RISK ALLOCATION IN PUBLIC PRIVATE PARTNERSHIP

An Indonesian Case

Environmental and Infrastructure Planning
Faculty of Spatial Sciences
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Author
Indah Widya Astuti
S2945606

university of groningen / faculty of spatial sciences

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Master Thesis

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First Supervisor : Dr. Ir. W.L. Leendertse
Second Supervisor : Dr. F. M. G. Van Kann and Dr. Ir. Heru Purboyo H P., DEA

Author
Indah Widya Astuti
S2945606

SUMMARY

PPP is a long-term collaboration between public party and private party to deliver public service provision with distinctive feature of risk allocation. This research departs from the idea that proper risk allocation and sharing can contribute to successful PPP project. There are various categories of risk that common in PPP infrastructure project, which shall be allocated to public, private, or both parties, depending on the principle on risk allocation. Risk allocation engages identifying risks and allocates either among public and private party, excluding end-users. Shared risk allocation refers to the condition where both parties bear certain risk outcome. Risk allocation is important in PPP because it can enable greater efficiency in the use of resources, establish long-term revenue stream, develop non-discriminative regulatory policies, and improve the outcomes of PPP.

The principle of risk allocation is risk shall be allocated to the party that is best able to understand the risk, control the likelihood of occurrence and can manage the consequences if the risk is materialized in the most cost-effective ways. This research draws on a background case study of PPP railway infrastructure project in Indonesia. The comparison between actual risk allocation in the case project and the standard risk allocation in PPP as mentioned in literature is done to derive lessons learned that might be useful for the implementation of proper risk allocation in Indonesian PPP railway.

A proper risk allocation is contributing to PPP project success in the way of influencing the achievement of project objectives. On the other hand, the improper risk allocation will not only hamper the fulfillment of project objectives but also can results in inefficiency use of resources by the form of unexpected project extension by public party. In PPP railway infrastructure project, the operation risk shall be allocated to private party, while the political or regulatory risk shall be allocated to public party. The allocation of demand risk shall be shared between public and private parties. Another point is that the role of respective local government is important especially to prevent or to handle the occurrence of site risk. Particularly in Indonesia, proper risk allocation in PPP is inevitable, as understanding between public and private parties in risk allocation will help to lay a foundation to develop non-discriminative regulatory policies.

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CHAPTER 1 INTRODUCTION

1.1 Research background and context

Railways are viewed as important alternative to address several transportation issues in Indonesia, i.e. road congestion, integration of transportation modes, domestic connectivity, and sustainable transportation development. Compared to other transportation modes, railways have clear advantages of large carrying capacity, energy efficient, and environmentally friendly (National Planning Agency, 2013).

Central government is fully aware that the role of railways in providing transportation services is very limited and the needs of railways reform are imperative. As a part of the reform, efforts have been made in the establishment of railway regulations by the issuance of Law 23 on Railways in 2007 and National Railways Master Plan in 2011. The master plan comprises of vision, policy direction, strategy, objectives, and major program of railway development in Indonesia from 2010 to 2030 (National Planning Agency, 2013).

In the master plan, the major visions of Indonesian railway development in 2030 are the realization of competitive, integrated, modern, and affordable railway service that is able to adjust with the global challenges. In order to accomplish these visions, central government set certain market share targets in railway passenger and freight service as instruments to measure the achievement of visions. In 2030, the market share for passenger and freight service is expected to contribute for 11% - 13% and 15% - 17% respectively of overall national transport serviceability. Six strategies are outlined to achieve the market share target, one of which is the strategy of railway network and service development. Four policies are established as the core of the strategy (Ministry of Transportation, 2011):

1. Increasing the quality of railway service and safety;
2. Enhancing the role of railway in urban and intercity scale;
3. Integrate the service to other transport modes by developing access to airport, port, and industrial areas; and
4. Increase the affordability and accessibility of railway service through mechanism of public service obligation.

From these policies, several main programs are designed to support the strategy: development of network and service in intercity railway; regional railway; urban railway; airport railway; port railway; high-speed railway; pioneer railway; inter-connection railway between Sumatra and Java Island; double track and electrification; as well as reactivation and revitalization railway.

The programs implementation covers various locations spread in Sumatera, Java, Bali, Kalimantan, Sulawesi, and Papua Island. The plans are stated in the railway master plan and then distributed in a Transportation Strategic Plan every five years as targets for that particular period.

In Transportation Strategic Plan 2015 – 2019, the required budget to accomplished the programs is USD 18 billion and more than twice of that to complete the entire programs of railway network and service development in 2030. In the meantime, central government can only allocates USD 1,5 billion for fiscal year 2015. Compared to the budget required for fulfill the entire programs, the actual budget allocation is still far from sufficient (Ministry of Finance, 2015).

Meanwhile, another strategy to achieve the market share target is the strategy of railway investment. The objective of this strategy is the establishment of a strong railway funding with the support of private investment. The target of railway funding structure in 2030 is the involvement of private capital in the railway investment by 70% while the national budget will take care the rest. Two policies are established as the core of strategy (Ministry of Transportation, 2011):

1. Improving regulatory support and conducive permit mechanism as well as the establishment of institution for railway infrastructure financing;
2. Encourage private party involvement in railway investment through Public Private Partnership (PPP).

The combination between the two strategies mentioned above can be described in a way that the more the implementation of railway network and service development programs is engaged in PPP scheme and success, the faster the national railway visions can be accomplished.

In international context, the definition of PPP according to the World Bank (2012) is a long-term agreement between government and private parties to

deliver public service provision, along with sharing resources, risks, responsibilities, and rewards between both parties, where the assets will return to government in the end of agreement. The distinct characteristics of PPP compared to traditional procurement are a funding source from private parties through a long-term of partnership, and risk sharing between the public and private party (ESCAP, 2011).

Over time, the concept of PPPs has become heterogeneous as it expands to include joint technology, education, health service, and ecological projects, aside from infrastructure project. PPP has now evolved into a general term for all known or possible new forms of collaboration between the public and private party (Linder, 2000 via Jomo, et al, 2016).

In Indonesia, central government initiates PPP as national policy to address an investment-funding gap as well as to maintain public interest and provide public service in economic and social infrastructure. Therefore, the implementation can be entered at any level of government (central, provincial, and local). The collaborative form between public and private party is arranged considering the capacity and expertise of both parties based on a contractual agreement that guarantees a proper and mutually agreed upon allocation of resources, risks, and returns (National Planning Agency, 2015).

The national PPP regulation in Indonesia is the Presidential Regulation 38/2015 on Cooperation between Government and Business Entities in Infrastructure Provision, which revoked and replaced the previous Presidential Regulation No. 67/2005. The issuance of regulation is based on three main considerations: to facilitate the urgent need in the availability of adequate and sustainable infrastructure; to encourage private party participation in the provision of infrastructure and services; and to organize cooperation between government and business entities. The business entity can be in a form of State Owned Enterprise, Regional Owned Enterprise, and private entity in the form of Limited Liability Company, foreign entity, or cooperative unit (National Planning Agency, 2015).

The scope of provision involves building and/or improving infrastructure capacity, operational, and/or infrastructure maintenance. In this regulation, PPP is defined as the cooperation between a government and Business Entity in infrastructure provision for public interest in accordance with the specification determined by the Minister/Head of Institution/Head of Region/State Owned

Enterprise/Regional Owned Enterprise, which partially or fully uses Business Entity's resources, with particular concern to the allocation of risk between parties (National Planning Agency, 2015).

The purposes of PPP implementation are as follow:

1. To meet the infrastructure funding needs through private investment;
2. To accomplish qualified, effective, and efficient infrastructure provision;
3. To create an investment environment that encourage the private participation based on principles of good corporate governance;
4. To promote the user pays mechanism, or in certain cases considering the user ability to pay;
5. To provide certainty of investment return through availability payment mechanism.

The underlying principles of PPP implementation are partnership; benefit; competition, risk control and management; effectiveness; and efficiency (National Planning Agency, 2015).

Compared to previous regulation, there are several key changes to PPP implementation, including the inclusion of new types of infrastructure that can be developed through PPP schemes, the introduction of a new procurement mechanism and expanding the types of investment return mechanism that can be adopted in PPP projects (National Planning Agency, 2015).

A successful PPP is inseparable from its critical success factors. The research by Osei-Kyei and Chan (2015) reviewed the studies from some selected top tier academic journals from 1990 to 2013 on the critical success factors (CFSs) for PPP implementation. CSFs are the 'few key areas of activity where favorable results are absolutely necessary for a manager to reach his/her goals' (Rockart, 1992 via Osei-Kyei & Chan, 2015; p. 1336). According to the research, one of the most identified CSFs in general infrastructures project both in developed and developing countries over the past 23 years is proper risk allocation and sharing.

Risk allocation is a measurement of project obligations between the public and private party, excluding end-users. Shared risk allocation refers to the condition where both parties bear certain risk outcome (Bing et al, 2005). Unlike other procurement methods, PPP has significant characteristic of risk allocation among parties, which project risks are carefully identified and appropriately allocate or sharing it among party that has better techniques and resources to

mitigate the risks (Bing et al., 2005). In this arrangement, each party delivers resources that could be material or immaterial to the partnership. Proper risk allocation can enable greater efficiency in the use of resources, thus generate more certainty in the price of service delivery (Bing et al., 2005).

According to Project Management Institute (PMBoK, 2000 via Hillson, 2002), risk allocation in project is included in the phase of risk response planning is where the responses to identified risks are developed. The responses shall be appropriate, achievable, and affordable. The involved parties are allocated to each risk response, to be responsible for the implementation and monitoring the effectiveness. There are responses that allocated to public or private party separately, but there are also certain responses where both parties have to cooperate and share.

Further, Baccarini (1999, via Abednego and Ogunlana, 2006) proposed a logical framework method (LFM) to define and understand project success. Based on the LFM, there are two main components of project success: project management success and product success. The main components of project management success are as follow:

- Meeting time, cost, and quality objectives
- Quality of the project management process
- Satisfying the need of project stakeholders with respect to the project management process

Meanwhile, product success also has three main components:

- Meeting the strategic organizational objectives of project owner
- Satisfaction of users needs
- Satisfaction of stakeholders' needs where they relate to the product

Depart from the outcomes of above studies and the PPP context in Indonesian railways development, this research will draws on a background case study of an on-going PPP railway infrastructure project in Indonesia and the comparison between actual risk allocation and standard risk allocation in PPP to identify the influence of proper risk allocation on the achievement of project success. The parameter of project success and its achievement will be based on the perception of the railway regulator as public party. The aim is to derive the lessons learned that might be useful for the implementation of proper risk allocation in Indonesian PPP railway implementation.

1.2 Research objective

In order to accomplish the visions in National Railways Master Plan, the successful implementation of PPP in railway network and service development is essential (Ministry of Transportation, 2011). In Indonesia, PPP is regarded as the collaborative form between public and private party considering the capacity and expertise of both parties based on contractual agreement that guarantee a proper and mutually agreed upon allocation of resources, risks, and returns (National Planning Agency, 2015).

Risk allocation and sharing is one of the determining factors for a successful PPP infrastructure project both in developed and developing countries over the past 23 years (Osei-Kyei & Chan, 2015). In PPP, both the public and private parties engage in a long-term relationship and each party delivers resources to support project implementation. Proper risk allocation is viewed as an important contributor in achieving a successful PPP as it can enable greater efficiency in the utilization of resources and to maintain long-term partnership between public and private party in the delivery of public service (Middleton, 2000).

Therefore, the objective of this research is to identify the influence of proper risk allocation to the achievement of project success by comparing the actual risk allocation strategy in the case study of a PPP railway project and the standard risk allocation in PPP based on (international) literature.

1.3 Research questions

Based on the objective above, the research questions are as follows:

1. How is the actual risk allocation strategy in Indonesian PPP railway projects? How is this risk allocation contributing and/or hampering the project success?
2. What lessons can be learned from the comparison between actual risk allocation in the case project and the standard risk allocation in PPP as mentioned in literature for a proper risk allocation in Indonesian PPP railway projects?
3. What advices can be derived from this comparison for the implementation of proper risk allocation in Indonesian PPP railway projects?

In order to answer those questions, this research will attempt to:

1. Describe the conceptual framework of PPP and principles of proper risk allocation in general PPP based on international literature;
2. Describe the storyline of the (case) project, outline the problems and consequences;
3. Define the perception of project success and the extent of its achievement based on the perspective of the public party;
4. Compare the actual risk allocation and standard of risk allocation in PPP;
5. Evaluate the influence of actual risk allocation to the achievement of project success;

   Utilize the findings to derive lessons learned and possible applications that can be useful for the implementation of proper risk allocation in Indonesian PPP railway projects.

1.4 Case Study: Kuala Namu airport railway

Kuala Namu airport railway is a national project initiated by the central Indonesian government with the objective of expanding the railway service and network to airport, facilitating accessibility from the city center to airport, and increasing the competitiveness of railway transport in Medan, the capital city of North Sumatera Province (Ministry of Transportation, 2010). The project is stated in national the railway master plan as a part of main programs in the strategy of railway network and service development (Ministry of Transportation, 2011).

In the first stage, infrastructures development began in 2011 until 2012 and the service commenced in mid 2013. Meanwhile, in the second stage, infrastructure development started in 2014 and is still ongoing. The project is a collaboration between the railway regulator and subsidiary joint company of state owned enterprises in the railway and civil aviation sector. Kuala Namu airport railway is the first and only airport railway service in Indonesia, which now is followed by another similar projects in Sumatra and Java Islands.

This research chooses Kuala Namu airport railway project as case study because it embodies the characteristics of general PPP and it has interesting issues on risk allocation and its influence on project success. Most of similar ongoing projects in Indonesia utilize the same scheme. However, as Kuala Namu airport railway is the only airport railway operated in Indonesia today, this research then employs it as a single case study.

1.5 Research Design

The thesis consists of seven different chapters with specific content that will describe the flow of the research from the beginning until the conclusion. The chapters are outlined as follows:

Chapter 1 Introduction

This chapter will describe the background and context of the research, research objective, research questions, a general review of the case study, and the research design.

Chapter 2 Methodology

The purpose of this chapter is to present the methodology of generating and analyzing data to answer the research questions. The case selection, the plan of literature review, the procedures for data collection and the description of the analysis process will be explained in this chapter.

Chapter 3 Theory

In this chapter, several theories related to the basic idea of the research will be reviewed to develop conceptual thinking in order to answer the research questions.

Chapter 4 Case Description

The description of case study consist of a general description of the project, review of main stakeholders, railway service and network development in Indonesia, the relationship between stakeholders, project historical background, project stages, perception of project success and the extent of its achievement, as well as the main development of PPP in the project.

