would be very difficult for the investors to achieve the projected return on investment, leading to defaults on their principals and interests.

2) Following from the above, irresponsible guarantees might lead to complaints from the public, which can lead to changes in the government or key officials stepping down. For the investors, this also bears down on the long-term security and stability of the PPP projects.

3) Governments in emerging markets are normally in power for a shorter average time than those in developed countries. For this reason, government officials are more inclined to make decisions based on their career achievements, short-term goals, and political interests, rather than public interest. This, combined with the sophisticated nature of PPP projects and complex social and economic characteristics, is problematic when there are changes in laws, policies, or key officials of the government, as the new government might have personal interests that are not in line with those of the former government. As a result, this becomes disruptive and the investors will not be able to operate the PPP project smoothly or successfully and thereby not achieve the expected return on investment.

4) The risks imposed to PPP projects may be attributable to the macroeconomics control and intervention on investment and market by the government. A notable example is China's national debt increase during the years 1998 and 2000 when the Chinese government issued an additional RMB 360 billion national debt for infrastructure and the adoption of a "stronger-power policy," which made the macro-economic environment totally different from that when many PPP projects were initially negotiated and awarded in the early 1990s. This resulted in difficulties for most of the existing PPP projects that were implemented during that time, and only a handful of those projects became successful and have continued operating until the present (Sachs Tiong, & Wang, 2007).

5) Corruption is another important factor that contributes to the condition of PPP projects and is a vital reason for any PPP project to be successful. Specifically, the construction and operation of any PPP project cannot process without the government's cooperation and assistance. However, many times the cost of such cooperation and assistance could be too much for the investors due to corruption by government officials. This can be a significant negative influence on the efficiency of the companies' ability to plan, operate, and manage profitably.

From the above discussion, it should be obvious that almost every problem has the same characteristics, which is that they are all related to government or government officials, or their decisions and actions. Therefore, in the proceeding analysis of our case study regarding the BTS, examples of the problems above will be discussed in the context of the political factors that positively or negatively influenced the efficiency or success of the project.

Since the political factor has proved to be the most influential factor for Thai PPP projects, we will focus more on it in the analysis that follows. However, there are three other factors which, although they are not as prominent as the political one, were critical to PPP projects in Thailand during one or more phases, which shall be discussed in later chapters.

### 2.20.2 Factor 2: Economic Factors

It should not be surprising that economic factors are critical to the efficiency and condition of PPP projects. Two notable factors are sound economic policy and a stable macroeconomic environment. There are a number of researches that have pointed to a significant relationship between the level of regional PPP project value in the U.K. and the regional GDP (Li, 2003). A stable macroeconomic environment where the market possesses reasonable certainty and where market risk is low would significantly reduce the total risks for private investors. Moreover, good macroeconomic policy affects the credibility of the price regimen and trust in the convertibility of the currency, which are both essential for foreign investors (Dailami & Klein, 1997)

It should be noted that economic factors can also be related to the first factor since the government is partially responsible for creating and maintaining a stable environment by setting economic policies that can ensure stable prices while at the same time maintaining a balanced budget. Additionally, economic factors could independently have an impact on the PPP project and even government policies. Since not every economic factor is controlled by the government, it was decided that economic factors should be discussed separately.

Another important factor that can be categorized as one of the economic factors is the private contractor's ability to easily access the financial market, which would lead to the associated benefits of lowered financial costs. An easily-accessible financial market is a great incentive to the private party that is interested in committing to PPP projects. One approach that is used in the U.K. to improve in this respect is to tie the finance providers to the consortium created specifically for the project (typically known as the special purpose vehicle or "SPV") and to encourage domestic and international banks to develop substantial expertise and experience in

PPP activities. However, because PPP projects are usually long and very sophisticated, an important success factor in this case is the ability to accelerate or delay the project to match particular financial market trends, to encourage investors to invest while at the same time promising them a considerable degree of flexibility. An economic incident such as a financial crisis usually has a direct impact on the project's viability. This was the case in Thailand where the 1997 financial crisis occurred. The issue will be further discussed in Chapter 4.

### 2.20.3 Factor 3: Managerial Factors

Managerial and business factors include anything related to the private entity that contributes to the efficiency and effectiveness of PPP projects. First and foremost, a strong private consortium was ranked first in the critical success factors for PPP projects conducted in 2003 (Li et al., 2005a). Generally, it is mainly large and well-established construction companies that win PPP contracts. This is proven in the history of PPP projects in Europe, especially in the U.K. (Birnie, 1999). Therefore, this suggests that private companies that are thinking about whether to engage in PPP projects should explore other participants' strengths and weaknesses, and perhaps even more importantly, explore the strengths and weaknesses of themselves. In many cases, due to the size and complication of PPP projects, it would pay for the private companies to even join together to form consortia that are capable of synergizing and exploiting their individual strengths. Additionally, it is not only the strengths of private consortia that matter, but the strategic attention that the private companies receive in the form of support and encouragement from the sponsors or the government is no less important for PPPs.

Last, private companies should be able to effectively project technical feasibility and appropriately allocate the risks of the PPP projects. There are a number of examples of PPP projects that have fail or almost failed because the private companies could not deal with these two challenges well enough. In an Australian PPP BOOT project for a new city tollway, for example, there was a huge delay in the opening of the road for several months due to commissioning difficulties with an advanced electronic tolling system. In the bidding, the winning bidder used a high-tech electronic tolling system as the selling point and in fact overestimated the

company's own capability of delivering such a challenging promise. Due to the delay, the Australian government later stepped in and forced the opening as a toll-free facility for some period of time until the company got the system working. This significantly affected project revenue streams and risked the failure of the PPP project altogether.

### 2.20.4 Factor 4: Social Factors

One critical success factor of PPP projects is the perception of the society towards the PPP project in question. A commonly-seen failure of the PPP is due to the civil society opposing the PPP projects. Civil society is defined as the "aggregate of non-governmental organizations and institutions that manifest interests and will of citizens" (Fukuyama 2000). Civil society may support or oppose PPP projects, and given the size and impact of PPP projects, and the tendency of the government to listen to public opinion, the effectiveness and efficiency of the projects therefore depend heavily on this form of social support. In general, social support is based on the public acceptance of the concept of private provision, the degree of negative impacts to the stakeholders at each stage of the project, and whether the society will be fairly compensated if they are affected by the project. Issues related to public support need to be addressed at an early stage in order to minimize subsequent risks as problems of this kind are almost irreversible and extremely costly to be fixed. The public traditionally regards delivery of promised services and benefits at reasonable prices, without significant cost and in a fair manner, as desirable. Thus, PPP projects should be built around these criteria at every stage.

Another key factor is the placement of the public employee (Bennett, 1998), or any other actions that directly or indirectly build a good relationship between private companies and public employees for that matter. The U.K. government, for example, recognizes that public sector staff is still vital to PPP projects and that it should be treated as a real project partner. This is because the future success of the PPPs relies on the dedication and commitment of both private and public parties, and thus neither one should be deemed more important than the other. By creating a better environment for public employees, whose objectives to increase public welfare are more aligned with those of the society, and hence the civil society, than the private

companies, the private companies are indirectly building a good network with the civil society, which as stated plays a vital role in PPPs.

The items within each factor that are attributable to the subsequent study can be summarized as follows:

**Table 2.8** Summary of Factors in the Analysis

| | **Political Factors** | **Economic Factors** | **Managerial Factors** | **Social Factors** |
|---|---|---|---|---|
| **Itemized Factors of Analysis** | Government Actions<br>Governmental Risk Related Factors, e.g. political violence and riots<br>Expropriation<br>Governmental Opportunistic Behaviors, e.g. corruptions and breach of contract<br>Legal Related Factors, e.g. law change<br>Etc. | Economic Policy (both monetary and fiscal policy)<br>Overall Domestic Economic Environment<br>Global Economy<br>Exchange Rate<br>Financial Markets<br>Economic and Financial Crisis<br>Etc. | Business Conditions and Consortium Strength<br>Strategic Factors<br>Risk Management<br>Crisis management<br>Size and complications of the project.<br>Etc. | Public Opinion towards the project, i.e. social support.<br>Involvements of Civil Society<br>Public Employee Treatment<br>Etc. |

These four factors will be taken into account in designing the research methodology and will be used as a guideline to analyze the PPP project at issue. The literature review in this chapter and the conceptual framework are foundations for the research methodology in the next chapter.

Each factor does not necessarily independently affect the PPP project, there are possibly some chain effects caused by one factor that had an impact and might be a cause of another factor. For example, the social movements against the construction can lead to the revision of the venue assignment causing managerial difficulties for the project. The political intervention might force the project to change the rail system which puts more burdens on the private party to spend more funds on infrastructure establishment.

### 2.20.5 A Sustainable and Efficient PPP

In this study, the BTS will be divided into three phases according to Griffith-Jones's typology (1993). Considering the four factors above in each phase will point the effects caused by each factor during each phase. Such effects can result in positive or negative consequences for the project in certain situations. This study aims to provide recommendations for future PPP projects in terms of how to deal with each factor in order to prevent the problems and obstacles caused by each factor and in order to reach the stage of a sustainable and efficient PPP.

# CHAPTER 3

# RESEARCH METHODOLOGY

This chapter describes the research methodologies adopted in this study and explains how the research objectives and the ultimate goal of study could be achieved through a systematic and research strategy. Through the methodology, the researcher aimed to perceive the in-depth knowledge of how various factors affected the progress between the public and private sector during the entire life cycle of the project, beginning with the preparation phase and the construction phase, until the operating phase. The purpose of this was to perform a qualitative research in order to identify the developments, problems, and other obstacles of PPPs in the BTS project. Specifically, there were four main components of the qualitative study performed in this study (Maxwell, 2013).

1) Research Relationships-Determine the factors and events that were related to the study

2) Site and Participants Selection-Determine what information was vital for the purpose of the study, and select persons and interview settings to obtain such information

3) Data Collection-Collect data determined to be crucial through appropriate research methodology

4) Data Analysis-Study and analyze the information obtained to arrive at a conclusion that served the purpose of the study

In order to satisfy the research objective, the study followed the exploratory research method and utilized a number of different field qualitative research techniques, such as in-depth interviews with key informants, participant observations, project history data study, and reviews of documentary research and case studies. In specific, three enterprises and state agencies were studied: public officers, private employees, as well as representatives from government agencies.

This chapter begins with an overall presentation of the philosophy of the research as well as the research process, followed by a brief discussion of the research

design adopted in conducting systematic research. Next, the chapter proceeds to an introduction of the research methods, a review of the research design, and the context of the study and the research methodology before concluding with a discussion of the validity and reliability tests.

## 3.1 Research Design

In a qualitative study, the "research design should be a reflexive process operating through every stage of a project" (Hammersley & Atkinson, 1995, p. 24). Almost all activities will be ongoing. Those activities include data collection and analysis, theory development and modification, research question elaboration, and validity identification. This process is not sufficient to be represented by a linear model, even one that allows multiple cycles, because in qualitative research there is not an unvarying order in which the different components must be arranged (Maxwell & Loomis, 2002).

Qualitative research involves "tacking" back and forth between different components of the design, goal implication assessment, theories, research questions, methods, and validity for each sources. This kind of research also involves the "interconnections and interactions" among these components (Maxwell, 2013).

The research design of this current study adopted the interactive model of research design of Maxwell (2013, p. 4). According to his model, this interactive model has a definite structure which can be presented as having four components: the goal, conceptual framework, methods, and validity. The analysis below shows how these four components relate to the study.

1) Goal-This current study aimed to investigate how the contexts of Thai politics, the economy, and other related factors affected PPP mass transit projects during each of the stages. Specifically, the aim was to answer the key question, "What are the reasons that caused delays in the BTS project," in order to develop the best practice for other PPP projects in general in the future.

2) Conceptual Framework-The conceptual framework of the model studied the political, economic, managerial, and social factors that affected each cooperative process between the public and private sectors in the context of the BTS

project, from the preparation phase to the operation phase, using the typology project phase model (Griffith-Jones, 1993). The purpose of this framework was to analyze the obstacles to the PPP projects during each phase, and to determine the political, economic, managerial, and social factors and events that affected the PPP project. Furthermore, another purpose was to realize the political factors effecting every typology phase of the studied PPP process.

3) Methods-The research methods adopted in this study included a literature review as well as process study. Specific methods included various forms of qualitative data analysis, e.g. in-depth interviews, participant observations, historical data analysis, documentary research, and case studies.

4) Validity-Several validity tests were performed, including triangulation of sources, methods, and theories, specifically with key informant interviews, reviews of documentary research, and searches for different evidence, as well as a comparison with other literature.

Figure 3-1 summarizes the interactive model of the research design used in this study, which follows that of Maxwell (2013).

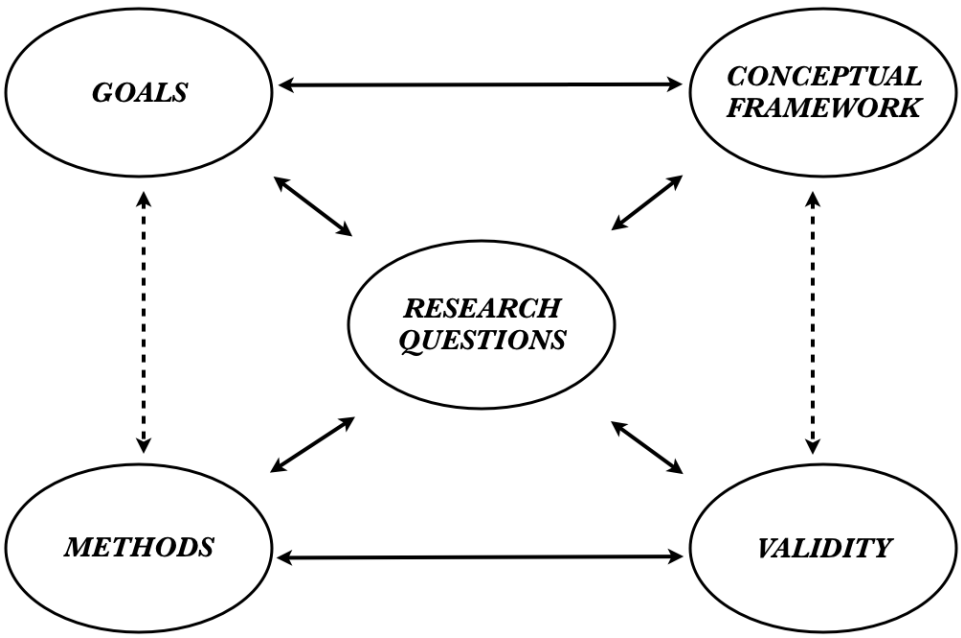


**Figure 3.1** An Interactive Model of Research Design

**Source:** Maxwell, 2013.

Figure 3.1 reveals the relationship between five components that were different parts of the design that formed an integrated and interactive part of a whole. This approach is unique if compared to the traditional design, where components are linked in a linear sequence. However, this study was simplified by combining the goals and research questions into one component. Figure 3-2 below depicts the design of the current study with the key ideas and activities in each component included.

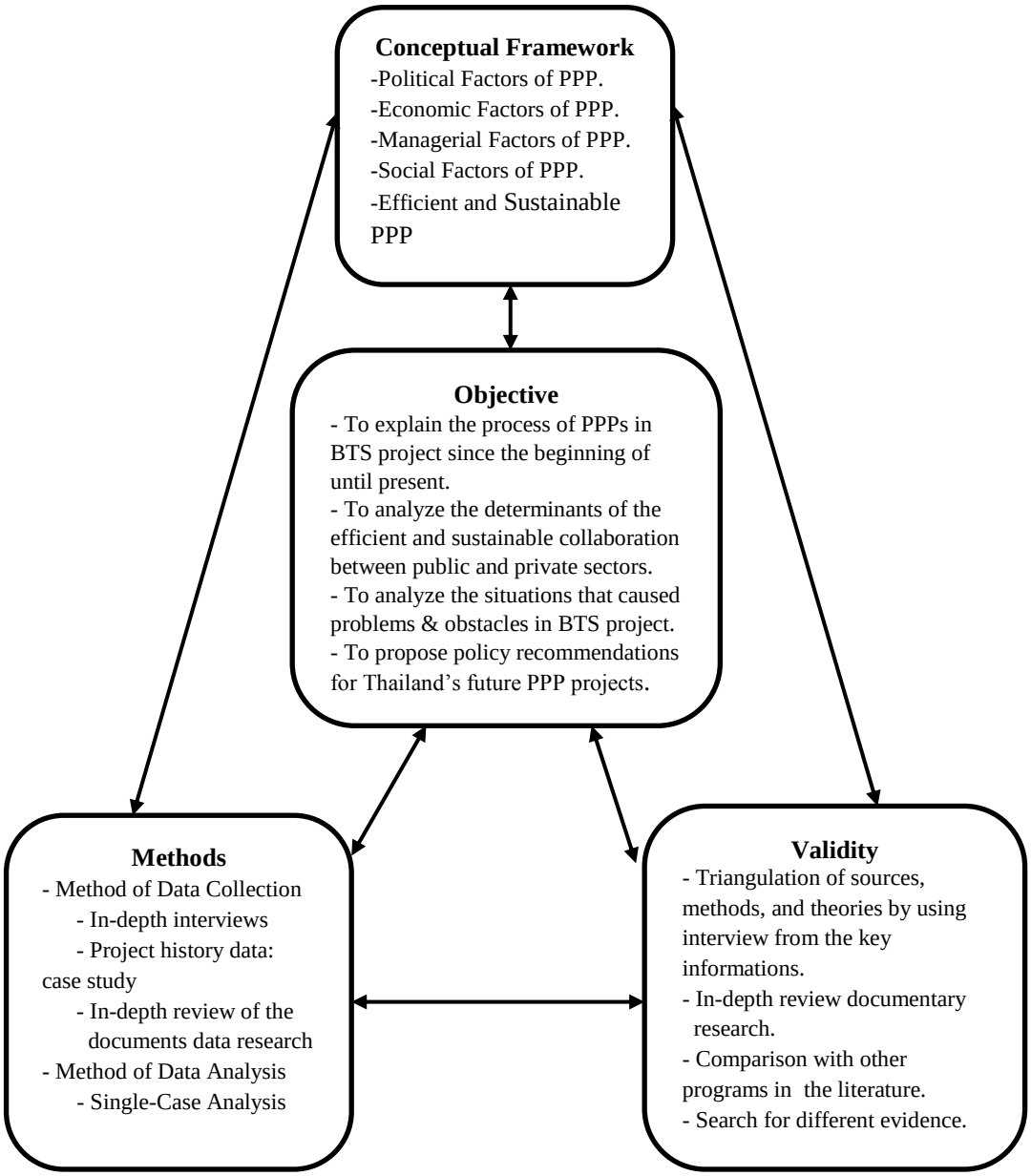


**Figure 3.2** Design of the Current Study

**Source:** Maxwell, 2013.

## 3.2 Context of Study

This present study analyzed various factors that impacted the processes where the public and private sector cooperated in the PPP projects, using the BTS project as a case study. As a result, in the later chapters, many events crucial to Thai politics, economy, business, and community will be analyzed, beginning with those in the initial study of PPP projects and continuing with those that occurred after the project began operations.

This study adopted the typology of the three project phases model of Griffith-Jones (1993, p.22). According to this model, as discussed in Chapter 2, the study of the BTS project was therefore separated into three phases: the promotion and preparation phase, the construction phase, and the operating phase. This model is useful for large infrastructure projects such as the BTS project because it allows one to analyze the developments, problems, and obstacles during each phase more clearly, and to arrive at better policy recommendations at the end.

## 3.3 Methods of Data Collection

As pointed out earlier, the research methodologies adopted in this study included a literature review, as well as a process study. Several methods were used in the data collection. Below are discussions of the three important data collection methods used in this study.

### 3.3.1 Interview Methods

There are many purposes of interviews. In this study, the interviews were used as a tool to collect the data and information in arriving at the ultimate objective of the study. The aim of the interviews here was to stimulate and maintain an informative conversation with the people, who had knowledge and experiences that were relevant to the research project (Bell, 2005; Corbetta, 2003). The major benefits of interviews stem from being a two-way communication; thus the respondents can also ask questions of the interviewer or seek guidelines in answering the questions (Flower & Mangione, 1990). Interviews are also used in that they are face-to-face conversations

so the interviewer can observe the reactions and emotions of the respondents (Powell, 1991). Further, interviews are including "free" interactions and thus allow for opportunities for free discussion between the interviewer and the respondents (Reinharz, 1992).

According to Fellows (2002), interviews can be structured, semi-structured, or unstructured[6]. A structured interview involves standardized questions that can ensure the sequence of information collected from different interviewees. However, a structured interview is not suitable for exploratory study (Flower & Mangione, 1990) because oftentimes extra information is necessary but the structure of structured interviews does not allow for such opportunity. For this reason, the present study utilized mainly semi-structured or unstructured interviews because of their flexibility that allows for room for discussion between the interviewer and the respondents and for the respondents to express their opinions on the subject matter (Flower & Mangione, 1990).

However, an important challenge of using interviews as the main method of data collection is asking appropriate questions and using appropriate wording for the questions to ensure accurate and unbiased collected data. Guidance was provided by many researchers on how to write and ask clear and appropriate interview questions (Powell, 1991). During the interview, a tape recording may also use to supplement the interviewer's notes and to ensure the accuracy and objectivity of the written records (Fellows 2002). Furthermore, Mertens (1998) suggested the use of the "snowball" strategy of purposeful sampling, which involves asking the interviewees to suggest names of further possible interviewees. The present study followed all of the recommendations provided by the researchers above.

In order to understand influential factors that impacted the PPP projects during all stages of the "project life cycle," especially the problems, risks, and obstacles related to the four factors discussed in the conceptual framework, using the Bangkok Mass Transit System (BTS) project as a case study, interviews were used as the main method of data collection and selectively depicted key informants that were either public officers, private employees, or members of related government agencies in

[6] For more information on each interview type, see Thomas (2011).

order to obtain a complete picture of every side of the cooperation. The units of analysis consisted of three groups: the Bangkok Metropolitan Administration, the Bangkok Mass Transit System Company Limited (BTSC), and Krungthep Thanakam Co., Ltd. (KT). Table 3.1 illustrates the information regarding the six interviews that were conducted as well as how they related to three phases of the project.

**Table 3.1** Interview List of the Key Informants

| Institute / Company | Position | Date of Interviews | Part of the Data in this study |
|---|---|---|---|
| Bangkok Metropolitan Administration | Permanent Secretary of the Bangkok Metropolitan Administration (Former) | 15 September 2014 Time: 9:30-10:20 | Preparation Phase |
| Bangkok Mass Transit System Public Company Limited | Strategy and Planning Director of BTSC | 25 September 2014 Time:10:00-11:30 | Preparation Phase, Construction Phase and Operating Phase |
| Bangkok Metropolitan Administration | Director of Public Work Engineer Division (Former) | 25 September 2014 Time:13:00-14:10 | Preparation Phase and Construction Phase |
| The Krungthep Thanakom Co.,Ltd. | Assistant Managing Director | 27 October 2014 Time: 14:00-15:00 | Operating Phase |
| The Krungthep Thanakom Co.,Ltd. | Reporter of BTS project | 27 October 2014 Time: 15:00-15:40 | Operating Phase |
| Bangkok Metropolitan Administration | Governor of Bangkok (Former) | 20 November 2014 Time: 9:30-10:45 | Construction Phase and Operating Phase |

### 3.3.2 Case Study Method

Case study is one of the research methods that looks into a process or records how a certain person, group, situation, event, or so on have developed over a specified period of time. Mitchell (1983, p. 192) described the case study method as a "detailed examination of an event which the analyst believes exhibits the operation of some identified general theoretical principles." Yin (1994, p. 13) described it as "an empirical inquiry that investigates a contemporary phenomenon within its real-life

context, especially when the boundaries between phenomenon and context are not clearly evident; and relies on multiple sources of evidence." Fellow (2002) added that the case study method provides deep and narrow results and is usually carried out through interviews or triangulation. Additionally, Yin (1984) presented the idea that case studies are suitable for exploratory investigation, unlike surveys and historical methods, which are suitable for descriptive studies. Generally, case study is the method to answer "how" and "why" questions by focusing on a specific contemporary phenomenon and its context. This is why this study chose the case study method of data collection along with other methods.

### 3.3.3 Documentation Method

Documentation or secondary data was used to supplement other techniques in investigating and verifying the facts of the study, as well as in validating the information. The materials and documents used in this study included written document interviews, public annual reports, websites, reports of the enterprises and state agency, contracts between public and private sectors, newspapers, academic papers, and other available documents.

## 3.4 Methods of Data Analysis

Analysis is often separated from design, especially by writers that see design as what happens before the data are collected and analysis is begun. However, this study followed Coffey and Atkinson (1996) by treating analysis as part of the design. This was to solve one of the most common problems in qualitative studies, which is collecting unanalyzed field notes and transcripts, letting them pile up, and turning to analysis after all the data collection is completed, making the task of the final analysis much more difficult. In order to solve this problem, analysis was done along the way from the beginning, which was the key of the data analysis of the present study.

This study used single-case analysis. The analysis began after the initial step, which was reading the interview transcripts and observation of notes or documents that would then be analyzed (Emerson, Fretz, & Shaw, 1995), as well as listening to the interview tapes prior to transcription and performing an analysis throughout the data-collection process.

## 3.5 Validity Tests: A Checklist

Maxwell (2013) published the validity and reliability checklist, which consists of eight tests necessary in eradicating researcher bias and reactivity. The eight tests are as follows: 1) intensive, long-term involvement, 2) rich data, 3) respondent validation, 4) intervention, 5) searching for discrepant evidence and negative cases, 6) triangulation, 7) number, and 8) comparison. In the present study, however, some of these tests were selectively used to perform the validity test in order to ensure that the findings of the qualitative study were unbiased and trustworthy. All eight tests are discussed in more detail below.

1) Intensive, long-term involvement yields more complete data in specific situations and enables the researcher to check and confirm the obtained information. Repeated interviews, as well as the sustained presence of the researcher throughout the data collection process, helps rule out spurious associations and premature theories.

2) Rich Data provide benefits similar to those from intensive and long-term involvement. According to Emerson et al. (1995) and Maxwell (2013, p. 126), in interview studies, general data require verbatim transcripts of the interviews, not just what the interviewers feel is important. In observatory studies, rich data are the product of detailed, descriptive note-taking, videotaping or transcribing of the specific, concrete events.

3) Respondent Validation is to systematically solicit feedback on the data, which are the conclusions obtained from the key informants. This is an important way of ruling out the possibility of misinterpreting the meaning of what informants say and do and the perspectives they have on the events or situations. It is also an important way of identifying biases and misunderstandings concerning what the researcher has observed.

