POAD 9050
Masters Dissertation in Public Administration

CRITICAL SUCCESS FACTORS OF PUBLIC PRIVATE PARTNERSHIPS - TOLL ROADS PROJECT IN INDONESIA

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ABSTRACT

Road infrastructure plays a vital role in Indonesia's national economy as it serves as a conduit to deliver public goods and services throughout the country. Thus, to address the escalating mobility issues, toll roads' development may be one of a range of solutions. Given that developing toll roads infrastructure is a complicated endeavour and requires substantial funding, the government encourages the participation of the private sector in this construction through the PPPs model. However, an identification of the critical factors that contribute to make a PPPs toll roads' project a success, is needed. This research project aims to identify those factors from a public and private sector perspective by employing a quantitative approach, and with the analysis based on the online survey results. Statistically, all factors are meaningful according to the respondents' perceptions. However, the key factors selected by respondents differ for each sector, but, there are two factors where both sectors share same perspectives, namely: *favourable legal framework* and *competitive procurement process.* Some obstacles may hinder the development of toll roads projects under PPPs schemes; complex and conflicting regulations, poor project selection, and political issues remain the major factors that inhibit the private investors' participation.

Keywords: public private partnerships, toll road, critical success factors

CHAPTER 1

INTRODUCTION

1.1. Background

In recent decades, Public-Private Partnerships (PPPs) have been viewed as crucial in supporting infrastructure development around the globe, as they can be more flexible and can adapt more easily to government budget constraints, providing scope to establish further infrastructure projects. Mutual relationships between public and private actors form the key elements of a PPP. Long-term cooperation between public sectors and private partners is required to establish joint products and services where the actors will share the risk, costs, and benefits (Klijn & Teisman 2003, p. 137). The products and services are the infrastructure which affects the rate of economic growth and the level of societal wellbeing. In the Indonesian context, the PPPs have been a solution for resolving the infrastructure development issues due to limited government budgets.

Road infrastructure plays an important role in Indonesia's national economy as it serves as a conduit to deliver public goods and services throughout the country. A sturdy road infrastructure will improve accessibility and connectivity between people, goods and services from one place to another. It can also provide the potential for private investors to participate in national economic development. It opens access to employment opportunity and private investment. However, as Indonesia is a highly populated country, its level of mobility for people, goods, and services is also high. Consequently, the general road infrastructure may be insufficient to deal with the increasing traffic. Thus, toll roads, public roads that are a part of the road network system, may be one of a range of solutions to address these escalating mobility issues. According to The Toll Road Regulatory Agency (Badan Pengatur Jalan Tol/BPJT), toll roads are built

to fulfill four objectives: expediting traffic flow in developing areas, improving public goods and services delivery to support economic development, supporting equity and fairness of national development, and shifting the government burden related to funding issues by asking the road users to participate.

Road infrastructure, especially in relation to toll roads, is a complicated endeavour and requires substantial funding. When the government budget is limited, and expertise in toll road construction is compulsory, alternative solutions must be found. For example, private parties can be invited to participate in developing the toll roads' infrastructure, or to establish a toll road project under a PPPs scheme. PPPs manage the division of tasks and functions between public and private sectors, promote the risk allocation and sharing, and allow private sectors to be involved in design, construction, and infrastructure maintenance. In addition, the success or failure of a PPPs project is highly dependent on the ability of each sector to maintain the partnership. The factors that can influence the likely results of the project need to be identified. These are known as Critical Success Factors (CSFs) and serve as key elements of project management.

Some preliminary studies have attempted to identify these critical success factors finding them to be varied yet interconnected and complementary. Favourable legal frameworks, sound economic policies, the macro-economic condition, availability of financial market, political and social supports, commitment of all parties, and appropriate risk allocation and sharing, are among the CSFs identified. Additionally, those factors are of a general nature, and do not consider each sector's perspective. Therefore, this study attempts to identify what are the CSFs determining the PPPs toll road construction based on the public and private sectors' perspectives. Indonesia is selected as the case study given that such studies in the Indonesian context are still rare and toll road construction is included in the eight priority projects of infrastructure development based on

Presidential Decree No. 58/2017 about the Acceleration of National Priority Project Development.

This research project will employ a quantitative approach in its analysis, perform an online survey and use the Likert scale as a data collection method. The results of the survey will outline three critical success factors from each sector and other off-list factors gathered from open-ended questions. This study is organised into six chapters, with the first being an introduction, containing the background, objectives, limitations, and methodology of this study. The second chapter is a literature review section defining the PPPs concept, the PPPs toll road, CSFs, and how they fit within the Indonesian context. The third chapter suggests the conceptual framework that provides a study baseline followed by a findings section in chapter four. The findings are examined and analysed in the next chapter and a conclusion drawn based on the findings results.

1.2. Objectives

The overall objectives of this dissertation are to identify some critical success factors that have a main role in establishing the PPPs projects, particularly for toll road projects in Indonesia. The specific goals are:

a. to have a deeper understanding of the PPPs projects, both theoretical and practical
b. to recognise the role of public and private sectors in the PPPs projects as well as their needs
c. to examine the toll road construction projects' implementation under PPPs framework
d. to discern the public private sectors' response concerning PPPs project
e. to explain the importance of the project's detailed analysis for the feasibility of PPPs project outcomes.

1.3. Limitation

In conducting this research, some limitations were highlighted. As the case study of this project relates mainly to the Indonesian context, the data collection activity used is an email-based survey. However, any survey that is conducted online can lead to speculative answers due to the fact that respondents may show little interest in responding. Thus, since this research is particularly focused on the toll road construction project, the outcome of this research might not be transferrable to other sectors such as electricity and telecommunication. In mitigating the issue and recruiting prospective respondents, the researcher utilises technology to communicate with the 'gatekeepers' from each of the institutions/private enterprises. Even though this type of communication cannot be considered effective due to time and space issues, this activity can, at least, reach the expected number of respondents.

CHAPTER 2

LITERATURE REVIEW AND METHODOLOGY

This chapter reviews the literature regarding the role of PPPs in Indonesia. It also includes the research methodology and details the data collection method used. The chapter is organised into five sections. The first provides a general overview of the concept of Public Private Partnership (PPP) and how a partnership works in the construction project assigned by the government. The second section specifically describes the construction of toll roads under the PPP mechanism. From there, the third section explains the critical success factors (CSFs) which form the basis of successful PPPs and are essential criteria for the project's success. The fourth section explains the application of PPPs in the Indonesian context and specifically, its role in the toll road construction project. The chapter ends with the research methodology section.