Chapter 5 Analysis

This chapter will present the comparison between the actual risk allocation strategy in the project and the standard of risk allocation in general PPP.

Chapter 6 Discussion

This chapter will discuss the findings of analysis to formulate answers for research questions. The purposes are to derive lessons learned that might be useful to the implementation of proper risk allocation in Indonesian PPP railway.

Chapter 7 Conclusion and Reflection

This chapter will provide conclusions by answering the research questions. A reflection will be presented to outline the limitation of this research that might be useful to future research of risk allocation in Indonesian PPP railway.

CHAPTER 2 METHODOLOGY

2.1 Case Selection

This research is categorized as qualitative as it fulfills the terms of the gathering of field base data to capture contextual conditions and the analysis of non-numerical data. The contextual conditions are captured as a result of researcher fieldwork knowledge and journals or documents examination (Yin, 2015). It is also in line with the ability of qualitative methods to assess the detailed analysis of change over time and also the involving process or the terms of circumstances and stakeholders (Cassel & Symon, 1994). The research method and research question is evidently intertwined. The more the questions pursue to explain present circumstances, the more relevant of utilizing case study method is (Yin, 2003).

Kuala Namu airport railway is national project initiated by central government with the objectives of expanding railway service and network to airport, facilitating accessibility from city center to airport, and increasing competitiveness of railway transport in Medan, the capital city of North Sumatera Province (Ministry of Transportation, 2010). The project is stated in national railway master plan as a part of main programs in the strategy of railway network and service development (Ministry of Transportation, 2011).

In the beginning, central government initially plans to execute Kuala Namu airport railway project via PPP scheme, but no private parties were interested. When the airport construction was about to complete, central government decided to execute the project via special assignment scheme.

State owned enterprise in railway and civil aviation sector were assigned to execute the project. These state owned enterprises then formed a subsidiary joint company, and they cooperate to deliver the service. The project is categorized as public infrastructure and service provision in railway transportation. Therefore, the company as airport railway operator has to collaborate with the railway transport regulator during project implementation.

2.2 Literature Review

Among six sources of evidence in case study research (Yin, 2003), documentation is chosen because it is relevant for every case study topic. According to Yin (2015), the methods for gathering evidences are collecting and examining. In order to make the methods productive, two tactics from Yin (2015) are employed. First, preliminary materials are collected from certain databases using particular keywords. The second one is to examine the results of collected material with the consideration that it should fit within scope of research.

The materials for the literature review come from publications such as international and national guidelines (World Bank, UNESCAP, and National Planning Agency), and scientific journals. Scopus and Google are utilized as primary search engines to find the materials. Scopus is utilized to find scientific journals, Google is used to find international guidelines, while the official Indonesian government website is used for national guidelines.

In the Scopus database, particular keywords of “PPP”, “risk allocation”, “risk allocation and sharing”, and “infrastructure” were combined with the option “and” and “or” to generate the results. The materials collection in Scopus also considered journals published by the year 2000 onwards to get the latest information. Another consideration also came from the publication history of the author and the number of citation to find the most prominent researchers on the topics. Additional material was also obtained from the references list of chosen scientific publications.

Despite an increasing recognition of the need for active research in proper risk allocation within PPPs railway infrastructure projects in Indonesia, there remains little research about it. A topic exploration through Scopus, Google Scholar, and Indonesia Publication Index, revealed that researches on risk allocation and PPP in Indonesia is mostly focus on the relationship of risk allocation with infrastructure PPP in general or other transportation sectors. There are few studies of risk in PPP railway but focusing on risk management among state owned enterprises.

International PPP guidelines were used to obtain the application of concept in the general context. In order to get information from the Indonesian context, Indonesian national PPP guidelines were retrieved from the National Planning Agency official websites.

2.3 Data Collection

The analysis of this study is based on two data resources, desk study and interviews.

Desk study

The desk study comprises of collecting and reviewing information through secondary data, either in the form of policy documents, regulation, and other external documents of various level of governments and ministries, annual report of state owned enterprise, national PPP guideline, as well as national and local dailies. Additional resources come from internal project documents of the ministry and the subsidiary joint company by request. The documents obtained are in the form of internal meeting outcomes, and the legal agreement.

The secondary data of policy documents for national, provincial, and local level of government were retrieved via the website of Indonesian National Planning Agency, relevant province and municipality. Additionally, policy documents and other external documents such as master plan, budget plan, and tender information were retrieved via the website of relevant ministries such as Ministry of Transportation, Ministry of State Owned Enterprise, Ministry of Finance, and Ministry of Internal Affairs. Meanwhile, various regulations were also accessed via the official website of government and ministry in the legal documentation section. The annual report of state owned enterprises were accessed via the official website. Information of national and local dailies came from online sources. The Indonesian national PPP guideline were accessed via official website. All websites addresses are revealed in the references list.

Interviews

A set of interviews was conducted through a semi structure interview approach, considering several points of open question. The purpose was to gain insights on the project storyline and the perception of project success as well as its achievement.

The key participant for the interviews was the public party of the project, in this case represented by the railway regulator. In this research, the participants were selected based on their involvement in the decision-making process in this project. The position of participants is on tactical level. The criteria are selected

as the participants have knowledge on the project history and they are involved in this project.

The identities as well as the transcripts are kept confidential based on their request. This research tried to obtain more participants from the subsidiary joint company and state owned enterprises. However, the candidates from the subsidiary joint company were only willing to provide information from internal written reports. In the case of state owned enterprises, there is difficulty in obtaining the information of the candidates.

The interview questions were categorized into two main sections with the following objectives:

1. Obtaining overview and information of the project storyline; and
2. Investigating the perception of project success and the extent of its achievement.

2.4 Analysis Process

The analysis starts with literature review of several theories of PPP, risk, types of risk, and proper risk allocation. Based on those theories, the importance of proper risk allocation to PPP project success will be described. The literature review will also be utilized to outline the principle of proper risk allocation as parameter for comparison between actual risk allocation strategy and the standard risk allocation in PPP.

Next, documents and interviews were analyzed to give a description of the case study. Document analysis is a systematic procedure consists of finding, selecting, appraising, and synthetizing data in the documents in order to review or evaluate documents (Bowen, 2009). Document analysis can produce empirical knowledge and develop understanding.

The analysis method will use qualitative content analysis and descriptive analysis. Descriptive analysis is the method to describe the fact in a specific issue systematically and accurately to shape and associate the issue with theoretical aspects (De Vaus & de Vaus, 2001). While according to Bryman (2004), qualitative content analysis is ‘an approach to documents that emphasizes the role of the investigator in the construction of meaning of and in texts. There is an emphasis on allowing categories to emerge out of data and on recognizing the significance for understanding the meaning of the context in

which an item being analyzed (and the categories derived from it) appeared' (Bryman, 2004, p. 542). It embraces underlying ideas in the analyzed material. Furthermore, three techniques of qualitative content analysis are summary, explication, and structuring (Mayring, 2002; Titscher et al, 2000). Summary is the process of reducing and abstracting overlapping information; Explication is clarification process of ambiguous and contradictory particular portion of text by involving contextual material; and Structuring is to filter out a particular structure from the material.

The information from document analysis and interviews were then combined and crosschecked to ensure the data soundness as well as to complement each other. The aim was to observe the occurrence of project risks and the respective allocated parties as well as to outline the parameter of project success and its achievement in the studied case.

Next, the actual risk allocation in the case and the general principles of PPP as derived from the literature review were compared to derive lessons learned that can be useful for the implementation of proper risk allocation in Indonesian PPP railway projects.

The summary of the research methodology is shown on table 2-1 and the framework of research is presented in figure 2-2.

Table 2-1 Research Methodology (Author, 2017)

Research questions	*Type of data*	*Sources of data*	*Method of data collection and analysis*	*Goals*
(1) How is the actual risk allocation strategy in Indonesian PPP railway projects? How is this risk allocation contributing and/or hampering the project success?	*- Project storyline* *- Problems and consequences* *- Perception of project success and its achievement*	*Policy documents, regulation, national guidelines, external and internal documents, dailies.* *Participants in Directorate General Railway (railway transport regulator)* *International and national guidelines.*	*Interviews* *Literature review and desk study (qualitative content analysis)*	*Understanding the influence of actual risk allocation strategy to the achievement of project success*
(2) What lessons can be learned from the comparison between actual risk allocation in the case project and the standard risk allocation in PPP as mentioned in literature for a proper risk allocation in Indonesian PPP railway projects?	*Possibilities of lessons learned to enhance proper risk allocation in the case study*	*Scientific journals, international and national guidelines.* *Policy document, regulation, national guidelines, external and internal documents, dailies.*	*Literature review and desk study (descriptive analysis)*	*Understanding risk allocation strategy that can be utilized for case study*
(3) What advices can be derived from this comparison for the implementation of proper risk allocation in Indonesian PPP railway projects?	*Possibilities of advices that can contribute to the implementation of proper risk allocation in Indonesian PPP railway*	*Scientific journals, international and national guidelines.* *Policy documents, regulation, national guidelines.*	*Literature review and desk study (descriptive analysis)*	*Formulating recommendations for the implementation of proper risk allocation in Indonesian PPP railway*

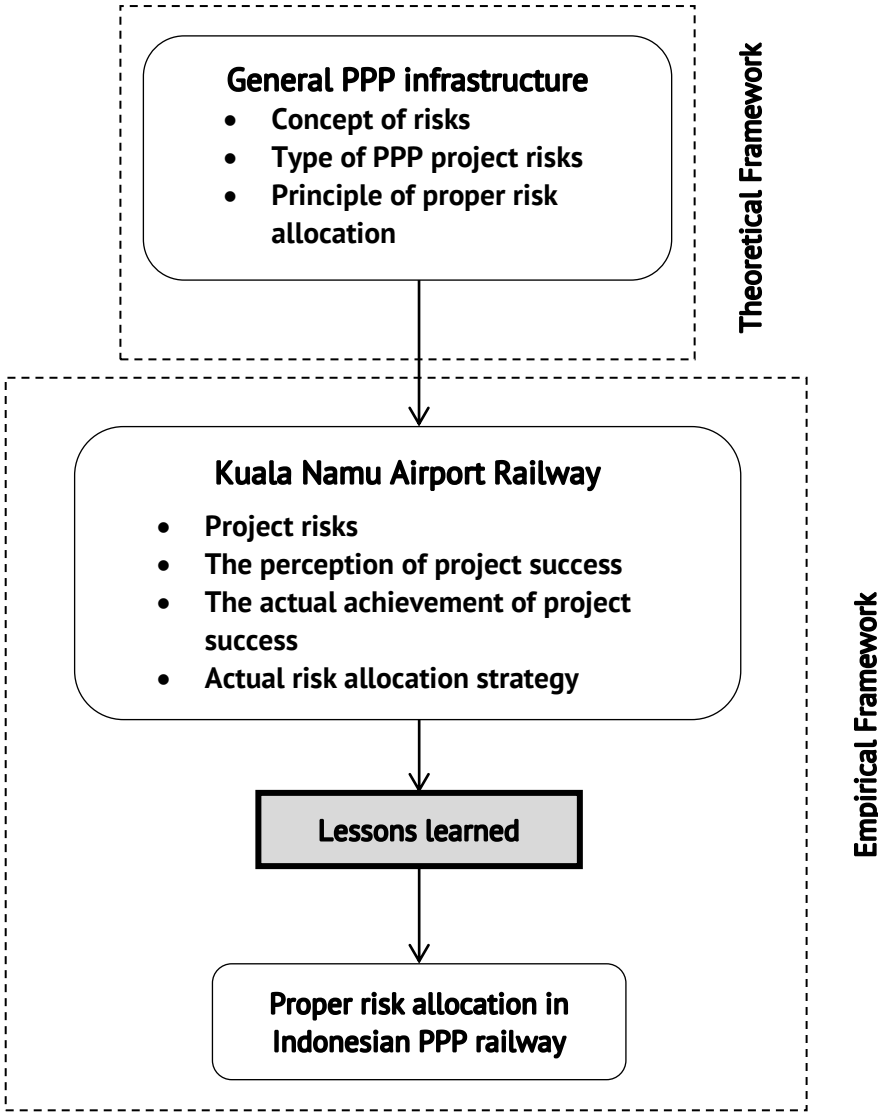

Figure 2-1 Research framework (Author, 2017)

CHAPTER 3 THEORY

This chapter will start with the review of PPP literature related to risk allocation. Then the following sub-chapter will present theory of risk, type of project risk in PPP, and standard risk allocation in PPP.

3.1 Public private partnership: general concept

The literature review on PPP will present a broad overview of the PPP concept, outline the distinct characteristics that differentiate it from traditional infrastructure procurement, define the relationship between PPP and risk allocation and how it affects the project success. The aim is to explain the importance of proper risks allocation for successful PPP.

The term Public Private Partnership was first used in 1970s, when government inefficiency was blamed for poor economic performance and the role of the state was questioned by neo liberal ideas. New Public Management then became the new trend at that time (Gomes, 1990 via Jomo, et al, 2016), where PPPs were frequently used as alternatives to bureaucratic public services, inefficient state owned enterprises, and furthermore as promotion for privatization (Cavelty & Sute 2009). The handover of public tasks to the private party was argued as a means to reduce the role of the state in order to improve efficiency of public service provision and administration.

The aim of PPPs is to employ synergies in innovative combined use of resources and implementation of management knowledge with optimal achievement of the goals of involved parties, where these goals can only be achieved to the same extent with the participation of one to another (Jomo, et al, 2016). Meanwhile, OECD (2012) underline that there is neither widely recognized clarification nor clear agreement of PPP definition as the term is occasionally used to portray a wider range of arrangement between traditional procurement and full privatization that may include outsourcing contracts and short-term management, concession contracts and joint venture between public and private parties.

Based on universal and comprehensive observation of PPPs in various countries, World Bank (2012) outline the core attributes of PPPs as follow:

a. Long-term agreement between government and private parties, in which private parties provide or contribute to public service provision;

b. Private parties receive revenue stream either from government budget or user charges or combination of both. Therefore, the agreement transfers risks, including demand risk, from government to private parties;
c. Private parties must make investments, even if it is limited, in the venture, e.g., for working capital;
d. Government may make additional contribution to enable effective risk sharing such as enabling access to land, providing existing assets, or offering various form of guarantee;
e. The associated assets will return to government ownership at the end of contract.