4) Intervention was not used in this study do not used this check. Intervention is typically used when researchers suspect experimental manipulation, i.e. when inconsistencies are observed from the qualitative approaches (Lincoln & Guba, 1985; Maxwell 2013, p. 127). Generally, informal interventions are used in traditional qualitative studies that lack formal or appropriate “treatment.”

5) Searching for Discrepant Evidence and Negative Cases was mentioned in Maxwell (2013, p. 127) as identifying and analyzing discrepant data and negative cases in order to test for validity in qualitative research. In the present study, discrepant evidence and negative cases were also used, such as evidence from other countries, so as to ensure the validity of the research results.

6) Triangulation is the collection of information from a wide range of individuals and setting, using various sources, methods, investigators, and theories. This strategy can reduce the risk of systematic biases, and allow for better estimation of the generality of the findings that researchers develop[7].

7) Number refers to the use of numbers to make the derived conclusions more precise and trustworthy. Becker (1970) emphasized the term "quasi-statistics" as the "use of simple numerical results" which can be obtained from the data in order to enhance the believability of the obtained results in qualitative research.

8) Comparison refers to explicit comparisons for assessing validity threats, which is a very common method in quantitative studies. This study used several comparisons. In Chapter 2, for example, the cases of mass transit systems in other countries were compared in order to build solid background information before moving on to studying Thailand's mass transit system.

In the case study of the BTS project, interviews and documentary research were the main methods in order to ascertain the factors and analyze the impacts of each factor on the BTS project. The analysis and results of this study are discussed in Chapter 5 and 6.

[7] A more extensive discussion of triangulation as a validity-testing strategy in qualitative research can be found in Fielding and Fielding (1986).

# CHAPTER 4

# A CASE STUDY OF BTS PROJECT

According to the studies and research mentioned in chapter 2, there are many significant factors that affected the PPP project including political, economic, managerial, and social factors. From the researcher's point of view, the previous studies have not sufficiently analyzed the political impact on the PPP of the public mass transit system, especially the development, problems, and obstacles arising out of the Thai political context, which will be reflected in the BTS project discussed in this chapter. It is fair enough to state that the political factor had a significant influence on the BTS project and sometimes was the root of other problems that the project faced. The understanding of the Thai political context is therefore important.

This chapter, according the Griffith-Jones' model (Griffith-Jones 1993), divides the BTS project into three phases: the preparation phase (1990-1992), the construction phase (1992-1999), and the operation phase (1999-2014). Each phase contains a narrative about the political context at that time and the background of the BTS project. The narrative shows what the political situation during each phase was like and what happened in the BTS project. This is the basis for the analysis of the four affecting factors in the next chapter.

## 4.1 Preparation Phase (1990-1992): A Struggling First Step

The preparation phase was the first and most important step of the PPP as it was the foundation for the whole project. This phase typically contains a feasibility study, the bidding process, and the formation of cooperation. Having a clear goal and comprehensive plan is one of the factors of a successful PPP. This part of the present paper considers the background of the BTS and the Thai political context during the Preparation Phase, which was from 1990 to 1992. The end of this section is an analysis of the several factors in the Thai political context that impacted the BTS project during the Preparation Phase.

### 4.1.1 Background of the BTS Project and the Thai Political Context during the BTS Preparation Phase

The public mass transit rail system was first introduced in 1967. The Krung Thep Provincial Administration (later became the Bangkok Metropolitan Administration) invited French experts to explore solutions to the traffic problem in Bangkok. They consequently produced a feasibility report proposing an elevated monorail (skytrain) project as the traffic solution. However, this proposal was not implemented due to the fact that it required an exceptionally high budget to fund the project and because the return on investment was unlikely to cover the cost. In 1971, with cooperation between the Thai and German government, the German government sent a group of experts to Thailand in order to conduct a study and to design a master plan for the traffic and transportation system in Bangkok (BTSC, 2008).

The rapid growth of the Bangkok metropolitan area led to the increasing demand for road networks, which accordingly caused them to be insufficient. The lack of a road network and the insufficient public transportation system resulted in the excessive use of personal cars, which was the main root of the traffic problem in Bangkok. The attempt to find a solution to this problem was the beginning point of the railway mass transit system project, which was introduced in 1990 when Major General Chamlong Srimuang was the Bangkok Governor (BTSC, 2008).

During the nearly three-year period of the BTS preparation phase, there were local and central governments related to the project as briefly summarized below.

4.1.1.1 Bangkok Governors during BTS Preparation Phase

Bangkok Governor No. 10: Major General Chamlong Srimuang

(1) 1985-1989, (2) 1989-1992

Acting Bangkok Governor: Mr. Thongtor Kluaymai Na Ayutthaya

1) Major General Chamlong Srimuang resigned from the position before the end of term on January 21st, 1992 and assigned Permanent Secretary for of the BMA at that time, Mr. Thongtor Kluaymai Na Ayutthaya, as Acting Bangkok Governor

2) The concession agreement was signed.

4.1.1.2 Prime Ministers during BTS Preparation Phase

Prime Minister No. 17: General Chatchai Chunhawan, (August 4,

1988 - February 23, 1991)

1) Chatchai's government was taken down by the Coups d'états called the National Peace Keeping Council (NPKC) which was led by General Sunthorn Kongsompong, the leader of the revolutionary party.

2) NPKC acted as a government from February 23, 1991 to March 1, 1991.

Prime Minister No. 18: Mr. Anand Panyarachun (March 1, 1991-April, 1992) Anand decided to dissolve the parliament in order to have a general election.

During General Chatchai Chunhawan's term as Prime Minister, the government launched a policy on economic development in order to enhance Thailand's economic growth and its competitive capability in the international arena. The policy underlined the concept of "strong political engagement and unity." Under Chatchai's administration, many big projects were achieved.

Chatchai's government highlighted the international policy, which intended to transform the conflicts and tensions in the Indochina region into economic and trading cooperation among the countries in the region. The important implementation of this policy included the initiative for peace in Cambodia, which led to negotiations between conflicting stakeholders.

The policy under Chatchat's administration emphasized the significance of economic cooperation between the countries in the region. This drew attention of countries in Indochina to engage in regional and international economic collaboration. Accordingly, the policy was well-achieved as the implementation of this policy resulted in the rise of a number of investors in the region, the growth of investment, and also confidence in foreign investment.

Under Chatchai's administration, Thailand experienced very high and rapid economic growth rates, more than 10% in 1989-1990. This positive economic situation in Thailand led to the prediction that Thailand would become the fifth tiger of Asia in addition to the Four Asian Tigers (Hong Kong, Singapore, South Korea, and Taiwan). There were many mega projects in which the government invited private sector to engage and invest, such as the basic 3 million telephone numbers

project and the development of southern coastal areas. The BTS project was one of these mega projects.

With great collaboration between the central government and the BMA under the appropriate economic situation, Bangkok Governor Chamlong was able to form a working group to determine the possibility that Bangkok would grant a concession to the private sector in order to establish and operate the mass transit system on an elevated monorail as the solution to the traffic problem.

During the Preparation Phrase in 1991, the Chatchai government was taken over by the coup led by General Sunthorn Kongsompong, called the National Peace Keeping Council (NPKC). The NPKC claimed that it would cease the corruption that existed under Chatchai's administration (known as the Buffet Cabinet) and appointed a new Prime Minister, Anand Panyarachun.

In February 1991, the NPKC, a military junta, overthrew Chatchai's government. The leader of the NPKC was Army Commander Suchinda Kraprayoon, Supreme Commander Sunthorn Kongsompong, Air-force Commander Kaset Rojananil, and members of the 5$^{th}$ Class of the Chulachomklao Royal Military Academy. After the coup, the junta leaders also imprisoned the leaders of the democratically elected administration in Chatchai's government. Like previous coups, the military formed the NPKC to run the country and appointed an interim Prime Minister; in this case it was Anand Panyarachoon.

It was reported that Anand Panyarachoon had a good relationship with the palace, and was respected by both the bureaucracy and the business community, and was accepted among the citizens and the international community. Upon taking the Prime Minister position, Anand was given relatively high degree of freedom to select his own cabinet members. Soon after that he decided to dissolve the Parliament.

In March 1992, General Suchinda was appointed as the prime minister. After Suchinda became Prime Minister, there was a large protest in Bangkok against his government which led to a military crackdown called "Phruetsapha Thamin." Up to 200,000 individuals showed up in Bangkok and protested against General Suchinda. This ended up with a military crackdown in May 1992. As a result, 52 individuals were confirmed dead and hundreds of people were injured. Furthermore, there were many disappearances and over 3,500 arrests.

Suchinda then resigned on May 24, 1992, after conciliation by the King, which stopped the violent military crackdown in Phruetsapha Thamin. After that, Anand was recommended by Arthit to once again be the interim government. Anand then formed a new cabinet which consisted of twenty well-regarded technocrats that had ministerial positions during Anand's first time as prime minister. The primary tasks emphasized by the Anand's government this time were to rehabilitate the economy, to organize fair elections, and to remove some of the top armed forces commanders from their posts. Anand was not in power for a very long time, after being succeeded by temporarily appointed Prime Minister Anand Panyarachun, followed by the democratically elected Chuan Leekpai in 1992. It is important to note Anand Panyarachun's effectiveness in initiating economic and political reform. One notable example was the drafting of Thailand's "Peoples' Constitution," which was effective in 1997 and was revoked later in 2006. In 1997, Anand was also rewarded a Ramon Magsaysay Award for Government Service.

### 4.1.2 Background of the BTS project

Despite the coup, The BMA continued to proceed with the BTS project. However, the project was delayed because at that time there was no legal framework for the PPP project and the project had not been approved by the Ministry of Interior. Ultimately on March 16, 1992 Anand's cabinet accepted the principle of the mass transit system project as proposed by the Ministry of Interior in the final cabinet meeting (Former Director of Public Work Engineer Division of BMA, personal communication, September 25, 2014).

On April 11, 1991, the BMA declared the term of reference (TOR) of the project according to the BMA's announcement on the details and conditions for the investment in BTS project bidding and invited private companies to submit proposals for the BTS project. The goal of this project was to provide an option that could substitute for the use of personal cars in the city center area. The BTS was therefore a concession project granted to the private sector to build and operate a mass transit system (Former Director of Public Work Engineer Division of BMA, personal communication, September 25, 2014).

"Before the approval, Bangkok Metropolitan Administration had given an opportunity for private companies to submit the proposals. Three different systems were proposed by three companies on July 31, 1991 as following

System 1 Guided Bus, similar to BRT, running on the highway proposed by Daimler Benz Thailand Group

System 2 Mo-rail that is the tube-shaped rail tunnel in which the train with a constant speed is moved by airflow from ventilation system installed along the tunnel.

System 3 Elevated light rail skytrain proposed by Tanayong group that later changed its name to Bangkok Mass Transit System Company Limited. (BTSC)

Required by the concession contract, the private company must have its own funding source and invests totally on its own fund while the government will provide routes for the project. Moreover, the system must be able to carry more than 10,000 passengers per hour per route" (Former Director of Public Work Engineer Division of BMA, personal communication, September 25, 2014).

Under the NPKC's regime, the BMA moved the project forward and concluded on September 10, 1991 that the best proposal was that of the Tanayong Group. The committee had carefully considered all of the proposals in both technical and financial aspects and had conducted a comparative value assessment. Before it found that at the end of the concession Tanayong group's proposal was the worthiest (Former Director of Public Work Engineer Division of BMA, personal communication, September 25, 2014; Executive of BTSC Public Company Limited, personal communication, September 25, 2014; and The true story of Bangkok mass transit system project 30 years contract, 2012, Page 67). Finally, Tanayong Public Company Limited was registered as the BTSC to act as the concessionaire of the BTS project.

After that, the Private Participation in State Undertaking Act 1992 (published in the Government Gazette Vol. 101, part 42, dated 8th April 1992) was enacted as a legal framework for the PPP project. This act was developed by the Office of the National Economic and Social Development Board. There was no legal difficulty in the Preparation Phrase during 1990-1992 as the contract was signed in compliance

with Declaration of the Revolutionary Council No. 58/1972 according to the interviews with the former Director of Public Work Engineer Division of BMA (personal communication, September 25, 2014) and the Executive of BTSC Public Company Limited (personal communication, September 25, 2014).

On March 25, 1992, the Minister of Interior General Isarapong Noonphukdi at that time issued an urgent official letter, Mor. Tor. 1101/5607, to the BMA in order to grant the concession to the BTSC and to appoint the Bangkok Governor as the person in charge of legal compliance. On April 9, 1992, the BMA entered into the concession contract with BTSC in accordance with the Private Participation in State Undertaking Act 1992 during Anand's administration (1). (The Private Participation in State Undertaking Act 1992 came into effect recently before the contract was signed).

The concession contract between the BMA and BTSC was signed on April 9, 1992 by Thongtor Kluaymai Na Ayutthaya, Permanent Secretary of the BMA acting on behalf of the Bangkok Governor and the authorized directors representing Mr. Keeree Kanjanapas and Mr. Autchai Tangchitnop BTSC. This follows Governor Major General Chamlong Srimuang's resignation on January 21st, 1992, and no election was then held for his replacement. Later, on April 19th of the same year, Major General Chamlong Srimuang as a leader of the Palang Dharma Party supported Captain Kritsada Arunwong na Ayutthaya, who was Deputy Governor of the Public Works Department to take up the position of the Bangkok Governor. Soon after, the 30 year concession was granted to the BTSC in 1992 at the time of the Announcement of Revolutionary Council No. 58/2515 (Former Director of Public Work Engineer Division of BMA, personal communication, September 25, 2014; Executive of BTSC Public Company Limited, personal communication, September 25, 2014).

4.1.2.1 Concession Details

The BTSC's BTS project was a PPP in the form of a 30-year concession contract and was the first electric public mass transit system in Thailand. The contract provided that the revenue from fare collection and advertisement fees (on-train advertisements and advertisements in the station area) would be granted to the BTSC, but the on-pillar advertisement fees would be granted to the BMA. The BTSC was closely cooperated with by government agencies. For instance, a joint advisory committee was designated.

The concession period was 30 years beginning from the first official date that the company provided service to people. The project required huge investment without any financial assistance from the government while the BMA was in charge of land acquisition. Therefore, the BTSC was not obliged to share any revenue with the government in order to keep the fare rate not too high while the project was financially viable. Moreover, the government granted the BOI privileges for the BTSC, including the exemption of import duties on machinery and the exemption of corporate income tax for the period of eight years. The purpose of these privileges granted to BTSC is to accelerate the return on investment which should be at the appropriate time of the project. The following are three main features of the project.

1) The BTSC was granted a 30-year concession from the official first date of service provision.

2) The BTSC was not required to share any benefit from the revenue with the BMA because the BMA had the policy of keeping fare rates low with a specific minimum rate of return.

3) The BOI privileges, like those granted to the Hopewell project and the Second Stage Expressway, were granted to the BTSC. The two most important privileges were the exemption of corporate income tax for the period of eight years and the exemption of import duties on machinery.

The concession contract was governed by the Act on Private Participation in State Undertaking B.E. 2535 (1992) or the PPP concession act. The terms of the contract were accordingly different from those of other contracts. For instance, Clause 32 of the contract set up a “No employer-employee relation” with BTSC’s obligation to report all of the actions that the BTSC would perform. An independent advisory committee was designated and paid by both parties and Electrowatt Engineering Service Company Limited was hired to act as the committee (BTSC, 1992).

The BTS project contained two types of properties: immoveable and moveable. Immoveable properties meant all of the properties and infrastructure attached to the land according to Declaration of the Revolutionary Council No.58. The ownership of all immoveable properties would be transferred to the BMA

immediately after the construction was completed. Build-transfer-operate (BTO) on the other hand, movable properties were under the BOT model, where the concessionaire built and operated all of the properties and transferred ownership to the BMA at the end of concession period. The BOT model was based on the reason that the BTSC would have sufficient maintenance to ensure that all of the properties were in good condition for 30 years (Former Director of Public Work Engineer Division of BMA, personal communication, September 25, 2014).

The concession contract gave the BTSC the obligation to invest in construction and system procurement; however, it gave it the right to collect fares and the right to commercial benefits in station areas. Clause 19 of the contract mainly provides the following.

1) Immoveable properties contain the infrastructure attached to the land (pillars, railway, and station). The ownership of such properties would be transferred to the BMA on the day that the construction was completed. The transfer had to be in compliance with the Announcement of Revolutionary Council No. 58/2515. The BMA was registered as the owner that held these properties before the official date of provision on December 5, 1999. This form of PPP is called the BTO model.

2) The ownership of moveable properties such as the moveable rail transit system, the electric system, and the fare collecting system will be transferred to the BMA on the day that the concession expires. This form of PPP is called the BOT model.

The end date of the concession contract is December 4, 2029. The BTSC will no longer have any right over properties, assets, operations, fares, or revenue (BTSC, 1992).

4.1.2.2 BTS Services

1) Operating Period: The BTSC will operate daily from 6.00 AM to 12.00 AM. Each train leaves from each station every 2-5 minute during the first stage. The schedule will be adjusted in accordance with the demand of passengers.

2) Fare Collecting System: The collection system is automatic. The ticket used is data recordable. If possible, the BTSC will design the ticket

compatible with other public transportation systems in the future for commuters' convenience.

3) Fare: The fare is a 15.00 Baht flat rate (in 1992) and will be adjusted according to the consumer index and other related factors stated in the concession contract. It is possible to change this from a flat rate fare to a fare by distance, which seems fair for people (BTSC, 1992).

4.1.2.3 Operation

The BMA transferred the ownership of land in compliance with the 30-year concession contract to the BTSC company on December 9th, 1992 and the BTSC signed a contract with Bangkok Public Company Limited to obtain financial support on April 7th, 1993. In addition, BOI privileges were granted to the BTSC by the Board of Investment of Thailand (BOI) in 1992-these made the contract completely effective on April 7th, 1993.

4.1.2.4 Infrastructure

The railway infrastructure is a viaduct fixed directly to a single column mostly constructed at the area of street isles. The elevated viaduct is 9 meters wide and 12 meters high above the roadway median, supported by precast concrete segments. Using this method does not require traffic closure or the need for part closure during the construction, similar to the Second Stage Expressway Project. By applying this method not only does it have less effect on traffic but it also looks nice, things are kept in order, and less time is consumed in building the supportive columns than if other methods were employed.

The elevated railway was constructed with 2-meter concrete at the area of the street isles and 30-35 meters distance from one to another column.

4.1.2.5 Train System

The BTS is a standard high-capacity mass transit that is widely used in many big cities. Trains operate on 1.435-meter-wide elevated dual tracks (standard gauge). The benefit is that a conductor rail or third-rail system to one side is safer and has no effect on the surrounding area. Its capacity is effective as it can afford more than 50,000 passengers/hour/direction. The BTS system is equipped with automatic control, such as the Collision Prevention System and Speed Control System, as tools which ensure the safety of the system.

4.1.2.6 Rolling Stock

Each rolling stock unit consists of 3-car or 6-car train sets, one rolling stock in each direction. Each comprises two main types: a motored car with driving cabs and a trailer car with or without a driver's cab/motor. Each car is 3.20 meters wide and 21.8 meters long, with a passenger capacity of 320 persons, and all occupied seats and standees create a load condition of 278 persons and 42 seats per car. The sliding door is 1.0 meters wide and there are 4 doors at each side per car. The car body is constructed of welded stainless steel with a fully equipped air-conditioning system and light screening on windows.

4.1.2.7 Stations

Stations are designed and built to avoid other public facilities on the ground and underground and to maintain the existing pavements and road surfaces as much as possible. Most stations and track system are supported by a single-column structure. Similar to other track systems, each station is approximately 150 meters in length. There are two types of stations:

1) Side Platform Station: Most stations have a track through the center of the station attached to two platforms on both sides of the track. This design works well through the city center as it occupies the least amount of space and requires less construction time.

2) Center Platform Station: This type of station provides a large platform sided with two tracks. This design is more effective than the first type but the construction is more complicated, as the tracks need to bend outward when the trains arrive at the station. The BTS uses this design for interchange stations to serve and increase the passenger capacity.

Each has two levels: a concourse level and a platform level. The concourse level is on the same level with the skybridge, while the platform level is one level higher. All stations are designed to install escalators at the access point to the stations. There are 23 stations in total: 1 interchange station between Sukhumvit and Silom line on Rama 1 Road.

4.1.2.8 Depot

The depot (train port) includes the maintenance port, the station control room, and the bulk station. The plan in the contract was to have depot construction in

the area of Lumpini Park. However, the venue for the construction was relocated to the Mo Chit area which was designated by the government as a new developed area shared with Mo Chit bus station (the reason for relocation will be addressed in construction phase).

The original routes according to the Concession Contract 1992 are as follows:

Route 1: beginning at Sukhumvit 81 (Phra Khanong) through Sukhumvit and Phloen Chit and ending at Rama IV (Ratchaprasong Intersection)

Route 2: beginning at DinDaeng T-interjunction through Ratchaprarop (Pratunam) and Ratchaprasong (Interchange) and ending at Silom Road

These two lines are 13.3 kilometers long in total with a number of 17 stations (BTSC, 1992; Executive of BTSC Public Company Limited, personal communication, September 25, 2014).

During the Preparation Phase, a sign of political opposition appeared before the concession contract was signed. However, such resistance did not delay the project as the concession was signed and the project continued.

"At that time, there were critics against the concession contract as someone named the contract as the "Shameful Contract." The Governor Chamlong responded to the critics by launching a white paper which explained the background of the project and provided some clarifications (Former Director of Public Work Engineer Division of BMA, personal communication, September 25, 2014)".

The former Permanent Secretary for of BMA (personal communication, September 25, 2014) stated the following: "There was one politician who was completely against this project saying that we should not sign any contract until the new Bangkok Governor was in place. I had a personal opinion that BMA did not act arbitrarily as BMA had submitted all documents that were already approved by all related government agencies. When I took this role this process was 80-90% complete".

This PPP concession contract reflected an important development for Thailand. The government did not need to provide financial support but was committed to selecting the routes and acquiring or providing the land for the

construction of the depot and maintenance port and providing the road isles for the construction of the railway and stations. The BTSC was responsible for the cost of the construction without any public financial subsidy. The government did not have any other burdens except to grant BOI privileges to the BTSC for tax benefits. The government therefore faced no financial difficulties because the entire project was privately funded. The PPP project not only saved the government money but also provided more opportunity for the project to be successful.

During the Preparation Phase, the BTSC began to find financial sources to fund the project. At the beginning the company explored domestic sources. However, the domestic funds were not sufficient. The company therefore had to sell some assets and seek funding from foreign institutions. Depending on the foreign funds, the company needed to take a huge risk in terms of exchange rate volatility.

## 4.2 Construction Phase (1992-1999): From Resistance to Acceptance

Construction Phase was the period of civil infrastructure as well as the time that provides electrical and mechanical (E&M) work. The potential risks included technological risks, supply risks, regulatory risks, and government intervention risks (Griffth-Jones, 1993). The BTS construction phase (1992-1999) faced many problems and obstacles resulting in a 3-year delay of the construction. Four factors regarding the success of the BTS project will be discussed later. The infrastructure was supposed to be completed in four years after the contract was signed. In fact, it took seven years until the infrastructure was ready for use. What happened during seven-year period will be described and analyzed in this part.

### 4.2.1 Background of the BTS project and the Thai political context

The construction phase of the BTS project was from the day the contract was signed in 1992 to the official date of service provision in late 1999. It took seven years to complete the construction of the 23.5 kilometers long route in total. During the seven-year period of the construction phase, there were six different central governments and two local governments.

4.2.1.1 Bangkok Governors during the BTS construction phase

Bangkok Governor No. 11: Captain Kritsada Arunwong na Ayutthaya (April 19, 1992-April 18, 1996)

The concession contract was amended twice.

Bangkok Governor No. 12: Dr. Bhichit Rattakul (1996-2000)

1) On May 17, 1996 Governor Bhichit and a board of visitors were invited and heard a BTS project summary.

2) On April 8-15, 1997 the Governor and board of visitors observed a model train in Germany.

4.2.1.2 Prime Ministers during the BTS construction phase

Prime Minister No. 19: General Suchinda Kraprayoon (April 17, 1992-May 24, 1992)

Resigned as a result of "Black May"

Prime Minister No. 18: Mr. Anand Panyarachun (2) (June 10, 1992-September 23, 1992)

Became the Prime Minister after "Black May" with a mission to host a general election

Prime Minister No. 20: Mr. Chuan Leekpai (September 23, 1992-July 12, 1995)

1) Won the general election on September 13, 1992

2) Dissolved the parliament almost three years later

Prime Minister No. 21: Mr. Banharn Silpa-archa (July 13, 1995-November 24, 1996)

1) Won the general election on July 2, 1995

2) Dissolved the parliament one and a half years in his position

Prime Minister No. 22: General Chavalit Yongchaiyudh (November 25, 1996-November 8, 1997)

1) Won the general election on November 17, 1996

2) Resigned due to the Asian financial crisis in 1997, known as the "Tom Yum Goong" crisis

Prime Minister No. 20: Mr. Chuan Leekpai (2) (November 9, 1997-February 17, 2001)

1) Became Prime Minister as the group of members of the House of Representatives called “The Cobra” became Chuan’s supporters

2) Dissolved the parliament on November 9, 2000

After the general election on March 22, 1992, five parties as the majority to form a government nominated Mr. Narong Wongwan, the leader of the Justice Unity Party, to be the new Prime Minister. However, it was alleged that he was involved in illegal business and the U.S. government declared that he would not be granted a U.S. entry visa. Consequently, General Suchinda Kraprayoon was nominated to be the Prime Minister.

As General Suchinda Kraprayoon had said before he became Prime Minister that he would not take any part to form a government, there was collective action against him. Another reason was that the idea of having a person as Prime Minister that was not elected was extremely criticized. The opposition against General Suchinda began with a hunger strike led by Chalard Worachat and was transformed into a street movement with a huge number of college students and the general public. The lack of legitimacy was emphasized as the main argument against General Suchinda. In May 1992, the demonstration led to a military crackdown resulting in 40 deaths and many disappearances. This event was as known as “Black May”.

As a result of the “Black May” loss, General Suchinda resigned and Mr. Anand was appointed as Prime Minister with the mission to prepare the next general election. Mr. Anand declared the dissolution of parliament and set September 13, 1992 as the date for the general election (King Prajadhipok’s Institute). The result of this election was that the Democrat Party with other supporting parties formed a government and Mr. Chuan Leekpai served as Prime Minister.

The political context after “Black May” was seen as a period of constitutionalism (King Prajadhipok’s Institute) where there were many initiatives and attempts to develop a new constitution for Thailand and restructuring and designing a more effective parliamentary system in order to improve the Thai political system. The idea emphasized in designing a new constitution was checks and balances. There were many studies on constitutional design during Chuan’s and

Bunharn's terms. This resulted in a new constitution, which was the Constitution of the Kingdom of Thailand 1997.