2.1. The concept of Public Private Partnerships (PPPs)

At the beginning of 1980, the notion of public administration shifted to the new paradigm of public management (Dunleavy & Hood 1994; Gruening 2001; Hood 1991, 1995), signaling a new business-like approach to the public sector. One popular model engaged by new public management is a public private partnership – a collaboration between public and private sectors - to satisfy public needs, particularly in the context of infrastructure development. Broadbent and Laughlin (2003, p. 332) interprets PPP as a form of policy liberalisation that allows the provision of public services to be managed not only by the public sector but also the public sector in collaboration with the private sector under the partnership patronage. Klijn and Teisman (2003, p. 137) state that PPP is long-term cooperation between public and private sectors to establish joint products

and services where the stakeholders will share the risk, costs, and benefits. A similar definition is alleged by Akintoye, Beck and Hardcastle (2002, p. 3), who claim that PPPs are 'joint ventures' between government and the business sector. They suggest that within the ideal PPP, each of the government's partners should be allowed to effectively utilise their strengths and capabilities to establish projects and distribute the services faster and better than if the government were completing the project on its own. A study by Yuan et al. (2009, p. 253) supports a definition derived from the 'Canadian Council for PPPs' and considers that a PPP is a type of contractual agreement or so-called 'cooperative venture' between the public and private sectors and where the division of responsibilities are based on the strengths of each partner, appropriate allocation of resources, risk sharing, and on how the outcomes are delivered.

PPP is about the mutual relationships between public and private actors. Jamali (2004b, p. 419) asserts that the roles of public and private sectors under the PPP umbrella are complementary and more likely to encourage the strengths of each sector. The public sector has a role in controlling the transfer of assets and capital investment to conduct a project within the framework of a development program; it will therefore promote accountability and responsibility to the community. In comparison, the private sectors may contribute private investment, practical expertise, and drive the competitiveness and efficiency of the economic sector. A PPP offers the opportunity for governments to build infrastructures which without subsidies would constitute a drain on public resources (Sarmento & Renneboog 2016, p. 6). The public benefits include an improvement in government competencies, innovation in public services delivery, reduction of costs and time in implementing the project, and the shifting of a substantial risk to the private sector to ensure value for money for taxpayers (Li, B et al. 2005, p. 469). PPPs attract a substantial and sophisticated range of bidders ensuing a 'highly

competitive consortia' which may cause significant delay in the final selection process. (Akintoye, Beck & Hardcastle 2002, p. 9). Nevertheless, the public sector show trust in the private sector to ensure that the collaboration will increase the benefit for both sectors. In addition, using the PPP scheme for infrastructucture development will help government with innovative practices, incentives for efficiency, knowledge and technology (Akintoye, Beck & Hardcastle 2002, p. 9). In other words, under the PPP agreement, the private sectors offer the stakeholders better value for money, while the public sector or government will provide compensation for its services through fees for services rendered, resulting in an appropriate return on capital invested (Wibowo & Alfen 2015, p. 121).

Despite all aforementioned benefits, the PPP scheme faces several challenges as both the public and private sectors are involved. Conflict over goals and objectives between the partners is likely to happen and could lead to the failure of the partnership. Communication is key to avoid misinterpretation or inadequate coordination (Mitchell & McQuaid 2001, cited in McQuaid 2010, p. 134). Another problem relates to accountability. When responsibility and control of a project is breached, the partnership should have a clear definition of 'who is in charge' for each step. When there is clear understanding on the tasks for each partner from the beginning, accountability will be assured, and the policy will be effective and efficient in the whole performance (McQuaid 2010, p. 135). Some partnerships even modify normally accepted public-private sector roles by changing their functions. For instance, affiliating public power for private purposes where the is on focus profit; and improving the economy and healthcare using private methods to achieve public goals (McFarlane 2007, p. 44). Capacity gaps may emerge in a partnership project. This occurs when stakeholders lack professionalism, skills, behaviours, organisational or financial capability, leading to difficulties to engage with

other sectors in delivering policy. Indeed, this case can hamper the development and implementation of the partnership project (McQuaid 2010, p. 136). Other problems innate in this partnership model are related to financial sustainability of the public sector. This alliance of public and private sector project will allow future payments, which impact on the unknown of total liabilities until payments dawn. It, therefore, can decrease fiscal space for years ahead (Sarmento & Renneboog 2016, p. 37). PPP planning is complex; it is a long-term contract, requiring a realistic assessment of sector contraints with many of them lacking sound policies and clear objectives.

Despite the fact that PPP scheme has complexities in planning, implementation, monitoring and evaluaton, the benefits still outweigh the drawbacks. PPPs have been acknowledged by the media as a way for the government to minimise infrastructure gaps. The limited budget to fulfil the needs of infrastructure is a typical problem for the public sector that can be resolved by establishing a PPP, an effective tool to address some, but probably not all, sector issues. However, the process to procure a PPP will encourage the public sector to do a rigorous analysis, which can further increase the skills and expertise of the government.

2.2. PPP - toll road project

PPP is one tool available to decision makers in reforming infrastructure; growing in popularity are toll road construction projects, for they respond to the need for modern road infrastructure. The 1990s have seen a significant rise of PPPs in transportation sectors and have experienced dramatic changes worldwide, especially in developing countries. From the tally of all PPPs projects, approximately two thirds are road projects, 18% are rail projects, 12% in airports and under 7% are in ports, with a cost of approximately US$180 million for roads and airports on average, US$105 million in ports,

and US$307 million in rail (Estache, Juan & Trujillo 2011, p. 5). The private market switches its focus to these projects since the public budget increases its priority for education, law, and the welfare sectors, causing ambivalence in the market role (Chung, Hensher & Rose 2010). Typically, the toll road PPP concessions are absorbed by the private sector through a 'consortium bidding process' which incorporates three bidders in most circumstances, with the key stakeholders in every consortium taking on roles as the construction company and a financial agency (Li, Z & Hensher 2010).

Some literature provides case studies detailing examples of success and failure of PPP toll road projects. Liyanage and Villalba-Romero (2015) present 'The Attica Tollway' project in Greece as a success story. In the initial phase, this project faced issues in the construction process, such as archaeological discoveries, land acquisition disputes; relocation of public services, and it included risk transfer -the latter being resolved by state support in financial matters. While long delays were experienced due to these challenges, effective management and the continuous support from Greek industries guaranteed the project was accomplished within the existing budget and on time for the Olympic Games. Other notable evidence embodied in the success of this project is the active traffic management system, the high level of road safety, fast response and well-planned incident management handling, and an emphasis on customer service satisfaction.