Meanwhile, ESCAP (2011) define PPP as a long-term engagement between central government representing the public party and the other parties as private party for the development of public infrastructure and the provision of public service, along with sharing resources, responsibilities, risks and rewards among parties. Further, the guideline explains the characteristics of PPP to differentiate it from conventional procurement, as follows: funding source from private party instead government budget, long duration partnership beyond the project completion, requirements are defined in terms of output (what we want to achieve) instead of input (how to achieve what we want), risks are shared among public and private entities instead of fully allocated to the public party.

Over time, the PPP concept has become heterogeneous as it expands to include joint technology, education, health service, and ecological projects. According to Linder (2000 via Jomo, et al, 2016), now PPP has evolved into a general term for all known or possible new forms of collaboration between public and private parties.

3.2 Risk allocation and PPP

One of the most identified CSFs in PPPs infrastructure development both in developed and developing countries over the past 23 years is risk allocation and sharing (Osei-Kyei & Chan, 2015). Risk allocation engages identifying risks and sharing it in appropriate way among public and private parties, excluding end-users. Shared risk allocation refers to the condition where both parties bear a certain risk outcome (Bing et al, 2005). One distinctive feature that differentiates PPP from conventional procurement is the risk allocation, which project risks are carefully identified and appropriately allocated or shared among the party that

has better techniques and resources to mitigate the risks (Bing et al., 2005). The importance of proper risk allocation in PPP is that it can enable greater efficiency in the use of resources, thus generate more certainty in the price of service delivery (Bing et al., 2005). The infrastructure and service provision can be cheaper and have higher quality than conventional procurement as certain risks handled by private parties (Jin & Doloi, 2008). In the perspective of PPP commercial viability, proper risk allocation is important to establish a reliable, long-term revenue stream (Grimsey & Lewis, 2000).

Particularly in the Indonesian PPP context, proper risk allocation is inevitable, as understanding between public and private parties in risk allocation will help to lay foundation to develop non-discriminative regulatory policies that will sustain the partnership and thus increase project long-term success (Abednego & Ogunlana, 2006). Furthermore, risk allocation is a significant characteristic of Indonesian PPP law (National Planning Agency, 2015) where risks are carefully identified and allocated to parties with better capability to manage. Although PPPs in Indonesia were first implemented in 1992, they have yet remained problematic. The private party mostly prefers to avoid investments in the public domain because of the perception of unmanageable risks in government infrastructure projects (Chou & Pramudawardhani, 2015). The World Bank reported that the Indonesian government realized the benefit of participation of private parties in PPPs for infrastructure development, but they need to improve the risk allocation between involved parties, as the same perception of risk allocation preference would improve the outcomes of PPP (Chou & Pramudawardhani, 2015).

However, it is critical for the public party to understand that they have to retain risk that are clearly beyond the control of private party as well as refrain from shifting all risks to private party since it could lead to higher charges to end user, influence project progress as well as future involvement of private parties (Osei-Kyei & Chan, 2015).

Further, the complexity of the engagements and inadequate contracting nature of PPP have directed to increased risk exposure for involved parties (Woodward, 1995 via Jin & Doloi, 2008). Proper risk allocation in PPP is therefore no easy task; therefore there should be a proper mechanism to guide the formation of risk allocation strategies as it is critically important to the success or failure of PPP (Jin & Doloi, 2008).

3.3 Risks and risk management

In general, a risk can be expressed as something associated to harm or danger that should be avoided. However, in the project management world, risk has two sides, which is a negative event or danger; and a positive event or opportunity. The concept of risk management is to reduce the probability and impact of negative events and to increase the probability and impact of positive events in a project (PMBoK, 2000 via Hillson, 2002). The relationship between risk and uncertainty is apparent in numerous risk definitions by various authors who view risk as the result of lack of certainty or derived from uncertainty (Hillson, 2002). Risk is defined as the effect of uncertainty on the objectives of the project. Risks are inherent in all PPPs as in any other infrastructure projects. According to Furnell (2000 via Victoria, 2001; p. 16), 'Risk is the chance of an event occurring which would cause actual project circumstances to differ from those assumed when forecasting project benefit and costs'. They occur due to uncertain future conditions, which may have direct effect on the service provision, and/or the commercial feasibility of the project or project objectives in general (ESCAP, 2011).

Risk management is the key of project success or failure. The core of management is to identify, prevent, contain and mitigate risks for project benefits. Risks management is an ongoing process throughout the life of a project and consists of five stages (Victoria, 2001):

1. Risk identification: the process identifying all the relevant risks in a project;
2. Risk assessment: determine the materialized likelihood of identified risks and the magnitude of the consequences if the risks materialize;
3. Risk allocation: allocate the responsibility for dealing with risks consequences to specific party or agreeing to deal with the risks through certain mechanism that may involve sharing risk;
4. Risk mitigation: attempts to reduce the possibility of risks occurrence and the degree of the consequences for risk-taker;
5. Monitoring and review: monitor and review identified risks and new risks as the project progresses and its circumstances changes. The new risks need to be assessed, allocated, mitigated, and monitored. This stage continues during contract duration.

According to International and national guidelines (World Bank, 2012; ESCAP, 2011; IIGF, 2014), there are various categories of risk that are common in PPP projects:

Site risk

The site risk is risk associated to the availability and quality of project site, such as the increased cost and time of site acquisition, difficulty in acquisition process, possibility of resettlement, dual status of land ownership, unforeseen geological effect or other site conditions, difficulty in obtaining legal permits or ensuring rights of way for a railway, possibility of historical damage, or the cost to fulfill environmental standards (World Bank, 2012; IIGF, 2014). The difficulty in obtaining land can cause project delay. It is recommended that the land were secured before the tendering process. In the developing countries, public party usually handles site acquisition, as the process requires legal procedure (ESCAP, 2011). Meanwhile, the national regulation of PPP outlines the possibility of land acquisition by private parties. The regulation stated that the right to execute PPP project would be granted directly to respective private parties if they already have control on most land needed for project (National Planning Agency, 2015).

Financial risk

Financial risk is risk associated with the availability of fund once the project is awarded to particular private party. The allocation of this risk can be borne by public or private or both parties. Before the award, the bank may not be in position to review project documents in order to make final decision regarding fund thus there is a possibility that the bank might refuse to provide the fund. Early involvement of the bank can mitigate this risk by providing time for the bank to prepare their readiness before deciding to lend money for the project. Public authority can also request the bank to provide financial commitment in the bidding document although this will likely to increase transaction cost as the commitment will be subject to certain conditions. In the availability of fund, the risk is allocated to both parties. In the case of currency mismatch, the risk will materialize when disparities between revenue in form of local currency and the currency of loans in contract. If the currency is devaluated during project lifetime, the revenue may be insufficient to cover repayment. Private partner should bear the risks if the loans are available in local currency while public partner should bear the risks if loans are not available in local currency as private parties are unprepared to accept the risk over which is has no control

(ESCAP, 2011). Another form of financial risk is failure to reach financial close, change in rates of interest, exchange rates, and inflation or insurance that adversely affects project outcomes (World Bank, 2012; IIGF, 2014).

Construction risk

Construction risk is risk associated with the vagueness of output specification, delay in completion of construction, increased cost of construction, or the inadequacy between design or construction quality and project requirement (World Bank, 2012; IIGF, 2014). In PPP, construction risk is quite significant risk. The comparison between conventional procurement and PPP demonstrated that project implemented in PPP is less likely to exceed the initial budget rather than those executing by conventional procurement (ESCAP, 2011). In PPP, construction risk is allocated to private partner. PPP scheme eventually provide stronger incentive to deliver project on time as private parties is not compensated until construction is complete (ESCAP, 2011).

Operation risk

Operational risk is risk that influenced successful operations, including service interruption or the availability of asset, network interface does not work as expected, error in estimation of O&M cost, inadequate facility and service, possibility of strike, social and cultural conditions of local communities, failure to manage operational and project monitoring, or traffic safety issue (World Bank, 2012; IIGF, 2014). The risk is also allocated to private partner in PPP project. The operation risk can be mitigated in the form of tariff adjustment to inflation or long-term input supply contract (ESCAP, 2011).

Demand or commercial risk

The risk is associated with lower service usage or revenue from expectation, change in demand forecast, user affordability and willingness is below expectation, failure in requesting tariff adjustment, tariff adjustment is lower than expectation, error in tariff estimation (World Bank, 2012; IIGF, 2014). Forecasting demand in long period can be particularly difficult. Economic and demographic change; competing service, overestimation in user willingness to pay; and unavailability of connecting infrastructure are various factors that can influence the demand for public service (ESCAP, 2011). Particularly in railway sector, huge investment in infrastructures and rolling stock as well as regulated fare showed that the financial feasibility of PPP railway is most likely difficult to achieve if it solely depend on end-users charge. Commercial utilization of station areas or the application transit-oriented development concept should be

included in railway investment scheme to achieve financial feasibility (IIGF, 2014). Allocate risk solely to private partner can incentive them to provide quality service to attract users. However, if the private partners have little or no influence to the demand and forecast are unreliable, it might not be right to let private parties bear the risk. Risk sharing is a possibility. Providing subsidy or availability payment can be options to ensure revenue stream, especially in untested PPP market. Extension of concession time or guarantee that no competing service will be built in certain period of time can also be provided (ESCAP, 2011).

Political and regulatory risk

Risk associated with regulatory or political decisions, or changes in the regulatory sector framework, that unfavorably affect the project. It can be in the form financial policies ruling currency convertibility, failure to renew approvals appropriately, profits repatriation, expropriation or breach of contract, changes in general corporate tax regulation, unjustifiable regulatory decision, discriminatory in general law or regulation adversely affects the project, or failure to renew approvals appropriately (World Bank, 2012; IIGF, 2014). Public party handles political or regulatory risk. Private parties have no control in this risk. If private parties perceived the political and regulatory risks in the project too high, then there will be no interest of private parties to participate. Political insurance and option of change law in the concession contract can be considered as measure to protect private partner from the impact of legislation changes in the future. Government may also reduce the tariff for political reason thus resulting in lower revenue. Guarantee in tariff setting or revision can be an option to mitigate this risk (ESCAP, 2011).

Asset ownership

Risk associated with ownership of the assets, including the risk that the technology becomes outdated, or at the end of the contract, assets value is different from what was expected (World Bank, 2012). The extensive upgrade cost might be incurred. The public party bear this risk if they decide to operate the asset once the contract is over. Linking final payment to asset condition can incentivize private parties to ensure the asset is in good condition when assets are transferred. The PPP contract can also required minimum standard of asset condition at the time of transfer (ESCAP, 2011).

Force Majeure

Force majeure event is circumstances that beyond control of both parties and can lead to the un-fulfillment of obligations. The events can be in the form of external events beyond control, such as natural disasters, war or civil disturbance, extreme weather, and prolonged force majeure (World Bank, 2012; IIGF, 2014). The risk is allocated to both parties. The PPP contract may wants to include the option of compensation to the private parties if force majeure occurs to prevent default, or the option of contract termination if force majeure happens in a certain period of time (ESCAP, 2012).

3.4 Proper risk allocation

Risk allocation is important because it is the critical factor to the success of a PPP project. If all the risks are shifted to the private party, the project will be considered too risky. Neither the private party will be interested in participating nor any financial institution wants to finance the project. On the other side, if all the risks are allocated to public party, then there will be no incentive for the private party to innovate and perform efficiently. Finding the right balance of risk allocation is essential to the success of a PPP project (ESCAP, 2011).

The guidelines of PPP from United Nations, European Commissions, and ASEAN emphasize risk allocation as key characteristic, major component as well as important feature of PPP. All of them outline the concept of risk allocation in PPP, which is relatively straightforward. Risks should be allocated to the party best able to manage them, to absorb them, and to the party who can best assume it in the most cost effective manner (European Commission, 2003; ESCAP, 2011; UNECE, 2008; Zen & Regan, 2014). In other words, the party that is best able to understand the risk, controls the likelihood of the occurrence, and/or minimizes the impact of the risk is the party that should be responsible for managing the risk. In this sense, political risks should be allocated to the government, while construction and operational risks should be transferred to the private party. However, governments also need to take their share and help to mitigate the risks that are allocated to the private party in mutual support (UNECE, 2008). Transferring all risks to the private party is not advisable and there should be a balance in risk allocation between involved parties to prevent the increase of costs and failure to reach the project objectives (ESCAP, 2011).

A risk that is unlikely to occur and will only have minor consequences if it occurs is of no great concern to any party, and vice versa. A risk that is likely to occur

and will have significant consequences is a major concern, especially if the risk is outside the control or power of either party. In some circumstances, a party may prefer to leave the project rather than bear such a risk. The likelihood of risks occurrence both affects and is affected by how the risks are allocated. Allocating risk to the party best able to control its occurrence and consequences will reduce the likelihood of the occurrence under the condition of giving incentive to prevent its occurrence. This party will also have the best access to information about the likelihood of occurrence. The party that has greater knowledge of the finance structure and arrangement and/or technical characteristics of the project is generally the best party to manage the consequences of materialized risk. In order to estimate consequences, this party should pay attention to the potential cost of restoring the project to expectation as well as the cost of any mitigation measurements (Victoria, 2001).

ESCAP (2011) further outline the general principles to manage and allocate the risks in PPP:

1. Eliminating or reducing the possible chance of risk occurrence;
2. Allocate the risks to the party that is best able to manage in most cost-effective ways, for example public party bear political and regulatory risks while private party are allocated to construction and operating risks. There is possibility of adjustment that can be considered on valid reasons, for example sharing mechanism in demand or commercial risks may be considered to draw the involvement of private party in new PPP market;
3. If neither party is able to deal with the risk but still able to maintain the value for money in project, then it is suggested to consider an insurance (if available) to deal with risks;
4. If neither party is able to effectively manage a risk, it may be kept unallocated. It is suggested to outline an indication in the contract on how the risk may be either shared between the parties or assumed by a certain party in the event of its occurrence. In concession contract, the risk may also be transferred to the end users by charging higher tariffs.

Conceptually, the principles above are implemented in Indonesian PPP in the way of (IIGF, 2012):

1. The risks should be allocated to private parties in order to fulfill the principles of cost-effectiveness, if those risks are found difficult to be controlled by public party based on experience;

2. The risks should be shared by both parties if those are beyond the control of both parties, or the risks occurrence is influenced by both parties;
3. The risks should be allocated to public party, if it involved regulatory or political;
4. Public party can take over the project, if private parties are failed to fulfill the obligation due to transferred risk. This step is categorized as emergency and can only be taken in the case that the failure of private parties hinders the very important public service delivery.

Although the universal principle of allocating risk is the party who is in the best position to manage should be allocated the risk is applies to all situations, but the party in the best position to manage a particular risk may vary from one project to another. Many risks are project and situation specific (ESCAP, 2011).