With one and a half years in office, Bunharn decided to declare the dissolution of parliament due to the political conflict among his supporting parties. The New Aspiration Party won the general election and General Chavalit Yongchaiyudh served as the new Prime Minister. However, he resigned almost one year later because of the financial crisis in Asia that occurred in late 1997. This Asian financial crisis was a financial incident starting in Thailand and including the collapse of the Thai currency after the Thai government did not have sufficient foreign currency to support the exchange rate and was accordingly forced to float the Thai baht. The radical change of the exchange rate made the country bankrupt as it doubled the burden of debt owed to foreign sources.

The "Tom Yum Goong" crisis had a huge impact on the Thai economic system as it stopped the earlier growth of ten years (see Figure 4-1). The long economic boom created "false confidence" that something like the financial crisis in 1997 would never happen again. Both Thai and foreign investors overlooked the implementation of careful and strict financial practice (Hewison, 1999).

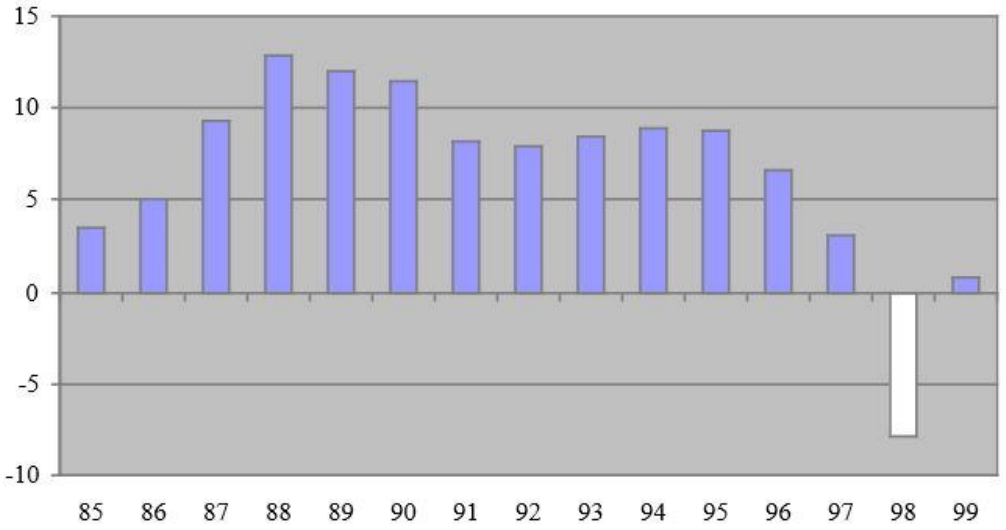


**Figure 4.1** Thailand's Growth Rates in 1985-1999

**Sources:** TDRI, 1995; Bank of Thailand, 1998.

The root of the crisis was a combination of many financial problems, including financial institutions, the exchange rate, and also macroeconomic crises. This crisis was mainly caused by the NPL and defective policies that were not able to handle the situation in the Thai economy appropriately. The factors that drove the crisis are described below (Anusorn Tamajai, 2015).

1) Exceeding investment-The average growth of Thai economy from 1990-1995 was 8.6%, which was so high that the private sector needed more funding for investment. Because domestic funds were not sufficient, the private sector needed to obtain funding from foreign sources.

2) Short-term loan-The financial loans from foreign sources were mostly short-term. The investment in the form of foreign direct investment or forming a partnership was rare.

3) NPL-At the end of the second quarter of 1995, there was a sign of increasing NPL.

4) Strict financial policy-The implementation of a strict policy (to increase the interest rate) and having a fixed exchange rate system in the situation of rapid growth drove the private sector to obtain a loan from foreign sources as they provided lower interest rates for loans. This was based on the assumption that there was no risk from exchange rate system.

5) Economic bubble-The aforementioned factor led to the economic bubble where the asset price strongly deviated from its intrinsic value.

6) Lack of effective policy-The Thai government failed to launch or implement any effective policy dealing with the economic bubble and the exceeding demand.

7) Fixed exchange rate system having a fixed exchange rate system in the free flow of funds prevented the Bank of Thailand from applying appropriate measures to limit the aggregate demand effectively. While the domestic interest rate was high, investors would seek a lower interest rate from foreign sources. Investors overlooked the risk from the exchange rate, which seemed to not be happening.

The economic recession in Thailand and several financial regulation flaws reduced the financial credibility of Thailand. The situation grew worse when the Baht value was attacked so the Thai government needed to use foreign exchange reserves to

protect the Baht value. However, the Thai government did not have sufficient foreign currency to support the exchange rate anymore. Therefore, it was forced to float the Thai baht and the debt that the private sector owed to foreign sources was automatically doubled. This was how a lot of businesses, including many financial institutions, collapsed.

The exchange rate changed from 25 Thai Baht/USD to almost 60 Thai Baht/USD in one night. The significant consequences, in addition to currency depreciation and capital flight, included the collapse of 56 financial companies, recession, and decline in imports. The crisis in 1997 led to a huge loss that was more than the private sector's equity. The debtors and depositors accordingly were imposed upon with this burden. The government needed to bear this burden in order to maintain credibility to prevent exceeding withdrawals by guaranteeing debtors and depositors. This decision therefore transformed the private sector's debt to public debt.

At the end of 1997 the NPL was raised to 22.6% from 13.0% at the end of 1996. The NPL percentage continued to increase as the statistics showed 46% in October 1998 and 47% in September 1999. The situation was better in 2000 as the NPL rate dropped to 38.1%; however, it was still considered high. The economic recession that followed the currency crisis was reflected in a -1.4% GDP growth in 1997 and -10.3% in 1998. Additionally, the unemployment rate doubled from 3.2% in 1997 to 7.3% in 1998. The import value also dropped to around 30% from 1997 to 1998.

After General Chavalit's resignation, Mr. Chuan, who had been the head of opposition party, became the Prime Minister as he was supported by the majority of the House of Representatives. This was an unexpected political incident, as right after the resignation the pro-government parties attempted to nominate General Chatchai to be Prime Minister in place of General Chavalit. However, 13 members of the Thai Citizen Party (which was one of pro-government parties) shifted their political standing to support the Democrat Party (Noraniti Setabutr, 2006).

Before the dissolution of parliament by Mr. Chuan in 2000, the economic recession in 1999, as the aftermath of the 1997 financial crisis, led to the widespread criticism of the performance of the government. Although the government had a

credible economic workforce, the economic recession, which was reflected by the GDP, shrank by 10.2% and led to the decision to dissolve the parliament on November 9, 2000 (Sombat Thamrongthanyawong, 2006).

### 4.2.2 Background of the BTS project

After Tanayong Company Limited changed its name to the Bangkok Mass Transit System Company Limited (BTSC), BTSC signed a concession agreement with BMA on April 9, 1992. On May 6, 1992, the company launched a satellite-created map with all details about the routes and underground utilities as well as the operating plan. On June 10, 1992, BTSC appointed Mr. Kasem Chatikavanij, the leader of the Executive Committee of the project, as the President and Metro Transit Consultant. The business partners consisting of Sindhu Maunsell, Acer Freeman Fox and Parson Brinckerhoff were assigned to conduct a preliminary design of the construction.

BTSC appointed Bangkok Public Company Limited as a financial advisor on February 14$^{th}$, 1992. On July 1$^{st}$, 1992, BTSC appointed Salomon Brother International Limited, New York, as its financial advisor for foreign financial sources. The need of financial support is reflected in the interview below.

"Because the project required the huge amount of investment budget, the loan interest rate in Thailand in 1992 was high, and no banks were willing to give us 25,000 million Baht loan to fund the early stage of the construction, we need to find other financial institutions to support us. However, others financial institutions in Thailand also refused for the same reason. Our funding would have to be in form of the cooperation of many banks especially the foreign banks contacted by commercial banks in Thailand" (personal communication, September 25, 2014).

On August 24$^{th}$, 1992, BTSC appointed Metro Transit consultant as advisor on the preliminary design of the infrastructure, including stations, machinery and equipment, procurements and construction plans. Afterwards, BTSC invited domestic and international subcontractors that might be interested in the project to submit a proposal for bidding by December 9, 1992. Eventually, more than 120 companies submitted proposals and 70 of those were confirmed to bid. BTSC categorized them into five groups for the benefit of the bidding process as follows.

1) Siemens AG-Charistiani & Nieison (Thai) Group
2) GEC Alsthom-Italian Tahi-Bouygues S.A. (Franco-Thai Mass Transit) Group
3) Mitsui-Sumitomo-GTM International-Siam Syntech-Delta Group
4) Itochu-AEG-Sumitomo Construction-Nishimatsu-Meada Group
5) ABB-Costaion-Kier-Thai Konoike Group

BTSC invited all 5 groups to receive bidding documents and preliminary construction plans on March 11, 1993 and held a meeting to give more information and answer any enquiries on May 18, 1993 by requesting all subcontractors to resubmit the proposal and the offer price by June 30, 1993. Then BTSC postponed the deadline for the proposal submission to July 19, 1993 according to the request on June 11, 1993. ABB Group sent a letter withdrawing from the bidding on April 1993 due to its inconvenience. Accordingly, there were 4 groups in total that submitted the proposal and offered a price by the deadline.

The BMA handed over land according to a concessional agreement to BTSC on December 9, 1992 and BTSC signed a contract to obtain financial support from Bangkok Public Company Limited, which sent a letter to notify the BMA on April 7th, 1993. Moreover, the Board of Investment of Thailand granted an investment privilege to BTSC on August 26th, 1992 leading to a completely effective agreement on April 7th, 1993.

According to an interview with a former executive of BTSC Public Company Limited in 2014, "at the beginning of 1993, Office of National Economics and Social Development Board (NESDB) conducted a study on BTS system. There was one professor from the Massachusetts Institute of Technology (MIT) in the study team. As a result of the study, BTS would be the main transit system in Bangkok area in the future. The system that could carry only 10,000 persons/hour/direction would not be sufficient. In a long term, the light rail system was definitely not big enough. The system we need must be a bigger that could carry at least 30,000 persons/hour/ direction." This study had led to the revision of the project shortly after.

On April 5th, 1993, the Commission for the Development of Mass Rapid Transit System by Deputy Prime Minister Mr. Amnuay Viravan, held a meeting regarding the BTS route adjustment, location of stations, and the capacity of the

electric train to consider the impact of changing from a light rail to heavy rail system that could carry 50,000 persons/hour/direction, especially the increasing financial burden on private parties. On July 7th, 1993, the BMA submitted a report on the environmental effects of the BTS adjustment of routes and the capacity of the electric train to the Office of Natural Resources and Environmental Policy and Planning for consideration.

4.2.2.1 Cooperation

Apart from the advisors assigned by BTSC to accomplish mutual objectives in operation, BTSC, associated with the BMA, hired independent advisors from Electrowatt Engineering Service Limited, who were expert and experienced in similar details/types of projects that Bangkok Mass Transit System had chosen. According to the concession agreement, the BMA and BTSC were assigned to give consultation and opinions without prejudice about the operating project, aiming to decrease and eliminate academic disputes and to assess the project's capability in operating towards its objectives.

4.2.2.2 The Relocation of the Depot and Maintenance Port

On June 15, 1993 (during the process of the subcontractor selection) the users of Lumpini Park were against the construction plan to locate the BTS depot and maintenance port in the park. On July 22, 1993 the BMA's governor attempted to clarify this issue with the users of Lumpini Park. The issue raised among protestors was that the area must be used for the purpose in accordance with King Rama VI's will of having that area as a public and recreational park for people in the Bangkok area. The plan was therefore adjusted in order to avoid this tension. In the interview, the Executive of BTSC Public Company Limited said that the "BMA had granted proprietary right of land in Lumpini Park area to construct a BTS depot and maintenance port. However, there was a protest at the time before we started construction. Among protestors, King Rama VI's Letter was raised to assert that this area was given for public purpose to be recreational area. We didn't want to disregard that much so we requested BMA to find new location for us."

Afterwards, the Royal Thai Armed Forces Headquarters proposed the area next to the Armed Force Academies Preparatory School on July 26, 1993. The BMA and the companies conducted a preliminary survey of the area. However, the

land size was inappropriate and was expected to face some technical problems in terms of linking to the main route so this proposal was turned down. The BMA proposed three areas for consideration: 1) the Bangkok bus terminal (Mo Chit), 2) the northern area of Chatuchak Market, and 3) the State Railway of Thailand's area near MCOT Junction on August 17th, 1993. BTSC submitted a comparative survey report suggesting that the Mo Chit area was the most appropriate location that could accommodate a huge number of people as a central transportation to north and south. Therefore, the mass transit route in the plan was adapted from the Sanam Pao area to Mo Chit.

On September 21, 1993, BTSC wrote a letter requesting the BMA to accelerate the land provision at Mo Chit for the BTS project implementation and the BMA responded that that area was the state property of the Treasury Department. The BMA consequently contacted the Treasury Department in order to request land use of this area for the BTS depot and maintenance port instead of the Lumpini Park area-this was signed by 4 parties: the BMA, the Treasury Department, the Department of Land Transport, and the Transport Company Limited on September 29th, 1993.

On October 8th, 1993, the BTSC submitted an additional document regarding the new BTS depot and maintenance port at Mo Chit as well as an extra route of 4 kilometers in order that the 4 groups of subcontractors could calculate the cost and additional offers by setting a deadline to submit a proposal on November 18, 1993-all subcontractors from the 4 groups submitted a new proposal by the deadline.

On November 19th, 1993, the Commission for Development of Mass Rapid Transit System with Deputy Prime Minister Amnuay Viravan presided over the meeting. It was agreed to construct a depot and maintenance port at Mo Chit instead of Lumpini Park and to create a 4-kilometer route from Sanam Pao to the Bangkok bus terminal (Mo Chit). Consequently, the Ministry of Finance set up a working committee to consider the land use at the Bangkok bus terminal (Mo Chit) on December 9th, 1993 by assigning Deputy Minister of Finance (Mr. Boonchoo Treethong) to preside over the meeting and the Director-General to the Treasury Department to be the secretary of the working committee. Many meetings were set up for the discussion and finally agreed on 40 rai of land use for the depot and BTS maintenance port. Thee 23 rai in the front of the area was to be allocated to raise

revenue to compensate Transport Company Limited and this was approved by the cabinet on June 7th, 1994.

On December 21st, 1994, the Treasury Department and the BMA signed a construction agreement to grant proprietary rights to the Ministry of Finance for the land use of Bangkok bus terminal (Mo Chit) to construct a depot and maintenance port. Later on January 25th, 1995, an amendment of the concession agreement (1st time) was signed, stating the details on the route adjustment and the depot and maintenance port move to Mo Chit. On May 3rd, 1995, the BMA granted proprietary rights of approximately 7 rai of land use of the Mo Chit bus terminal for constructing the BTS depot.

Along with all of the considerations for this depot regarding the maintenance issue, BTSC assessed the proposals of 4 groups of subcontractors and the BTSC committee invited Franco-Thai Mass Transit, consisting of GEC Alsthom and Italian Thai, which provided a good proposal, to negotiate to take the subcontractor role for the depot construction on March 2nd, 1994. However, after the negotiation, the company found that Siemens AG, an electric train provider, and Italian Thai Development Public Company Limited, were more suitable so that the construction agreement was then signed on July 15th, 1994. To begin the construction, the BMA granted a letter to remove the water pipes on Paholyothin Road. Then, the subcontractor began removing the water pipes in there on March 31st, 1994 as a preparation stage for the main construction until completion in the beginning of September 1994. There were again problems during the operation and on July 26th, 1994, the government cabinet passed a resolution for the Council of State to interpret the Private Participation in State Undertaking Act 1992 and the National Environmental Quality Act so that the construction at Paholyothin Road was put off after August 9th, 1994. The government cabinet acknowledged the report of the Secretary- the General of Office of the Council of State that this extension was an old project and was not in the scope. The BMA needed to draft a new project for the cabinet's approval and had to conduct an environmental impact assessment (EIA) in compliance with National Environmental Quality Act B.E. 2535 (1992) but did not need to conduct an EIA for the construction test.

4.2.2.3 Traffic Problems

There was a government cabinet resolution on May 17th, 1994 to consider the on-going BTS project of the subway system construction in the common area instead and assigning the responsible agency (BMA) to negotiate with the concessionaire (BTSC Public Company Limited) and then report problems or obstacles within 1 month by May 18th, 1994. The BMA had notified BTSC to slow down the test construction according to the cabinet's resolution at an urgent meeting to improve traffic problem no. 3/2537 (1994), presided by the Prime Minister. BTSC studied the preliminary possibility of changing from a skytrain to a subway system according to the resolution of the committee, reported the possibility for the BMA's consideration, and submitted the study to the cabinet. The cabinet considered and approved this on July 12th, 1994-that the BTS skytrain would operate as previously agreed in the concession contract.

BTSC well recognized that construction would cause traffic problems as 2-3 lane wide and 200-meter-long road would be blocked to construct a base for the civil infrastructure. Therefore, the company prepared to implement a test construction on Paholyothin Road in order to practice skills before the actual construction, but this was then rejected as the cabinet was concerned that such an area was in would route extension range there were still a few regulatory issues that needed to be taken into consideration. The test site then was moved to Rajdamri Road and operation began on October 3rd, 1994 and lasted 90 days. Additionally, an advisory company was brought in to inspected the traffic flow and to promote the project during construction, both during and after construction.

4.2.2.4 The Environmental Impact Assessment (EIA)

For the environmental studies, BTSC signed a contract to hire Kasetsart University to inspect and assess the environment effects of the BTS route extension on September 29th, 1994 and to report this assessment to the Office of the National Environmental Board. Kasetsart University set up the first public hearings on the environmental effects of the BTS project on December 15th, 1994 in order to produce a report to the Office of National Environmental Board on June 27th, 1995. The cabinet's resolution on the Environmental Impact Assessment (EIA) and the measure proposed by the Office of National Environmental Board in June 27th, 1994 indicated

that the construction through Victory Monument was an elevated system according to the concession agreement and consented to set up an ad hoc committee to consider the construction pattern by the Ministry of Science and Technology.

On July 24th, 1995, BTSC signed another contract with Kasetsart University to study the environmental effects for the Silom-Sathorn line (Chong Nonsi-Sathorn) in compliance with the 2nd concession agreement and the ad hoc committee called for a meeting on February 12nd, 1996 to approve a study pattern to explore the environmental effect at Victory Monument. Then, on March 26th, 1996, the BMA submitted the EIA report of the Chong Nonsi-Sathorn region regarding the re-route extension through Lieb Khlong Chong Nonsi Road linked to Sathorn Road drafted by Kasetsart University to the Office of Natural Resources and Environmental Policy and Planning. Shortly after, the Office of National Environmental Board of Committee agreed on the EIA report and the rerouting plan.

After April 9th, 1992 the BMA signed a concession contract for a total length of 30 years with BTSC Company Limited, and the agencies confronted many challenges and obstacles. The contract was amended twice:

4.2.2.5 BTS re-route and System Adjustment

1) Amendment of the Concession Agreement (1st) on 25 January 1995

Due to the BTS depot relocation, there was a re-routing of the line extensions from Silom Road-Victory Monument to Saphan Taksin-National Stadium; and from the Sukhumvit line (old plan from Ratchaprasong-Prakanong to Mo Chit-On Nut and to extend it by 10 kilometers to bring it up a total length of 23.5 kilometers. There was an increased number of stations from 17 to 23 stations and changes in the BTS system from a light rail system which was capable of supporting 25,000 person/hour/direction, to a heavy rail system, which was capable to support 50,000 person/hour/direction resulting in a much higher constructing investment.

2) Amendment of Concession Agreement (2st) on 28th June 1995

Due to the re-route line extensions, for the second time, there was revision of Silom Line that ends at Sathorn (Saphan Taksin). According to an interview with an executive of BTSC Public Company Limited in 2014, originally,

the plan was to reroute the line extension to here but there was no way to turn into Sathorn, so the idea of turning under the expressway was raised. BTSC then proposed the idea but reached a disagreement on the construction plan, so BTSC decided to back off. At the same time, the BMA had developed Chong Nonsi canal to Narathiwas Road in the present: “We better changed to discuss with BMA which was easier way to do,” stated an executive of the company.

3) Heavy Rail System of Electric Train (Construction Phase)

The BTS is a standard high-capacity mass transit that is widely used in many major cities. Trains operate on elevated dual tracks 1.435-meter-wide (standard gauge), one in each direction. The good point is that a conductor rail or third-rail system to one side is safer and has no effect on the scenery. Its capacity is more effective as it can afford more than 50,000 passengers/hour/direction. The BTS’s system is equipped with automatic control such as a Collision Prevention System and a Speed Control System as tools that ensure the safety of the system.

4) Significant Meetings on Progress

As it was Thailand’s first public mass transportation system project, periodical meetings were set to follow the progress continuously. By August 23rd, 1994, the working committee had attended meeting 1/2537 and at the end of August 1994, the Prime Minister's Office Minister (Col. Chinnawut Sunthornsima) called for the 1st committee meeting, and later the working committee consented at meeting 2/2537 that the test construction on Rajdamri Road was not necessary because it had less effect on traffic. Then, the Prime Minister's Office Minister (Col. Chinnawut Sunthornsima) called for a 2nd committee meeting to continue the construction test to inspect other technical effects on Rajdamri Road.

5) Start of the Construction

On September 26th, 1994, the BMA notified the Minister of the Ministry of Interior of the agenda to preside over the foundation of Stone Laying Ceremony for the Construction of BTS project in front of the Regent Hotel on Rajadamneon Road on October 3rd, 1994. After the opening ceremony, the following construction was begun step-by-step:

| | |
|---|---|
| February 3rd, 1995 | Metropolitan Police Bureau and BMA agreed to start construction in three areas that were Rajdamri Road, Phaya Thai, and Ploenchit |
| February 18th, 1995 | Enter site in the area of Rajdamri Road to start construction |
| March 4th, 1995 | Enter site in the area of Phaya Thai Road to start construction |
| March 18h, 1995 | Enter site in the area of Ploenchit Road to start construction |
| April 27th, 1995 | Committee set system on land transportation and committee agreed to re-route the Silom line in the area of Silom Road to Lieb Khlong Chong Nonsi Road |
| April 28th, 1995 | Enter site in the area of Rajchathewi Road (Phaya Thai area) |
| July 5th, 1995 | Signed a contract with Siemens System Company Limited and Italian Thai Development Public Company Limited |
| August 5th, 1995 | Enter site in the area of Paholyothin Road for two sites |
| September 9th, 1995 | Enter site in the area of Phaholyothin Road for two sites |
| October 1st, 1995 | Enter site in the area of the bridge of Phrakanong Canal on Sukhumvit Road |
| October 3rd, 1995 | Start assembling of infrastructural base to support elevated railway |
| March 3rd, 1996 | Enter site in the area of Silom Road and Ploenchit Road |
| April 17th, 1996 | Enter site at Mo Chit bus terminal, Section 2 to construct BTS depot and maintenance port |
| May 17th, 1996 | Start construction of BTS depot and maintenance port |
| January 25th, 1996 | Enter site on Sukhumvit Road and Narathiwat-Ratchanakarin (Lieb Khlong Chong Nonsi Road) |
| February 20th, 1997 | Enter site at Cha Loem Pao Junction to Ratchaprasong Intersection |
| March 8th, 1997 | Enter site on Sukhumvit Road and Sathorn Road (addition) |

| | |
|---|---|
| March 22nd, 1997 | Enter site on Rama I and Phaya Thai Road (addition) |
| April 19th, 1997 | Enter site on Phaholyothin Road (addition), Phaholyothin Soi 1 area |
| June 14th, 1997 | Enter site on Rajdamri Road (addition), in front of Grand Hyatt Erawan to Ratchaprasong Intersection area |
| October 18th, 1997 | Enter site on Rama I (addition), Pathumwan to in front of National Stadium and Sukhumvit Road (the bridge of Phrakanong Canal to Sukhumvit Soi 85) |
| June 1st, 1997 | Office of the Commission for the Management of Road Traffic (OCMRT) reached to the conclusion to build project on single supporting columns horizontally Saphan Kwai Bridge was demolished and re-built it later |

6) Public Inspection of the BTS Project

Because the BTS was a new Bangkok mass transit system, at the beginning stage, problems arose from people's misunderstanding of the project. Later, people were more aware of the project as Chulalongkorn University organized a seminar on the topic, "Settlement from BTS case: Tanayong's next step for public responsibility" at Chulalongkorn University on July 24th, 1995; then there were public hearings on the model of the BTS project's structure at Saphan Kwai Interjunction and other points at the BMA meeting room on October 26th, 1995. Moreover, Thammasat University held a seminar on the topic, City development towards conflicts: case study of Tanayong's BTS project to Saphan Kwai and disability community on November 30th, 1995; and the meeting was held to hear the opinions and to obtain feedback from the teachers and parents of Mater Dei School.

## 4.3 Operation Phase (1999-2014): From Pressure to PPP Transformation

The early stage of operation phase was the period of providing service. The BTS project at this stage focused on the effective operation and standards of the service (e.g. frequency of the service, opening hours and schedule, and maintenance) in compliance with the concession contract terms. The BTS started to obtain revenue

from service fee collections, rental fees, and advertisement fees. The BTS operation phase also involved the route extensions which raised many issues regarding the BTS project, to be mentioned later in this section of the present study.

According to Griffith-Jones, 1993 (Figure 2.5), the outstanding risks in the operation phase were political risks and commercial risks. During the BTS preparation phase and construction phase, the political drive was an important factor influencing the BTS project. The agreement between the central and local governments resulted in the conclusion of a 30-year concession contract. The political instability fueled by other factors led to difficulties that the project had to face during the construction phase. During the BTS operation phase, the BTS project also reflected the fact that the political factor had much more effect on the operation phase than on other phases. However, this study will analyze four factors including the political factor affecting the operation of the BTS project during the operation phase.

The overview of BTS operation phase was that there were six central government reshuffles that led to policy inconsistency. The disagreement between the central government and the local government also resulted in managerial problems and other difficulties. In addition, one still suffered from the exchange rate fluctuation caused by the financial crisis in 1997. Information about the BTS project and the Thai political situation will be discussed in detail below.

### 4.3.1 Background of the BTS project and the Thai political context

During the time period of the operation phase defined earlier in this study, there were six local governments and eight central governments. There were also two coups during this phase. The details are briefly summarized below.