Another success story of the PPP toll roads comes from the Norwegian toll road system, acknowledged as a best practice state because of its many and successful PPP projects in toll roads construction (Odeck & Bråthen 2002). Its achievements may be attributed to its organisational framework, where each individual project can be undertaken by an assigned toll road company established by the local authorities and a private firm. The company will be managed as 'a limited liability company' and is tasked

to operate the system and manage the revenue. The operation of this project is under the regulation established by the Ministry of Transport and Communication. The toll road company will run as a non-profit company; therefore, the commitment that is built into this organisation is not stimulated by profit; it is driven by the local community's need for the toll road project.

A study showing examples of PPP toll road project failures are put forward by Li, Z and Hensher (2010). They present the Mexican PPP toll roads project as the most well-known. Between 1987 and 1995, there were 52 toll roads construction projects in Mexico under the umbrella of PPPs. However, construction of 23 toll roads failed due to the underestimated budgets which exceed the cost. The Mexican government instituted a 'bailout program', for which the government paid roughly US$5 billion to the banks and about US$2.6 billion to the construction companies. The feasibility of toll road projects depends on numbers of toll transactions and traffic demand forecasting which has a critical impact on the financial and economic sector. Australia's dependence on strong road infrastructure projects has also experienced PPP project failure, when it failed to launch the Melbourne's East West Link (EWL). The EWL business case did not provide a sound basis to commit to the investment and that key decisions were driven by a sense of urgency to sign the contract worth US$22.8 billion before the November 2014 state election the election. The Commonwealth Auditor and the Auditor General of Victoria reported that this project had not wholly and transparently proceeded under governance procedures and arrangements and was also undertaken before approval of commonwealth funding (Martinis & Moyan 2017).

Road transport infrastructure is critical to sustaining communities and linking one area to another. However, even though contracts under PPP scheme are viewed as better in controlling project risk, unanticipated changes of public policy priorities may steer to

larger commercial risk and substantial cost of public finance. While not all projects will be completed successfully, there are some factors that can determine whether the project will have successful outcomes.

2.3. Critical success factors (CSFs)

2.3.1. Criteria of project success

Shenhar et al. (2001, p. 701) argue that PPP projects are often seen from a business perspective that aims to achieve more profits and growth, and better market position, and linked to organisational performance. Generally, one project is considered success if it can be completed in a timely manner and in accordance with the initial plan. Baccarini (1999, as cited in Liu et al. 2015, p. 3) explains that the notion of project success comprises two key features: product success, that focuses on the final outcome of the project, and project management success, that considers the development processes of particular project and the gains in knowledge, skills, tools, and techniques. Additionally, Lim & Mohamed (1999, p. 244) observe project success from macro and micro viewpoints. The macro simply answers the question: 'Is the original project concept achieved?'. If the answer is yes, then the project is successful. Meanwhile, if it is not, then the project has failed. However, the micro viewpoint is concerned with the project achievements on a smaller scale, and commonly referring to the parties involved in the project construction and the result of the project construction stage.

Thus, to achieve project success, the parties involved should identify the factors that will influence the project's existence. In the context of a PPPs project, Jamali (2004a, pp. 427-8) draws a conclusion that trust, openness, and fairness are the bedrock of PPPs success. The government needs to constitute a sound legal framework and build transparency at each project phase to ensure accountability.

2.3.2. Critical success factors based on the preliminary studies

Critical success factors will inevitably have a close connection with the result or outcome of a project. These factors have been used by a growing number of organisations to identify the most critical aspects that influence the success of the projects to benefit future applications. There is literature that aligns with the approach by Bullen and Rockart (1981) who suggests that CSFs provide those variables that affect management in achieving goals for present or future activity. By defining those variables and the information needed for every variable, management gains a better understanding of the situation (Ismail 2013; Li, B et al. 2005; Olusola Babatunde, Opawole & Emmanuel Akinsiku 2012). Zwikael and Globerson (2006) claim the extent of attention paid to CSFs is pivotal to the success or failure of a project. Research has shown that where management identifies CSFs through data from questionnaire surveys, interviews, group discussions and case studies, there is potential for a greater success rate of PPPS projects. At the programming stage, several principles are established (Aziz 2007, p. 920). Those principles encountered: '1) the availability of PPP institutional/legal framework; 2) the availability of PPP policy and implementation units; 3) the perception of private finance objectives; 4) the perception of risk allocation and contractor's compensation; 5) the perception of value-for-money; 6) the process transparency and disclosure; 7) the standardization of PPP procedures and contracts; and 8) the performance and method specifications'. These principles are important and are embedded within organisational objectives to ensure the implementation of the PPP.

Bullen and Rockart (1981) introduced five primary sources of CSFs that should be prepared by the manager before determining the significant factors that will be applied in the organisation, that is, the characteristic of the industry, the history of the company and the current competitive strategics owned, environmental factors which refer to the

area when the company only has a little control, temporal factors which cite to the activity that become important at the particular time due to the occurrence of the extraordinary thing -it is commonly would not promote CSFs-, and managerial position in which each of its function has already had a set of CSFs.

However, as a plethora of CFSs is identified, the manager should pay more attention to the significance relative between the factors. Although those can be considered 'critical', there must be some factors that more dominant than others. It seems reasonable to grade them based on their level of importance, especially in the development stage of the project (Li, B et al. 2005). A study by Osei-Kyei and Chan (2015) on PPP CSFs from 1990 to 2013 identified five top factors that can be accounted for key areas that influence the successful PPP projects, that is, 'appropriate risk allocation and sharing', 'strong private consortium', 'political support', 'community/public support' and 'transparent procurement'. The identification of the CSFs for PPP projects still needs to consider the origin country, sectors, phases and the project model.

Other than that, another study conducted by Li, B et al. (2005) had succeed in identifying 18 CSFs of PPP program as a summary of some research projects, such as 'strong private consortium, appropriate risk allocation and risk sharing, competitive procurement process, commitment/responsibility of public/private sector, thorough and realistic cost and benefit assessment, project technical feasibility, transparency in the procurement process, good governance, favourable legal framework, available financial market, political support, multi-benefit objectives, government involvement by providing guarantees, sound economic policy, stable macro-economic environment, well organised public agency, shared authority between public and private sectors, social support, and technology transfer'. Furthermore, taking a position from the government side as a coordinator of PPP infrastructure development, Wibowo and Alfen (2015) underline

'sound legal basis, an irrevocable contract except through due process, sensible and manageable risk-sharing arrangement, clearly defined mechanisms of PPP needs, and strong political support' as the critical factors.