Based on the literature review from international and national context (European Commission, 2003; ESCAP, 2011; UNECE, 2008; IIGF, 2014; Zen & Regan, 2014), this research tries to outline the rationales to select a particular party to assume a risk based on the core principle of risk allocation which state that risk shall be allocated to the party that can control the likelihood of occurrence and can manage the consequences if the risk is materialized, in the most cost-effective ways. The rationales are derived based on the principles in Indonesia Infrastructure Guarantee Fund (IIGF) because not only it have several similar principles with other literatures but also it is viewed as more relevant to Indonesian PPP context. The several rationales are as follow:

1. Risk shall be allocated to the public party if it involves political and regulatory;
2. Risk shall be allocated to the private party if it is related to construction and operation, or on the principle of cost-effectiveness, or experience;
3. Risk shall be shared among public and private parties if the risk is beyond control of both parties, or both parties influence the risk occurrence; and
4. If neither party is able to manage the risk, it can be kept unallocated. However, in the case of emergency where important public service need to be delivered, then the public party can take over the project.

The core principle as well as the rationales will be used to evaluate the actual risk allocation strategy in the case to derive lesson learned that might be useful to the implementation of proper risk allocation in Indonesian PPP railway projects.

3.5 Conceptual Framework

PPP is a long-term collaboration between a public party and a private party to deliver public service provision with distinctive feature of risk allocation (World Bank, 2012; Jomo et al, 2016; Bing et al., 2005). This research departs from the idea that proper risk allocation and sharing can contribute to a successful PPP project (Osei-Kyei & Chan, 2015). There are various categories of risks that are common in PPP infrastructure projects, which are to be allocated to public, private, or both parties, depending on the principle on risk allocation (World Bank, 2012).

The basic principle of risk allocation is that risks should be allocated to the party best able to manage them, to absorb them, and to the party who can best assume it in the most cost effective manner (European Commission, 2003; ESCAP, 2011; UNECE, 2008; Zen & Regan, 2014). It can be concluded as risk shall be allocated to the party that can control the likelihood of occurrence and can manage the consequences if the risk is materialized in the most cost-effective ways. This principle along with the basic guidance from international and national context was then utilized to outline several rationales that will be used to evaluate the actual allocation of project risks in the case study to observe the influence of proper risk allocation to the achievement of project success. The conceptual framework of the research is presented below (Fig. 3-1).

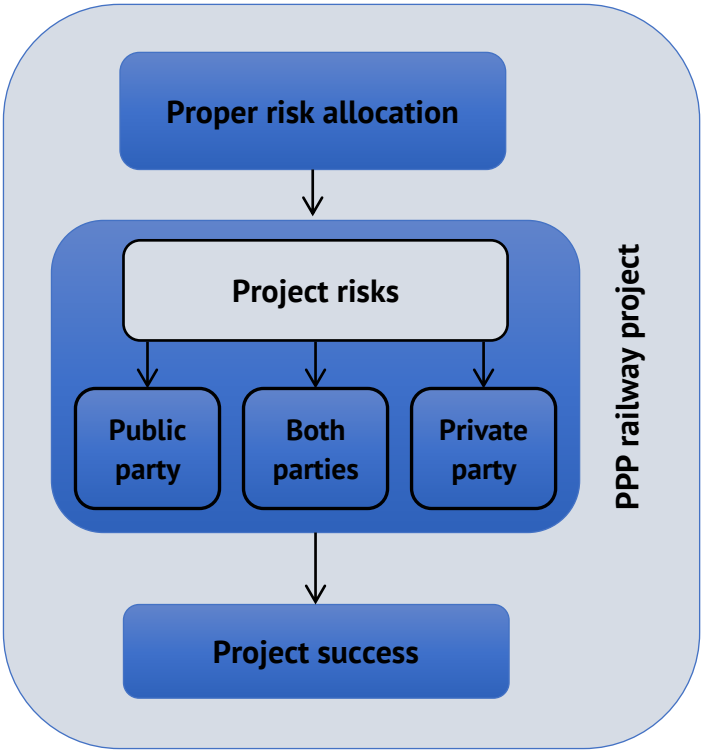

Figure 3-1 Conceptual framework (Author, 2017)

CHAPTER 4 THE CASE STUDY

4.1 General description of the case

Kuala Namu airport railway is national project initiated by central government with the objectives of expanding railway service and network to airport, facilitating accessibility from city center to airport, and increasing competitiveness of railway transport in Medan, the capital city of North Sumatera Province (Ministry of Transportation, 2010). The project is collaboration between railway regulator and subsidiary joint company of state owned enterprises in railway and civil aviation sector to provide railway infrastructures and service delivery from Medan to Kuala Namu international airport.

Figure 4-1: Kuala Namu Airport Railway Map (Author, 2017)

The existing railway line in Medan is originally from Binjai to Rantauprapat (Fig. 4-1). The service covers public and commercial passenger service (Kereta Api Info, 2016). In this project, the existing track is extended from Araskabu to Kuala Namu airport in 2011. The service delivery commenced in 2013, covers Medan to Kuala Namu airport. In 2014, the project then continues into double track construction from Medan to Kuala Namu airport but still far from completion. Central government has a plan to expand the service from Binjai to Kuala Namu in 2017 to facilitate the movement of passenger outside Medan municipality. This plan will expand the service coverage almost two times longer. This research will limit the description of case study until double track plan.

In the actual circumstances, there were no specific categorizations in the project. However, in this research, the project will be categorized into two stages. The first stage covers service delivery, while the second stage covers double track implementation.

The description of case study will be presented in the following sub chapters, consist of general description of the project, review of main stakeholders, railway service and network development in Indonesia, the relationship between stakeholders, project historical background, project stages, perception of project success and the extent of its achievement, as well as the main development of PPP in the project.

4.2 The Main Stakeholders

The main stakeholders in this case study are the public party represented by railway regulator, and private parties that represented by subsidiary joint company as operator. State owned enterprise of railway and civil aviation sector altogether with subsidiary joint company cooperate in service provision. Directorate General of Railway (DGR) is railway regulator, KAI is state owned enterprise in railway sector, AP II is state owned enterprise in civil aviation sector, and Railink is subsidiary joint company of state owned enterprises. Meanwhile, technical agency is a representative of DGR for the execution of infrastructure development, and Pemko Medan is local government responsible for administrative affairs in Medan municipality.

Directorate General of Railways (DGR)

Directorate General of Railway, hereinafter referred to as "DGR", is railway directorate under Ministry of Transportation or MOT. DGR is led by Director General and held accountable by the Minister of Transportation. DGR is representative of MOT in railway sector. The regulatory tasks of DGR cover formulating and implementing policies and technical standardization in railway sector. As a part of policies implementation, DGR has the responsibility to implement the network and service development programs throughout the nation. The programs are based on the strategy in national railway master plan. In Indonesia, railway infrastructure zoning is divided into two regions. Region I covers Java, Bali, Nusa Tenggara, Sulawesi, Maluku, and Papua Island while Region II covers Sumatra and Kalimantan Island (Ministry of Transportation, 2015a). DGR is viewed as public party in this research.

Technical Representative Agency

Technical Representative Agency, hereinafter referred to as "technical agency", is the representative agency of DGR for the implementation of network and service development program. DGR as regulator is responsible for most of railway infrastructures development in Indonesia. The task of agencies as

representative is to carry out all the implementation of infrastructures development programs, while service provision is assigned to state owned enterprise in railway sector. Railway infrastructures consist of track, station, bridge, tunnel, and operating facilities such as overhead lines. DGR holds the agencies accountable and all decisions regarding network and service development programs are the subject of approval by DGR as railway regulator. There are several technical representative agencies spread in Sumatera, Java, and Sulawesi Island. The respective technical agency in this research is the one that responsible for North Sumatera Province in Region II (Ministry of Transportation, 2014a).

PT Kereta Api Indonesia (Persero)

PT Kereta Api Indonesia (Persero), hereinafter referred to as "KAI", is the state owned enterprise in railway sector as well as main railway operator in Indonesia. KAI deliver freight and passenger service, either for public and commercial, in local and regional scopes. KAI has economic and financial purpose, which both of them shall be in balanced manner. Economic purpose is to provide railway passenger service while the financial purpose is to gain profit where partly it will be used to pay dividends to the state (Kereta Api Indonesia, 2016). The service provision for passenger covers public and commercial in which central government via DGR gives subsidy for the public one. Public passenger service consists of economy and pioneer service. Public services provision is based on special assignment from MOT (Ministry of Transportation, 2015b; 2016a). Aside from service provision, KAI also manage the commercial utilization in railway station as well as execute their own private investment in the form of build and /or revitalize railway track in freight and commercial passenger service for airport railway (Kereta Api Indonesia, 2016). The investment usually utilize concession scheme in which after concession end, the ownership of railway infrastructure will be handed over to government as property of state and KAI shall pay charge for track utilization. The differences between the period within and after concession are the charge payment and transfer of infrastructure ownership, while the operational usually remains as the obligation of KAI.

PT Angkasa Pura II (Persero)

PT Angkasa Pura (Persero), hereinafter referred to as "AP II", is state owned enterprise in civil aviation sector as well as airport operator in the western region of Indonesia. AP II engaged in the business of airport services and its auxiliaries. Similar to KAI, AP II also has economic and financial purpose. AP II

provide public airport service as well as performs the obligation to pay dividends to the state as shareholder. AP II also has the right to gain profit from service provision and private investment in airport infrastructure provision and development. The establishment of AP II is intended to carry out the management and operation in airport services and associated services to optimize the potential development of its resources. These practices are regarded important to produce the products and services of high quality and strong competitiveness so as to increase the value of the company and public trust (Angkasa Pura II, 2016).

PT Railink (Persero)

PT Railink (Persero), hereinafter referred to as "Railink", is a subsidiary joint company of KAI and AP II, which task is to operate the airport railway service as well as manage various business activities in airport railway. Railink was established based on the Cooperation Business Agreement between the AP II and KAI No. SPKS.023.1/KS/006/2006-APII and No.98/HK/UM/2006 dated August 14th, 2006. The shareholding composition is 60% - 40% of KAI and AP II respectively. The core business activities cover the operation and management of airport railway service; development and management of the station both in airport and city center; procurement and maintenance of facilities and railway infrastructure. Additional activities include track construction; consultation and railway system design; and other services that support the business core. Railink, KAI, and AP II entered agreement on airport railway concession in July 2015. The scopes of agreement cover construction, procurement, operation, maintenance, and operation of airport railway infrastructure. Validity period of agreement starts since the signing until the end of concession period. The agreement applied in general, as these parties will cooperate in several airport railway projects in the future (Kereta Api Indonesia, 2016; Angkasa Pura II, 2016).

Local Government of Medan

Local Government of Medan, hereinafter referred to as "Pemko Medan", is the element of government responsible of the implementation of administrative affairs in Medan. The Minister of Internal Affairs via governor of North Sumatera Province holds Pemko Medan accountable. Pemko Medan has various local agencies to execute the administrative affairs i.e. local agency of spatial planning, transport, and public works. The administrative affairs consist of mandatory and optional tasks. The optional tasks are depending on potential of the municipality while the mandatory one is obligatory albeit potential characteristics of municipality. The mandatory tasks are much more related to

the public service provision to meet the basic needs of the citizens. Education, health, public works, spatial planning, housing, safety, transport, and social aspect are the elements of mandatory tasks related to basic service provision. The main policy documents of Pemko Medan consist of Long and Medium Term Development Plan along with the Annual Work Plan, in all of which refer to national planning documents (Ministry of Internal Affairs, 2014).

4.3 Railway network and service development: PPP and special assignment

The implementation of railway network and service development programs can also handled by business entity as private party in the form of PPP scheme with approval from Ministry of Transportation. Business entities can be in a form of state owned enterprise, regional owned enterprise, or private entity in the form of Limited Liability Company, foreign entity, or cooperative unit. The procurement methods of business entity in infrastructure and/ or service provision will go through selection, bidding, or direct appointment (National Planning Agency, 2015a).

Three main financing terms in the railway sector are Public Service Obligation (PSO), Infrastructure Maintenance and Operation (IMO), and Track Access Charge (TAC). PSO is subsidy given from regulator to operator to provide economy and pioneer service for passenger transport, IMO is cost incurred by operator to maintain the quality of infrastructure and TAC is cost paid from operator to regulator for the utilization of track (Ministry of Transportation, 2007). Railway infrastructures are regarded as property of state and there shall be certain payment from operator to regulator for the lease. So far, the charge only applies to track while the mechanism for another infrastructures are still under discussion.

The general forms of PPP railway in Indonesia are operation and maintenance (O&M) and full concession (IIGF, 2014). In the case of full concession, private party will exclusively carry out, operate, maintain the infrastructure provision as well as provides services. Private party has full right to collect the revenue from fare and non-fare box. The concession agreement will last for certain period, usually for 30-years at the minimum. After the concession period is over, all infrastructures are handed over to government as state properties. Private party can still utilize the infrastructures but pay charge to regulator. Most of full concession agreement is applied for freight transport. In the case of O&M, private party will maintain and operate infrastructures as well as provide service, while design, construction, and financing is out of the scope of private

party. Private party will receive fare box revenue from end user. This form is usually employed for brownfield project to provide access for remote areas (Ministry of Transportation, 2007; IIGF, 2014).

In the case of SOE, there is another mechanism called 'Special Assignment'. Special assignment is a direct order from central government to relevant SOE to perform the function of public service by means public infrastructure or service provision. The special assignment must obtain the approval of General Meeting of Stockholder of SOE or relevant Ministry. In the case that the project is categorized as important to fulfill public interest or basic service for citizens and the feasibility study is tend to be unfeasible, compensation will be given, including the expected margin (Ministry of State Owned, 2003).