Bangkok Governors during BTS Operation Phase

| | |
|---|---|
| Bangkok Governor No. 13: | Mr. Samak Sundaravej (2000-2004) |
| Bangkok Governor No. 14: | Mr. Apirak Kosayothin (2004-2008) |
| Bangkok Governor No. 14: | Mr. Apirak Kosayothin (2) (October 5, 2008-November 19, 2008) (Democrat Party) Resigned |
| Bangkok Governor No. 15: | Mom Rajawongse Sukhumbhand Paribatra (2008-2012) (Democrat Party) |

Bangkok Governor No. 15: Mom Rajawongse Sukhumbhand Paribatra (2) (2013-Present) (Democrat Party)

Prime Ministers during BTS Operation Phase

Prime Minister No. 23: Dr.Thaksin Shinawatra (February 9, 2001-2005) (Completed term) (Thai Rak Thai Party)

Prime Minister No. 23: Dr.Thaksin Shinawatra (2), (2005-September 19, 2006) (Thai Rak Thai Party)

Dissolved the parliament

The coups, the Council for Democratic Reform (CDR) led by General Sonthi Boonyaratglin, took over the government roles from September 19th, 2006-October 1st, 2006. CDR also revoked the 1997 Constitution of the Kingdom of Thailand.

Prime Minister No. 24: General Surayud Chulanont (October 1, 2006-January 29, 2008)

1) Was appointed by CDR's resolution

2) The 2007 Constitution of the Kingdom of Thailand was drafted and announced as the new constitution.

3) Held the general election

Prime Minister No. 25: Mr. Samak Sundaravej (People's Power Party) (January 29, 2008-September 9, 2008)

1) Won the election and was in position for only 224 days

2) The Constitutional Court of Thailand delivered a decision holding that Mr. Samak Sundaravej were disqualified to be the Prime Minister.

Prime Minister No. 26: Mr. Somchai Wongsawat (People's Power Party) (September 18, 2008 -December 2, 2008)

1) Was approved by the House of Representatives to replace Mr. Samak Sundaravej as the new Prime Minister and was in this position for only 75 days

2) The Constitution Court of Thailand rendered a verdict against People's Power Party resulting in the dissolution of three political parties (People's Power Party, Chart Thai Party, and Neutral Democratic Party) and the disqualification of Mr. Somchai Wongsawat from being the Prime Minister.

Prime Minister No. 27: Mr. Abhisit Vejjajiva (Democrat Party) (December 17, 2008-August 5, 2011)

1) Was appointed by the House of Representatives' resolution to be the Prime Minister

2) Dissolved the parliament

Prime Minister No. 28: Ms. Yingluck Shinawatra (Pheu Thai Party) (August 5, 2011-May 7, 2014)

1) Won the general election and was approved by the House of Representatives to be the Prime Minister.

2) In May 2014, the Constitution Court of Thailand held that she was disqualified to be the Prime Minister after she decided to declare the dissolution of the parliament.

3) Mr. Niwatthamrong Boonsongpaisan (Phue Thai Party), the Deputy Prime Minister at that time was appointed by the acting House of Representatives' resolution to act as the Prime Minister during May 7, 2014-May 22, 2014.

4) The Coup called National Council for Peace and Order (NCPO) led by General Prayut Chan-

o-cha took down the government and declared the revocation of the 2007 Constitution.

Prime Minister No. 29: General Prayut Chan-o-cha (Leader of National Council for Peace and Order (NCPO) (August 24, 2014-present)
Was appointed by the National Legislative Assembly's resolution

The Thai political situation during the period of the BTS operation phase can be called a crisis. Two coups taking down the government and two revocations of the Constitution were evidence that the Thai political situation was in a crisis. Below is a concise overview of the political situation in this period.

During the early stage of the BTS operation phase, after the dissolution of the parliament by the Democrat Party government in 2000, the Thai Rak Thai Party won the general election on January 6, 2001. The leader of Thai Rak Thai Party, Dr. Thaksin Shinawatra, was seen as a new generation of politicians that might be able to deal with the economic crisis. One reason for his victory was that he was expected to deal with the economic problem that had existed in Thailand since the economic crisis in 1997. The result of his popularity was that the Thai Rak Thai Party had 248 out of 500 members of the House of the Representatives. A large number of members of the House of Representatives allowed the Thai Rak Thai Party to form a one-dominant party government. The nature of a one-party government is that it is usually more stable than a multi-party government. The stability was reflected in the fact that the Thai Rak Thai government was in office for a complete term of four years from 2001 to 2005.

There were many factors for Dr. Thaksin's victory. First of all, the formers government failed to the solve economic problems that were caused by the financial crisis in 1997. Dr. Thaksin represented new hope for the people to tackle these problems. Second, his background, leadership, and success in the business world built confidence among people that he was the right person to be the Prime Minister. Third, the policy of Thai Rak Thai party mainly focused on the solutions of economic problems as well as other outstanding strategic plans. Finally, the failure of other parties to maintain their popularity was another factor. Statistical information revealed

that 87 of 248 elected members of the House Representatives were former members of other parties (Nopparat Wongwittayapanich, The Formation of One-dominant Party Government in Thai Politics: A Case Study of the Thai Rak Thai Party, 2007).

The Thai Rak Thai one-party dominant government was transformed to a single party government after the election in 2005, in which the Thai Rak Thai party had 377 out of 500 members of the House of Representatives. Such a large number formed a majority even more than two-thirds of the members of the House of Representatives, which had never existed in Thai political history and therefore enabled the Thai Rak Thai Party to form a single party government.

The decisive victory of the Thai Rak Thai Party in the 2005 election resulting in a large number of members of the House of Representatives was partly because of the fact that many parties were merged into the Thai Rak Thai Party before the general election in 2005. This consolidation strengthened the political power of the Thai Rak Thai Party, as the number of the members of the House of Representatives affiliated with the Thai Rak Thai Party was eventually raised to 325 after the Thai Rak Thai Party had acquired the Liberal Integrity Party, the New Aspiration Party, and the National Development Party. Statistical information revealed that 78 of 375 elected members of the House Representatives were former members of other parties (Nopparat Wongwittayapanich, 2007).

The second term of having Dr. Thaksin Shinnawatra as the leader of the government was not as smooth as his first term. The Thai Rad Thai government was widely criticized and was forced to declare dissolution of the parliament after 11 months in office. The most important issue that pressured the Thai Rak Thai Party to make such a decision was corruption, including the suspicious process of procurement in obtaining CTX-9000 explosive detectors and the trading transaction between Shin Corporation and Temasek. The middle class movement, called the People's Alliance for Democracy (PAD), against Thai Rak Thai Party and "Thaksin Regime" arose in the Bangkok area and had a larger number of supporters. The street demonstrations placed pressure on the government and resulted in the decision to dissolve the parliament on February 24, 2006, followed by the general election on April 2, 2006.

The political situation after the dissolution became worse, as before the general election the opposing parties made a request to the Thai Rak Thai Party to

have a joint commitment to have a political reform by amending the 1997 Constitution by having a commission composed of political-neutral members as drafters. That request was turned down, so the opposing parties decided to boycott the election and launched a “Vote No” campaign. The statistical information provided by the Election Commission showed that more than 30% of the people that went out to vote picked the “Vote No” option. In some electorate areas, the number of people that voted no” was greater than the number of people that supported the winner of that area. In some areas, there was no winner at all, as the number of votes did not reach the minimum set by the Constitution. The Election Commission had to hold the election again as required by the Constitution. It seemed that the political situation had come to a dead end.

Shortly after the election, the Ombudsman filed a petition to the Constitutional Court of Thailand claiming that the general election on April 2, 2006 was unconstitutional and therefore should be declared invalid. The Constitutional Court of Thailand rendered a decision declaring the invalidity of the election and held that there had to be a new general election on the grounds that the election was held in a manner that did not comply with the principles provided by the Constitution. The date for the new election was October 15, 2006. However, before the general election, the coup known as the Council for Democratic Reform (CDR) led by General Sonthi Boonyaratglin took down the Thai Rak Thai acting government on September 19, 2006.

The coup was claimed to be a solution to the dead end caused by the political conflict between the government and the PAD, which was likely to end with violence and to ruin the Thai economy and credibility. The CDR asserted that the Thaksin administration had caused a fatal political conflict that had never existed before in Thai history and it tended to be much more serious. In addition, most people doubted that the government was related to corruption and political activities that would affect national security. It was therefore necessary for the CDR to prevent possible harm and to maintain the peace and security of the nation. The CDR also revoked the Constitution of the Kingdom of Thailand 1997 and announced a temporary constitution on October 1, 2006. The Temporary Constitution 2006 established the Legislative Assembly to take over parliamentary roles and the Constitutional Tribunal

to substitute the Constitutional Court. This Constitution also designated the Constituent Assembly to draft a new constitution.

The CDR emphasized the necessity of having new political rules in the form of a new constitution and declared that the new constitution should be designed and drafted properly. During the period of drafting there should be a group of people to be a temporary government acting for the period before the new constitution which would determine the new rules governing the next general election. Therefore, the CDR appointed General Surayud Chulanont as Prime Minister.

In May 2007, the Constitutional Tribunal held that the Thai Rak Thai Party violated the electoral law in the general election in April 2006. The verdict against the Thai Rak Thai Party resulted in its dissolution. The former members of the Thai Rak Thai Party then moved to a new party, which was the People's Power Party. The People's Power Party later invited Mr. Samak Sundaravej to be the leader of the party.

The political situation seemed to be worse when the pro-Thaksin movement, known as the United Front of Democracy against Dictatorship (UDD), went on the streets and took a position against the CDR and General Surayud's government. Its political view was that the CDR and the government at that time lacked democracy. However, the movement ended later after the general election in December 2007.

A new constitution was successfully drafted and approved by a general referendum on August 19, 2007 and became a good law on August 24, 2007, which was called the Constitution of the Kingdom of Thailand 2007. The date for the general election was December 23, 2007. The new Constitution provided for 480 members of the House of Representatives. The People Power Party won the election with 233 members in the House of Representatives, followed by the Democrat Party with 165 members.

The People's Power Party victory allowed Mr. Samak Sundaravej to become the new Prime Minister. However, he was in this position for only 224 days since the Constitutional Court of Thailand rendered a decision holding that Mr. Samak Sundaravej was not qualified to be the Prime Minister. During this time, the PAD continued the movement against the government again as the government was the successor of the "Thaksin Regime." The PAD also took over the area of the Government House to put more pressure on the government.

In September 2008, Mr. Somchai Wongsawat was approved by the House of Representatives to replace Mr. Samak Sundaravej as the new Prime Minister and was in this position for only 75 days, as the Constitutional Court of Thailand held that three parties, including the People's Power Party, violated the electoral law during the 2007 election. This decision resulted in the dissolution of the People's Power Party, the Chart Thai Party, and the Neutral Democratic Party and automatically discharged Mr. Somchai Wongsawat from the position of Prime Minister. In order to maintain status as a member of the House of Representatives, the Constitution required that the members of the dissolved party be affiliated with the new party within 60 days. Therefore, the former members of the dissolved parties established three parties as their new homes, which were the Pheu Thai Party, the Chartthaipattana Party, and the Bhumjaitai Party.

The new Prime Minister elected by the House of Representatives on December 17, 2008 to replace Mr. Somchai Wongsawat was Mr. Abhisit Vejjajiva of the Democrat Party. He formed a multi-party government and left the Pheu Thai Party as the opposition in the House of Representatives. Problems arose once again when the UDD went on the streets one more time, insisting that Abhisit's government lacked legitimacy and should declare a dissolution of the parliament to have a new general election. This movement led to the clash between the UDD and PAD in May 2008, known as the conflict between the "Red Shirts" and "Yellow Shirts." After that, in March 2009, the situation became more violent in the city center area of Bangkok and was probably seen as a riot, so the government had to declare a state of emergency in April 2009. The UDD was forced to stop its movement due to the military crackdown that resulted in many deaths and injuries. However, the UDD came back on the streets again in 2010 and ended up with another military crackdown in April 2010, which also resulted in deaths and injuries. Even with many crackdowns, the UDD still continued to pressure the government and asserted that the parliament should be dissolved.

Finally, on May 10, 2011, the government, led by Mr. Abhisit, made a decision to declare the dissolution of the House of Representatives and fixed July 3, 2011 as the date for the general election. The Pheu Thai Party was the winner of this election after Ms. Yingluck Shinawatra (Dr. Thaksin Shinawatra's sister) became the

leader of the party. It had 265 out of 480 seats in the House of Representatives. This result reflected the fact that Dr. Thaksin Shinawatra was still popular among the people.

In May 2014, the Constitution Court of Thailand held that she was disqualified to be the Prime Minister after she decided to declare the dissolution of the parliament. The House of Representatives therefore assigned the Deputy Prime Minister at that time, Mr. Niwatthamrong Boonsongpaisan, to act as the Prime Minister in the same month. However, the coup, called the National Council for Peace and Order (NCPO), led by General Prayut Chan-o-cha, took down the government and declared the revocation of the 2007 Constitution. Then General Prayut Chan-o-cha was appointed by the National Legislative Assembly's resolution to be the Prime Minster until the new constitution was successfully drafted and a new Prime Minister from the general election was obtained in compliance with that future constitution.

Different from the situation above, the Democrat Party has successfully maintained its popularity in Bangkok area, as its candidate has been the Bangkok Governor from 2004 until now. There was a split between the central and local government when the Democrat Party lost the general election many times. This split directly impacted the operation of the BTS project and became one of the reasons that the BTS had to be transformed in its operation phase. This will be described later in detail.

### 4.3.2 Background of the BTS project

In 2004, the Commission for the Management of Road Traffic had its first conference presided by Dr. Thaksin Shinawatra, the Prime Minister at that time. Dr. Thaksin created policy and assigned Mr. Suriya Jungrungreangkit, the Minister of Transportation, to consider the possibility that the government would purchase the BTS and BMCL (subway), and manage both by itself. The government believed that this would accelerate the rail system development according to the BMT development plan where the commission had approved its first phase by 2009 with seven routes and a length of 291kilometers in total by 5 years.

Mr. Kasem Chatikavanij, the President of Bangkok Mass Transit System Company Limited (BTSC), gave an interview through a TV program, "Economic

News" broadcasted from the Royal Thai Army Radio and Television Station (Channel 5) on February 23rd, 2004 at 9.30 am, stating the following: "In my opinion, if the government would like to purchase BTS to operate on its own, the price of 50,000 million Baht seems to be suitable but the payment should be made immediately with no installments."

As mentioned earlier that there was a political split between the central government and the local government when the central government was under the Thai Rak Thai Party or later as the Pheu Thai Party while the local government was under the Democrat Party, the split directly affected the project and led to difficulties and problems, especially with regard to the extension of the project.

1) Master Plan Development of the BTS project

After its official opening, the BTS has continuously become popular among people in Bangkok area in terms of its convenience. Every government has traced the progress of this project and attempted to extend more routes. Master plans in each route were well-planned early, even before the officially opening of the project.

The first master plan was implemented in 1994 by the cabinet's approval of the principle of Bangkok Mass Transit Master Plan in compliance with the Mass Rapid Transit Systems Master Plan (MTMP) with a total length of 135 Kilometers during 1995-2011. In 1996 the Conceptual Mass Rapid Transit Implementation Master Plan Project (CMIP) was adjusted from 135 kilometers to a 178.9 kilometer extension. In 1998, there was a suggestion about the component system comprising light rail to be a monorail system in order to supplement the efficiency of the main system. Eleven projects with a total length of 206 kilometers were drafted.

The official opening of the first BTS in 1999 was carefully endorsed in the Urban Rail Transportation Master Plan in Bangkok and Surrounding Areas (URMAP) in 2000, proposing that the network of a total of 375 kilometers should be established in 20 years and then the BMT plan was produced in 2004 with the approval of the Commission for the Management of Road in the Phase 1 Plan by 2009 with a total of 7 routes and 291 kilometers.

In 2010, the development of the BTS and MRT routes was extremely behind the plan. As the BMT planned to have 291 kilometers by 2009, it actually

could complete only 46 kilometers by 2009, comprising BTS at 23.5 kilometers, MRT at 20 kilometers, and 2.2 at a kilometer extension: this amounted to 45.7 kilometers in total. While most of the remaining projects were in preparation to be implemented and for a bidding process, additionally there were requests for more route extensions in some areas, following the revision and adjustment of the master plan of the project. This again led to the Mass Rapid Transit Master Plan in kilometers Bangkok Metropolitan Region (M-Map) for 2010-2029 with 12 routes and a total of 509 kilometers.

2) Summary of the Mass Rapid Transit System Master Plan in the Bangkok Metropolitan Region

MTMP Plan drafted in 1994, total length according to plan: 135 Km.

CMIP Plan drafted in 1996, total length according to plan: 178.9 Km.

CMIP and Monorail drafted in 1998, total length according to plan: 206 Km.

URMAP Plan drafted in 2000, total length according to plan: 375 Km.

BMT Plan drafted in 2004, total length according to plan: 291 Km.

M-Map drafted in 2010, total length according to plan: 507 Km.

3) The Extension of the Project

Receiving good feedback from people about the BTS project, the local government led by the Bangkok Metropolitan Administration made an effort to push forward the route extension projects and the cabinet's resolution was made on February 29th, 2000 to carry out projects in the following three routes (cabinet's resolution on February 29th, 2000):

From Saphan Taksin-Wongwian Yai with a total length of 2.2 kilometers

From On Nut-Samrong with a total length of 8.9 kilometers

From Chong Nonsi-Sathupradit Road with a total length of 8.5 kilometers

The BMA started calling for bids in compliance with the Act on Private Participation in State Undertaking B.E. 2535 (1992). In these extension plans, the private invested 100%. Specifically, the BMA invited subcontractors that might be interested in submitting a proposal, categorized into 11 groups according to cabinet's resolution on April 2001. However, it turned out that no companies submitted a single proposal due to the lack of a clear return on investment and unstable politics.

Therefore, the BMA was forced to reconsider the investment conditions and to invited BTSC Public Company Limited to submit a proposal for the project. BTSC responded that it would be able to invest under four conditions:

(1) The BMA must invest in infrastructure.

(2) BTSC has to provide the electric rail system and signaling system.

(3) BTSC will take care of train operations and revenue collection according to the concession.

(4) BTSC should have investment priority from the Board of Investment of Thailand (BOI).

Shortly after opening, the extension plan was well in place. According to an interview with an executive of BTSC Public Company Limited in 2014, "after opening in 1999, we then proposed BMA that it's time to extend routes because we cannot just stay the way we are. The extension of 2-3 routes was proposed. The 1st extension route was extended from Saphan Sathorn to Wongwian Yai, just two more stations away. Another route is from Chong Nonsi–Sathupradit Road that already approved by cabinet but with the original conditions that private must invest 100%." However, the plan was obstructed because of lack of resources. "At that time we said we couldn't make it anymore, the existing works in hand were already too much. Trying to ask government to cover infrastructure cost, then we will pay cost for implementing system. This is more like co-investment," the executive stated in the same interview.

The proposal of the private sector (BTSC Public Company Limited) to the BMA regarding the route extension project in 2001 was the result of unclear return on investment and unstable politics, like what the private sector had confronted during the Construction Phase (1992-1999). Subsequently, the private sector demanded the public build a route extension project in the form of PPP gross cost, the same as with the MRT projects instead of the original form of the PPP, of which risks the private cannot take (Executive of BTSC Public Company Limited, personal communication, September 25, 2014).

As such a proposal was against the previous cabinet's resolution (on February 2000), the BMA filed a proposal to the Ministry of Interior stating that the

BMA would like to continue this project by investing on its own. At that time there was change in political party from the Democrat Party to the Thai Rak Thai Party as Dr. Thaksin Shinawatra was elected as Prime Minister (1st term) on February 9th, 2001).

The difference in the policy of the central government and local government could be seen where the BMA had a policy to push forward the route extensions of BTS project and the cabinet approved them on February 29, 2000 to commence extension in three routes in the BMA's responsibility. The BMA's policy was to have the project in the form of a PPP according to the Private Participation in State Undertaking Act 1992 (2535) and to push the burden for investment on to the private party. Calling for a bid was announced on April 2001 but no proposals were submitted from any groups. This was clearly seen from the meeting of the Commission for the Management of Road Traffic presided by Dr. Thaksin Shinawatra, Prime Minister, who stated the policy and assigned Mr. Suriya Jungrungreangkit to consider the possibility that the government would purchase the BTS and BMCL (subway) and operate on their own. The main reason for this was to accelerate the rail system development to meet the BMT development plans approved by the commission to complete the Phase 1 plan of constructing 7 routes of 291 Kilometers in length within 5 years.

4) An Attempt to Operate a Project to Overcome any Political Limitations: PPP Transform

In the route extension of BTS, due to more investment than the BMA could burden, the BMA made a request to obtain government funds in the ratio of 65 (government): 35 (BMA) and afterwards it was adjusted to 50:50. However, due to the delay in the processes of the government bureaucracy and the fact that the attitude of the central government toward BMA's policy was not consistent with the BMA's, the request was sent back to the BMA for further revision. The BMA made a request to the Ministry of Interior 6 times and the last time the request was sent back in 2005. There was no sign of pushing this matter as an agenda in the cabinet meeting. This proposal was therefore suspended (KT, 2012; Former Bangkok Governor, personal communication, November 20, 2014).

The BMA therefore attempted to find ways to continue with the extension project. According to an interview with the executive of BTSC Public Company Limited (2014), “the continue on route extension of BTS project seemed not to be successful when taking Private Participation in State Undertaking Act 1992 into consideration because this matter required to pass many procedures and political problem was also an issue as the change of new government cabinet (change to opposite political power)-then this was suspended. BMA was trying to figure out the way to carry out this project because the new routes had already been approved. BMA then said ok if no one invests, BMA will spend own money without requesting any support investment from central government. In addition, central government cannot do anything about it because we used our own budget without asking for any more budgets. Subsequently, BMA invested to build railway infrastructure and stations. When completed, which BTS operating companies will be used? The government again attacked us on this.”

Therefore, Mr. Apirak Kosayothin, Bangkok Governor at that time, made a decision to invest in the BTS Silom Line extension project for Saphan Taksin-Wongwian Yai. This decision was significant because the BMA then had to cover 100% of the budget. The procurement contract was signed on November 11, 2005 and the service was opened to the public on May 15, 2009.

The aforementioned decision was made under great political pressure. Furthermore, it later shaped how the BMA pushed forward another Sukhumvit line extension from On Nut to Bearing with a total length of 5.25 kilometers by seeking BMA’s approval and changing the infrastructure investment proportion in this project to be entirely from BMA’s budget. The construction was commenced on September 1st, 2005 until its opening on August 12nd, 2011 as well as the Silom line extension for Saphan Taksin-Bang Wa, with a length of 5.3 kilometers, which had already opened in 2012 (The true story of Bangkok mass transit system project 30 years contract, 2012).

A big change in the BTS project occurred on May 3, 2012 after the project was faced with political intervention and the lack of support from the central government, which almost made the extension projects impossible. Therefore, in order to step over these political obstacles, the BMA signed a contract with Krungthep

Thanakom Company Limited with a budget of 1,800 million baht for a 30-year period, and Krungthep Thanakom Company Limited signed a contract with BTSC to operate BTS services and for maintenance for 30 years within a budget of 187,790 million baht. That was decision not to renew the original the PPP concession contract made in 1992 (the original contract will be effective until 2029, and all agreements remained the same; no amendment was made) and this new contract that was made on May 3, 2012 was of a traditional public contracting style or a regular public procurement.

During the years 2001 to 2012, the issues surrounding the BTS project became significant as they would shape how the Bangkok public mass transport would develop in the future. Particularly, the central government expressed the intention to take over the BTS project under the supervision of the Mass Rapid Transit Authority of Thailand (MRTA) (under the Ministry of Transport).

Originally, the BMA was an initiator of managing this project and after the BTS opening on December 5$^{th}$, 1999 the cabinet approved to produce a Bangkok Mass Transit Master Plan (BMT) on September 7th, 2004, but on November 27$^{th}$, 2008 the cabinet passed a resolution to modify the first resolution by the approval of the MRTA to be responsible for the civil construction of the Green Line (Extension) for Mo Chit-Saphan Mai and Bearing-Samutprakarn, which showed the strong government intervention in the BTS project. Afterwards, when Mom Rajawongse Sukhumbhand Paribatra became the Bangkok Governor, there was an attempt to maintain the projects and properties of the BMA so a letter dated April 9th, 2010 was sent to notify the government that the BMA was affirmed to be the owner of the BTS project according to the previous cabinet's resolution on September 7th, 2004. Subsequently this affirmation led to the MRT plan in the Bangkok Metropolitan Region (M-Map) for 2010-2029, which specified clearly that the BMA was to be associated with the MRTA to implement the Green Line extension for Mo Chit-Saphan Mai at 11.4 kilometers in length, Saphan Mai-Ku Kot at 7 kilometers in length, Ku Kot-Lumlukka at 6.5 kilometers in length, Bearing-Samutprakarn at 12.8 kilometers in length, and Samutprakarn-Bang Pu at 7 kilometers in length.

The BMA requested a budget for route extension projects of the central government but it was not considered. The BMA therefore found a way to carry out

the extensions by proposing it through the BMA for cabinet consent to spend 100% investment on its budget to construct the infrastructure. However, conflict issues arose when the BMA hired KT to manage the system and KT hired BTSC Public Company Limited to be the BTS operating service. The BMA's decision to do the extension on its own raised many questions and issues:

(1) Does the BMA have right to implement the extension without the cabinet's approval?

(2) Are the extension projects within the scope of the Private Participation in State Undertaking Act?

(3) Why was KT hired as the system operator? Why didn't the BMA manage the project by itself?

(4) Why was BTSC Public Company Limited hired for 30 years instead of 17 years? Why did the BMA not wait until the expiration of the original contract before signing the new one?

(5) Was the cost of hiring KT Company Limited and BTSC Public Company Limited appropriate?

5) Does the BMA have right to implement the extension without the Cabinet's approval?

The conflict was raised as the BMA hired Krungthep Thanakom Company Limited (KT) to manage the system, and especially as it hired BTSC Public Company Limited to operate the BTS service, without even asking for approval from the cabinet of Thailand.

According to the Bangkok Metropolitan Administration Act, B.E. 2528 (1985) Section 89 (8), it specified that the BMA has the duty to operate transport in Bangkok and the Determining Plans and Process of Decentralization to Local Government Organization Act B.E. 2542 (1999) Section 18, Appurtenant to the Section 16 (26) and 17 (21) assigned the BMA the right to operate the mass transit system.

Further, according to the most recent master plan, the Ministry of Transport had passed the MRT plan in Bangkok Metropolitan Region (M-Map) for 2010-2029 by clearly specifying that the BMA is responsible for operating On Nut-Bearing with a 5.3 kilometer length, Saphan Taksin-Bang Wa with a 5.3 kilometer

length, National Stadium-Yot Se with a 1 kilometer length, together with the Grey Line for Watcharaphon-Lat Phrao with a 8 kilometer length, Lat Phrao-Rama IV with a 12 kilometer length, Ram IV-Rama IX with 6 kilometer length, and kilometer Blue Line for Din Daeng-Sathorn with a 9.5 kilometer length. Moreover, M-Map stated that the BMA was to be associated with the SRT for the project of Mo Chit-Saphan Mai at 11.4 kilometers of length (as BMA was the owner of the Bangkok Metropolitan area), Saphan Mai-Ku Kot at 7 kilometers of length, Ku Kot-Lumlukka at 6.5 kilometers of length, Bearing-Samutprakarn at 12.8 kilometers of length, and Samutprakarn-Bang Pu at 7 Kilometers of length.