Indeed, some factors contribute to the successfulness of PPP in road or toll road projects depend on the characteristic of the related country. Taking PPP road projects in Ethiopia as an example, Debela (2019, p. 10) claims on her study that project's stakeholders must follow the sixteen factors considered effective in making the project successfully accomplished, and the five top factors involved are 'the presence of an enabling PPP policy, well organized and committed public agency, stable political and social environment, favourable legal frameworks, and good governance'. While in Singapore, based on study conducted by Hwang, Zhao and Gay (2013, p. 427), the top five of critical success factors in PPP toll roads are well-organised public agency, appropriate risk allocation and sharing, strong private consortium, transparency in procurement process, and clear defined responsibilities and roles. Roumboutsos et al. (2013, p. 243) states that critical success factors depend on the stakeholders' perspectives as they have their own definition of which success factors contribute to project success. In their study, held in Weimar, Germany, the most crucial CSFs are 'project preparation, development and structuring, and transparent and competitive procurement procedure'. Environmental issues are highlighted as an important factor in contributing to PPPs transport projects.

Ahmadabadi and Heravi (2019, pp. 159-60) conduct model analysis examining success factors affected PPP toll road project in Iran, which is represented by two big scale projects; Khorramabad-Pol-e Zal project and Tehran-Chalus project. The analysis shows that 'private sector capability and project resiliency' has contributed to the success of the first of two projects, especially in the construction stage. Another vital CSF is

'appropriate risk allocation', which is related to the political issue experienced by Tehran-Chalus project. Government capability and the transfer stage are other important factors that should be underlined, since these factors have a significant influence in developing countries due to the insufficient experience of the public sector in handling such project and the misalignment of objectives are often occurred between public and private sector.

In summary, several studies have listed critical success factors as determinants of whether the project is successful or a failure. The preliminary studies that refer to case studies from different countries have various criteria to determine the success factors that affect PPP implementation. Indeed, the factors will depend on the social, economic, and political conditions of the country. However, sound policies and good governance still are essential factors in achieving project success.

2.4. Indonesia context

2.4.1. PPPs in general

Since the beginning of 1990, through the Build, Operate, and Transfer (BOT) mechanism, Indonesia has allowed the private sector to take part in investing in projects for a toll road and electricity. At that time, private participation in public infrastructure project was experiencing rapid growth. Countries within the East Asian region were considered more successful in capturing private investment in infrastructure development compared to other developing countries. Abednego and Ogunlana (2006, p. 622) presented a report from the World Bank claiming that between 1994 and 1999, 27% from the entire investment made in East Asia was in Indonesia. Unfortunately, the economic crisis hit Indonesia in 1998, impacting on all government projects which were then re-evaluated. At that time, to ensure that PPP projects could still be well-managed, the government enacted Presidential Decree No. 7/1998 as a foundation for subsequent

regulations. As a result, a wide range of instruments was designed to directly and indirectly authorise, form, and drive the PPP process (Siagian 2017, p. 73).

Recently, several regulations have been assigned by Indonesian government as the foundation for infrastructure development, especially associated with the PPP scheme, including:

- Presidential Regulation No. 78/2010 on Infrastructure Guarantee Facilities for PPP Projects
- Act No. 2/2012 and Presidential Regulation No. 71/2012 on Land Procurement for Public Affairs
- Presidential Regulation No. 38/2015 on Partnership between Government and Corporation for Providing Infrastructure
- Minister of Finance Regulation No.190/2015 on Funding Availability for PPP
- Presidential Regulation No. 44/2016 on the List of the Go-Private and Go-Public Corporation with Investment Requirement.

Additionally, the infrastructures that are subjected to PPPs projects are outlined in Presidential Regulation No. 38/2015, and comprise transportation, road, water resources and irrigation, drinking water, centralised waste water management, local waste water management, waste management, telecommunications and informatics, electric power, oil, gas and renewable energy, energy conservation, urban facilities, education facilities, sports and arts facilities, public area, tourism, health, penitentiary, and residential infrastructure.

The Indonesian government has realised its limitations in regard to its financial capability to fulfil the infrastructure development needs. Therefore, a decision was made to continue with private sector involvement so that the government can expend funds on social welfare priorities. From 2015 to 2019, the government was able to contribute less

than 50% of total funding needs for infrastructure, or approximately IDR4,796 trillion in total. It is expected that through the PPP scheme, 36.5% of the funding gap can be covered (National Development Planning Agency/BAPPENAS 2018, p. vi). In addition to filling the financial gap, private participation can deliver the skills, knowledge, and experience in establishing, operating, and managing high-quality infrastructure services.

Some institutions have specific roles in the implementation of PPP in Indonesia, such as National Development Planning Agency as a coordinator of PPP; the Ministry of Finance via Directorate General of Budget Financing and Risk Management as a government representative in providing government support and warranty; and other ministries, institutions, local governments, and enterprises as an institution in charge of PPP projects. Other key agencies who play catalyst roles include the Committee for Acceleration of Priority Infrastructure Delivery; PT Sarana Multi Infrastruktur an organisation able to provide assistance and funds for the project operator, and the Indonesian Infrastructure Guarantee Fund. Furthermore, a specific organisation separate from the structure of a related institution must be created to support the project implementation (Noor 2016). For example, if a government intends to build new healthcare facilities in collaboration with the private sector, the new structure that is specifically in charge of this project must be set up away from the main organisation, in order to keep the focus on the project.

Additionally, as a decentralised country, Indonesia's local governments could also make an agreement related to local infrastructure development under the PPP scheme. However, it is undeniable that in the provincial and local level, there is still a lack of preparation to integrate and become a more massive structure of government. Furthermore, the contradictory regulation between all the levels of governments frequently happen; local laws contradict national regulations, and the national-level

policy is sometimes considered centralistic and unsuitable to be applied in local circumstances (Wibowo & Alfen 2015).