4.4 Relationships between the stakeholders

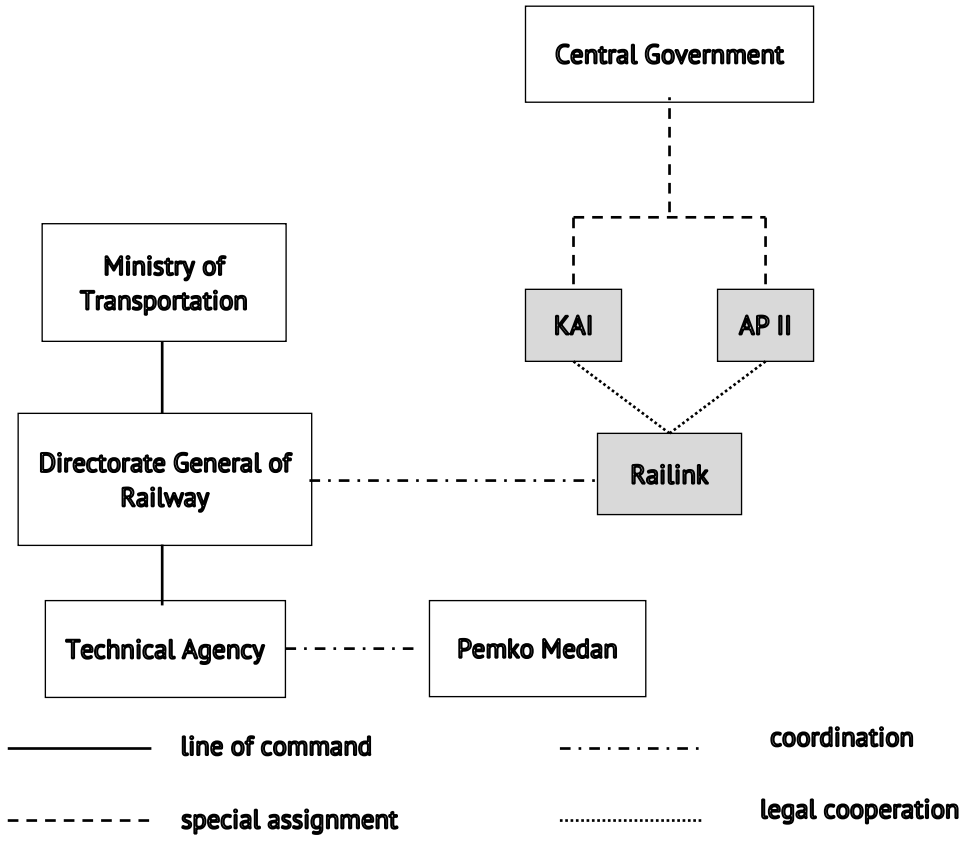

Figure 4-2: Relationships between the stakeholders (Author, 2017)

In this project, the initiation came from central government. KAI and AP II are assigned to implement the project. These state owned enterprises then form subsidiary joint company, Railink, and three of them altogether cooperate to

deliver the service. KAI and AP II build the required infrastructures while Railink operate the service. The project is categorized as public passenger service in railway transportation. Therefore, Railink as operator has to coordinate with railway transport regulator. Ministry of Transportation (MOT) as central transport regulator then appoint DGR to coordinate with KAI, Railink, and AP II in the capacity of railway regulator. When central government decides to execute double track construction from Medan to Kuala Namu, MOT assigned DGR to execute the plan. DGR via technical agency then carry out the construction. In the part of construction in Medan municipality, technical agency coordinates with Pemko Medan.

4.5 Case study historical background

Airport Railway

Intermodal transport integration has been stated in main national planning documents as a policy strategy to achieve transportation network development strategy in a way it address challenges in developing efficient and effective, affordable, environmentally friendly, and sustainable national transportation system and also as a part of transportation development that directed to support economic activity, social, cultural and environmental aspect (National Planning Agency, 2007). In part of railway transport policy, intermodal transport integration in the form of connection between airport and port to railway station is declared as policy direction for railway development in Indonesia as it become an approach in railway revitalization to reach the goal of transportation services improvement throughout the nation and as long-term program development in railway system network especially in Sumatra, Java, and Bali Island (Ministry of Transportation, 2008a). In a separate railway master plan document, the connectivity of railway service to airport, port, and industrial hub is a policy to achieve the strategy of network and service development (Ministry of Transportation, 2011a).

Specifically, as the cornerstone of the development of intermodal transport, railway transport development policy in Sumatra and Java Island is directed to establish connectivity between the city center and its international airports such as Soekarno Hatta Airport with Jakarta, Kuala Namu Airport with Medan, Minangkabau Airport with Padang, and Juanda Airport with Surabaya. The development of airport railway then expand into twelve locations including major cities in Batam, Bali, and Sulawesi Island thus become one of the major

programs in National Railway Master Plan that needs to be accomplished no later than 2030 (Ministry of Transportation, 2011a).

Kuala Namu Airport Railway: An Overview

Kuala Namu International Airport is new international airport of North Sumatera Province built in 2006 to replace the existing Polonia International Airport, as the condition of the facilities available in Polonia was no longer be able to accommodate the needs of air transport services that are likely continue to increase. The existing airport is located in the Medan city center while the new international airport is located in another administrative area of Deli Serdang Regency, 40 kilometers away from Medan (Kuala Namu Airport, 2016a). The displacement of international airport to new location creates the urgency of access provision from Medan, one of which is through railway service. Medan has existing railway line but unconnected to the new airport. When the new airport is still on the construction process, central government initiates Kuala Namu airport railway project to provide access from city center to airport (Interview, 2016).

In the beginning, central government initially plans to execute Kuala Namu airport railway project via PPP scheme, but no private parties interested. As the construction of new airport was about to complete, central government then decide to execute the project via special assignment scheme (Interview, 2016).

KAI, AP II, and Railink altogether cooperate to implement the assignment. The distribution of tasks between three parties is as follow (Interview, 2016):

a. Railink and AP II provide the site for track construction;
b. KAI build track infrastructure and facility development in Medan station;
c. AP II build railway station in Kuala Namu airport; and
d. Railink provide rolling stock and operate the service.

The entire investment came from private parties and there were neither guarantee nor subsidy provision from central government. Central government left the mechanism of investment plan and distribution of profit to private parties. Meanwhile, Railink is obliged to pay TAC for existing track utilization from Medan to Araskabu (Interview, 2016).

Railink compose feasibility study and business plan. Aside from providing rolling stock and operate the service, Railink also pay lease to KAI and AP II for

commercial utilization of railway stations in Medan and Kuala Namu as a part of business strategy to generate non-fare box revenue. Railink acquires the entire revenue from fare and non-fare box (Interview, 2016).

Railink launched the first dedicated commercial airport railway service with the brand of ARS (Airport Railway Service) Kuala Namu. Railink provide a series of four modern trains from South Korea, which each train consist of four carriages that can accommodate up to 172 passengers in one trip or 6880 passengers per day. The reclining seats, spacious interior, two LCD TVs, luggage storage facility, classified the service as commercial-exclusive one. Forty schedules are available everyday with fixed fare. The travel time from Medan to Kuala Namu is 30 minutes while the opposite direction will take approximately 45 minutes (Railink, 2016a). The airport railway service commence in the mid of 2013 parallel with the opening of Kuala Namu airport (Interview, 2016)

In the end of 2013, several months after service delivery, central government decides to continue the project with the construction of double track from Medan to Kuala Namu with the concern to increase trip frequency and speed up travel time as well as raise passenger capacity. DGR then appointed by MOT to execute the plan. DGR delegate the task to technical agency of North Sumatera in Region II (Interview, 2016).

The project second stage is divided into three sub-stages based on the station area division. Three sub-stages are at grade track from Bandar Khalipah to Araskabu; elevated track from Medan to Bandar Khalipah; and another at grade track from Araskabu to Kuala Namu (Ministry of Transportation, 2015c). In 2014, technical agency starts the double track construction simultaneously in three main areas above. The construction is still ongoing and completion time is uncertain (Interview, 2016).

In the actual circumstances, this project is not classified as special assignment due to the absence of Presidential Regulation. In the common way, the special assignment should be based on issuance of Presidential Regulation, but due to unexplained concern, the groundwork for project implementation was merely based on national policy (Interview, 2016). The legal products from MOT are only the issuance of Ministerial of Transportation Decree in 2013 on authorization on single-track construction (Kereta Api Indonesia, 2015) and Memorandum of Understanding between DGR and private parties regarding site preparation for double track (Ministry of Transportation, 2015e).

4.6 Project stages

4.6.1 First stage

The airport railway line has total distance of 28 kilometers and passing through six stations including Medan and Kuala Namu. The existing line from Medan to Araskabu is 23 kilometers. The new line is five kilometers single-track extension from Araskabu to Kuala Namu and it part of ownership between Railink, AP II, and KAI (Interview, 2016).

Legal framework and project documents

In 2008, central government intend to deliver the project through involvement of private parties or local government via PPP scheme (National Planning Agency, 2008) as the enactment of Law 23/2007 on Railways has provided opportunity for another parties apart from DGR and KAI to participate in railway project implementation (Ministry of Transportation, 2008b). However, the realization was facing obstacles. No private parties interested because the additional rules and guidelines to support Law 23/2007 are insufficient to encourage the participation. DGR began the improvement process of supporting regulations from that moment onwards to accelerate the development of Indonesian railways via PPP (Ministry of Transportation, 2013).

While improvement of regulations is ongoing, central government decides to execute the project via special assignment. At that time, the construction of new airport was about to complete and the central government wanted the airport railway service to be delivered on the same time with the opening of new airport (Interview, 2016).

In the common practice of special assignment for airport railway, central government will provide legal framework in the form of Presidential Regulation to set the detail of the tasks, the right and obligation between involved parties. Central government will also order the appointed state owned enterprise to compose the feasibility study and business plan, in which MOT will then give approval. The project implementation should also be in accordance with the national regulation as well as design and technical specification from MOT (Ministry of State Owned, 2011).

In this project, neither Presidential Regulation nor concession agreement was issued before the project started (Interview, 2016). In 2013, after track

completion, MOT then released Ministerial Decree 23/2013 on the authorization of KAI to build railway track from Araskabu station to Kuala Namu International Airport, and the following statement of President Director of KAI No. HK.237/VII/5/KA-2013 dated July 10, 2013 declared that after single-track completion, the track would be handed over to government. In the following year, central government made statement that 30-year concession would be granted to KAI as compensation for infrastructure handover (Kereta Api Indonesia, 2015). Nevertheless, by the time this research finish, there was no issuance of concession agreement on this project.

In terms of project documents, DGR received feasibility study from Railink before operation and general examination was done to determine the fare. The fare box is decided with lower and upper limit based on demand projection to ensure investment return as well as the ability to pay of end users. At that time, detailed examination was quite impossible, as the service needs to be commenced soon (Interview, 2016). Meanwhile, DGR received the technical document related to single-track construction from KAI after the completion of construction, so the examination of detail design and other information cannot be performed prior to the construction (Interview, 2016).

The further information related to track construction and both station development in Medan and Kuala Namu cannot be presented due to difficulty in obtaining data or requesting interview from respective parties.

4.6.2 Service delivery

Rolling stock arrival

When the service is about to commence on July 2013, the arrival of new ordered rolling stocks from South Korea is delayed due to heavy traffic in Belawan Port as the national holidays is approaching (Siregar, 2013). In order to deliver service on schedule, Railink requested the assistance from DGR to solve this matter. DGR then collaborate with Rail Industry, state owned company for rolling stock manufacture, to provide temporary rolling stock so that Railink can deliver the service in time (Interview, 2016). Unfortunately, the set of rolling stock from Rail Industry is fewer than expected. The actual travel frequency became less than planned due to this matter (Kereta Api Indonesia, 2014).

Operational license

The new rolling stocks finally arrived in the end of August 2013. However, according to regulation, it needs to obtain operational license from MOT before

run the service. There are technical and administrative examinations that need to be done to obtain the license. The process required substantial amount of time. At that time central government required the new rolling stock should operate as soon as possible. Central government instruct MOT to allows the rolling stock to run the service while the license is being processed (Interview, 2016). The new rolling stock started to run the service in November 2013 (Kereta Api Indonesia, 2014) and travel frequency is returned to initial schedule. The operational license is released later on April 2015 (Ministry of Transportation, 2015d).

2013

In operational year of 2013, Railink expects ARS Kuala Namu will carry at least 30% of the total airline passengers or around 700 thousands passengers. In order to stimulate the interest of airline passengers in using ARS Kuala Namu, the applied fare is 80% of the lower limit. Unfortunately, the actual passengers only reach 270 thousands or 39% of the target. This circumstances put Railink in financial deficit of IDR 1,14 billion, or USD 93,000. Railink claimed that the failure to reach the target is due to following terms: the actual operational schedule is on June 2013 but then Railink have to postpone it one month later to adjust with airport opening date. The second cause is that the actual train frequency from July until November is 25% less than planned (Kereta Api Indonesia, 2014).

Railink consider that the completion of double track from Medan to Kuala Namu to raise occupancy rate is necessary, and therefore expected the realization of double track in 2015. Apart from fare box revenue, Railink is also observing the possibility to explore freight service as strategy to increase non-fare box revenue (Kereta Api Indonesia, 2014).

In 2013, most of the strategy employed by Railink is still focus on fare box revenue (Kereta Api Indonesia, 2014). Meanwhile, in order to support the achievement of occupancy rate and revenue target of ARS Kuala Namu, KAI confirmed that in 2014 they would provide additional supporting facilities in Medan railway station (Kereta Api Indonesia, 2014).

Incidents

Incidents of stones throwing happened during the trials and in the beginning of service delivery. Stones are thrown at moving trains in Deli Serdang Regency, area near airport. These incidents have caused damages to rolling stock and

Railink has to spent additional expense to fix the damages. Two measures are taken by Railink after the incidents: the frequent coordination with police division, military force, regional branch of KAI in North Sumatera Province to maintain operational safety and perform corporate social responsibility (CSR) activities to local citizens in area nearby railway track to prevent similar incident. After these two measures are performed, there was no report of additional incidents (Railink, 2016b).

2014

In 2014, the target of passenger is 1,6 million per year with similar fare as previous year. The actual occupancy rate in 2014 is increased up to 52% followed by revenue rise. Despite the revenue rise, financial report showed higher deficit instead, with the value of IDR 14,91 billion, or USD 1,2 million. The reason of deficit is the increased operational cost and additional expense on another investment of Soekarno – Hatta airport railway project. Railink also admitted that implementation of non-fare box strategy is still needs improvement and most of the revenue is come from fare box (Kereta Api Indonesia, 2015).

2015

In 2015, Railink raise the fare up to point it match the lower limit in order to increase revenue and lowering deficit. The percentage of passenger occupancy is quite the same with previous year, but the actual number is actually fewer because Railink lower the occupancy target by 25%. Financial report showed that Railink still suffered a net loss of IDR 4,92 billion, or USD 350,000 this year. However, Railink claimed it as but a good achievement compared to previous year because the losses decrease up to 300%. The non-fare box strategy began to produce good results as the income from advertisement, lease, and hotel started to contribute to total revenue (Kereta Api Indonesia, 2016).