Signing a contract with KT to administrate the system and with BTSC to operate the BTS service was the right of the Bangkok Governor because the Bangkok Metropolitan Administration Act, B.E. 2528 (1985) Section 89 (8) and the Determining Plans and Process of Decentralization to Local Government Organization Act B.E. 2542 (1999) Section 18, Appurtenant to the Section 16 (26) and 17 (21) stated that the BMA has the power to operate the public mass transit system in Bangkok.

The BMA replied to all of the letters from the agencies regarding the signing of the contract to operate the system of this project by issuing letter Kor. Tor. 1605/2294 dated May 23rd, 2012 to the Director of the Department of Special Investigation (DSI) referred to letter of Department of Special Investigation Urgent Yor. Tor 0811/1325 dated May 14th, 2012 (BMA's letter of Kor. Tor 1605/2294) and BMA's letter of Kor. Tor. 1605/464 dated May 25th, 2012 to the Minister of Interior referred to urgent letter of Mor. Tor. 0211.5/6256 dated May 22nd, 2012 as well as participated in the meeting at Ministry of Interior on May 31st, 2012 (BMA's letter of Kor. Tor. 1605/464).

6) Are the extension projects within the scope of the Private Participation in State Undertaking Act?

From the study, it was found that signing for the BTS extension project for the BMA, which hired KT to manage the system and hired BTSC to operate BTS service, was not in the scope of the Private Participation in State Undertaking Act 1992 because it did not extend the concession agreement nor the PPP contract with the gross cost model. In this case, the original BTS concession was still effective without any amendment until the contract term is complete in December 2029.

According to an investigation of the Council of State, it notified that the BMA's operation of the BTS extension projects was not in the scope of the Private Participation in State Undertaking Act Subject 222/2550 given the following major content.

BMA hiring KT, its subsidiary company, to manage the BTS system was not in the scope of the Private Participation in State Undertaking Act because KT was not "private" but was a company that the BMA had set up to operate duties according to Section 94 of the Bangkok Metropolitan Administration Act, B.E. 2528 as the BMA held over 99% shares and assigned ordinary staff members to be the KT committee.

KT hiring BTSC to operate the BTS services for 30 years was not in the scope of the Private Participation in State Undertaking Act as well because the operation of the BTS business was under BMA's power according to Section 89 (8) of Bangkok Metropolitan Administration Act B.E. 2528 by BMA beneficiary for all of the BTS activities including fares. The private sector would only receive a salary for providing BTS services and not sharing any of the profit or loss. This is why it was not within the scope of the Private Participation in State Undertaking Act.

7) Why was KT hired as the system operator? Why did not BMA manage the project by itself?

From the study, it was found that the reason that the BMA (Bangkok) had to hire Krungthep Thanakom Company Limited (KT) to manage the system was because the BMA has limitation that prevented it from being able to manage project effectively.

One is the limitation to increase headcount under BMA, The BMA has the duty to supervise the Traffic and Transportation Department (TTD) because the law stipulates the BMA's human resources costs must not be over 40% of the budget. At that time this cost had already reached the ceiling; in addition, it required experienced engineers or experts whose salary structure was too high to hire for this position.

There were imitations on work time because the operation period was from 6:00 to 24:00 hours, every day (without holiday) and the operation included maintenance needs to be done 24 hours so it was difficult to supervise and operate. The BTS project gave first priority to safety.

As regards Krungthep Thanakom Company Limited (KT), it is a company that is aligned with Section 94 of the Bangkok Metropolitan Administration Act B.E. 2528. The BMA holds 99.98% of the shares, the BMA's ordinary staff is part of the committee, and the business is under the supervision of the BMA using same model as the government's state enterprise (KT, 2012). Hiring KT was beneficial to the government because the BMA could supervise the operations of the company closely as a main shareholder. If KT had a profit from the operation, it would be a good dividend for the BMA (the Assistant Managing Director of KT, personal communication, October 27, 2014). KT has unique specializations and characteristics that would clearly benefit the BMA. As pointed in the interview with the Assistant Managing Director of KT in 2014, "Our company is absolutely local. Local is not jumping in to hold the company's stocks after the company was set up. This company set up by local since the beginning in 1955, named Sahasamakkhee Animal Trading operated business on slaughterhouse of BMA. It was finally transferred back to BMA in 1962 and had been well operates continuously until 1994, its name was changed to Krungthep Thanakom Company Limited with different mission which is to supervise public mass transit system projects of BMA comprises of BTS, BRT, ferry, etc."

The BMA hired KT under a special case specified in Section 22 of the Metropolitan Administration Act B.E. 2528 amendment (No. 3) B.E. 2552, which contains several details about the commercial hiring of the BMA. This involved assigning KT to be Bangkok's mass transit system provider, which would make Bangkok the same as other big cities worldwide, such as Stockholm, Turin, Milan, Madrid, and Hamburg, and this allowed the city enterprise to be responsible for the mass transit system of city metro (KT, 2012).

8) Why was BTSC Public Company Limited hired for 30 years instead of 17 years? Why did the BMA not wait until the expiration of the original contract before signing the new one?

As specified in the details of the BTSC Public Company Limited contract, BTSC was hired to provide BTS services on May 3rd, 2012 for 30 years, which can be divided into 2 phases as follows:

Phase 1: Present to December 4th, 2029 (according to the original concession)

BTSC was hired only to operate BTS line extensions where the BMA had constructed railways and stations as well as a signaling system. Therefore, all of the assets belong to the BMA and are not associated with the routes specified in the original concession. For these extensions only, all of the revenues which come from advertising and commercial activities of the station will be obtained by the BMA.

Phase 2: From December 5th, 2029 to May 2nd, 2042

Due to the BTSC's concession, contract will expire on December 4th, 2029, and right after the termination of the contract all assets such as the station infrastructure, the signaling system, and all rolling stocks will be completely transferred to the BMA. No rights of the private partner shall remain; however, the BMA will still hire private partners to operate the BTS system for both the old routes and extensions until 2042. In the 2nd Period, all ridership fares for all of the old BTS routes and other commercial revenue will be obtained by the BMA. The BTSC will receive only the hire fee for operating the BTS system.

From the study of this project, it was found that the reasons that BMA chose to sign a contract with BTSC Public Company Limited to operate the BTS system on May 3rd, 2012 for 30 years instead of hiring it for just 17 years or waiting for the original contract to expire before signing a new one were the following:

(1) This contract was on behalf of the original contract that will expire during 2 routes of the extension projects in order to avoid discontinuance of the BTS service operations. As mentioned earlier, the BMA has constructed extensions for Saphan Taksin-Wongweinyai at 2.2 kilometers completed in 2009, and for On Nut-Bearing at 5.25 kilometers completed in 2010. After these two routes were completed, the BMA hired BTSC to operate the system until August 11th, 2012 when the contract will be renewed when the term is complete. From the BMA's study, it was seen that such strategy caused overlapped responsibility and did not save money. Thus, before the extension contract term ended, the BMA had found ways to effectively manage the operation system and save the government money, which was to sign a long-term contract for 30 years.

(2) BTSC Public Company Limited was granted a concession for the original routes that already had a depot. If the BMA hires a new provider by separating the BTS operation from the original routes, it must invest in building a new depot at a cost of 4,000 million Baht and will need to take another 3-4 years to be able

to open its service to the public. Another problem was that the old and new provider had to develop a new signaling system that allows people to connect between them – a requirement that seemed very unlikely to achieve.

(3) The BMA has assessed a procurement fee for BTS rolling stocks, and it found that BTSC Public Company Limited provided a better financial proposal when compared with the 17-year hiring contract and the assessment of the third parties, which were Capital Advantage Company Limited and the Consultant group from PB-Sasin Consultants. Taking this into consideration, the following details are provided.

9) Rolling Stock Procurement Fee in the Case of the 17-year Contract

If the BMA was hired for the period of 17 years (2012-2029), referring to the appendix at the end of the contract, hiring to operate extension projects of 2.2 kilometers (Contract No. 22-5-52) and of the Sukhumvit Line Extension at 5.25 kilometers (Contract No. 22-4-54), and hiring contract to operate and maintain the Silom Line Extension at 5.3 kilometers (Contract No. Kor. Tor. Sor. 025/2554) all added up to a procurement fee of 10,863 million Baht for the 17-year period.

10) Rolling Stock Procurement Fee in the Case of the 30-year Contract

KT Company Limited had explored ways to manage the project and hired Capital Advantage Company Limited on August 2011 as a financial consultant. The consultant companies assessed a procurement fee for the first seventeen years before the contract term was completed, that originally thought to be equal to 7,021 million Baht (exclude VAT), and found that it may only equal to approximately 3,842 million Baht. The conclusion from this assessment is that the long-term contract of 30 years will contribute more fare revenues both from the original concessions and extensions to 300,000 million Baht. After deducting the hiring fee of KT and BTSC, which is approximately 190,000 million Baht, the BMA will have 110,000 million Baht remaining for city development in the future (see data in Figure 4.2).

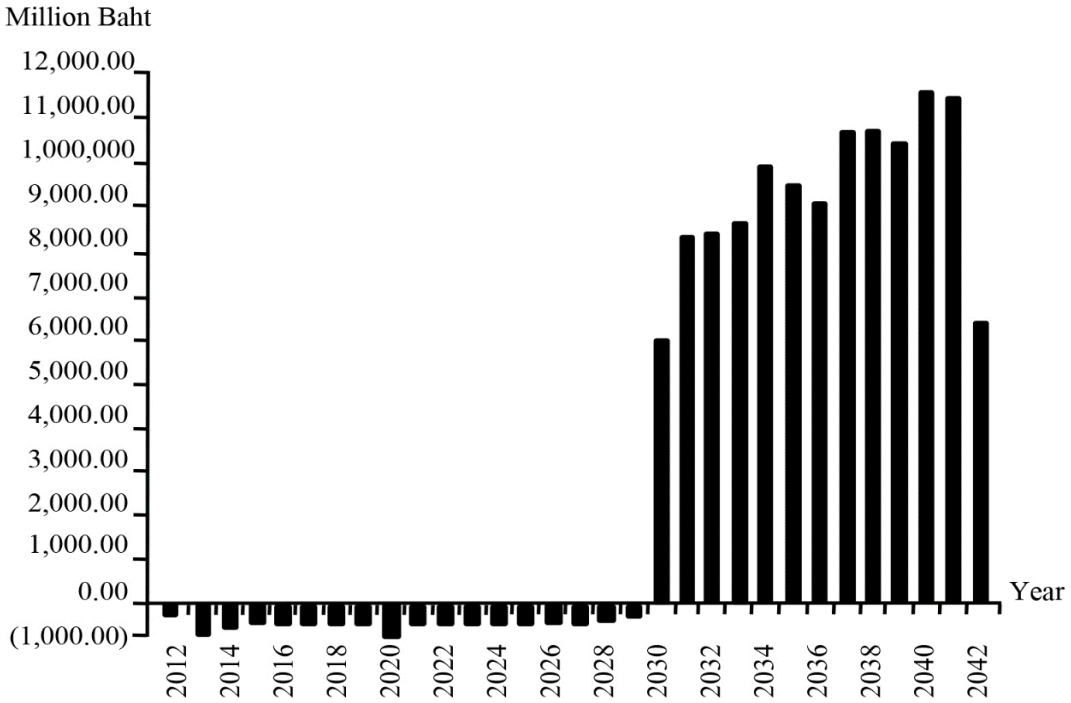


**Figure 4.2** Estimate Revenue-Estimated Net Expenses

**Source:** Krungthep Thanakom Company Limited, 2013.

**Note:** (Year 2042) Beginning from 1 Oct.2041-7 May 2042

KT has invited BTSC to propose Operation and Maintenance service and hired a consultant from PB-Asia in cooperation with the Sasin Graduate Institute of Business Administration of Chulalongkorn University to evaluate this proposal to procure rolling stock during the first 17 years of the project. The consulting companies recommended a 4,303 million Baht fee (excluding VAT), while it costs 4,658 million Baht (excluding VAT) according to the BTSC hiring contract. Apparently the BTSC proposed fee is lower than the 17-year hiring contract at approximately 6,205 million Baht) (see data in Table 4.1).

**Table 4.1** Comparison Table of Rolling Stock Procurement fee of Bangkok Mass Transit System (BTS) in the first 17 years (2012-2029)

| **No.** | **1** | **2** | **3** | **4** |
|---|---|---|---|---|
| | Bangkok Mass Transit System 17-year Contract | Study Report Of Capital Advantage Company Limited | Assessment Report of 30-year project proposal produced by PB-Sasin Consultants | Bangkok Mass Transit System Contract |
| Year | Rolling stock procurement fee (million BAHT) | | | |
| 2012 (B.E. 2555) | 134 | 202 | 42 | 127 |
| 2013 (B.E. 2556) | 454 | 337 | 183 | 203 |
| 2014 (B.E. 2557) | 542 | 337 | 205 | 222 |
| 2015 (B.E. 2558) | 542 | 337 | 205 | 222 |
| 2016 (B.E. 2559) | 613 | 337 | 205 | 222 |
| 2017 (B.E. 2560) | 613 | 337 | 205 | 222 |
| 2018 (B.E. 2561) | 613 | 337 | 205 | 222 |
| 2019 (B.E. 2562) | 668 | 337 | 278 | 293 |
| 2020 (B.E. 2563) | 668 | 446 | 278 | 293 |
| 2021 (B.E. 2564) | 668 | 446 | 278 | 293 |
| 2022 (B.E. 2565) | 668 | 446 | 278 | 293 |
| 2023 (B.E. 2566) | 668 | 446 | 278 | 293 |
| 2024 (B.E. 2567) | 668 | 446 | 278 | 293 |
| 2025 (B.E. 2568) | 668 | 446 | 278 | 293 |
| 2026 (B.E. 2569) | 669 | 446 | 278 | 293 |
| 2027 (B.E. 2570) | 669 | 446 | 278 | 293 |
| 2028 (B.E. 2571) | 669 | 446 | 278 | 293 |
| 2029 (B.E. 2572) | 669 | 446 | 278 | 293 |
| Total | 10,863 | 7,021 | 4,303 | 4,658 |
| Compare to No. 1 | | Less than 3,482 | Less than 6,560 | Less than 6,205 |

**Source:** Krungthep Thanakom Company Limited, 2013.

Concession agreement 27.1 stipulated patent rights to BTSC Public Company Limited to be able to renew the concession period when the company notifies its intention to the BMA not less than 3 years before the concession term is complete. However, the company signed contract with the BMA for a 30-year project. This means that BTSC has given up its right to renew the concession contract and the BMA will completely operate all routes and has the right to impose policies, especially fare rate specifications, and in the 18th year the revenue obtained will be more than the cost so that it could set an appropriate fare rate for people.

11) Was the Cost of Hiring KT Company Limited and BTSC Public Company Limited appropriate?

BMA's budgeting and hiring for the extension projects received a lot of political attention. The society also raised the question whether the budgeting was appropriate. The BMA signed a contract to hire KT with a budget of 1,800 million Baht to operate the BTS system for 30 years and signed a contract with BTSC Public Company Limited to operate the BTS system and for maintenance for 30 years with a budget of 187,790 million Baht on May 3rd, 2012.

The hiring budget for KT to operate the BTS system at a total 1,800 million Baht comprises the following:

(1) Cost to develop high technology and to recruit experienced staff/experts

(2) Cost to manage and inspect the work of employees

(3) Cost to develop and improve the system's technology for all 30 years

Particularly after the year 2029, the role of KT will be more important and broader in scope as it needs to monitor all of the routes aligned to the original concession and the extensions as well. The BMA hired KT as its subsidiary or state enterprise so that it would negotiate with KT not in the role of the customer but as a main shareholder. The BMA is the one that appointed the committee of the company and agreed that the most appropriate salary was five million Baht fixed for 30 years.

Hiring BTSC to operate the BTS system for a total of 187,790 million Baht was for operating the BTS services for the period of 30 years, categorized into 4 groups as follows:

1) Operating and Maintenance Cost (includes electricity, equipment, staff salary, etc.) According to the opinion of the BTS expertise operator, using the model developed by the Asian Development Bank, which was the same model as that used for the MRT, the cost was divided into 13 types related to the variables that obviously affect costs. For example, the cost of drivers that changes according to ridership, and staff salaries at stations that will be constant according to the number of stations.

2) Cost for Big Maintenance comprises the cost of the entire maintenance of rolling stocks every 6-8 years, big maintenance every 18-20 years, railway repair, maintenance of automatic ticketing machines, the electrification system, the signaling system, and operations and communication, as well as maintenance equipment that has different a working life and needs to be maintained in good effective condition for all contract period.

3) The cost of the fare collection and revenue submission was the operating fees collected from revenue and to be submitted to the BMA on a daily basis for all contract periods at a fee of 1.25 % of the total fare revenue.

4) The cost to procure rolling stock costs for rolling stock procurement was double the existing cost before the contract was signed in 2012 in order to maintain the quality of service and for more routes, and a greater number of passengers in the future for the entire contract period of 30 years.

BTSC Public Company Limited operates the BTS train to support a ridership of more than 1,500,000 persons/day. Fifty-nine train sets and 306 rolling stocks were used to manage and to provide effective, standard services and to be able to respond to the increasing demand of passengers, particularly to provide a sufficient running schedule, especially during rush hours (2.20-2.35 minutes for the Sukhumvit Line and 3.00-4.50 minutes for the Silom Line). The operating fee was calculated by car-kilometers and paid by the total running length of one bogie. The operating fee paid to BTSC has a lower value in accordance with assessment model developed by the DB and the Public Debt Management Office (PDMO). The Ministry of Finance suggested that this model be applied to study the appropriateness of the BTS project in Thailand. Compared with the Purple Line of the SRT that had previously signed a contract, BTSC’s has a lower unit price at 12% or 20,000 million Baht (see data in Table 4.2).

**Table 4.2** Comparison Table of Operating Cost (car-km) of BTS Project's Purple Line

| Item | Purple line Bangyai - Bangsue | BTS Project in Bangkok | |
|---|---|---|---|
| | | First 17 years | Latter 13 years |
| No. of station | 16 | 11 | 34 |
| Hiring cost according to the contract (million BAHT) | 93,475 | 187,000 | |
| Deduct Operation &Maintenance cost and others (million BAHT) | 9,100 | - | |
| Remaining NET Operating cost (million BAHT) | 84,375 | 187,000 | |
| Total length of service (million car-km) | 218 | 539 | |
| Operating cost (BAHT) : car-km | 387 | 347 | |
| | Purple Line is higher approximately 12% | | |

**Source:** Krungthep Thanakom Company Limited, 2013.

**Note:** The calculation cost of Purple Line is according to cost in the quotation from bidders which was announced at submission date and showed in public media.

The BMA's decision to move with the BTS project without the approval by the cabinet also raised some legal issues which were 1) the legal issue related to BMA's power to engage in the BTS project and 2) the legal issue related to the BMA's power to hire KT and BTSC.

1) Laws Related to the BMA's Power to Engage in the BTS Project

Before the BMA managed to hire KT as a system operator and procured operators for the BTS extensions, it submitted a letter to the Office of the Council of State Ruling No. 222/2550 declaring that the operation of the BTS business as under the BMA's authority in compliance with Section 89 (8) of Bangkok Metropolitan Administration Act B.E. 2528 (1985).

According to the Constitution of the Kingdom of Thailand B.E. 2550 (2007) Section 281 and 283, the local government is the main unit that is to offer public transportation and also has the right to create policies for public service

management; and Determining Plans and Process of Decentralization to Local Government Organization Act B.E. 2542 (1999) Section 18 stated that the BMA has the right and duty to procure public transportation for the benefit of all people locally according to Section 16 and Section 17, where Section 16 (26) specifies that the municipality has the right and duty regarding transportation, and Section 17 (21) states that the provincial administrative organization has the right and duty regarding mass transportation (Determining Plans and Process of Decentralization to Local Government Organization Act B.E. 2542 (1999).

The BMA has the right to run the BTS business because of such reasons, and the BMA therefore does not need to ask for approval from the Minister of Interior according to Section 11 because this case is aligned with No. 6 of Declaration of the Revolutionary Council No.58, stating that "in case of business laws as cited in No. 3 or No. 5, such business engagement shall be complied with its related law" according to the Council of State Ruling No.398/2535 regarding the enforcement of Declaration of the Revolutionary Council No.58 (Declaration of the Revolutionary Council No.58, 1972).

2) Laws Related to the BMA's Power to Hire KT and BTSC

The BMA hired KT as a system manager in a special case according to Section 22 of Metropolitan Administration Act on Procurement B.E. 2538 amendment (No. 3) B.E. 2552. Metropolitan Administration Act on Procurement amendment (No. 3) B.E. 2552, which specified the BMA's hiring for commercial purposes such as companies that the BMA has set up legally under its own law of government agencies, state enterprise, etc.. The BMA's hiring contract stated that KT had the duty to procure BTS operators and a maintenance system, and fare collectors, both of which were serviced by BTSC Public Company Limited.

KT is state enterprise set up for supplying commercial services to public utilities according to Section 94 of Bangkok Metropolitan Administration Act, B.E. 2528 (1985) (Bangkok Metropolitan Administration Act, B.E. 2528) with the BMA holding more than 99% of shares and the BMA's ordinary officers being appointed as the committee of the company. It therefore is a business under the supervision of the BMA which is a local government. The Council of the State investigated Subject 222/2550, specifying that KT Company Limited was not "private" in compliance with

Private Participation in State Undertaking Act 1992 and Section 96 of the Bangkok Metropolitan Administration Act B.E. 2528 (1985) (Code of law the Bangkok Metropolitan Administration in setting up state enterprise B.E. 2552).

The BMA has also passed a code of law for the Bangkok Metropolitan Administration regarding the fare rate of Bangkok public transport B.E. 2552. Following this, the Bangkok Governor was entitled to announce the fare rate of public transport, and the BMA would obtain all fare revenue, and the KT and BTSC would receive their salary (Code of law the Bangkok Metropolitan Administration in fare rate of Bangkok public transport B.E. 2552).

The BMA hired BTSC as the BTS operator in a special case, with the same hiring conditions as for KT because BTSC has already provided services on the concession routes. This was additional to hiring BTSC for BTS extension of which routes are linked together in order to obtain lower operating cost than hiring other private companies. This is because, as stated earlier, other private companies will need to construct new depot and maintenance port, which were extremely costly. Moreover, there are only three BTS operating companies: BTSC has the highest number of passengers.

However, this case where KT hired BTSC to operate BTS is not considered a private partnership, according to Act on Private Participation in State Undertaking B.E. 2535 (1992). As the BMA consulted with the Office of the Council of State about this case prior to the contract signing, the Office of the Council of State judged that the BMA or KT would hire private companies to operate the BTS services on extension lines in case that the BMA would like to operate the BTS business. This action is well supported by Section 89 (8) of Bangkok Metropolitan Administration Act, B.E. 2528 (1985), where the BMA has the right to operate the mass transit system in Bangkok (Bangkok Metropolitan Administration Act, B.E. 2528). At the same time, private companies will solely receive their salary.

When hiring private companies to operate the BTS as in the aforementioned case without a license or a concession granted or assigned any rights to run the BTS business, hiring in such way is not considered a “partnership or cooperation” in the state business in compliance with Section 5 of Act on Private Participation in State Undertaking B.E. 2535 (PPSU, 1992).

Furthermore, since 2010 this project has been extensively studied in order to find appropriate ways to operate a business of this type. In doing so, the BMA hired AMP Consultant and KMP Pattana Company Limited to examine the partnership and the operation of the mass transit system of Bangkok during the first phase. They found that if all agreements are combined into one contract, operating by one operator for 30 years will contribute to the most efficient BTS operating service as this method could reduce management costs, increase bargaining power with the hired company, reduce repetitive expenses from the system administration, and eventually be able to lower the estimated budget limitations of the project. The BMA therefore chose to sign the contract for 30 years.

In terms of approval of the project, the BMA followed the normal procedures: (1) submit a budget request to the Bangkok Metropolitan Council that consisted of members of the Democrat Party and the Pheu Thai Party (which was Thai Rak Thai Party at that time); (2) the council approved the estimated budget; and (3) the Bangkok Governor passed the Bangkok Metropolitan Administration (BMA) regulation of the revenue.

Another reason for making the BTS operating contract on May 3rd, 2012 was because the BTS operating contract for Silom Line Extension Line at 2.2 kilometers and the Sukhumvit Line Extension Line at 5.25 kilometers will end on May 7th, 2012 and August 11th, 2012 respectively. It was essential to procure a BTS operator at that time; otherwise, this would cause trouble for passengers.

Is this within the scope of the Act on Offences Relating to the submission of bids to government agencies B.E. 2542 (1999) or not? As aforementioned, KT is a Company Limited that the BMA has set up and holds more than 50% of its share. In the case of hiring BTSC, this is aligned with Section 8 of the Metropolitan Administration Act on Procurement for hiring any experts or those with high skills or where urgent work is required. If the procurement is late, it will cause trouble for the company.

## 4.4 The Transformation of the PPP Project to Traditional Public Procurement

In the operating phase of the BTS project, there was a transformation of it to the form of traditional public procurement because of the contract terms for the project extension management. The PPP 30-year contract was from 1992 to 2029. The contract for the project extension, which was in the form of traditional public procurement, was from 2012 to 2042. Therefore, the PPP according to the original contract will be totally transformed to traditional public procurement in 2029. The time space is illustrated by the figure below.