2.4.2. PPPs toll road project

Given that Indonesia is fraught with traffic issues, a need for a toll road has increased over the years. This situation has driven the Indonesian government to attract private investment and establish a constructive partnership with the private sector as its own budget for developing road projects is limited. Hence, the proper risk allocation between the parties is required and is one of the critical success factors of PPP projects. It is essential to lay a strong foundation for establishing unbiased and non-discriminative regulations and which is another critical success factor in determining the PPP project's success. Moreover, the sound regulatory policies will underpin the sustainability of long-term relationships between the two sectors, thereby, the opportunities to gain successful and fruitful partnerships to increase project performance will be more achievable (Abednego & Ogunlana 2006, p. 623). Under the PPP scheme, Indonesia has constructed toll roads to fulfil public needs in transportation infrastructure sector; Jakarta – Cikampek elevated II toll road, Surabaya -Madura toll bridge, Balikpapan – Samarinda toll road, and Malang – Pandaan toll road, to name but a few (National Development Planning Agency/BAPPENAS 2018).

In summary, the CSFs for PPP projects should be identified to ensure that the outcomes will match the project purpose. CSF identification is also valuable tool for the Indonesian government's management of future toll road construction projects. However, research in the area is limited. Some preliminary studies have examined CSFs in general, but not the different perspectives of the stakeholders involved. Thus, this

study will attempt to fill that gap; it will seek to identify CSFs of the toll road project under PPPs scheme in Indonesia based on the public and private sectors' perspectives.

2.5. Methodology

This research project employs a quantitative approach in its policy analysis. According to Cresswell (2014, p. 4), quantitative research is an approach used to test the objective theories, such as hypotheses or concepts, through investigating the relationships of variables involved. These variables can be quantified; thereby, the data collected can be analysed by utilising statistical procedures. Lastly, the structure of the written report will be organised as follow: introduction, theory and literature review, methodology, results, and discussion. Van Thiel (2014, p. 118) states that quantitative approach always uses a kind of numerical data, either a number with intrinsic meaning, such as currency and number of units, or numerical scores, such as respondents' answer on a question on a scale 1 to 5. The quantitative approach is viewed relevant as this research project will examine the relationship between the success of PPPs toll road construction in the Indonesian context and the intervening factors behind it. In other words, this research project will try to identify critical success factors that influence the success of the PPPs toll roads scheme in Indonesia.

In this study, a questionnaire survey will be utilised to specifically address the broader issues of PPPs toll projects in Indonesia. As the initial step for collecting data, this survey will be sent to the respondents through their email address. This questionnaire will employ a Likert scale that consists of several positive and negative questions in which each question includes five different types of response, ranging from strongly disagree to the strongly agree. Positive statements will be scored one to five, with one representing strongly agree to five for strongly disagree. The adverse scoring will be applied to the

negative statements. Consequently, this study will present an in-depth analysis of the data collected from the survey response related to the identified CSFs. In addition, the Likert scale will provide a determination regarding the rank of critical success factors. This stage will be continued by utilising inferential statistical analysis to examine the causal relationships among the responses and perceptions of the participants. Seventeen critical success factors by Li, B (2003) are used as a baseline to determine the factors that influence PPPs toll road success. The use of these 17 criteria was based on the study literature conducted by a researcher where all those preliminary studies refer to Li's study to determine the specific factors in their case study.

The purposive sampling method will be utilised to collect the data from the survey (Neuman 2014, pp. 273-4). Purposive sampling, or judgmental sampling, is a type of non-probability sampling method used in exploratory research, where the cases chosen are based on the specific purpose in mind and seldom represent the whole population. In this research project, the questionnaire survey will be distributed to the selected key actors from the public institutions that are directly related to the operation of PPPs projects. Another key actor will be selected from private entities or non-governmental actors who have experience in the working unit within the PPPs framework; they have been involved in the bidding process of PPPs and play different roles as investors; speculators, the representative private unit of the government, and the guarantor. Those variants of roles are important, for they may generate different issues, point of views, and analysis regarding the CSFs that affect the PPPs project achievement.

The survey was distributed via an online platform called Qualtrics provided by Flinders University to 200 respondents scattered in 14 institutions/companies of both public and private sectors in Indonesia. As this research project employs a purposive

sampling method in selecting the survey respondents, 200 participants were viewed as adequate to represent key actors in PPPs toll road construction.

Moreover, as this research project is quantitative research, validity and reliability are important to measure the quality of this study. Validity describes the extent to which the concept developed is measured precisely, while the reliability or accuracy shows if the research instrument used in this project provides the same results although used repeatedly (Heale & Twycross 2015). Thus, to measure the reliability and internal consistency of the data, this research project will employ Cronbach's alpha method, which is commonly used to quantify items in the questionnaire by giving a score to each item to summarise all relevant information (Christmann & Van Aelst 2006). Here, alpha serves as the constant in evaluating assessments or questionnaires to improve the validity and accuracy of the data that will be interpreted. Tavakol & Dennick (2011) declare the acceptable values of alpha, range from .70 to .95.

In addition, to determine the top three factors that are considered important in delivering the PPPs project success, this research employs a one-sample chi-square test to test if all factors have similar importance level. The confidence level is determined at 95%, and the p-value is .05, which means that if the p-value is above .05, then the result will not be statistically significant or the factor is not essential, and vice versa. Eventually, apart from reviewing the preliminary literature, this research project provides a conceptual framework as a study baseline and foundation for the next chapters. Thus, the conceptual framework section will describe the interconnection among variables and how this project works.

CHAPTER 3

CONCEPTUAL FRAMEWORK

This section discusses the conceptual framework of this study. According to Jabareen (2009, p. 51), a conceptual framework is 'a network', or 'plane', that interlinks the concepts presented in a particular study to provide an overarching understanding of a phenomenon or phenomena. In other words, the concepts described in the conceptual framework will validate each other, reveal the different variables, and establish a philosophical understanding. McGaghie, Bordage and Shea (2001, p. 923) describe a conceptual framework as contributing to the study report in two ways; it determines the research variables and it defines the interconnection between these variables. The conceptual framework 'sets the stage' in linking the problem statement and the research question; it, therefore, will report the result of problem investigation that has been undertaken during the research process. Rocco and Plakhotnik (2009, p. 123) assert that the goal of the conceptual framework aims to classify and describe the concepts related to the research and depicts the link between them.