Laporan Laba Rugi (dalam juta Rp)	2013	2014	2015	Pertumbuhan (%) Growth (%)	Income Statement (in Million Rp)
Pendapatan	23.300	68.191	78.854	116	Revenue
Beban Pokok Pendapatan	17.769	68.999	67.267	97	Cost of Revenue
Laba kotor	5.532	(807,93)	11.588	1.434	Gross profit
Beban usaha	12.986	18.231	18.186	100	Operating expenses
Laba usaha	(7.454)	(19.039)	(6.599)	35	Income from Operation
Beban lain-lain	4.636	(3.454)	(1.738)	50	Other expenses
Laba sebelum pajak penghasilan	(2.818)	(22.493)	(8.337)	37	Profit before income tax
Beban pajak penghasilan	1.682	7.648	3.420	45	Income tax expense
Laba bersih tahun berjalan	(1.136)	(14.845)	(4.917)	33	The net profit of the current year

Figure 4-3 Financial Statement of Railink 2013 – 2015 (KAI, 2016)

Low occupancy rate

The passengers of ARS Kuala Namu for the past thee years is around two thousands per day which means the occupancy rate is only 30% at the average. Railink claimed that low occupancy rate happened due to the cultural behavior of airline passengers, which still preferred using private car or taxi due to broader service coverage, and the competitive fares of alternative transportation modes (Kereta Api Indonesia, 2016).

Further explanations for low occupancy are as follow (Railink, 2016b):

1. Airline passengers of Kuala Namu airport is still in steady number of seven millions per year. According to the standard, the airport should have minimum ten million passengers per year to be provided by airport railway service. The unexpected number of airline passengers occurs because the Kuala Namu airport has yet to become airline hub for western part of Indonesia and the growth of passengers in airport and its satellites still below the expectation;
2. Most of the destination of airline passengers is spreading outside Medan municipality. Around 65% goes to area outside Medan (for example Binjai, Rantauprapat, Lake Toba, Tebingtinggi, and Siantar), and 35% goes to Medan. Moreover, within the percentage of 35%, it still distributed outside coverage range of stations area;
3. The cultural behavior of citizen in North Sumatera Province, which still hold the family values. They prefer to pick up or escort their family to airport use private car or taxi, as the cost on collective trip is cheaper compared to train;
4. Internal survey indicates that majority of the train passengers is classified as business traveller (public servant, company employee, and entrepreneur), where the composition of business travelers is only a fraction compare to overall airline passengers;

5. The survey also shows that most passengers consider the fare is too expensive. Railink already requested for PSO in the form of fare subsidy to increase service competitiveness, but there were no further response from DGR.

Financial condition

In this project, the entire investment for service delivery came from Railink and there were neither guarantee nor subsidy provision from central government. As the company is relatively new, Railink almost has no asset (Interview, 2016). When the service was delivered in 2013, Railink expect the revenue from fare box can achieve the target. At that time, the strategy to yield non-fare box revenue is still underway and has not established yet due to nature of new service. Unfortunately, overestimate demand projection happened and cause lower revenue. At that time, in addition of huge investment, Railink still have to pay lease for utilizing facilities in Medan and Kuala Namu as well as handle operational cost. The excessive imbalance between expenditure and revenue had caused Railink experience financial distress (Interview, 2016).

At that time, Railink is in the need of support from central government to increase occupancy rate. Central government then decides to provide supporting infrastructure in the form of double track construction. At some point, it can be said that the assignment from central government to Railink in this project is an obligation that needs to be done. It is no exaggeration to say that if private party executes the project, the possibility of default is certain (Interview, 2016).

4.6.3 Double Track Construction of Medan - Araskabu (2014 - ongoing)

Double track overview

The project has been carried out simultaneously since 2014 with general sequence as follow (Interview, 2016):

1. Detail Engineering Design preparation for track, bridge, and signaling;
2. Nineteen-kilometers at-grade track construction from Araskabu to Bandar Khalipah;
3. Bridge and signaling construction in Bandar Khalipah, Batang Kuis, and Araskabu station;
4. Eight-kilometers elevated track construction including signaling from Medan to Bandar Khalipah; and
5. Five-kilometers at-grade track from Araskabu to Kuala Namu.

Different from at-grade track in two other sections, elevated type in Medan - Bandar Khalipah was chosen with the intention to ensure the safety of railway and road users as well as relieve road congestion in railway level crossings (Fig 4-4) (Ministry of State Owned, 2016).

Figure 4-4 Congested roads in level crossings area nearby Medan station (Ministry of Internal Affairs, 2014a)

Budget cut

When central government decided to continue the project, MOT assigned DGR to execute the plan. DGR delegate the task to technical agency of North Sumatera in Region II. The project continuity is viewed important to increase trip frequency and speed up travel time as well as raise passenger capacity, which then it expected to raise occupancy rate eventually (Interview, 2016).

The project financing in 2014 – 2015 come from state budget with a total of USD 28 million. In order to accelerate the project completion, DGR need additional fund. DGR then proposed additional budget of USD 4,4 million through the review-in-state-budget or APBN-P mechanism to meet the completion target in 2016 (Ministry of State Owned, 2016). Unfortunately, in final decision of APBN-P 2016, Ministry of Finance decide to cut the budget of several ministries with consideration of saving and efficiency in overall national spending, including MOT that gets 11% cut (Ministry of Finance, 2016). The cut cause the availability of project fund become more insufficient. This condition poses the possibility of further delay in project completion. The project realization is important. Therefore, DGR did several adjustments on the existing budget in order to provide the required fund for this project. The adjustment eventually affects railway infrastructures development in other areas.

Nevertheless, the necessary fund to accomplish project completion is obtained (Interview, 2016).

Land issue: Medan – Bandar Khalipah section

Prior to the construction, technical agency and KAI altogether cooperate in site preparation to check the clearance of the right-of-way or ROW area. The task is the responsibility of technical agency. However, KAI voluntary help technical agency in this process (Interview, 2016).

According to railway regulation, the ROW of railway must be clear of any obstacles or activities. The space consists of the area on the right and left of the outer side of the infrastructure and also the space below and above the ground, as railway infrastructures can be in a form of single track, double track, station, bridge, tunnel, or operating facilities such as overhead lines. The initial purposes of maintaining the clearance of ROW are for the future plans of track expansion, maintenance, and safety for both construction and operation (Ministry of Transportation, 2007).

In the actual condition, there were many settlements stood along ROW from Medan to Bandar Khalipah. These settlements need to be cleared up before construction start. As ROW initially belongs to central government, the status of the settlements is illegal and the citizens who lived there are categorized as illegal settlers. The right of eviction is a lawful decision based on regulation and citizens will receive neither compensation nor relocation right. Nevertheless, in the usual course, DGR will provide a certain amount of consolation money (Interview, 2016).

In the end of 2015, technical agency and KAI sent formal announcement to the citizens in that area to inform that the area needs to be emptied in the early of 2016 as well as the statement that citizens will be given some amount of consolation money. In the case that citizens refuse to move, then they will be the subjects of eviction. In the response of the announcement, citizens claimed that their presence in the location is legal, as they paid property tax regularly. Further, they request compensation or relocation instead of consolation money. In order to oppose the eviction process, citizen form alliance and ready to put resistance in the case of eviction. In order to proceed with construction, technical agency and KAI prepare to execute eviction with the involvement of military forces to prevent the resistance of citizen. When the eviction finally take place, it turns out that the involvement of military forces lead to several direct

conflicts. To reduce further possible conflicts, the negotiation then initiated involving Pemko Medan and citizen to resolve the issue ("DPRD Usulkan", 2016; "Penertiban Pemukiman", 2016; Siregar, 2016; Harruma, 2016).

In the negotiation, it is revealed that there was no early coordination between technical agency and Pemko Medan before the eviction takes place. The announcement on site preparation for double track was sent to Pemko Medan. However, as the announcement did not contain request to participation, Pemko Medan regards it as merely notification. Technical agency and KAI explained that direct coordination involving Pemko Medan would be done right before the construction ("Penertiban Pemukiman", 2016; Interview, 2016).

Following negotiation then conducted to discuss the possibility of compensation or relocation for the citizen. In the negotiation, citizen request the compensation money, which the amount is exceeded the amount of consolation money, in additional to relocation. Regarding the compensation, technical agency stated that there was no possibility to provide compensation. However, they will consider raising the amount of consolation money. On the issue of relocation, Pemko Medan will provide low-cost rental apartments in certain place for the citizen. The consideration of providing rental apartments instead free apartments is due to budget shortage of Pemko Medan. However, as the apartments required citizen to pay lease every certain period, citizen requested subsidized low-cost apartments instead of the one offered by Pemko Medan. The overall negotiation result is that citizens are still unsatisfied with the offer. Up until the mid of September 2016, the ongoing negotiation updates and further details remain unclear (Interview, 2016; "PT KAI", 2016; "Ratusan Warga", 2016; "Mengadu ke Pemprov", 2016).

Land issue: responsibility of Pemko Medan

The responsibility to restrict the growth of illegal settlement along the ROW of railway track belongs of Pemko Medan (Ministry of Internal Affairs, 2008). The exact clearance distance from both side of railway track to public space is also mentioned in the spatial planning document of Medan municipality (Ministry of Internal Affairs, 2011). The document indicates that ROW is important to limit the interaction between public activity and railway operational. In the case that there are illegal settlements in the area of ROW, and the area is required for railway development, Pemko Medan is responsible to relocate the settlers to another proper place (Ministry of Internal Affairs, 2014a).

Pemko Medan claimed the difficulty to restrict the growth of illegal settlements is due to the high prices of land followed by the limitation of land available for housing as well as the low awareness of citizen regarding regulation of legal housing. The ability of citizen in general to pay for proper housing is also below the standard house price. Moreover, the financial capability of Pemko Medan is very limited to ensure the availability of affordable and proper housing, compared to the growth in housing demand due to the dynamic development of the city along with urbanization growth. Pemko Medan claimed the inconsistency between planning and infrastructure development; land or space structuring and control; and development of socio-economic activities are often formed and went according to the market mechanism, which often lead to a lack of housing provision (Ministry of Internal Affairs, 2014b). Pemko Medan continues to make efforts in strengthening the regulatory framework and synchronization of regulations between various sectors, while the issue of financial limitation will be followed up by cooperation with the central government, provincial government, and private party (Ministry of Internal Affairs, 2012; 2014b).

4.6.4 Double Track Construction of Araskabu to Kuala Namu (2015 - ongoing)

The land in Araskabu - Kuala Namu section was initially belongs to Puskopad, Sultan Serdang, Perkebunan Nusantara II, and local citizens in Deli Serdang Regency. In the site acquisition process, AP II and Railink cooperate with local government of Deli Serdang regency to purchase the land. The site was successfully acquired before track construction. Railink owns the part from Araskabu station until the area of airport flyover while AP II owns the rest. In the part of land owned by AP II, there are some segments that were leased to KAI for separated regional railway development (Angkasa Pura II, 2015; Ministry of Transportation, 2016c).

When central government decides to continue track construction in 2014, problem arises related land ownership. The regulation on property state declares that the utilization of state budget to build public infrastructure can only be executed in the property of state (Ministry of Transportation, 2016c). The land belongs to SOE and subsidiary joint company, which means that the ownership should be handed over to central government before the construction (Interview, 2016). The possible means of ownership transfer can be in a form of grant or purchase (Ministry of Finance, 2014).

The segment of land owned AP II is a part of the entire airport working areas or DLKR (Ministry of Transportation, 2016c). The DLKR in civil aviation terms is more or less similar with the ROW of railways. According to Aviation Act 1/2009 article 203, DLKR is area owned by airport operator or business entity in which covers the entire areas for construction, development, and operational of airport facilities. The ownership status of DLKR shall remain of the airport operator or the business entity as to accommodate airport future plan. Grant or another transfer method from the existing ownership is strictly prohibited (Ministry of Transportation, 2009).

When central government decides to build double track, discussion between DGR, KAI, AP II and Railink regarding site preparation in Araskabu to Kuala Namu has already started (Angkasa Pura II, 2014). The discussion lasted due to conflicting regulations. It took almost two years before all parties agreed on Memorandum of Understanding (Interview, 2016). The memorandum accommodates general points. It describes that DGR needs the land for double track construction and the three other parties will provide the land. Detail explanations have not been discussed in MoU regarding legal foundation for DGR to build the track on the land of AP II (Ministry of Transportation, 2015e). According to the e-procurement website of MOT, the tender process for double track Araskabu – Kuala Namu has finished in July 2015 while signing of MoU take place in October 2015 (Ministry of Transportation, 2016d).

In few months after the issuance of MoU, the detailed terms of the land become clearer. Railink are willing to handover the land to DGR with terms and condition applied. AP II is also willing to support the double track development but decline to transfer the land ownership. AP II states that DGR can process the track construction in the particular land segment of AP II with consideration that double track is a part of supporting facilities in airport service. As other supporting facilities such as custom and quarantine offices in the airport are also built by state budget, then the track construction that utilized state budget can also be allowed in the area of DLKR (Ministry of Transportation, 2016c).

4.7 Perception of project success and its achievement

The perception of DGR in project success is correspond with the achievement of central government objectives in Kuala Namu airport railway (Interview, 2016), as follow:

a. Expanding railway service and network to airport,
b. Facilitating accessibility from city center to airport, and

c. Increasing competitiveness of railway transport in Medan, North Sumatera Province.

The first-two objectives is considered successful as the track extension, facility development in Medan station and railway station in Kuala Namu airport as well as airport railway service are provided successfully by KAI, AP, and Railink. The existing railway line is now expanding to the airport along with the service. The accessibility from Medan city center to Kuala Namu airport is also now facilitated by railway service aside from other road transport modes (Interview, 2016).

Nevertheless, the other objective in increasing competitiveness of railway transport, there are few concerns that need to be addressed. The competitiveness of railway transport compared to other access available is viewed in the term of cost and time travel as well as economic benefits (Interview, 2016). The time required to covers the distance from Medan to the airport is indeed one-third time faster by train than road, However, in the terms of cost, using train will be more expensive than taxi, bus, or private cars if it is collective trip. Most of airline passengers in Medan are still attached to cultural behavior of collective trip with their family, and this cause the preference to choose train is less than other means of transport thus affect the occupancy rate. Aside from cost and time parameter, there is service coverage issue. Most of airline passengers reside in area outside service coverage, which then it is more comfortable for them to ride private cars or taxi. Although it is undeniable that cost parameter is more or less influence mode choice. All in all, the achievement of raising competitiveness of railway transport as an indicator of project success is still far from success. Meanwhile, the economic benefits are regarded as ineffective because the occupancy rate is still far from target (Interview, 2016).