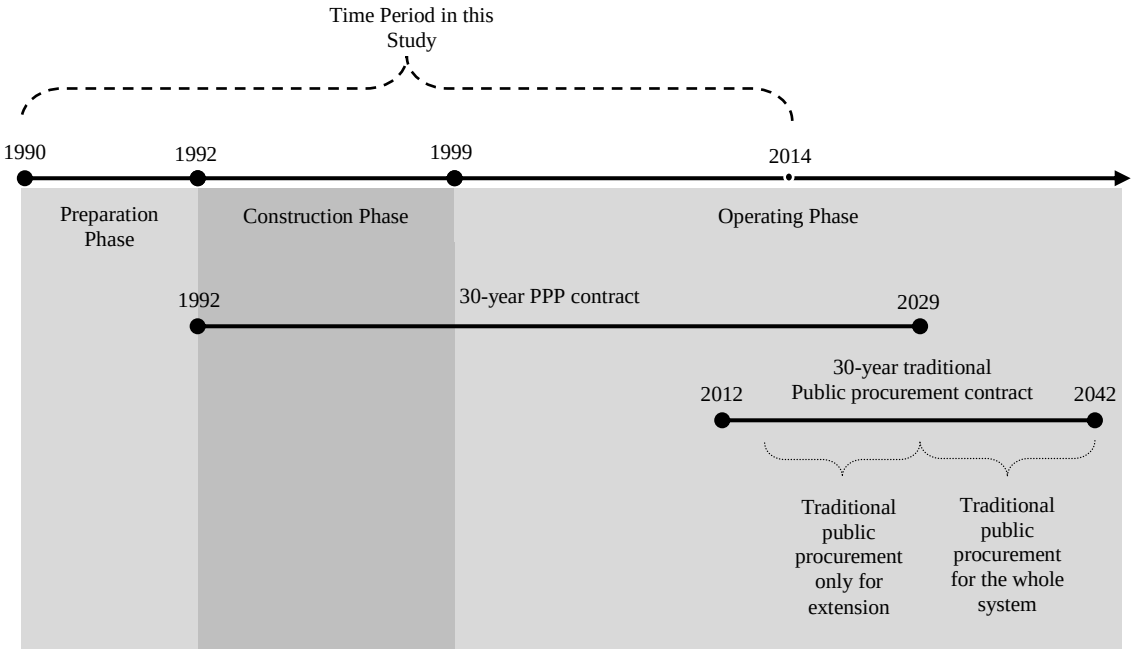


**Figure 4.3** Overview of BTS Project's Time Period and its Transformation from PPP to Traditional Public Procurement

The figure above provides the big picture in terms of the time period of the BTS project. According to the research objectives, the core analysis of this study examines four factors of the project in order to provide recommendations for creating an efficient and sustainable PPP project and explains how the project was transformed to traditional public procurement in light of the effects caused by the four factors discussed.

Each factor did not necessarily independently affect the PPP project; there were some possible chain effects caused by one factor that had an impact and might have been a cause of another factor. For example, social movements against the construction could have led to the revision of the venue assignment, thus causing managerial difficulties for the project. Further, political intervention might have forced the project to change the rail system, which places a greater burden on the private party to spend more funds on infrastructure establishment.

The shift of the BTS project during the operating phase occurred in 2012 when the BMA decided to proceed with the BTS project extension in the form of traditional public procurement in addition to the 30-year PPP contract that will expire on December 4$^{th}$, 2029. The 2012 contract does not have any effect on the original PPP contract but it results in a different management matter, which can be divided into 2 periods of time.

1) 2012-2029: The contract assigns the responsibility only over the extension of the project. The expanding routes according to the 2012 contract belong to the BMA because the BMA funds the construction of stations and routes and provided the electric system, the operating system, and the fare-collecting system with its own budget. The fare collected from the passenger belongs to the BMA, while KT is hired as the manager of the systems. BTSC and KT will have a benefit in the form of wages.

2) 2029-2042: According to the PPP contract, all properties in the BTS project will be transferred to the BMA. BTSC will no longer have any right over any of the properties. The original routes will be under the same condition as the expanding routes in 2012-2029. Therefore, all of the routes will be under one management system. BTSC and KT will have the benefit of performing their duties according to the contract in the form of wages.

## 4.5 Chapter Summary

Normally, projects of mass transit like the BTS require a high budget for investment and are not financially viable on a commercial basis without sponsorship from the public sector, but the BTS has possibility to run the project under a concession model as follows:

1) It is a large-scale public utility where the private sector invests 100% and obtains revenue from the project at 100% without any intervention from the public sector.

2) It is the first project where the private sector studies project feasibility and the BMA only advises on the concept (in broad view), and drives and supports the project.

3) It is the first public mass transit system project that was completed and that stands alone in its operation without the support of the public utility network or basic service system.

4) It is the first project in the world that has very short length route from one point to another point in the inner city, not to the suburbs of the city.

5) Considering the size of the population, Bangkok is one of the major cities in the world. Traffic congestion on roads is serious. However, there is no mass transit system to transport the great number of people. People cannot travel around as they wish, especially in the traffic congestion areas such as Sukhumvit and Silom. Bangkok's economic condition is rather high. People have purchasing power to pay for tickets in exchange with their waste of time in the middle of traffic jams. Moreover, it is difficult to find car parking lots and this is getting more and more severe. It is believed that the ridership on a good mass transit system, which is very necessary for Bangkok, will be very high.

6) Most mass transit systems are built with long routes, beginning in the suburban area and extending to the city center, and require high investment. Even though there is high demand at the last stations only at the morning and evening times, it is necessary to operate the services all day, as in the city center. In order to maintain good standard of service, the Bangkok mass transit system successfully operated in appropriate routes from the suburb to the city center and are available throughout the day as it should be.

# CHAPTER 5

# ANALYSIS

This chapter is the analysis of the four factors that affected the BTS project. This analysis is based on documentary research and data from the in-depth interviews with the key persons related to the operation of the project during the study time frame. It cannot be concluded that the BTS PPP project failed or succeeded because at the end of its operation phase it had been transformed to a traditional public procurement. The factors in the operation phase that pushed the project to be transformed will also be analyzed.

The structure of this chapter is from the conceptual framework in Chapter 2, which indicated four affecting factors: the political factor, be economic factor, be managerial factor, and be social factor. Each factor will be analyzed phase by phase. The core of this analysis is to show how each factor affected the BTS project and to prove that each factor did not necessarily independently affect the project as there were some chain effects caused by one factor that had an impact and might have been a cause of another factor.

As a foundation for the analysis below, Table 5.1 summarizes the significant events and incidents that occurred during each phase of the BTS project and their impact on the project according to this study.

**Table 5.1** Significant Events and Incidents and Results

| **Preparation Phase (1990-1992)** | |
|---|---|
| **Events/Incidents** | **Results** |
| 1) The central government and BMA had a consensus on having a mass transit project as a solution to traffic problems in the Bangkok metropolitan area. | 1) There was a study of feasibility under the cooperation between the central and local government. |

**Table 5.1** (Continued)

| **Preparation Phase (1990-1992)** | |
|---|---|
| **Events/Incidents** | **Results** |
| 2) The economic boom and rapid growth in Thailand built confidence for investors to engage in mega projects. | 2) The private sector invested in the project totally with its own funds. The project was in the form of a PPP. |
| 3) The coup (NPKC) took over Chatchai's government. Mr. Anand was appointed to be Prime Minister. | 3) Despite the delay due to an unstable political situation, the PPP contract was finally concluded under Anand's term. |
| **Construction Phase (1992-1999)** | |
| **Events/Incidents** | **Results** |
| 1) Political instability including "Black May" | 1) The adjustment from a light rail to a heavy rail system imposed more burdens on the private party in the PPP project, doubling the budget required for the heavy rail system (from 15,000 million to 25,000 million). |
| 2) Many plan revisions led from light rail to heavy rail | 2) The crisis also doubled the debt owed to foreign sources (from 25,000 million to 50,000 million). |
| 3) Thailand suffered from the economic crisis in 1997. | 3) The civil society movement resulted in the relocation of the venue for the depot construction and a compromise between the project and communities around Chit Lom station. |
| 4) The movement against the use of Lumpini Park as the venue for the construction of a depot and maintenance port | |
| 5) The movement against the assigned location of Chit Lom station with the concern that the construction would impact the communities around the area | |

**Table 5.1** (Continued)

| Operation Phase (1999-2014) | |
|---|---|
| **Events/Incidents** | **Results** |
| 1) The split between the central government and BMA brought about a conflict between them regarding BTS project management.<br>2) Private funds for the project still suffered from the financial crisis. The BMA decided to continue without the central government's consent for the route extension project in the form of public procurement. | 1) Too many revisions of the project by the central government delayed the project, especially for the route extension as the total length of the routes which were ready for service provision did not reach the goal set in the master plan.<br>2) The political conflict and lack of the private party's financial capability drove the transformation of the BTS project from the PPP to a traditional public procurement for the project's route extension. |

## 5.1 Political Factor

The political factor could be seen as the most influential factor in a PPP project. The case of BTS also proves that this is true, as this factor had significant impacts on all phases and was one of the causes of the BTS being transformed during the operation phase. Below is an analysis of the political factor in each phase.

### 5.1.1 Preparation Phase

A successful preparation phase requires a strong feasibility study with a clear plan for the whole project. Many studies regarding PPP projects in foreign countries demonstrate that the political factor, such as the role of the government and the political context, often has a big impact on the plan, objectives, and scope of the

project that directly affect the achievement of the project (Tang & Lo, 2008a), while other factors including economic and social factors might have a smaller influence on the project.

Since the first study of the mass transit system on Bangkok in 1967, it had been almost 30 years until the concession contract was signed in 1992. Even though the Preparation Phase of the BTS project was only three years long, the project had been through many political incidents. The political instability that occurred before and during this phase caused the delay of the project because of low confidence for the private investors (BTSC, 2008). At the end, the concession contract was successfully signed as a result of the good cooperation between the central government and the BMA.

The political instability before and during the preparation phase was the root of the delay of the mass transit system in Bangkok for two main reasons. The first was the policy instability. Policy on transportation had been changed from government to government. One reason that the mass transit system project was revived when Chamlong was the Bangkok Governor was that the Chatchai government had a clear policy to support mega projects in Thailand. Having a clear policy and appropriate support was therefore one of the most essential factors for a successful preparation phase.

The second was that the political instability led to private investors' low confidence. The mass transit system project was a huge project and required a huge amount of budget. Before the BTS project was launched, there had been many attempts to involve the investment of the private sector. However, the political instability as well as the uncertain policy regarding public transportation made it impossible for the government to build enough confidence for the private sector and therefore the government failed to incentivize private companies to become involved in the project (BTSC, 2008).

During this phase, there appeared a sign of political opposition before the concession contract was signed. As cited by the Former Director of Public Work Engineer Division of BMA (personal communication, September 25, 2014). "at that time, there were critics against the concession contract as someone named the contract as the 'Shameful Contract.' The Governor Chamlong responded to the critics by

launching a white paper which explained the background of the project and provided some clarifications." However, such resistance did not delay the project, as the concession was signed and the project continued.

The former Permanent Secretary of the BMA (personal communication, September 15, 2014) stated that "there was one politician who was completely against this project saying that we should not sign any contract until the new Bangkok Governor was in place. I had a personal opinion that BMA did not act arbitrarily as BMA had submitted all documents which were already approved by all related government agencies. When I took this role this process was 80-90% complete".

According to the interviews (Former Director of Public Work Engineer Division of BMA, September 25, 2014 and Former Permanent Secretary of the BMA, September 15, 2014), there had been critics from opposing politicians before the contract was signed. Nevertheless, such opposition did not cause any delay or any other difficulty for the project.

Before the concession contract was signed, the political context was that the coup took down the Chatchai government and Mr. Anand became Prime Minister. It seemed that the project would be definitely postponed due to the coup. However, the contract was signed under the approval of Anand's cabinet. One reason why the contract was successfully concluded under Anand's administration was possibly that Anand was a political-neutral Prime Minister and the political interest was not an issue, unlike the political situation where the political parties might claim that the achievement of the project was because of the success of their popularity.

The legal ground for the signing of the contract was the Announcement of Revolutionary Council No. 58/2515. Therefore, there was a legal difficulty. However, the specific law regarding the PPP project, Private Participation in State Undertaking Act B.E. 2535 (1992), was enacted one day before the contract was signed. This law contained newly-developed policies and a legal framework for PPP project.

### 5.1.2 Construction Phase

A successful construction phase requires a good foundation from the preparation phase, especially a clear construction plan. Despite a well-designed plan, there are other factors that affect the success of a project. The potential risks include technological risks, supply risks, regulatory risks, and government intervention risks

(Griffith-Jones, 1993). The BTS project is the good example of a PPP project that could overcome those problems and obstacles. In addition to the government instability, the 1997 financial crisis also had a huge impact on BTS project funding.

The period of 1992-1999 was the period during which the BTS was constructed. The political instability was reflected by the fact that there were 6 governments in a 7-year period. Each government had different policies regarding state operations. Due to the fact that people in Bangkok had high expectations for this project, each government paid a great deal of attention to its progress. There were many times that the working group was requested by the government to present before the government the progress and other details with regard to the project. Since some operations under the project required approval from the government, the frequent reshuffling of the government or related authorized persons was an implied procrastination of the project.

It was found that political factor had more influence on the BTS construction phase than an influence on the preparation phase. Every time a new government was formed there was a revision of the details and the progress of the project. The revision led to amendments of the concession contract and some adjustments in the issues that had already been concluded.

Government intervention was usually claimed as a duty to protect public interest. However, the intervention was the cause of the delay of the overall operations of the project as the construction had to be suspended periodically for inspection. For instance, in 1994 when construction was in progress, the train system was changed from a light rail system to a heavy rail system. In addition, the government in 1994 reviewed the project type regarding the possibility of changing it from a skytrain to a subway, leading to many subsequent negotiations until they agreed on the skytrain project as before (Executive of BTSC Public Company Limited, personal communication, September 25, 2014).

A legal issue was also raised during the construction phase as the Act on Private Participation in State Undertaking B.E. 2535 (1992) did not well specify a participation model for the private sector or the concession granted. It was up to the consideration of the concessionaire to provide any type of concession or project. Moreover, this Act on Participation in Undertaking caused some difficulties in its

application in many ways: an unclear Thai PPP legal framework, a problem with the evaluation of the project's value, an inconsistent and incomplete legal framework, and a complicated process with too many state agencies, etc. This was therefore another obstacle in the aspects of operation and control (Jaruvan Hengtrakool, 1992).

The solution for the legal issues was in the form of a ministerial announcement and regulation which were a supplement to the 1992 act that gave more details on the PPP model and the application of the act. There were three legal instruments enacted by the Ministry of Finance as follows.

1) Ministerial regulations (1994) issued in accordance with the Act on Private Participation in State Undertaking B.E. 2535 (1992) (Ministerial regulations No. 1, 1994)

2) Ministry of Finance's Announcement (1994) Specifying the Qualifications of a Project Advisor for Private Participation in State Undertaking B.E. 2537 (Notification of Ministry of Finance, 1994)

3) Ministerial regulations (2002) issued in accordance with the Act on Private Participation in State Undertaking B.E. 2535 (1992) (Ministerial Regulations No. 2, 2002)

### 5.1.3 Operation Phase

The literature review showed that the significant risk in the operation phase included political and commercial risks. The BTS project reflects this claim as in the operation phase of the project the most significant factor that led to the transformation of the BTS project was the political factor. During the operation phase of the BTS project, political instability and intervention were the most influential factors that affected the BTS project. In addition, the split between the central government and local government caused big trouble in operating the BTS project.

The political instability was reflected by the fact that during the 15 years of the operation phase (1999-2014) there were seven reshuffles of the central government, resulting in policy inconsistency that led to discontinuity of the project. Especially since 2001 to present, the political situation became more severe than the situation in the early phases.

Political intervention was most influential factor that affected the BTS project. In addition, the split between the central government and Bangkok Metropolitan Administration (BMA) caused a big trouble in operating BTS project. The political situation became more inconsistent and resulted in the political conflict that has been rooted in Thai society until now. The significant political incident was the split between central government and BMA. The central government and BMA were from different political parties with totally different ideas on the BTS project. There was a government intervention with an attempt to acquire the project back from private party to government. However, BMA had a different view to let private party carry on the project. The route extension project was accordingly delayed due to such conflict. After many managerial and legal disagreements with the central government, at the end, BMA decided not to continue the extension project in form of PPP but the traditional public procurement. That was how the BTS project has been transformed to traditional public procurement.

The conflict between the central government and the BMA could be seen when the central government wanted to take over BTSC and operate the BTS project on its own while the BMA wanted to continue the project on its own. This conflict arose when the central government was under the Thai Rak Thai and Pheu Thai parties, while the local government was under the Democrat Party since they were political rivals.

This political tension caused a delay of the extension of the public mass transit system to serve the residents of Bangkok. It obviously led to negative implications for the city's infrastructure development in terms of mobilizing finances and accelerating private participation in project investments.

Political conflict during the operation phase had strong influence on the project. The main issue was the different opinions in operating the BTS project which commenced during the period of the general election campaign: competition in politics from two big political parties in highlighting their different policies to the win people's vote. When winning an election, these policies had to be pushed forward as a promise to the people during the election.

From political competition to forming a government and the different policies of these two political parties all brought conflicts in management, especially for the BTS project. That was because the BMA was a local government led by the Bangkok

Governor as leader of the executives and be of lands/areas of BTS project since the beginning in 1992. Previously, most Bangkok Governors came from political parties with different policies from the central government. During the operation phase, conflicts came from the different policies of the two powerful political parties: one was the central government, and the other was the local government this continually affected the operation of the BTS.

The BMA had an idea of having private funds for the extension of the BTS project. However, it was impossible because no private companies had a proposal in the bidding process. One reason why bidding process failed was that private companies had no confidence in the political situation, which had been instable and increased the investment risk in their perspective. This failure led to the BMA's decision to transform the PPP project regarding the BTS extension to a public procurement where the BMA would invest its own funds to build the infrastructure.

In summary, the big political issue in this phase is the idea of centralization of power by the government resulting the intervention to the BTS project evident by actions of the central government trying to take over the BTS project from the private party, refusing BMA's requests for six times to subsidize the project extensions, and attempting to gain the control over the green line route extension. This was a part causing a delay of the project extension which was 10-year later than the specified time in the master plan.

## 5.2 Economic Factor

The economic factor is another important factor that has a huge impact on a PPP project. Particularly in the BTS case, this factor appeared to be more influential during the construction phase where the Thai economy was suffering from the financial crisis in 1997. The BTS project suffered from that too as the financial situation had a potential to make the project fail. However, the project survived even though it suffered from that crisis for a few decades.

### 5.2.1 Preparation Phase

Since the first study of the mass transit system for Bangkok in 1967, it had been almost 30 years until the concession contract was signed in 1992. One reason

that the project was delayed for almost 30 years before the concession contract was signed in 1992 was that the project required a huge budget to fund the project. For Thailand, the attempts of the government for many years before launching BTS project was not well-achieved because none of those in the private sector had sufficient financial capability to invest (BTSC, 2008).

One reason that the project could start is the economic situation of Thailand at that time. The average growth of Thai economy from 1987-1994 was 8.6% which was relatively high that resulted in the increase of investment in Thailand. This economic condition in Thailand built high confidence for investors to invest in Thailand as all statistics and figures reflected the rapid growth of Thai economy. Thailand's SET Index in 1987 was at 209. Seven years later, it was raised to 1,789 as the highest in 1994. The BTS project as a new mega project in transportation sector was therefore attractive for investors including Mr. Kiri Kanjanapas, a Thai-born successful businessman in Hong Kong who became the founder chairman of BTS group Holdings. He brought the business model from Hong Kong to Thailand. However, this project was more exclusive and expensive than his other projects which were conservative at that time.

### 5.2.2 Construction Phase

According to a study of PPP projects in other countries, the period of constructing is a challenging time for the private sector in terms of both monitoring things within the planned budget and seeking sources of supplementary funds such as CTRL, which was a project in England that faced a financial problem because the private partner could not find the enormous source of funds needed to operate project. The government then assisted by providing a government loan guarantee to the project. Financial problems and several obstacles the private sector was facing had an effect to the clearness of the project from the beginning stage. Further, ineffective management and an unclear plan during the Construction Phase were the causes of a shortage of finances to operate the project. Lastly, the reshuffling of all the central government's members many times causing unstable operating policies has a direct effect on more budget spending.

Rather than the political factor, the factor that significantly affected the BTS project during the construction phase was the economic factor. The problem was originally from the lack of domestic sources for funding, resulting in funding by foreign financial sources. The project was forced to take a risk in the exchange rate. Two major things that placed a greater financial burden on the project were the change from a light rail to a heavy rail system and the financial crisis in 1997 (Former Executive of BMA, personal communication, September 25, 2014; Executive of BTSC Public Company Limited, personal communication, September 25, 2014).

The main obstacle in operating this project was finances in accordance with the agreement signed on April 9th, 1992, where a concession was granted for a total length of 30 years and 100% of the investment was from the private entity, which would be the one that acquired the land for the depot and the maintenance port without any financial grants, such as a minimum revenue guarantee or subordinated loan from the government. The problem multiplied as the BTS was later forced to move the depot, extend the routes, and adjust the train system from light rail to heavy rail, which required much more investment than initially planned, i.e. from 15,000 million Baht to almost 25,000 million Baht (Former Executive of BTSC Public Co. Limited, personal communication, September 25, 2014). The problem was emphasized by the BTS, which commented that "as this project requires high investment in addition around 1992, loan interest rate had extremely increased at that time plus none of any banks can provide that much money as the first stage of project requested 25,000 million Baht to construct project. We then need to find finance institutes to help but there were no finance institutes in Thailand could release that much money to us. So, it must be integration of banks- this case banks in Thailand don't fight because this project is rather risky so we need to find foreign bank to loan by let's commercial bank in Thailand as a leader to contact other banks in foreign countries".

During the constructing project, a little problem was the change of sub-contractors, but big the problem that the BTS project confronted was the fluctuation of the exchange rate during the economic crisis in 1997 because most of the loan funding was from foreign countries. This consequently had a serious effect on the project as Executive of BTSC Public Company Limited (personal communication, September 25, 2014) stated in the interview the following:

"Bank will loan us with condition that we have to spend up our own existing capital. Tanayong Company Limited was partner who doesn't have too much money in hand around 1,000-2,000 million. Bank said you must well spend all your own money in the first place so we tried to sell things and get approximately 3,000-4,000 million. Bank then said ok but you need to invest on all your own money then you can withdraw some from banks. When we operated for about one year, the economic crisis hit bringing up project value from 25,000 million Baht to 50,000 more million Baht in one night because 80% of our borrowing funds are from foreign institutions, exchange rate fluctuates from 25 dollars to 50 dollars in one night but we decide to fight." Because of the economic crisis affecting the exchange rate at that time, the company had to go through debt restructuring twice later on.

For BTS project in Thailand, the major company's financial solution that put the company through a financial crisis was that BTSC Company Limited was registered and listed on the Stock Exchange of Thailand as a Public Company Limited in 1996. Financing was the most important factor on the private partner side.

In regards to the interview with the Executive of BTSC Public Company Limited (September 25, 2014), after re-routing and changing the system of the train body, the cost of this project rose to approximately 25,000 million Baht. In terms of the BTS construction, it required a source of funds but there were no banks in Thailand that could lend such enormous money. So, the fund had to be provided by a group of banks, but the banks were reluctant to do so because they found the project to be too risky. Thus, external funding had to be sought. With the support of Siam Commercial Bank as a leader to get in connection with banks in foreign countries, BTSC had the burden and risk of entering into a loan agreement with foreign banks.

On February 2nd, 1996, BTSC signed a loan agreement with Siam Commercial Bank Public Company Limited, KFW International Finance Corporation and with Siemens Limited; and registered to become BTSC Public Company Limited on August 14th, 1996. An executive added during the interview the following:

"Bank will loan us money in the condition that we must spend up all of our own capital. Tanayong Company Limited was partner who doesn't have too much money in hand around 1,000-2,000 million. Bank said you must well spend all your own money in the first place. So, we tried to sell things and get approximately 3,000-

4,000 million. Bank then said ok but you need to invest on all your own money then you can withdraw some from banks. We operated for about one year, the economic crisis hit bringing up project value from 25,000 million Baht to 50,000 more million Baht in one night because 80% of our borrowing funds are from foreign institutions, exchange rate fluctuates from 25 dollars to 50 dollars in one night but we decide to fight."

"Mostly our loans are from Germany as some portion of borrowing fund we asked supplier to find for us, which was Siemens, our skytrain supplier. As it is big company when they obtain works from us, will we have money to pay them? The company will know that we don't so we make a deal, if you want to get work from us, you must help us finding source of funds as well; that is to say I will loan money from your suggested sources to pay you. Siemens itself in Germany is quite big company so they will definitely find source of funds to us" and afterwards, BTSC had restructured the debt two times.

Another incident in the construction phase was the financial crisis in 1997 resulting in the radical exchange rate change from 25 Thai Baht/USD to almost 60 Thai Baht/USD within a day. The consequences of the crisis in addition to currency depreciation and capital flight involved the collapse many financial institutions, recession and decline in imports. At the end of 1997 the NPL was raised to 22.6% from 13.0% at the end of 1996. The NPL percentage continued increasing as the statistic showed 46% in October 1998 and 47% in September 1999. The situation was better in 2000 as the NPL rate dropped to 38.1% however it was still considered high. The economic recession that followed the currency crisis was reflected in -1.4% GDP growth in 1997 and -10.3% in 1998. Additionally, the unemployment rate was double from 3.2% in 1997 to 7.3% in 1998. The import value also dropped around 30% from 1997 to 1998.

The financial crisis can be seen as the biggest obstacle that impacted the project's viability. The revision of the rail system from light rail to heavy rail raised the cost for the project from 15,000 to 25,000 million Baht. The problem was highly fueled by the financial crisis as stated above. The way the project could overcome the financial difficulty included negotiations with financial sources and debt restructuring.

### 5.2.3 Operation Phase

The operation phase started 2 years after the financial crisis. Thai economy had been slowly revived. At time of official opening, the economic context was not that supportive to the BTS project as there were many unemployed a collapses of financial institutions and the confidence in investment was extremely low. At the early stage of operation phase, there were not many passengers as BTS was something really new in the society and many people still had doubts on its security and system.

Regarding the financial factor, the BMA's revenue collection during the operation phase was with advertisements on pillars along the station area and from the taxation of lands and buildings that had increased continuously.

Regarding the problems and obstacles with the finances of the public sector (BMA) after opening its services (operation phase), partly due to political influences, the BMA considered investing in a railway and station infrastructure and signaling system by spending 100% of the BMA's budget. Furthermore, when the construction of infrastructure was completed, the BMA then needed to spend money to hire BTSC to provide running services for 30 years, which were effective from 2012 for a total of 187,790 Baht. The BMA also hired Krungthep Thanakom Company Limited for 1,800 million Baht to manage the system-with such high money, the BMA had to have financial commitment in the long term.

From the private sector's financial point of view in terms of a hiring contract to provide services for the extension lines during the Operation phase signed with Krungthep Thanakom Company Limited in 2012, this would help the reduce risks on revenue and make the project more stable in the long term as the BMA did not need to take any risks that could have happened in the future. In fact, the financial problems and obstacles during the BTS opening were problems that happened during the construction phase. The biggest problem was perhaps the one with the exchange rate in 1997. When it came to the period of opening, big money was still required as the BTS revenue was less than expected in the first year of operation. In addition, BTSC also needed to start paying the loan interest; it consequently suffered a profit loss for a long time.