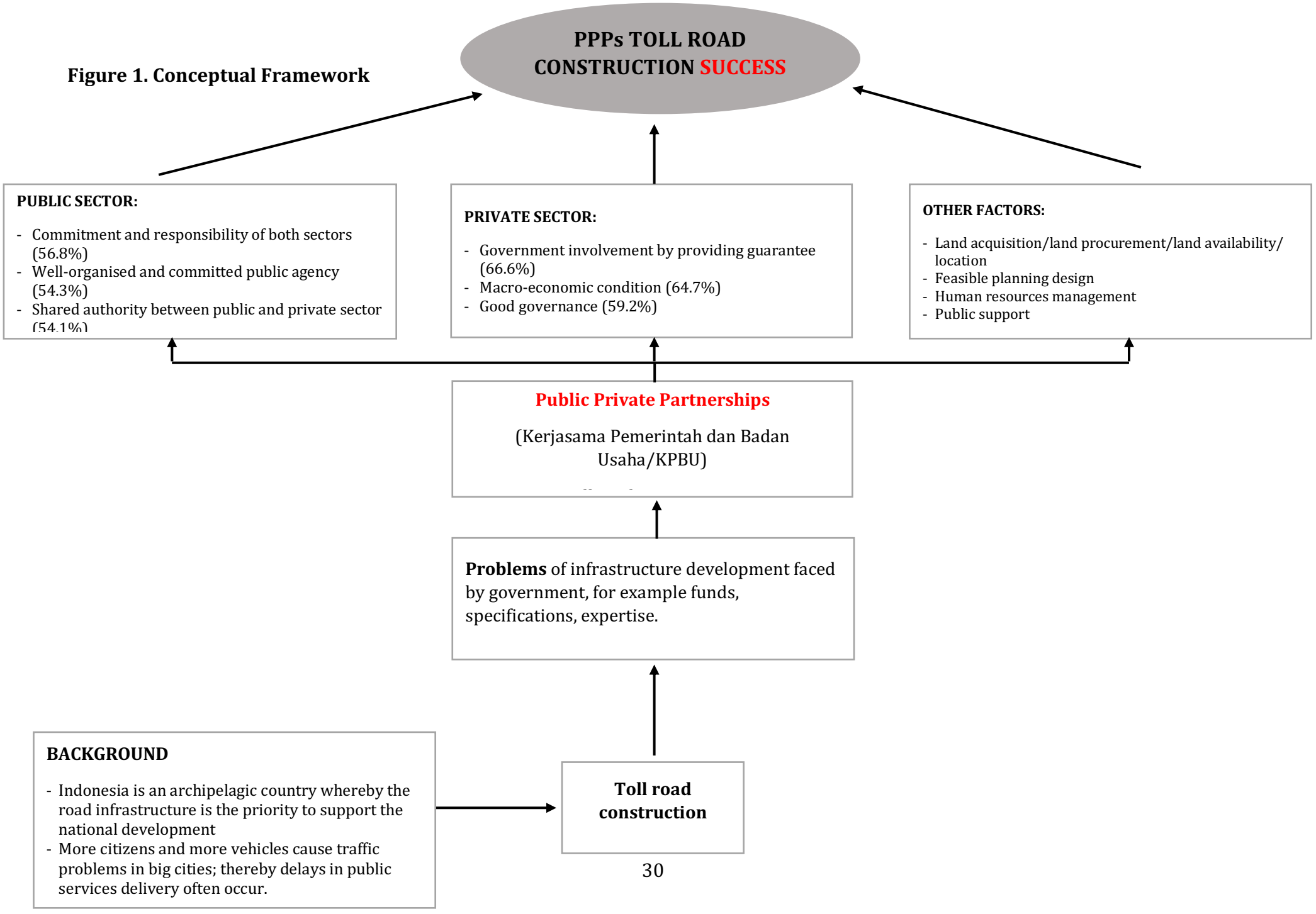
The conceptual framework of this study was constructed by integrating the literature review, problem statement and research question. As the aims of this study are determining the critical success factors that affect the project result, the conceptual framework maps the interconnect between the variables. It begins with logical reasoning about the decision of the Indonesian government to allow private sectors to contribute to infrastructure development. Hence, the private sectors involved in the development process under the PPP scheme are one solution to solve the problem. While there is no guarantee that all projects will be successful, the project management can identify several factors that contribute to the positive outcomes of those PPP projects. This study seeks

to examine those critical factors from the perspective of both public and private sectors; then, it will determine the top three factors from each sector. Furthermore, this study will also highlight external factors that may influence a successful achievement.

Figure 1 illustrates the conceptual framework as a flow chart. It shows that success of PPPs toll road project is measured by commitment to critical factors which vary according to the survey's public and private sector perspectives. The Indonesian archipelago is the geographic context for this research and provides the challenge of securing road infrastructure for its vast population as a national priority. However, as more citizens and modes of transportation may lead to traffic issues and it may cause delays in public services delivery. Therefore, highway and toll roads could be solutions for these issues, and sufficient funding and technical expertise are needed to ensure that the project can be well-conducted. Nevertheless, limited funding still is a problem of infrastructure development in Indonesia; hence, the government encourages private participation through PPPs scheme. Not only could budget issues could be solved by PPPs mechanism, but the lack of technical expertise in the public sectors could also be tackled. Thus, to identify the factors that contribute to PPPs project success is essential, given the projects under PPPs scheme are always related to public services.

To conclude, this conceptual framework lays the foundation for subsequent sections. It also illustrates the link between the problem statement and some variables relevant to this study. It is expected that this conceptual framework can provide a comprehensive understanding of how this study works.

Figure 1. Conceptual Framework



CHAPTER 4

RESULTS AND FINDINGS

This chapter presents the reports of findings gathered from the survey and have been divided into three sections. The first begins with a description of the survey and respondents' profiles. Second, it outlines the findings that focus on the top three from seventeen critical success factors of PPPs from the perspective of the public sector and the private sector. The results are presented by showing the statistical result of the validity and reliability test to determine which are the favorable factors that influence the success of PPPs toll road project. Lastly, some external factors mentioned by the participants in response to the open-ended questions included in the survey are provided. The latter findings will be beneficial in discovering the other critical factors yet to be included on the list. These findings will also uncover 'new' factors that need to be considered when undertaking a PPPs project particularly in the field of toll road construction.

Specifically, there are three main findings that will be presented. First, according to the descriptive analysis developed from survey results, the three critical factors that influence PPPs toll road project's success according to public sector respondents in a descending order are commitment and responsibility of public and private sectors; a well-organised and committed public agency; and shared authority between public and private sectors . Second, the top three critical success factors affecting the success of PPPs toll road project based on the private sectors' perspectives are the guarantee provided by government involvement; the macro-economic environment; and available financial market. Third, the survey provided open-ended questions in which the respondents could freely answer and suggest their own ideas on the survey topic. From these answers,

respondents in both public and private sectors, consider that land availability, land acquisition, or location is the most significant factor in establishing a toll road. Another recurring response is related to the availability and access to resources used for toll road construction, including financial and human resource management, and supported sound regulations.