4.8 Summary of main developments of PPP in the case

Kuala Namu airport railway project is collaboration between public and private party in realizing national railway program in the form of airport railway service delivery. To ensure service delivery, both parties are utilizing their resources, being responsible for particular project tasks, as well as achieving their objectives. In this project, certain responsibilities are assigned based on the expertise and capacity of both parties. In the project first stage, Railink is responsible to provide rolling stock and operate the service while DGR with regulatory role is responsible on documents review, decide on tariff setting, and permit issuance. The expertise and core business activities in airport railway are

viewed as resource of Railink while DGR has authority in the railway regulatory framework. The objective of Railink is to obtain fare box and non-fare box revenue while DGR has the goal in the fulfilment of service and network development in the form of public railway service provision from city centre to airport. In the second stage, Railink hold the same responsibility while DGR has additional obligation to provide railway infrastructure, apart from regulatory role. During project first stage, several problems occurred along with the consequences eventually triggering the decision to project continuity to the second stage. The collaboration is eventually expanding into the involvement of technical agency, Pemko Medan, KAI, and AP II. Along with DGR and Railink, those respective parties contribute their resources to maintain the continuity of service delivery as well as supporting double track construction.

CHAPTER 5 ANALYSIS

This chapter will present the comparison between the actual risk allocation strategy in the case study project and the principles of risk allocation in general PPP. The aim of this chapter is to find out whether the project risks have really

been properly allocated among involved parties and how it influences the achievement of the project objectives.

The first part of this chapter is to identify the project risks. Using the literature review on categories of risks in PPP projects, the information on problem and consequences in the case study description are translated into certain project risks or events that can trigger the occurrence of project risks. Along with the information of the allocated party, the actual risk allocation strategy can be outlined. Detailed explanation can be found in the following chapter.

The second part is the comparison between actual risk allocation and the standard of risk allocation in PPP. The parameter utilized in comparison is the core principle of risk allocations as well as the rationales presented in chapter three. The brief evaluation on comparison is shown in table 5.1 along with the measures exerted by respective party to deal with the risks. In this analysis, however, the fourth rationale will not be used, as there was no information in the case study regarding the emergency situation where important public service needs to be delivered.

The comparison of risk allocation strategy in project first and second stage is presented in Table 5-1. The table presents the identification of risks, the description along with consequences, and the actual allocation. Then it is compared with the standard in general PPP and concluded by the evaluation of the comparison.

Table 5-1 Comparison of risk allocation strategy in project stage (Author, 2017)

Risk	Actual			General		Evaluation
Category	**Description**	**Consequences**	**Allocation**	**Rationales**	**Allocation**	
First Stage – service delivery						
Operation	Rolling stock unavailability due to the delay of rolling stock arrival	The possibility of operational delay	Private (Railink)	If the risk involved regulatory or political	**Public**	In the case of delay, Railink request the assistance from DGR. DGR help to provide temporary rolling stock from Rail Industry. The service can still be delivered on the same time of opening new airport.
				If the risk is related to construction or operation; or in the principle of cost-effectiveness, or experience	**Private**	
				If the risk is beyond control of both public and private parties, or both parties influence the risk occurrence	**Shared**	
	The possibility of service interruption due to the incidents of stone throwing	Service can be temporarily halted if the incidents keep going				In the case of incidents, Railink coordinating with Police division, and military force as well as performing Corporate Social Responsibility. There were no further incidents and no service interruption. Railink can control the likelihood of risk occurrence thus prevent the consequences to happen. The actual allocation is considered proper.
Demand	Overestimate demand projection	The imbalance between huge expenditure and low revenue	Private (Railink)	If the risk involved regulatory or political	**Public**	Central government did not provide subsidy, and Railink is responsible for overestimate demand projection.
				If the risk is related to construction or operation; or	**Private**	

		caused financial distress		in the principle of cost-effectiveness, or experience		Central government and Railink influence risk occurrence. The allocation is considered improper. Central government should have shared the risk with Railink.
				If the risk is beyond control of both public and private parties, or both parties influence the risk occurrence	**Shared**	
Site Financial Construction Political or regulatory Asset ownership Force majeure	No information related to this risk					
Second stage – double track construction						
Political	Political decisions in the form of national budget cut that unfavourably affect the project acceleration.	Possibility of project delay	Public (DGR)	If the risk involved regulatory or political	**Public**	The risk is related to political. In this case, DGR made adjustment in overall railway budget plan to provide the necessary fund to accelerate double track realization. The actual allocation is considered proper.
				If the risk is related to construction or operation; or in the principle of cost-effectiveness, or experience	**Private**	
				If the risk is beyond control of both public and private parties, or both parties influence the risk occurrence	**Shared**	
Site	Difficulty in ensuring rights of way of railway	Possibility of project delay	Public (Technical Agency, the involvement of KAI is voluntary)	If the risk involved regulatory or political	**Public**	Technical Agency failed to control the likelihood of occurrence. However the negotiation with Pemko Medan, KAI, and citizen is viewed as measurement to manage the consequences.
				If the risk is related to construction or operation; or in the principle of cost-effectiveness, or experience	**Private**	

				If the risk is beyond control of both public and private parties, or both parties influence the risk occurrence	**Shared**	In Medan – Bandar Khalipah section, central government owns the land, and DGR via technical agency handle the construction as well as have the authority of the respective land. However, Pemko Medan is the party that has authority and regulatory role in administrative area of Medan municipality as well as has obligation to be responsible with the mandatory task of housing provision and maintain the clearance of ROW of railway. The actual allocation is considered proper.
	Difficulty in acquisition process	Possibility of project delay	Public (DGR)	If the risk involved regulatory or political	**Public**	The risk is related to regulations. The site can be obtained after negotiations between DGR and private parties. Railink is willing to cooperate to provide the land, while AP II made adjustment in the regulation of DKLR. The actual allocation is considered proper.
				If the risk is related to construction or operation; or in the principle of cost-effectiveness, or experience	**Private**	
				If the risk is beyond control of both public and private parties, or both parties influence the risk occurrence	**Shared**	
Financial Construction Operation	No information related to this risk					

Demand	
Asset ownership	
Force majeure	

CHAPTER 6 DISCUSSION

This chapter will discuss the findings of the analysis to formulate answers for the research questions. The purpose is to derive lessons learned that might be useful to the implementation of proper risk allocation in Indonesian PPP railway projects. This chapter starts with a discussion of risk identification and actual allocation, then followed by findings from the comparison analysis. The next sub chapter will describe the influence of actual risk allocation to the achievement of project objectives. The last part of this chapter outlines the lessons learned.

6.1 Risk identification and allocation

In project first stage, the risks that identified are operational and demand risk while there are no information regarding site risk, financial risk, construction risk, political or regulatory risk, asset ownership, and force majeure.

In project second stage, the risks that identified are political and site risk while there are no information regarding financial risk, construction risk, operational risk, demand risk, asset ownership, and force majeure.

First stage – service delivery (operational risk)

When the service is about to commence on July 2013, the arrival of new ordered rolling stocks from South Korea is delayed due to heavy traffic in Belawan Port as the national holidays is approaching (Siregar, 2013).

Incidents of stones throwing happened during the trials and in the beginning of service delivery. Stones are thrown at moving trains in Deli Serdang Regency, area near airport (Railink, 2016b).

The delay on new rolling stock arrival cause the unavailability of rolling stock at launching time of the new airport, thus can lead to unsuccessful operation. The service interruption can happen if the incidents of throwing stone keep continuing.

Operational risk is a risk that influenced successful operations, including service interruption or the availability of asset, network interface does not work as expected, error in estimation of O&M cost, inadequate facility and service, possibility of strike, social and cultural conditions of local communities, failure to manage operational and project monitoring, or traffic safety issue (World Bank, 2012; IIGF, 2014).

Therefore, delay on rolling stock arrival and incidents of throwing stone can be categorized as events influencing the occurrence of operational risk. The possible consequences are operational delay or service interruption. The actual allocation of this risk is to Railink.

First stage – service delivery (demand risk)

The occupancy rate of ARS Kuala Namu for the past thee years is steady on 30% at the average. Railink claimed that low occupancy rate happened due to the low growth of airlines passenger, the higher distribution of airlines passenger destination to areas outside Medan municipality as well as destinations outside the coverage area of Medan station, the cultural behavior of the citizen in North Sumatera Province as well as broader service coverage of road transport modes, the type of airlines passenger and the uncompetitive fare (Kereta Api Indonesia, 2016; Railink, 2016b).

In this project, Railink has to bear a substantial amount of investment for service delivery, as central government gave neither guarantee nor subsidy. Unfortunately, an overestimate of demand happened. At that time, in addition to the huge investment, Railink had to pay a lease for utilizing facilities in Medan and Kuala Namu as well as handle operational cost. The imbalance between expenditure and revenue had caused Railink experience financial distress (Interview, 2016).

The demand risk is associated with lower service usage or revenue from expectation, change in demand forecast, user affordability and willingness are below expectation, tariff adjustment is lower than expectation, failure in requesting tariff adjustment, and error in tariff estimation (World Bank, 2012; IIGF, 2014). The demand forecast did not materialize in the form of expected occupancy rate during service delivery. Lower occupancy rate caused lower revenue. The imbalance between expenditure and revenue cause financial distress. Therefore, change in demand forecast in the form of overestimate of demand can be categorized as the occurrence of demand risk with financial distress as the consequences. The actual allocation of this risk is to Railink.

Second stage – double track construction (Political risk)

Political risk

In the second stage, the project financing comes from state budget. In order to accelerate project completion, DGR required additional fund in 2016. The

proposal for additional fund was sent by MOT through APBN-P mechanism. Unfortunately, Ministry of Finance decided to cut the budget of several ministries in the consideration of national spending. Instead obtaining additional fund, the availability of existing fund become more insufficient (Ministry of State Owned, 2016; Ministry of Finance, 2016; Interview, 2016).

Risk associated with regulatory or political decisions, or changes in the regulatory sector framework, that unfavorably affect the project. It can be in the form financial policies ruling currency convertibility, failure to renew approvals appropriately, profits repatriation, expropriation or breach of contract, changes in general corporate tax regulation, unjustifiable regulatory decision, discriminatory in general law or regulation adversely affects the project, or failure to renew approvals appropriately (World Bank, 2012; IIGF, 2014).

The insufficient fund for the completion of double track construction is influenced by political decisions. The availability of fund is related to financial risk (ESCAP, 2011). However, it influenced by the political decision in the form of national budget cut. Therefore, the political decision of national budget cut can be categorized as the occurrence of political risk that unfavorably affects the project acceleration. The actual allocation of this risk is to DGR.

Second stage – double track construction (site risk)

Medan – Bandar Khalipah section

In the process of site preparation, there were many settlements stood along railway right of way from Medan to Bandar Khalipah. The settlements need to be cleared up before construction start. The announcement was sent by technical agency and KAI to the citizens in respective area but they are unwilling to move. Citizens demand compensation or relocation. The eviction process happened and caused direct conflict (Interview, 2016).

The site risk is risk associated to the availability and quality of project site, such as the increased cost and time of site acquisition, difficulty in acquisition process, possibility of resettlement, dual status of land ownership, unforeseen geological effect or other site conditions, difficulty in obtaining legal permits or ensuring rights of way for railway, possibility of historical damage, or the cost to fulfill environmental standards. The difficulty in obtaining land can cause project delay (World Bank, 2012; IIGF, 2014; ESCAP, 2011).

The difficulty in ensuring rights of way of railway is potentially causing project delay. Therefore, it can be categorized as the occurrence of site risk. The actual allocation of this risk is to Technical Agency, while the involvement of KAI is voluntary.

Araskabu – Kuala Namu section

AP II and Railink own the land in this section. When DGR handle double track construction, issue on conflicting regulations arises. DGR required the land ownership is transferred from AP II and Railink to property of state, as double track construction utilized state budget. However, AP II stated that the land ownership in the airport area couldn't be transferred due to the possibility of airport development plan. Both DGR and AP II have the legal basis regarding this issue (Angkasa Pura II, 2015; Ministry of Transportation, 2009; 2016c; Interview, 2016; Ministry of Finance, 2014).

The difficulty in acquisition process is potentially causing project delay. Therefore, it can be categorized as the occurrence of site risk. The actual allocation of this risk is to DGR.

6.2 Evaluation of comparison

Based on the theoretical review from international and national context (European Commission, 2003; ESCAP, 2011; UNECE, 2008; IIGF, 2014; Zen and Regan, 2014), this research tries to outline the rationales to select a particular party to assume a risk based on the core principle of risk allocation which state that risk shall be allocated to the party that can control the likelihood of occurrence and can manage the consequences if the risk is materialized, in the most cost-effective ways. The several rationales before deciding the party shall be allocated to particular risk, as follow:

1. Risk shall be allocated to public party if it involved political and regulatory;
2. Risk shall be allocated to private party If it relate to construction and operation, or in the principle of cost-effectiveness, or experience;
3. Risk shall be shared among public and private party if the risk is beyond control of both parties, or both parties influence the risk occurrence; and
4. If neither party is able to manage the risk, it can be kept unallocated. However, in the case of emergency where important public service need to be delivered, then public party can take over the project.

The core principle as well as the rationales will be use to evaluate the actual risk allocation strategy to derive the lesson learned.

First stage – service delivery (operational risk)
Two events influence the occurrence of operational risks.

First is the delay of rolling stock arrival. The opening of new airport was commenced on July 2013, while the rolling stock arrived one month later. In order to prevent delay in service delivery, Railink request the assistance of DGR to solve with this matter. DGR then provide temporary rolling stock from Rail Industry. The service can be delivered on the same time with the commencement of new airport. The possibility of operational delay can be prevented.

The second one is the incidents of stone throwing in the area near airport. The incident happened during trials and in the beginning of service delivery of new rolling stock. Railink performed two measures, coordination with police, military forces, and regional branch of KAI as well as implementation of Corporate Social Responsibility. No more incidents were reported after. The possibility of service interruption can be prevented.

The allocation of operational risk to Railink is considered proper, as it related to operation. Furthermore, based on the core principle of risk allocation, Railink can control the likelihood of risk occurrence by cooperating with DGR as well as coordinating with police, military forces, and regional branch of KAI and the implementation of CSR. The service is successfully delivered without delay or interruption.

First stage – service delivery (demand risk)
The demand risk materialized in the form of overestimate demand projection thus caused financial distress due to huge expenditure compared to lower revenue.

In this project, Railink compose demand projection (Interview, 2016). However, it can be assumed that the forecast are can be particularly difficult because Kuala Namu airport is brand new. Therefore, various factors indeed play in influencing demand, such as low growth of airlines passenger, the cultural behavior of the citizen as well as uncompetitive fare (Kereta Api Indonesia, 2016; Railink, 2016b). Railink already requested for PSO in the form of fare

subsidy to increase service competitiveness (Railink, 2016b). However, PSO can be granted only for economy and pioneer service, instead of commercial (Ministry of Transportation, 2007). In the second year operation, Railink admitted that most of the revenue is come from fare box as the non-fare box strategy is still improving (Kereta Api Indonesia, 2015).