BTSC recognized that there should be an extension of the project. In 1999 the route extensions from Sathorn Bridge to Wongwian Yai and from Chong Non Sri to Satupradit Road were approved by the cabinet's resolution. The extension plan was

approved under condition set by the concession contract, which the private party would have to invest totally on its own. However, BTSC lacked the financial capability to invest in infrastructure so it proposed that the government do that instead and BTSC would pay the fee for its use.

Accordingly, the economic factor was another important factor that affected the BTS project in its transformation. The extension under the concession contract conditions was not possible as BTSC still suffered from the 1997 financial crisis. This burden limited BTSC's financial capability and prevented it from investing in infrastructure for the extension of the project. The inability of BTSC to invest was therefore another ground for BMA's decision to spend its own budget for the infrastructure for the BTS extension.

## 5.3 Managerial Factor

The way of managing a project is another factor that could have a significant impact on the project. The challenge of a project is the cooperation between public and private parties as well as all stakeholders. With a typical difference in management regimes between public and private parties, both parties are required to come to a mutual resolution for the project's management. The assignment of roles within the project must be clear. Below is an analysis of the managerial factor affecting the BTS project.

### 5.3.1 Preparation Phase

During the Preparation phase, there were not many managerial difficulties as the phase ended up signing the contract. However, the managerial factor became a more important issue during the construction and operation phase because the preparation phase was the foundation of the other phases. The inexperience and unclear plan for the whole project caused a huge managerial problem that led to BTSC's restructuring (Former Director of Public Work Engineer Division of BMA, personal communication, September 25, 2014). The managerial problems such as too broad a scope of the project, unclearly-defined objectives, the lack of public hearings, and the lack of environmental impact assessment will be discussed later with reference to the other phases.

Both BMA and BTSC were new to a mega transportation project like BTS at that time as they have not managed such a huge project. They missed to conduct a risk allocation which was one of the top priority for the project as the project involved many stakeholders. The growing and positive economy was misleading as BTSC overlooked the potential risk which was come up later in the next phase.

The business model for BTS project was from Mr. Keeree Kanjanapas's experience in Hong Kong. However, the difference in context had an effect on the project especially the lack of clear direction from public agency. This unclear plan resulted in the lack of EIA and the lack of public hearing which was required later in the next phase.

### 5.3.2 Construction Phase

In terms of project management, both the public partner (BMA) and private partner (BTSC) were inexperienced in a large-scale public mass transit project so there was a lack of effective preparation and clear operating plans. This problem was fueled by the central government's intense control. The managerial problem for the BTS construction could be seen as an aftermath of the government instability mentioned earlier, as a political factor that affected the project during the construction phase. Many studies on PPP projects in other countries showed that when the large scale project was the responsibility of the central government, how the government handled the project was a significant factor affecting for the success of the project. The BTS project was also such case as a large-scale project under the responsibility of the BMA. In terms of management, the political instability therefore directly affected the progress of the project resulting in a three-year delay of the construction.

### 5.3.3 Public Sector's Managerial Problems

Lack of public relations and clear public hearings according to Official Communication Act 1997 aroused the media and Thai population to follow the progress of the BTS project very closely. Official information of state agencies was available for inspection by the public to ensure the transparent operation of the state's activities. In the beginning, the BTS project was opposed by many sectors because such a PPP project had never been initiated before and it led to the people's

misunderstanding. The opposition was reflected in the protest against the land use of Lumpini Park as a venue for the BTS depot and maintenance port construction.

After the protest, the BTS construction location for the depot and maintenance port was relocated and it took almost 3 years to hand over new depot and maintenance port at a new location, Mo Chit. As a result of the depot relocation, all of the BTS routes had to be adjusted, supplemented by the appropriate study of Office of National Economics and Social Development Board, which summarized that the project system should be adjusted from a light rail to heavy rail which could accept double ridership: more routes and creating a bigger train body were considered an improvement and problem at the same time.

Cooperation with state agencies in large-scale PPP projects that impact the public and that are operated by the private sector is not convenient as project construction is related to many agencies, especially government agencies or state enterprises for public utilities such as the Metropolitan Waterworks Authority, the Telephone Organization of Thailand, the Metropolitan Electricity Authority, etc. Therefore, the state agencies (BMA) needed to be central in accommodating cooperation in the work through many steps of government procedures. To do this, the Geographic Information System was an alternative that the government could use to enhance cooperative systems, and it was suggested that a flat organization should be encouraged for more work flexibility and to boost the effectiveness of cooperation. This was the background of Krungthep Thanakom Company Limited in terms of monitoring the system for route adjustment and relocation of the depot and maintenance port. Additionally, there was the 1$^{st}$ amendment of the concession agreement on January 25$^{th}$, 1995 and the 2$^{nd}$ amendment was on June 28$^{th}$, 1995 accordingly.

When an agreement signed in 1992, there was no obligation in conducting an EIA to survey the environmental effects so the project did not conduct such survey, though later the BTS reversed its stance and did so. Moreover, the EIA for a new route extension (Chong Nonsi-Sathorn) was also conducted and aligned to the National Environmental Quality Act B.E. 2535 (1992). Due to the reshuffling of six governments during the construction phase, the state's duty (BMA associated with BTSC) was necessary to clarify the working process for each state agency along the construction period.

### 5.3.4 Private Sector's Managerial Problems

During construction, the private sector was engaged in procuring machinery, rolling stocks, a signaling system, and electrical and mechanical work (E&M); however, due to the relocation of the depot and maintenance and a new regional bus terminal complex at Mo Chit, along with the adjustment of the train system from a light rail to heavy rail, all of these enhanced the BTSC study to adjust the routes, increase the number of stations, and plan to put double money into investment. While inviting subcontractors that might be interested in civil work to make a bid, the subcontractors afterward were chosen. Then, the private parties inside the BMA decided to hire an independent advisor in order to monitor the project for the best results.

Problems and obstacles on management derived from the private sector's efficiency and performance problems in good planning, and evaluating and promoting the project. The BTS project was a big public mass transit project that required a well-planned process. BTSC itself as a concessionaire faced difficulties in the BTS construction because of its inexperience in transportation and its organization consisting of many partners, which were sometimes not quite controllable. Furthermore, BTSC needed to recruit a qualified staff for the many operating units such as coordination with media for large public projects which stressed mass the media as well as marketing strategies, while highlighting human resource development, and research and development (R&D). In addition, as it was the first electric train in Thailand, the company confronted resistance from many sectors and received negative feedbacks on whatsoever construction effects, e.g. problems from the construction, traffic, sub-contractors, delays of work handover and the BTS depot and other areas along the mass transit routes. This is only to complement the 1997 financial trouble which caused huge financial problem to the company.

The problems and obstacles mentioned above were entirely due to the unclear direction of this project from the beginning. When comparing the BTS case to cases in other countries addressed in Chapter 2, such as Vancouver's Canada Line (skytrain), which applied the DBFO model of PPPs for 35 years of concession, the project had been "well-defined" and the government "succeeded to reach more realistic project scope in construction plan," resulting in complete construction by the deadline and within budget (Phang, 2009a). Similarly, the Gauteng rapid rail link

project covered a total distance of 80 kilometers, and was successful due to the government's involvement from its first stage. EIA, feasibility and business study were conducted while planning and the scope of the project were clear, leading to the completion of the project in time and within the budget.

BTSC had faced a variety of managerial problems during this phase some of which were the cooperation with local and related government agencies, a search for construction suppliers, a replacement of unfinished construction sites left by default suppliers, and a management of traffic condition in the construction area. Furthermore, BTSC had to modify its business strategy in consistent with the relocation of depot, the change in operating system, and the reassignment of routes. These adjustments could be seen as major modifications on the original plan which should not happen after the contract was signed. This put significantly more burden on the private party in terms of financial burden and also caused managerial difficulties. The original period indicated for construction was 3 years but the construction took 7 years to be complete as the starting date of construction was already 3 years later (the amendment of the contract for these major changed was done in 1995) the originally expected starting date.

After the financial crisis, BTSC had faced a financial problem resulting in the double debt owed. The amount of money owed was increased to more than 50,000 million Baht. This brought a huge difficulty in terms management as the company must manage the project under the financial crisis condition.

### 5.3.5 Operation Phase

There have been several problems and obstacles with government's management during the operation phase (1999-2014) due to the political context. The BMA as a project initiator and responsible agency in the Bangkok metropolitan area was in charge of pushing forward route extension projects to correspond with the people's demand but, as mentioned earlier, it confronted many challenges regarding managerial issues because of political instability and the different opinions of the central and local government. There was also a lack of financial support allocated from the central government for the extension of projects in 2001-2005 and the problems arising out of the cabinet's resolution on November 27$^{th}$, 2008 concerning

route adjustment. Specifically, the route adjustment was originally the responsibility of Bangkok under the approval of the MRTA, which was responsible for the construction of the BTS Green Line extension for Mo Chit-Saphan Mai and Bearing-Samutprakarn. This would potentially bring up issues of management in the future and also problems in case the BMA was criticized for the 30-year contract it signed with BTSC Public Company Limited.

### 5.3.6 General Management Issues

In terms of the full range operating development of the private sector after the BTS's official opening, BTSC commenced to collect revenue from in-train and station space advertising, fares from passengers, etc. The management factors in this period comprised risk management such as operation according to a contract made with the government sector. The fare rate, which was the most important for the BTS being public service, risk management for business such as marketing plans, the operation of the BTS running schedule and safety all were important factors to consider. During this period, the BTSC priority was operation and maintenance (O&M) by experts to ensure that all of the factors discussed are well taken care of.

The next operating development was the management of BTSC, which was hired to operate the running schedule of the 2.2-kilometers extended route On Nut-Bearing for 2 years. In 2012, it was hired to operate the running schedule of more route extensions according to the contract during 2012-2042 for 30 years. These contracts have clearer details leading the company to be able to organize long-term plans. Bounded by the conditions agreed on, BTSC had to have standards, a good operating service system punctual and enough numbers of trains for the customers' demands, a number of operators, safety standards, development of collaboration with the government sector (BMA), and a representative of the public sector which was the Krungthep Thanakom Company Limited (KT) that enhanced the development in collaboration continuously, and more effectively.

However, problems and obstacles regarding management during the Operation phase occurred many times in the 15 years of service, which will be categorized into the most important issues that directly affected the company:

1) problems regarding service to the public, e.g. people complained about the service manner of the staffs, problems from system failure (happened once in 15 years on December 26, 2013)

2) obstacles to managing the 30-year route extension contract due to political issue impacts on the management of the contract

3) problems in the future due to duplicated project management from the political issue impacts on the management of the contract

4) problems with the management of joint ticketing (with other public transportations) in the future

From exploring the PPP process of the BTS project, it was found that the issue that the private sector worried about most and that had the most effect on the project was politics, e.g. unstable politics, political conflict, political intervention, and capital (Executive of BTSC Public Company Limited, personal communication, September 25, 2014).

### 5.3.7 Management of Financial Burden in BTS Project

As a result of financial crisis in 1997, the debt was doubled to more than 50,000 million Baht. Even though the project has suffered from the flux of exchange rate, it has been alive due to two main reasons.

1) The high potential of routes which was through the city center for both Sukhumvit and Silom lines was the key factor that increased the performance of the project.

2) The business skills and decisions of private party and its business allies enabled the project to survive.

Mr. Keeree Kanjanapas was able to bring the project back to life as he has had strong business connections and allies who had supported the project. The New World Group from Hong Kong was one of them. Another shareholder that came and bought shares during the crisis was Dubai International Group (DIG) but it later sold almost shares back to Mr. Keeree Kanjanapas as the group was facing the economic problem in Dubai. Furthermore, BTSC performed debt restructuring twice. BTS project was also able to obtain funding through stock market by the merger of BTSC and Tanayong in 2010 resulting in the increase of its shares value in total of more than

50,000 million Baht under the new company called BTS which was moved from real estate sector to transportation and logistics sector under service industry. After that, the performance of the project has been much better as the annual loss of around 165 million Baht would become the profit of 674 million Baht.

Before the debt restructuring, BTSC had a total debt of 59,834 million Baht. After the debt restructuring by debt payment of 23,514 million Baht, the conversion from debt to equity of 16,339 million Baht, the release of debt form interest of 19,343 million Baht, and the issue of debenture of 11,873.63 million Baht in 2009, BTSC could reduce debt from 47,359 million Baht to 12,475 million Baht and raise the sharholders' value to 38,703 million Baht in March 2010. This therefore totally recovered the BTS project from the suffering caused by the financial crisis.

## 5.4 Social Factor

The social factor was another important factor that potentially caused project failure. However, in the case of the BTS, the social factor played a minor role as it did not have a huge impact on the project.

### 5.4.1 Preparation Phase

The traffic has been a big problem in Bangkok for decades. As of 2015, Bangkok was ranked eighth among 10 cities that had the worst traffic in the world. The problem was the triggering point of the mass transit system. The primary purpose of the BTS project was to tackle the traffic problem in the Bangkok metropolitan area by providing a better option for commuting between the city center and suburban areas.

Therefore during the Preparation Phase, the social factor that moved the idea of having a mass transit system in the Bangkok area was the severe traffic problem. The central and local government decided to provide this mass transit system in the form of a PPP concession contract. At this time, there were both supporters and opponents of the idea of having a project because the society still did not know how the project was going to look like. However, this did not have any significant impact to the project.

### 5.4.2 Construction Phase

The BTS project was affected by the social factor in terms of the opposing movement of the civil society. The original construction plan was that the depot and maintenance port would be located in the area of Lumpini Park. The movement against the construction plan claimed to preserve the recreational area for the well-being of the Bangkok citizens.

The issue raised among protestors against the use of Lumpini Park as the construction venue for the BTS depot and maintenance port was that the area must be used for the purpose in accordance with King Rama VI's will of having that area as a public and recreational park for people. As stated previously, because of this pressure, the venue for construction was relocated to Mochit area.

The cause of the opposition against the BTS project during the construction phase was usually the concern that the construction would affect the quality of life in the city community. During the construction phase, the BTS project seemed unwelcome due to the concern that the BTS was something new for citizens so some argued against the project while others supported the idea. However, it is obvious that BTS project today is more than welcomed as it provides much more benefit in terms of transportation convenience.

Another significant movement against the construction of the BTS was the movement of the community around the Chit Lom area, where a station was planned to be located in front of Mater Dei School. The phrase "no way station" was used to protest against the plan to have a station there. Dr. Bhichit Rattakul, the Bangkok Governor at that time, also joined the protesters. The protesters raised many issues to explain why a BTS station should not be there. Below are many issues described at that time.

1) The first issue was the safety of students. There was a concern that the station would be used as a venue for criminals who would like to see what was going on in the school and target any student as a victim of a crime.

2) The second issue was air pollution. Having an elevated rail might prevent the air flow of the area nearby the station and cause air pollution which would harm people around that area, including students.

3) The third issue was noise pollution. There was a perception that the sky train would be a source of noise that would disturb the lifestyle of the residential community and the learning atmosphere at school.

4) The fourth was the criticism that the BTS project would not effectively solve the traffic problem.

5) The last was a concern that having a station in the city area would ruin the city scenery of that area.

Although many issues were raised, the main and most raised concern was safety. This protest led to the need for a solution on which both BTS and Chit Lom community would agree. The protesters and BTS had a mutual solution-that the station would be located as planned; however, the BTS had to provide a wall that prevented people on the station from being able to view what happened in the school to prevent any potential crime.

### 5.4.3 Operation Phase

Unlike the preparation phase and the construction phase, there had been no significant social movement against the BTS project. It seemed that the people accepted the BTS project as a necessary transportation facility in Bangkok and they hoped that the extension of the project would be achieved and ready for service provision as soon as possible.

However, the process that was likely to face opposition from civil society was expropriation, where the governments acquire private property to be used as an asset for public interest. The expropriation process normally compels the private sector to give up its ownership of property to the government while the government pays the private sector reciprocally for the price of such property.

## 5.5 Chapter Summary

The most significant factor affecting the progress of the BTS PPP project during the preparation phase (1990-1992) was the political factor. The fact that the central government and local government (BMA) had a harmonious idea to develop the mass transit system in Bangkok could be considered as the vital first step. The

social factor that drove such an idea was the demand for a mass transit system as the solution to traffic problems in Bangkok. However, the social factor might be a minor factor affecting the PPP project.

The project during the Preparation phase faced the political instability resulting in the delay of the project because of unstable policy regarding public transportation and the low confidence of the private sector. However, the economic situation during the preparation phase was positive enough to attract investors to participate in the project. Despite some opposing political critics, the contract was finally signed under the Anand government, which was a political-neutral government where the political interest was not in issue. It is therefore fair to conclude that the political factor, along with the economic factor were important at the beginning of the project.

During the preparation phase, the managerial factor did not have a significant impact on the project. However, the managerial factor became a more important issue during the construction and operation phase. Arguably, the managerial problems during the preparation phase had planted the root that caused problems later on during the phases that follow.

During the BTS construction phase, there were many factors affecting the success of the project, and each factor was interdependent. The delay of the project was not caused by only one factor but all of them. The political instability resulted in unclear and ineffective management, and the lack of comprehensive managerial plans led to protests and complaints about traffic problems. The protest against the depot and maintenance port construction at Lumpini Park led to the decision for relocation. In summary, the major adjustments during the construction phase were 1) the relocation of the BTS depot and maintenance port, 2) a new BTS route assignment, and 3) the change from a light rail to heavy rail system.

The economic factor was also one of the most important factors that impacted the project viability. The adjustment of the project details and the financial crisis raised the cost of the project from 15,000 to 50,000 million Baht. Fortunately, the BTS project could overcome this difficulty and continue to the next phase.

In conclusion, we can summarize that the economic factors together with the political factors had the most impact on the project during BTS construction phase.

Other factors still had some impact on the project but the problems were able to be handled.

The analysis of the developments, problems, and obstacles during the operation phase (1999-2014) showed that the political factor had more effect on the BTS project than on the early phases. Political power was divided into two distinguished political sides in 2001. The central and local government (BMA) had different policies regarding the BTS project. As the BTS was a long-term project and relevant to basic demand, it of course received a direct impact from such a split. Particularly during the operation phase of BTS project, there were many important political incidents (which reflected the unstable political situation in Thailand), including two coup d'états which were: 1) the coups d'état by the Council for Democratic Reform (CDR) on September 19, 2006 and 2) the coups d'état by the National Council for Peace and Order (NCPO) on May 22, 2014. In the 15 years of BTS service provision, parliament was dissolved 7 times. From this study, it was clearly seen that the political factors after the official opening of the BTS project had become more serious than during other phases. This corresponded directly to the management factor of both public and private organizations.

The changing management factor in the public sector, such as a lack of support from the central government to approve any budget for extension projects, drove the BMA to adjust its management by hiring Krungthep Thanakom Company Limited (BMA's state enterprise) to be responsible for the electric system project and BTSC to operate train services for 30 years. This transformed the PPP contract to a traditional public contracting/procurement model where the BMA is was investor for all infrastructure and signaling systems. However, a dispute arose after the 30-year contract was signed, and there was also a change in the management factor in the private sector due to a big change of the project model from PPP to traditional public contracting. So far, the private sector still had to conduct a feasibility study and adapt its management, as the current condition left too much room for any potential problems to take place in the future.

In terms of the financial factor, great changes in terms of political competition and political instability created worry and reluctance to invest as in 1992. There was a concern that the political instability would increase investment risks for the private

sector. Accordingly, the BMA had to make an important decision to invest on its own and suffered a great deal of financial burden and a long-term commitment to the finances of the project. Therefore, it is fair to say that both the political and economic factors were the ground where the PPP had to be transformed into public procurement.

Based on the political situation and the fact of the BTS's operation during operating phase mentioned earlier, the research question of how the project was transformed from PPP to traditional public procurement can be answered as below.

1) Political Factor: Political conflict during the operation phase includes the disagreement between the central government and the BMA over the management and operation of the BTS expanding routes. The central government had the idea of taking the BTS project back under its own power but the BMA had the idea of having private funds for the extension of the BTS project. However, the BMA's idea was impossible because no private companies had a proposal in the bidding process. One reason why bidding process failed was that private companies had no confidence in the political situation, which had been instable and increased the investment risk in their perspective. This failure led to the BMA's decision to transform the extension from traditional PPP to a public procurement where the BMA would invests its own funds to build the infrastructure.

2) Economic Factor: The extension under the concession contract conditions was not possible as BTSC still suffered from the 1997 financial crisis and had a debt burden. This burden limited the BTSC's financial capability and prevented it from investing in infrastructure for the extension of the project. The inability of BTSC to invest was therefore another ground for BMA's decision to spend its own budget for the infrastructure of the BTS extension.

3) It seems that the BTS project extension followed the model provided by the operation of the MRT, where the private parties did not need to spend their own funds to provide infrastructure and system establishment. This was viewed as a new precedent model for the operation of mega-projects in Thailand.

Even though we cannot definitely conclude that the BTS was a successful PPP project because the project was finally transformed to public procurement, the project overcame many problems and obstacles since the project had survived the financial

crisis in 1997. However, the financial crisis still had an effect on the private party's financial capability to invest in the extension of the BTS project. The project was therefore indirectly forced to be transformed into a regular public procurement project. The current situation of the BTS project is that there are two applicable contracts: the concession contract for the BTS project (PPP) and the contract for the extension of the project (Public Procurement).

The political issues impacting the PPP process in the case study of the Bangkok Mass Transit System began with the adoption of its concept with the government sector during the preparation phase when the opinion of both the central and local government were in line and led to the beginning of the project. For this, the private sector was involved in proposing a model for Bangkok's public transportation, and then the public considered the most appropriate system—the BTS. This study helps us to understand the procedures that attracted the private sector to participate in a project with the public sector, and to understand the political factors affecting the results of development as well as the problems and obstacles that occurred during each operation phase of the project according to the Project Management Theory. This is a suitable model for the study of a large-scale PPP project that will operate in the long term.

After that, the Construction Phase was a very challenging period for the BTS project due to two main obstacles: 1) political instability-within 7 years, cabinets were reshuffled 6 times. This issue directly impacted development and policy inconsistency, which had a great deal of impact on the project, and 2) the situation was becoming more intense. The problem derived from the Preparation Phase that impacted this period was ambiguous management plans from the project's early stage, e.g. public relations and public hearings were not conducted. On the other hand, the lack of good planning by both public and private sector caused many significant problems and impacted the double increase of the budget; and in addition, the project was extremely affected by the economic crisis in 1997, raising the debt that the project owed to 50,000 million Baht.

During the Operation phase (1999-2014) after providing service for 15 years, the challenge from many factors and the political context particularly had more influence than during the beginning and constructing period of the project. After

opening, it was seen as a very popular means of transportation among the people because of its convenience. The public sector, or the BMA in this case, made an effort to carry out line extension projects but problems arose because the politics were not stable. As clearly seen in 2001, the representatives of central government and local government (BMA, the initiator of the BTS project and responsible for land use in the Bangkok metropolitan area) came from absolutely different political parties thus creating political conflict and different opinions on the project. As a result, the line extension works had many difficulties in terms of continuance due to the lack of support from the central government in approving the budget to fund those extension projects. Furthermore, the BTS project itself still had a financial burden as a result of the financial crisis in the past so it was not be able to invest on its own in the same way that the BTS started. For these reasons, Krungthep Thanakom Company Limited (BMA's state enterprise) and BTSC were brought in to provide BTS operating services for the 30 years period.

The claim of this study is that the political context along with other factors in Thailand directly affected the PPP in the BTS project as the split between the central government and the BMA drove the transformation of the delivery of the BTS from a PPP to a Traditional Public Contracting/Procurement according to two factors: government instability and the government's intervention caused by the conflict. The way in which the BMA decided to proceed with the BTS project was similar to the operation of the MRT project, which can primarily be seen as a precedent model.

This study found that the political factor and other factors affected the development of the public-private partnership efficiency and development of operations in each period. Chapter 6 will show the analysis results and findings and will make suggestions and useful recommendations for mass transit rail system projects in the future.

# CHAPTER 6

# DISCUSSIONS AND RECOMMENDATIONS

The objective of this research was to understand the political development in the Public-Private Partnership process (PPP process) by focusing on the Bangkok Mass Transit System and the problems and obstacles affecting this partnership, and the efficiency of operating this project. By studying each phrase, beginning with the conceptual initiative of this project through the construction and opening until the present, the political factors as well and other major factors-economic, managerial, and social-were analyzed in phrases in order to obtain information on the on-going development, and the problems and obstacles during each phase, as already mentioned in Chapter 4 and Chapter 5. In this chapter, the issues and obstacles from the different phases will be summarized in order to come up with recommendations and useful guidelines for Thailand's mass transit rail system in the future.

## 6.1 Conclusions Regarding Problems and Obstacles

The case study of the BTS project using qualitative research along with collaborative development in each phase concluded that four factors affected the collaborative process development of the project, as summarized in Table 6.1.

**Table 6.1** Summary of How Each Factor Affected the BTS Project During Each Phase

| | **Political Factor** |
|---|---|
| Preparation Phase | Political instability delayed the launch of the BTS project because of policy inconsistency and low confidence for investment. However, the contract was signed when Mr. Anand was in office as Prime Minister. The fact that he |

**Table 6.1** (Continued)

| | |
|---|---|
| **Political Factor** | |
| | was politically neutral brought about good collaboration between the central government and the BMA. |
| Construction Phase | The BTS project faced an attempt to intervene and adjust the project as planned by the government. The fact that there were many governments during this phase and they were from different political parties having different policies was a main reason why the BTS project was procrastinated due to too many project revisions by each government. A significant change in this phase was that the initial plan of having a light rail system was adjusted to a new plan which used a heavy rail system. |
| Operation Phase | The key political situations which directly affected the BTS project included the split and conflict between the central government and the BMA, resulting in the delay of the route extension plans and the transformation from PPP to traditional public procurement regarding route extension plan management. |
| **Economic Factor** | |
| Preparation Phase | The lack of sufficient private funds for the project was a main reason why the project had been delayed for many years as the project required a huge amount of money for funding. |
| Construction Phase | To fund the construction of the whole infrastructure for the BTS project required a huge budget. The fact that domestic funding sources could not provide sufficient funds for the project drove the BTS project to depend on foreign financial sources. The "Tom Yum Goong" crisis in 1997 doubled the amount of debt the project owed to financial sources. However, the project could successfully overcome this hardship as it was able to negotiate with financial institutions, conduct a debt restructuring, and enter into a business reorganization process (Later in 2006, the bankruptcy court had an order to revoke the business reorganization plan). |

**Table 6.1** (Continued)

| | |
|---|---|
| | **Economic Factor** |
| Operation Phase | The BTS project still suffered from the 1997 financial crisis during the construction phase, although the project could survive and got into the debt restructuring and business reorganization process. In addition to the political factors, the financial crisis in the past and the political tension between the BMA and central government reduced the confidence of investors in investing a huge amount of money in the route extension projects. Accordingly, a form of PPP was not applicable in this situation and the route extension projects needed to be transformed to traditional public procurement. |
| | **Managerial Factor** |
| Preparation Phase | There was no significant managerial difficulty during this phase. However, the development and construction plans were not clear enough. So this was one of the reasons for managerial problems in later phases. |
| Construction Phase | The lack of effective preparation and clear operating plans from the BTS preparation phase was the root of managerial difficulties during the construction phase as the project needed to conduct a public hearing and EIA during this phase even though this should have been done during the preparation phase. This problem was fueled by the central government's interventions which led to so many revisions and adjustments that the BTS project had to adjust its management consistent with the inconsistent policies of different governments. Therefore, all of these managerial problems regarding the BTS construction can be seen as an aftermath of the government instability. |
| Operation Phase | The transformation from PPP to traditional public procurement of the route extension project would possible will lead to managerial difficulties in the future due to the overlap between the 30-year concession contract (PPP) and the traditional public procurement. |

**Table 6.1** (Continued)

| | **Social Factor** |
|---|---|
| Preparation Phase | The main objective of the BTS project was to be an alternative mode of transportation and a solution for traffic problems in the Bangkok area. |
| Construction Phase | The BTS project was affected by opposing movements of the civil society. Two outstanding incidents were the opposition against the plan to locate a depot at Lumpuni Park and the protest against the plan to locate Chit Lom station in front of Mater Dei School. The first movement ended with the decision to move the venue for the depot construction from Lumpini Park to the Mo Chit area. The latter ended with a compromise between BTS and protesters-that the BTS would provide a wall that could prevent people on the station from being able to view what happening in the school. |
| Operation Phase | There was no social movement that significantly affected the project. The potential movement during this phase was in the form of a movement against expropriation. |

Furthermore, regarding further implications, it is worth summarizing the problems and obstacles that the BTS project faced in each phase. The table below is a brief summary of the problems and obstacles according to each factor.