4.1. The survey in general

The survey was conducted from January to February 2020. It is an online survey which employed Qualtrics, a survey-based digital platform provided by Flinders University. The sample is 200 respondents from 14 institutions- six institutions from the public sectors, and eight institutions from the private sector. From the 200 emails sent to the targeted respondents, 140 responded to the survey; however, only 92 filled out the survey completely. Of the 92 respondents, 38 were from the public sectors and 54 were from the private sector. This study analysed the 92 complete responses, establishing a response rate of 65.71%, while the percentage of complete responses compared to the population is 46%. Moreover, according to the levelling position, which was divided into four levels, five respondents (5.43%) were identified to occupy echelon II position, 16 respondents (17.39%) are echelon III, 13 respondents (14.13%) are echelon IV, and 58 respondents (63.04%) are staff. Here, echelon means seniority or management positions in the public organisations' structure in Indonesia. Further, based on experience, there are 57 respondents (61.96%) who have worked in the PPPs toll road sector for 1 – 5 years, 10 respondents (10.87%) who have worked 6 – 10 years, and 25 respondents (27.17%) who have worked in this sector for more than 10 years. The demographic background of the respondents is described on Table 1.

Table 1. Background of respondents

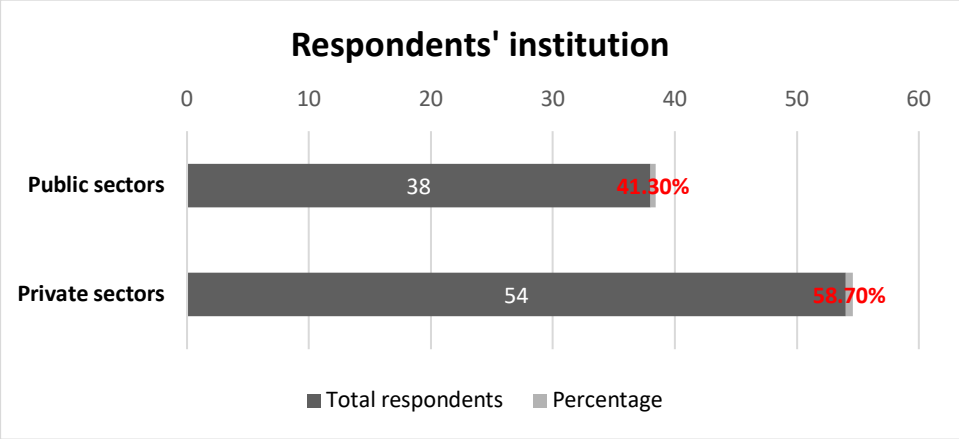
Characteristics	Classification	Count	%
Institution	- Public sector	38 respondents	41.30%
	- Private sector	54 respondents	58.70%
Levelling position	- Echelon 2	5 respondents	5.43%
	- Echelon 3	16 respondents	17.39%
	- Echelon 4	13 respondents	14.13%
	- Staffs	58 respondents	63.04%
Period of work in PPP field	- 1 – 5 years	57 respondents	61.96%
	- 6 – 10 years	10 respondents	10.87%
	- More than 10 years	25 respondents	27.17%

Source: Author's compilation based on survey results.

4.1.1. Description of respondents' institution

Table 1 shows that there are 54 respondents (58.7%) engaged in the private sectors and 38 respondents (41.3%) engaged in the public sectors. The comparison of respondents in percentage can be seen in Figure 2.

Figure 2. The number of respondents based on institution



Source: Qualtrics data and analysis report

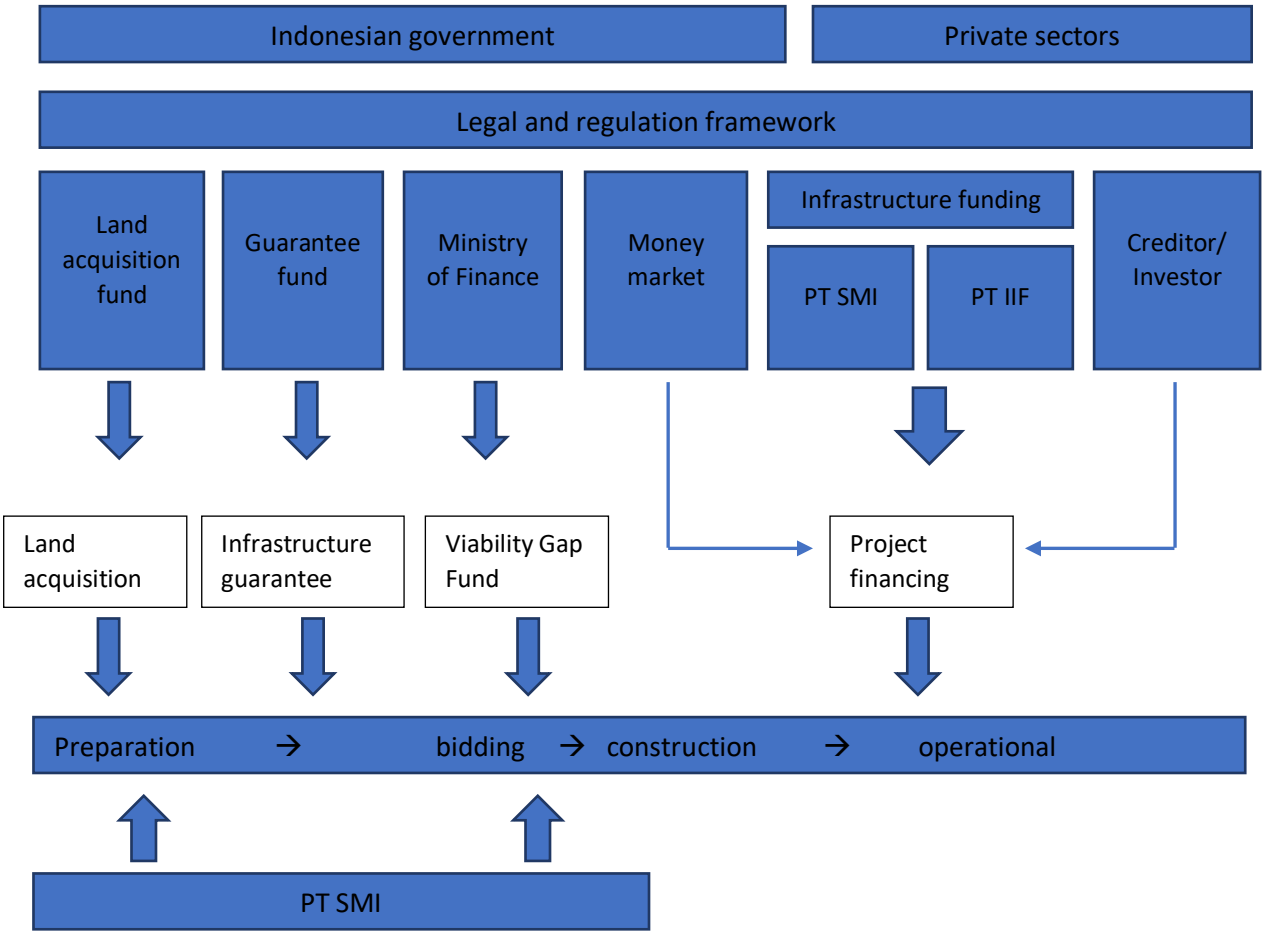
Public sector institutions involved in this survey are the Ministry of Finance, Ministry of National Planning and Development, Ministry of Public Works and Public Housing, Coordinating Ministry for Economic Affairs, National Public Procurement Agency, and Investment Coordinating Board. In the PPPs project, the public sector has an essential role in formulating the related policies. Institutions of the private sector consortium include PT Indonesia Infrastructure Finance, PT Jasa Marga, PT Sarana Multi Infrastruktur, PT Wijaya Karya, PT Hutama Karya, PT Pembangunan Perumahan, and PT Penjaminan Infrastruktur Indonesia. Figure 1 shows that the number of participating respondents from private sectors is greater than the respondents from public sectors, which aligns with the initial expectation. However, the numbers of respondents in each sector present a challenge when balancing their different perspectives in identifying the critical success factors related to the PPPs project.