In railway sector, huge investment in infrastructures and rolling stock as well as regulated fare showed that the financial feasibility of PPP railway is most likely difficult to achieve if it solely depend on end-users charge (IIGF, 2014). If the private partners have little or no influence to the demand and forecast are unreliable, it might not be right to let private parties bear the risk. Risk sharing is a possibility. Providing subsidy or availability payment can be options to ensure revenue stream, especially in untested PPP market (ESCAP, 2011).

In this case, Railink is responsible to composed feasibility study. The unreliability of these documents caused the occurrence of overestimate demand projection. When overestimate demand projection happened, this lead to lower revenue. On the other hand, central government gave no subsidy and implement end user-charge instead of availability payment.

The allocation of demand risk to Railink is viewed as improper, as both central government and Railink influence the risk occurrence. Furthermore, based on the core principle of risk allocation, Railink cannot manage the consequences due to limitation in financial condition.

Therefore, central government and Railink altogether should have shared the risk. Airport railway service can be categorized as untested PPP market, so subsidy or availability payment provision can be an option to ensure revenue stream.

In response to low occupancy rate and financial condition of Railink, central government then decides to provide supporting infrastructure in the form of double track construction with the concern to increase trip frequency and speed up travel time as well as raise passenger capacity, which then it expected to rise occupancy rate eventually (Interview, 2016).

In the perspective of PPP commercial viability, proper risk allocation is important to establish reliable, long-term revenue stream (Grimsey & Lewis,

2000). In addition, proper risk allocation in PPP can enable greater efficiency in the use of resources (Bing et al., 2005).

The improper allocation of demand risk eventually results in failure to establish reliable, long-term revenue stream and inefficiency use of resources. The revenue from fare box is unreliable to cover the cost of operational thus resulting in financial deficit. In the terms of resources utilization, central government prefers to spend money on project extension from first to second stage instead to allocate particular amount of subsidy in the beginning. This can be viewed as inefficiency use of resources as the budget for infrastructure project by conventional procurement is more likely exceed than those handled by private partner in PPP (ESCAP, 2011).

Second stage – double track construction (political risk)

In the second stage, the political risk materialized in the form of political decision of national budget cut thus unfavorably affects the project acceleration by causing insufficient fund. To deal with this problem, DGR then made several adjustments in the existing budget in order to provide the required project fund. The adjustments eventually affect railway infrastructure developments in other areas. Nevertheless, the problem of insufficient fund is solved and the possibility of delay can be reduced.

This risk is related to political and handled by the public party. Based on the core principle of risk allocation, DGR can manage the consequences due to their authority in budget adjustment. Therefore, the risk allocation is considered proper.

Second stage – double track construction (site risk)

Medan – Bandar Khalipah section

In this stage, site risk materialized in the form of difficulty in ensuring rights of way of railway, thus potentially causing project delay.

The difficulty in ensuring the ROW is due to illegal settlements. After the conflicts, technical agency, KAI hold negotiation involving Pemko Medan and citizens to solve the issue. In the negotiation, Pemko Medan stated that they will facilitate relocation and technical agency will consider raising the amount of consolation money. The latest update of site preparation is unavailable. However, the negotiation process between technical agency, Pemko Medan, and citizen is viewed as measure to manage the consequences. Pemko Medan is the

party that has authority and regulatory role in administrative area of Medan municipality as well as has obligation to be responsible with the mandatory task of housing provision and maintain the clearance of ROW of railway. The direct involvement of Pemko Medan is important. Based on the their regulatory role, they have the responsibility to relocate the citizen.

Based on the core principle of risk allocation, technical agency cannot control the risk occurrence, but can manage the consequences by involving Pemko Medan, as regulator in Medan administrative area, in direct participation. Therefore, the risk allocation is considered proper.

Araskabu – Kuala Namu section

In this stage, site risk materialized in the form of difficulty in acquisition process, thus potentially causing project delay.

DGR and private parties then cooperate to solve the issue. The issuance of Memorandum of Understanding in general terms is viewed as measurement to provide legal foundation to execute project as soon as possible. The detailed of Memorandum of Understanding is then clarified later. Railink is willing to handover the site with terms and conditions applied, and AP II made adjustment based on regulation in civil aviation. The cooperation between private parties and DGR is viewed as measure to prevent the consequence of project delay.

Based on the core principle of risk allocation, DGR cannot control the risk occurrence, but can manage the consequences by involving private parties in negotiation and Memorandum of Understanding. Therefore, the risk allocation is considered proper.

6.3 Project success

Project success means the achievement of central government objectives in Kuala Namu airport railway project. A proper risk allocation is one of critical success factors in PPP project that contribute to the achievement of project objectives. The proper allocation of operation risk to Railink is contributing to the achievement of first two objectives of the project: the expansion of railway service to airport and facilitating accessibility from city center to airport. The role of KAI and AP II in track and facility construction can be considered to play important role in this achievement. However, the further analysis on those parts cannot be done due to unavailability of information.

Meanwhile, the third objective of the project, which is to increase the competitiveness of railway transport in Medan, North Sumatera Province cannot be achieved in optimal manner due to improper allocation of demand risk solely to Railink. Among the parameter of cost, time, and economic benefit, passengers viewed the fare is too expensive. Central government gave no fare subsidy, but instead decided on project extension from first to second stage by the public party. This measure is considered by central government to increase trip frequency and speed up travel time as well as raise passenger capacity, which then it expected to raise occupancy rate eventually.

Another thing that needs to be considered is the allocation of site risk. In the first stage, AP II and Railink as private party can obtain the section of Araskabu – Kuala Namu successfully by the involvement of local government on Deli Serdang Regency. While in the second stage, technical agency can manage the consequences of site risk by direct participation of Pemko Medan. This proves that even though public party in developing countries usually handles site acquisition because the process requires legal procedure (ESCAP, 2011), the site risk can also be allocated to private party, with the involvement of respective local government.

It is essential to project delivery that the public party to be allocated political and regulatory risk, or any other risk occurrence or consequences that is related to political and regulatory. In this case this concerns the adjustment in regulation of operational permit by MOT in the first stage and budget adjustment by DGR in the second stage. The willingness of private parties to support and cooperate in the project second stage is also contributing to the project implementation. The willingness of AP II and Railink to respectively adjust the regulation of DLKR and handover the site in Araskabu – Kuala Namu section are contributing to successful site preparation.

The proper allocation of project risk indeed influences the achievement of project objectives. In addition to that, the improper risk allocation is eventually hampering the achievement of project objective and has possibility to lead to unexpected project extension by public party from initial plan, which can be viewed as inefficient use of resources. The possibility of inefficiency might be reduced if the allocation of risk is appropriate in the beginning.

Particularly in Indonesia, proper risk allocation is inevitable, as understanding between public and private parties in risk allocation will help to lay a

foundation to develop non-discriminative regulatory policies (Abednego & Ogunlana, 2006). It is critical for public party to refrain from shifting all risks to private party since it could lead to higher charge to end user, influence project progress as well as future involvement of private parties (Osei-Kyei & Chan, 2015).

In this case, the understanding of demand risk allocation can help to lay a foundation to adjust the regulation regarding PSO as well as regulate availability payment mechanism for railway service delivery to ensure competitive fare as well as a long-term revenue stream.

In Indonesia, PPP still yet remains problematic due to the perception of unmanageable risks in government infrastructure projects. Although risk allocation is a significant characteristic in Indonesia PPP law, the World Bank reported that Indonesian government still need to improve the risk allocation between parties to improve the outcome of project success (Chou & Pramudawardhani, 2015). The project might have another possibility to expand in the future; therefore the allocation of risk has to be done in proper manner to ensure the achievement of overall project objectives.

6.4 Lessons learned

Based on the discussion, there are several lessons learned that can be derived as an evaluation of the case study as well as to enhance the implementation of proper risk allocation in the future PPP railway project in Indonesia. The lessons learned are as follows:

- The operation risk can be best allocated to the private party, In this case, Railink is allocated to operation risk;
- The allocation of demand risk shall be shared between the public and private party. In this case, central government shall consider the provision of subsidy or implement availability payment;
- The allocation of site risk is commonly allocated to public as it involved regulatory procedure. However, either public or private party can be allocated to this risk as long as it is accompanied by early involvement of respective local government. The involvement is essential as they have authority and regulatory role as well as obligation to be responsible with the mandatory tasks in respective area. In this case the site acquisition by AP II and Railink was successful with the involvement of local government of Deli Serdang Regency;

- The political or regulatory risk, or any other risk occurrence or consequences that is related to political and regulatory, should be allocated to the public party. In this case, the adjustment of operational permit regulation by MOT and adjustment in railway budget by DGR;
- The improper risk allocation has possibility to additional responsibility of public party in the forms of project extension by public party from initial plan. In this case, the improper allocation of demand risk solely to Railink has triggered the project extension into double track plan.

CHAPTER 7 CONCLUSION AND REFLECTION

This chapter will provide conclusions by answering the research questions. A reflection will be presented to outline the limitation of this research that might be useful to future research in risk allocation, particularly in Indonesian PPP railway projects.

7.1 Answer to the research questions

1. How is the actual risk allocation strategy in Indonesian PPP railway projects? How is this risk allocation contributing and/or hampering the project success?

   The allocation of operation risk to Railink has contributed to the achievement of first two objectives of the project: the expansion of railway service to airport and facilitating accessibility from city center to airport. Meanwhile, the improper allocations of demand risks solely to Railink affect the achievement of the third objective of project and triggering the decision on project extension from single to double track, which was previously unplanned.

   Meanwhile, the role of public party to be allocated to political and regulatory risk, or any other risk occurrence or consequences that related to political and regulatory, is essential to project delivery.

2. What lessons can be learned from the comparison between actual risk allocation in the case project and the standard risk allocation in PPP as mentioned in literature for a proper risk allocation in Indonesian PPP railway projects?

   There are several lessons learned that could be derived from comparison, as follow:
   - The operation risk shall be allocated to private party;
   - The allocation of demand risk shall be shared between public and private party;
   - The allocation of site risk is commonly borne by public as it involved regulatory procedure. However, either public or private party can be allocated to this risk as long as accompanied by early involvement of respective local government. The involvement is essential as they

have authority and regulatory role as well as obligation to be responsible with the mandatory tasks in respective area;

- The political or regulatory risk, or any other risk occurrence or consequences that related to political and regulatory, shall be allocated to public party;
- The improper risk allocation has possibility to additional responsibility of public party in the forms of unexpected project extension.

3. What advices can be derived from this comparison for the implementation of proper risk allocation in Indonesian PPP railway projects?

    - The operation risk shall be allocated to private party;

      The private party with relevant expertise shall assume operation risk. It can be Railink, KAI, or other private entities according to the national PPP regulation. In the national PPP law, private entities can be in a form of state owned enterprise, regional owned enterprise, or private entity in the form of Limited Liability Company, foreign entity, or cooperative unit.

    - The allocation of demand risk shall be shared between public and private party by certain mechanism;

      Central government shall consider the possibility of subsidy provision or availability payment implementation to provide competitive fare to attract more end users, thus ensure reliable long – term revenue stream.

    - The allocation of site risk is commonly borne by public as it involved regulatory procedure. However, either public or private party can be allocated to this risk as long as accompanied by early involvement of respective local government. The involvement is essential as they have authority and regulatory role as well as obligation to be responsible with the mandatory tasks in respective area.

      DGR via technical agency or private entities can handle the site risk as long as the respective local government is involved in site

acquisition process. The respective party can request assistance from Ministry of Internal Affairs or provincial government as higher authority to ensure the commitment of respective local government in supporting site acquisition process.

- The political or regulatory risk, or any other risk occurrence or consequences that related to political and regulatory, shall be allocated to public party;

  Central government shall allocated political and regulatory risk to DGR as railway regulator. The involvement of other public party, either in lower or higher hierarchy, which also have regulatory role related to railway project is essential to resolve regulatory or political risk as well as any other risk that involve political or regulatory issue. The involvement of Ministry of Transportation, Head of National Agency, Ministry of State Owned Enterprise, Ministry of Internal Affairs, or other fellow transport directorates, as well as respective local or provincial government for instance.

- The improper risk allocation has possibility to additional responsibility of public party in the forms of unexpected project extension.

  Before deciding to allocate certain risk to certain party, central government shall further considering the long – term effect of improper risk allocation, as it can results in inefficiency use of resources by create more spending on behalf of public party.

7.2 Conclusion

A proper risk allocation is contributing to PPP project success in the way of achieving the project objectives. Risk should be allocated to certain party that is best able to understand the risk, controls the likelihood of the occurrence, and/or minimizes the impact of the risk. The improper risk allocation will not only hamper the fulfillment of project objectives but also can results in inefficiency use of resources by the form of unexpected project extension by public party.

In PPP railway infrastructure project, the operation risk shall be allocated to private party, while the political or regulatory risk shall be allocated to public

party. The allocation of demand risk shall be shared between public and private parties. Another point is that the role of respective local government is important especially to prevent or to handle the occurrence of site risk. Particularly in Indonesia, proper risk allocation in PPP is inevitable, as understanding between public and private parties in risk allocation will help to lay a foundation to develop non-discriminative regulatory policies.

7.3 Reflection

The challenge of this research was the collection of data from appropriate data resources. The external publications on planning documents from central government, local government, and respective ministries as well as annual report from private parties are extensive yet every each of them offers limited information related to the case study. Internal documents from both public and private parties is also difficult to access, as the case study has delicate issue with the insufficient legal framework. In order to get an overall view of the case, interviews on representative of public party were done although in a limited number of participants. In order to improve the quality of this research, future researches is suggested to perform interviews on private parties as well as respective local government to acquire more information on the project risks and the perception of project success to generate comprehensive findings on the influence of risk allocation on the project success.

This research gained several findings and conclusion to enhance the implementation of proper risk allocation in PPP railway projects. Although the case study has exceptional characteristic compared to general PPP project, the feature is common in Indonesian PPP railway projects. This research revealed that proper risk allocation is important to the achievement of project objectives. There are risks that shall be allocated to specific party or shared between parties. Another main finding is the importance of the involvement of respective local government and the presence of sufficient legal framework in the project.

The comparison in this research is done between a case study and the literature review of risk allocation in general PPP. Therefore, the lessons learned could be utilized as universal insights on Indonesian railway projects that cover the collaboration between public and private parties. Furthermore, the practitioners on railway transportation field can utilize this research to encourage the application of proper risk allocation in Indonesian railway projects.

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