**Table 6.2** Summary of Problems and Obstacles in Each Phase

| **Phase** | **Political Factors** | **Economic Factor** | **Managerial Factor** | **Social Factor** |
|---|---|---|---|---|
| Preparation Phase | 1) Political Instability<br>2) Resistance from opposing political party<br>3) The lack of PPP-specific law facilitating PPP | 1) The lack of financial capability of private sector<br>2) The lack of domestic funding sources | 1) Delay of the process due to the lack of experience<br>2) The unclear plan and objectives of the project | 1) Traffic crisis in Bangkok area |
| Construction Phase | 1) Inconsistent policies on BTS project<br>2) Political intervention<br>3) Unclear law governing PPP project | 1) The increase of the budget due to the adjustment from light rail to heavy rail system<br>2) The effect of financial | 1) The lack of appropriate public hearing and EIA survey<br>2) The adjustment of train system from light rail to | 1) The need to change the venue from Lumpini Park to Mo Chit area for depot construction |

**Table 6.2** (Continued)

| Phase | Political Factors | Economic Factor | Managerial Factor | Social Factor |
|---|---|---|---|---|
| | | crisis "Tom Yum Goong" in 1997 doubling the debt the BTS owed to foreign sources | heavy rail<br>3) The delay of plan implementation | 2) The protest against the assigned location of Chit Lom station next to Mater Dei School |
| Operation Phase | 1) Instable political situation due to the split central government and BMA<br>2) Political intervention in line extensions<br>3) The lack of financial support from central government<br>4) The different interpretations of law governing PPP project | 1) The aftermath of financial crisis in 1997<br>2) The lack of confidence of investors in invest in route extension project | 1) Many revisions causing difficulties in management<br>2) The transformation of PPP to tradition public procurement with a potential managerial problem which could occur due to the overlap between PPP and traditional public procurement | 1) Potential of having a movement against expropriation process |

## 6.2 Discussion

The BTS is a good example of PPP projects in Thailand. The case study of the BTS provides some lessons in terms of contribution to theories and four factors affecting the project in each phase. Some of the factors had an impact on the survival of the project while others led to minor obstacles and problems that the project faced.

In the Preparation phase of the BTS project, the political factors along with the economic factor were the most important for the signing of the PPP concession contract. The concession contract required that the private party invest all by itself while the government had the responsibility to provide land for construction. This was the first case where the PPP project was totally funded by the private party. The reason why that private party had such confidence in investing in the project was the political and economic atmosphere at that time. During the early time of this phase, there was an economic boom due to Chatchai's policy on international cooperation and trade, which built Thai and foreign investors' confidence to invest in Thailand. the economic growth rate of more than 10% many years in a row reflected the positive situation that facilitated investment. Furthermore, the central government had

many mega projects and the idea of having the private sector participate in those projects, including the BTS project. The Bangkok local government at that time also had the idea of having a mass transit system as a solution for traffic problems in the Bangkok metropolitan area. The political instability during the BTS preparation phase slightly delayed the process of the BTS project. However, the concession contract was finally signed under the approval of Anand's cabinet.

What happened to the BTS project during its preparation phase proved that political the context and economic situation had a huge impact on whether the project would begin. For a private party the core factor for participating in a PPP project was the confidence that they could invest with an opportunity to gain a profit in the future. Both the positive economic situation and the private party's sufficient financial capability were necessary, especially for a huge project like the BTS where the private party totally funded the project. Furthermore, the political situation was also influential on the private sector's confidence. The stable political situation along with the clear policy of the PPP was more attractive for the private sector in terms of investing in a PPP project. This study accepted that the political factors were something that was never controllable, particularly in Thailand's context. In order to build investors' confidence, the central government and local government should have a commitment or an idea that the change of any government would not have a huge impact on the continuity of the project.

One more point from the preparation phase was that the political and economic factors were not totally independent. Specifically, Chatchai's policy on the private sector's participation in public mega projects was also important for the BTS project. This claim is also proved by what happened during other phases.

During the construction phase, the project faced many more problems than those faced during the preparation phase. However, the political and economic factors were prominent. This seems to support Griffith-Jones's claim that one of the major risks in this phase is government intervention. In the construction phase there were many revisions of the project plan by central governments as during this phase there were many governments and they were from different political parties having different policies. The plans were changed back and forth, which caused a huge delay in the project. Too many revisions of the project also led to managerial difficulties

because the implementation of the project had to be in line with inconsistent plans. The root of the problem can be traced back to the preparation phase when all of the assessments and plans had to be appropriately prepared and clear enough to be implemented. The adjustment of the rail system was the major change that should not have happened. Furthermore, the situation of the BTS project got even worse when it faced the "Tom Yum Goong" financial crisis in 1997.

Looking back to how the financial crisis affected the BTS project it can be seen that the lack of appropriate and comprehensive risk assessment might have been the cause of this problem. If the project decided to diversify risk by having 5a 0% loan from domestic sources and 50% loans from foreign ones, it would have suffered less from the crisis. This study accepted that the risk from the exchange rate at that time was really difficult to be anticipated due to the situation in Thailand at that time, as Thailand had applied the fixed exchange rate system. However, the lesson learned from the study was that the risk assessment was very important from the beginning. It is therefore vital to make sure that the risk assessment be conducted from the beginning of a project and such risk assessment includes all risks that the project will possibly face in the future. In other words, the PPP project requires appropriate and comprehensive risk assessment and needs to make sure that no risk is overlooked.

One stakeholder that came into play during the BTS construction phase was the civil society. As the construction of the BTS project required much land, the government assigned the land and premises for the construction. The construction was to have an impact on the everyday life of the communities around the construction venue and there were some civil society movements against the construction plan, as stated previously in Chapter 5. These problems emphasized the need for public hearings if the projects involved social concerns.

The Operating phase was also a challenging period as the project still suffered from the financial crisis that occurred during its construction phase. The political situation became more inconsistent and resulted in a political conflict that has been rooted in Thai society until now. The significant political incident was the split between the central and local government. The central and local governments were from different political parties with totally different ideas on the BTS project. There was a government intervention with an attempt to acquire the project from the private

party. However, the local government had a different view-to let private party carry on the project. The route extension project was accordingly delayed due to this conflict, and eventually caused the BTS to be transformed into traditional public procurement.

Not only political factors but also economic factors drove the local government to transform the BTS project. As the project had suffered from the financial crisis, it was impossible for the private party to invest more in the extension project. If we look back to the preparation phase where both the political and economic situation was positive enough to attract investors, we will not find such conditions for the route extension project. First, the political situation was unstable and inconsistent. There have been many attempts to intervene in the project resulting in huge delays and managerial difficulties. In this atmosphere, there was no way to build investors' confidence to invest in such a huge project. Second, the private party did not have sufficient financial capability to invest more. Bearing a large amount of debt was tough enough. It was therefore nearly impossible to fund the extension project. Additionally, the private party had been through many political incidents which significantly affected the private party's confidence to invest in the context of the unstable political situation, which reflected a major risk to the project. Without these two conditions, it is difficult for the private sector to take a risk and invest in a PPP. Therefore, for any PPP project in the future these two conditions are necessary.

The Operating phase also reflected the fact that both the political and economic factors were prominent and correlated. Even with political instability, if private party has confidence that it can handle and gain a profit from the investment, it might take a risk to participate in a PPP, like the situation before the concession contract was signed during the preparation phase. The lack of both political stability and private financial capability astronomically made it impossible for the PPP unless the government provided funding that satisfied the private party and allowed it to take a risk in investing in the project. Therefore, to have a PPP project in the future requires appropriate political and economic conditions where the private sector has confidence to participate in the project. The government should have only a supervisory role and should not intervene in the project unless necessary. The central government can designate an agency that is particularly responsible for the project and that will continue to work even if there is a change in the central government.

The last point from the study is the association among the four factors discussed. As stated earlier that each factor did not necessarily independently affect the project, there were some chain effects caused by one factor that had an impact and might have been a cause of another factor. For example, the social factor during the construction phase affected the project because there were movements against the construction. This led to the revision of a venue that was more time-consuming and delayed due to the managerial difficulties for the project as well. In terms of the managerial factor, the lack of appropriate of risk assessment from the start of the project that overlooked the risk from the exchange rate was also one of the roots of the problem as well.

Of the four factors affecting the BTS project, the most influential were the political and economic factors because they had a huge impact on the project. This is consistent with the literature review, which indicated that the major risk was commonly the political situation, including government instability and government intervention. Government interventions during both the construction phase and operating phase had a huge impact fueled by economic factors. We might conclude that without these two factors the project would not have become a type of traditional public procurement.

The study highlights the political impact on the project as the most important factor that drove the initiation as well as the changes and adjustments of the project. For decades, the project faced many political incidents, including an attempt to intervene in the project. Due to the fact that the project was a mega and long-term project that would affect the people's quality of life in the Bangkok metropolitan area and the economic growth in connection with many sectors in Thailand, the government and big political parties put effort into engaging in the project with the purpose to maintain its popularity and to obtain political benefits.

A political intervention can be done in different ways. The study found many forms of intervention in the project which gradually delayed the project extensions. One form of intervention was based on the concept of centralization, which supports the idea that the central government should take over long-term mega-projects, including the BTS project. The BTS project was originally the responsibility of the Bangkok local government, but later the central government decided that it would like

to manage the project directly. This led to a conflict between the central and local government. Additionally, there were other forms of intervention such the reassignment of responsible authorities associated with the project and the refusal of financial support. These interventions resulted in a huge delay of the project extensions.

The Thai political context reflects an important characteristic of Thai politics, which is political instability. This instability had an effect on the project more or less. In the case of the BTS the most affecting political factor was the concept of the centralization of the central government. The conflict between the central and local government also arose as a result of such a concept. Under this political condition a long-term PPP project like the BTS seemed to be more difficult in terms of future success.

The right path for the management of a PPP project is decentralization where the government plays "steering rather than rolling roles" (Osborne & Gaebler, 1992). The government should not intervene in a PPP project and should assign its power to a designated authority. This approach could be one of solutions that facilitate the development of the PPP projects in Thailand in the future.

## 6.3 Contribution to Theories

This study is mainly based on two essential theories: Project Management Theory and Inter-Organization Relations Theory. The description of the contribution to those theories is below. Furthermore, it is worth mentioning the contribution to governing by network model.

### 6.3.1 Contribution to Governing by Network Model

The BTS project was a mega project which required various skills and expertise as well as many resources. It seemed that the project did not clearly adopt the model of governing by network as an approach for the whole project. The network government model could be another possible approach for such a big project like the BTS as a lot of stakeholders were involved directly and indirectly.

The BTS project involved more than one government agency, at least consisting of local and central governments and also the private partner. It looks pretty much like a working network. Therefore, the way in which the project was implemented can be seen as an integrated form of joined-up and outsourced government. However, at the beginning of the project the communication technology was not advanced enough to support it and it seemed that many delays in the project were caused by unclear plans and inefficient communication. The technology nowadays however is ready for network government.

Goldsmith and Eggers (2004) pointed out two important skills are required for the network approach. First are the skills and specialty to complete the task that the government agencies generally possess, as it normally completes the mission by itself. This skill is how an agency manages the project and controls the people to finish the task. However, for a mega or complicated project which requires many and various sets of technical skills, one government agency is likely not to be able to manage the project by itself effectively anymore. This is therefore the rationale for having a second skill required, especially with the network approach, which includes network organizing and role and resource assigning. The BTS project is a good example that reflects the lack of the second skill for the new role of government to manage the network to complete the mission.

Goldsmith and Eggers (2004) also provided a guidance for governing by network step by step which could be applicable to a project similar to the BTS project in the future. There are three main steps.

Step 1 Network Design: the project should start with the determination of objectives and scope of the network needed for the project. The network does not exclude the responsibility of the public agency but it enhances the capability and gains more access to a solution for the problem. During the selection process, to get members in the network, the project agency should take into account the capability, background, and performance of the entities. The public agency needs the skill to engage those entities in the network together in order to set up the clear direction they will implement. The public agency might choose to direct the network and monitor its performance by itself or assign this role to another organization dealing with the network. In case the public agency does not want to directly deal with the network, it can still perform a facilitating role and follow up the progress of the project.

Step 2 Network Connection: the connection between network members is a method to harmonize the way of operations to be in a consistent manner. This process will overcome the differences in culture, technology, and information among the components in the network and smooth the cooperation in the network. The first important element for the connection is the communication system between the entities in the network. Another significant process is information and knowledge sharing.

Step 3 Organization Restructuring and Human Resource: the network requires a horizontal relationship, not a traditional hierarchy. It is necessary for government agencies to adapt an operating system and human capability to respond to the needs of the network. The structure of the agencies should be more flexible according to the mission of the organization. Furthermore, the agencies should prepare officers to be ready for network building.

### 6.3.2 Contribution to Project Management Theory

The project management theory can respond accurately to the long-term changing environment of the Bangkok Mass Transit System PPP project. The Project Management Theory provides an effective approach to distinguishing the risks caused by unexpected changes in the project environment. Furthermore, project management provides reliable direction during the preparation phase, the construction phase, and the operating phase. Specifically, an advanced comprehensive plan can be favorable for the accomplishment of PPP projects.

The theory demonstrates that cooperation between the private and public sector was also needed after the preparation and promotion phase along the progress of the project since alliancing was also found to be essential during the construction and operating phases.

In this study, project management theory seems to be functional and offers advantages for the preparation, construction, and operation phase. Therefore, Project Management Theory can be seen as complementary to the analysis of the BTS project. As a result of this study, four factors were seen to have effects on the PPP project during every phase. This study, based on the typology project phase model, claims that the political context in Thailand directly affected the public-private

partnership in the BTS project along with three other effects. Additionally, the political factor and economic factor often had a greater effect than those other factors. This is true in Thailand as Thailand has had an instable political situation for long time until now. One piece of evidence is that, at the end, the political factor led to the transformation from a PPP to a traditional public form of contracting or procurement, as discussed above.

### 6.3.3 Contribution to Inter-Organization Relations Theory

Inter-Organizational Relations (IOR) theory represents the concept of partnership cooperation among organizations for the trading of goods, services, resources, technology, skills, and knowledge. An organization must access market insight and cost reduction. It must extend cooperation from single organizations to other organizations with network connections.

As a result of this study, using IOR theory in studying the cooperative process between the public and private sectors of the BTS project, it can be concluded that good relationships and trust during the cooperation period were most important. The Relationship-Centered Approach of IOR can be described as one of the solutions to cover the prevention of opportunism in all transactions which focused on open collaboration mechanisms and interactions. However, this project covers a long period of time, so another solution was the contract-centered approach. The original format relied on a foundation of opportunism prevention of the signatory and focused on the content of the contract enforcement in order to control such behavior. These two formats of IOR could be used for a PPP project especially during the construction and operating phases in which the implementation regularly faces many pressures from stakeholders.

## 6.4 Recommendations

Tables 6.2 help us to understand the overall problems and obstacles arising out of the project. To deal with the problems and obstacles described in the table, the recommendations and future solutions purporting to improve public-private cooperation of the BTS project and the PPP projects in the future (if any) are as follows:

**Table 6.3** Recommendations

| |
|---|
| **Political Factor** |
| 1) The central government should have only a supervisory role and should not intervene in the project unless necessary.<br>2) The project should have a clear plan and objectives and such a plan will be revised when necessary.<br>3) The central and local government should have clear and consistent policy as well as political commitment to facilitate the project with an appropriate legal framework. |
| **Economic Factor** |
| 1) The project should conduct a comprehensive risk assessment and should not overlook any potential risk like the situation in past where the exchange rate risk was overlooked and caused a huge burden as a result of the financial crisis in 1997.<br>2) The plan should be clear on a principle such as the rail system and should not be adjusted in a way that would significantly increase the financial burden of the project unless necessary or reasonable.<br>3) The central government might provide financial support to reduce the burden placed on the private party where appropriate. |
| **Managerial Factor** |
| 1) The project should have a clear plan, especially regarding the roles of all stakeholders to prevent managerial difficulties which could cause a delay of the project.<br>2) The central and local government should have a mutual guideline to deal with the project to shorten and simplify fasten any process related to the project. |
| **Social Factor** |
| 1) The responsible party should have good communication and public relations with the community affected by the project.<br>2) The project should have clear directions and plans for expropriation that the public can understand and have sufficient compensation for the owner of the expropriated properties. Additionally, the expropriation process should be transparent and accountable.<br>3) The public hearing should be done before the decision that would have an impact on civil society to reduce the tension between the project implementer and civil society. |

The mass transit railway project in Thailand was in the form of a public-private partnership. Before inviting the private sector for bidding or signing a contract, the government and private sector should share and exchange their opinions on the principle of the project and reach a mutual commitment for the project at issue. Studies of former cooperation and procedures are important to examine as examples for future projects.

The political stability in Thailand is crucial, and this problem had caused more problems than any other. Due to the fact that a mass transit rail development has to be planned on a long-term basis along with city development, unstable political situations can potentially affect a project more or less. Consequently, the power should be decentralized and given to different public agencies, not to one of any political parties or government cabinets; in order to ensure that risks are diversified and to push forward the project strongly and safely.

The public sector should pay more attention to the term, "project development," as Thailand began the construction of an electric train as a major mass transit system in 1992. However, the train routes are relatively limited compared to those in other countries. Many plans for line extensions have been made to complete the transportation system in the Bangkok area and nearby. Unfortunately, owing to many problems and obstacles, the development has been gradually developed but slowly in Thailand.

Issues including routes, railway length, the form of the contract, and the contract period have an important effect on the partnership model. From this point of view, government must take these issues into account for potential routes and future expansion and then select the most appropriate partnership model. Some routes may attract private agencies to invest in the PPP net cost model in the future, which would be very beneficial for the public sector.

It does not matter if public-private cooperation will be in the form of PPPs or any other models, the important thing is not the model but responsibility allocation to each agency that binds all stakeholders to work "together" well, in an effective way. According to this study of the BTS project, it was found that the public and private sectors that have good cooperation tend to develop in positive way. On the other hand, inefficient cooperation among public agencies will lead to delays of projects and lack of confidence for private investment.

All related public agencies should be developed in the same direction for efficient collaboration. The laws must also be updated to align with future developments. The major problem of the existing system is that the cooperation among public agencies is not efficient. This also links to the fact that the mass transit rail system has to be developed together with city development.

Other systems should also be integrated with the BTS system in order to create connectivity, not just to build an electric train system as a stand-alone option without developing buses, vans, or other public transportation to link to it. The BTS should be the main transportation system to connect with other systems which carry people from home to the BTS stations and vice versa.

Please note that there are limitations of this study as listed below.

1) The approach to key informants, especially public executives or officers, was difficult.

2) Key points from the interview did not go into detail as the study of project looked back 20 years, so the data from the informants might not be absolutely correct.

3) Some of the documents regarding the project process were confidential.

4) There was also a limitation regarding the interviews where the issues being discussed were so specific or sensitive that most of the informants avoided discussing them.

## 6.5 Future Research

This research is an attempt to examine the political issues and related factors that impacted the PPP process in operating the mass transit rail system project, the Bangkok Mass Transit System (BTS) from the beginning until the 2014, phase by phase. The method was to interview the key related informants related to this project on a qualitative research basis to explore the on-going project process in depth and to analyze the critical factors that impacted the project development, problems, and obstacles in the past 20 years of the project. The study showed that the Thai political context as well as other factors had a big influence on operating the BTS project

during every phase, leading to the transformation from the public-private partnership model to the traditional public-contracting style.

This study consolidated the facts related to each period of time. The result could be beneficially applied in further studies on mass transit rail system projects in the future. The public-private partnership in a mass transit rail system project typically captures a great deal interest on the part of scholars and those that are interested to study it because it is large-scale public transportation system and requires a big operating budget. The PPP has many aspects for further study, such as transaction costs, decentralizing, and the Transit Oriented Development (TOD) development. Hence, studying past successes regarding the background, problems, and obstacles is fundamental for ensuring that its future operation will avoid facing the same problems as before. In terms of research, these facts and data can be further used in many ways in the future.

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# APPENDICES

**Interview Questions for BTSC Public Company**

1. How was the starting point of the project cooperation between the government and BTSC in the Bangkok Mass Transit System project?

    1.1 As the first successful skytrain project in Thailand, what are the strength of your company that made BTSC got selected for this project?

    1.2 Did the political controversy in 1992 effect this project? How?

2. What have been the problems and obstacles that effect the cooperation project between public and private sector in the BTS project from the beginning until now?

3. What were the problems in the beginning of this project that caused the delay completion in construction phase? And how did they effect company operation?

4. During the construction phase, there were a lot of revision about the contract. What were the causes?

5. After BTS project completion, what caused the delay of extended project?)

6. Regarding the new project contract with KT in 2012 with 180,000 million THB limit in order to administrate BTS for 30 years which will end in 2042, is this considered as PPP Gross Cost or traditional procurement contract? Beside the revenues from administration, are there others benefits?

7. After 2042, are there any authorities that BTSC still gain from the project?

8. If you can turn back time, what issues would you like the government at that time to improve and modify in this project? Such as a regulation, government monitoring, government financial support.

9. After BTS has been operated, how does the government monitor BTS?

10. Do you think the PPP model in Thailand, was suitable or not comparing to other country like Hong Kong? (A comment from CEO of BTSC)

11. From your past experiences in BTS administration, what are the expectation in public and private cooperation in the future?

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**Interview Questions for Krungthep Thanakorn (KT)**

1. Please kindly explain about cooperation process between KT and BTSC in the extension project of the BTS.
2. What are the roles of KT in monitoring BTSC administration?
3. Are there any obstacles in cooperation between KT and BTSC? How?
4. What are the objectives of BMA in setting up KT to monitor and administrate BTS system?
5. Why does BMA approve KT to contract out BTSC in extension project for the next 30 years?
6. The contracting out to BTSC in 2012, with 180,000 million THB limit, is considered as PPP Gross Cost or traditional procurement contract? Is there any conflict of interest?
7. The reason to use KT contracting out BTSC because of political and bureaucratic administrative issue? or what reason?
8. How do you arrange the scope of administration and revenues from advertising?
9. Regarding the extension project, where is this idea from? From private sector or BMA?
10. Which scope of administration in BTS project that KT contract out BTSC?
11. What are the advantages and limits of current Act of legislation (new 2013 PPSU), in your opinion?
12. In the view of KT CEOs, what do you plan about the development and progress of BTS system in the future?

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**Interview Questions for Bangkok Metropolitan Administration (BMA)**

1. Please kindly share about the starting point of the cooperation process between public sector and BTSC in BTS project. How did it start?

    1.1 Due to the political change in 1992, did it effect the project or not?

2. Who was the inventor and supporter of this project?

3. How was the cooperation process between BMA and BTSC after the singed contract in 1992?

4. What reason of selecting BTSC to win concession contract in 1992? Was that from the command of National Peace Keeping Council (NPKC)?

5. Was this project considered as Act of legislation (PPSU 1992)? If so, this Act was immediately announced for this project? Were there any concern about the project?

6. Were there any relation between Hopewell project and this project? How?

7. What are the problems and obstacles that effect the cooperation process between public sector and BTSC in BTS project from the past till present?

8. How did the BTS project contract benefit public sector and Bangkok people? How did the government support? Who set the ticket price?

9. Since BTS has been the successful project in 1999, why does it take so long before the start of new extension project?

10. How did the roles of BMA change after KT contract out BTSC?

11. What were the problems and obstacles in the cooperation project? Politic, management and regulation?

12. If you can turn back time, what issues would you like to improve and modify in this project?

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**Interview Questions for Former Governors of Bangkok**

1. Please kindly share about the starting point of the cooperation process between public sector and BTSC in BTS project. How did it start?

    1.1 From your past experiences in BTS administration, what are the expectation in public and private cooperation in the future?)

2. What are the problems and obstacles that effect the cooperation process between public sector and BTSC in BTS project from the past till present?

3. How did the roles of BMA change after KT contract out BTSC?

4. What reason of selecting BTSC to win concession contract in 1992?

5. What were the problems and obstacles in the cooperation project? Politic, management, regulation and finance?

6. In the view of CEO, what do you plan about the development and progress of BTS system in the future?

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**Interview Questions for Former Permanent Secretary of BMA**

1. Please kindly share about the starting point of the cooperation process between BMA and BTSC in BTS project. How did it start?
2. Who was the inventor and supporter of this project?
3. How was the cooperation process between BMA and BTSC after the singed contract in 1992?
4. What reason of selecting BTSC to win concession contract in 1992? Was that from the command of National Peace Keeping Council (NPKC)?
5. Was this project considered as Act of legislation (PPSU 1992)? If so, this Act was immediately announced for this project? Were there any concerns about the project?
6. Were there any relation between Hopewell project and this project? How?
7. How did the BTS project contract benefit public sector and Bangkok people? How did the government support? Who set the ticket price?
8. Since BTS has been the successful project in 1999, why does it take so long before the start of new extension project?
9. If you can turn back time, what issues would you like to improve and modify in this project?

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# BIOGRAPHY

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|---|---|
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