The PPPs scheme in Indonesia is unique. The Government Regulation No. 38/2015 on Public-Private Partnerships in the Infrastructure Provisioning, PPPs or Kerjasama Pemerintah dan Badan Usaha/KPBU identifies that the partnership between the public sector/government and private sector/enterprises in providing infrastructure uses the resources of private sectors, partially or entirely, and with consideration to proper risk allocation is in the public interest. Here, the private sectors or enterprises refer to incorporated state-owned enterprises, locally owned enterprises, private entities as a limited company, foreign legal entity, and cooperatives. What differentiates PPPs mechanism in Indonesia from others is the employment of state-owned enterprises and locally owned enterprises that 'act' as the private sector in partnership projects.

It is commonly understood that PPPs are a collaborative concept in a public infrastructure project and that the private sector is involved in its development. But why does the Indonesian government collaborate with its enterprises? To answer this question,

an understanding of the government regulation Act No. 19/2003 on State-Owned Enterprise, related to PPPs, is required. Its role and function deliver many benefits for society, such as providing easier access for citizens to obtain goods and services, providing job vacancies, protecting society from private monopolies taking control over essential goods and services, improving the quantity and quality of export commodities, and procuring funds for government economic development. These benefits are factored into the government's rationale for collaboration with state-owned enterprises to provide national/local infrastructures. The institutional structures, institutions, and locally owned enterprises that are involved within the PPPs scheme in Indonesia, especially those related to financing can be viewed in Figure 3.

Figure 3. Institutional structures of PPP



Source: PT SMI – Guidance document for PPPs in infrastructure provision (PT SMI 2014, p. 17)

PT SMI or PT Sarana Multi Infrastruktur is one of the Special Mission Vehicles (SMV) which is engaged in financing and preparing infrastructure projects. PT PII or PT Penjaminan Infrastruktur Indonesia or Indonesia Infrastructure Guarantee Fund Ltd (IIGF) are responsible for providing government guarantees for an infrastructure project that has been developed under the PPPs scheme. Both PT SMI and PT PII are state-owned enterprises under the Ministry of Finance. Furthermore, the Ministry of Finance will prepare the Viability Gap Fund (VGF) should the project fail to reach its feasibility target. PT IIF or Indonesia Infrastructure Finance is a private national company that provides infrastructure financing and advisory services which focuses on a commercially feasible infrastructure project. PT SMI, in partnership with PT IIF, can also provide infrastructure financing, however, the funding will be provided after the contractor has been determined; thereby, providing no conflict of interests with other projects prepared by PT SMI.

The implementation of PPPs in Indonesia for all sectors must follow the existing regulations. Here, the Ministry of National Planning and Development plays a role in drafting the regulations in collaboration with the related ministry and other institutions. In the context of the toll road, the Ministry of National Planning and Development collaborates with the Ministry of Public Works and Public Housing. The latter is responsible for handling national infrastructure development, including toll road construction. The Coordinating Ministry for Economic Affairs has a significant role in overall supervision of economic related ministries.

The roles of the National Public Procurement Agency (Lembaga Kebijakan Pengadaan Barang/Jasa Pemerintah/LKPP) and Investment Coordinating Board (Badan Koordinasi Penanaman Modal/BKPM) are also essential. The former is an agency in charge of handling transparent procurement of government, while the latter is a non-governmental institution assigned to foster both domestic and foreign investment through generating a

conducive investment climate. It is expected that collaborative effort on behalf of all these stakeholders will result in successful PPP projects in Indonesia.

PT Jasa Marga, PT Wijaya Karya, PT Hutama Karya, PT Pembangunan Perumahan are listed as state-owned enterprises that act as the private sector organisations in the development structure involved in this survey. They are associated with many PPP projects, and the toll road construction sector is one of the projects under their coordination. PT Jasa Marga established based on Government Regulation No. 4/1978 aims to provide the well-grounded road network across the state. It is the toll road operator and developer; however, the partnership is under the authority of the Ministry of Public Works, as the government representative. PT Wijaya Karya is one of the Indonesian construction companies with six strategic business units, including road infrastructures.

Along with other companies in mid 2009, it successfully completed the Suramadu bridge project, hailed as one of the most prestigious projects in Indonesian transportation history, linking Java and Madura islands with a 5.4 km bridge the longest bridge to date. PT Hutama Karya marked itself as Indonesia's Most Valuable Infrastructure Developer in 2014, when it won a contract to develop a 2,200 km toll road connecting Java and Sumatra islands. PT Pembangunan Perumahan handles some public constructions as the core of the business, developing roads and bridges, for example, the Interchange Padalarang Bay pass toll road - West Java, Sediyatmo toll road - Jakarta, Jakarta Outer Ring Road (JORR), and Semarang Northern Ring Road – Central Java.

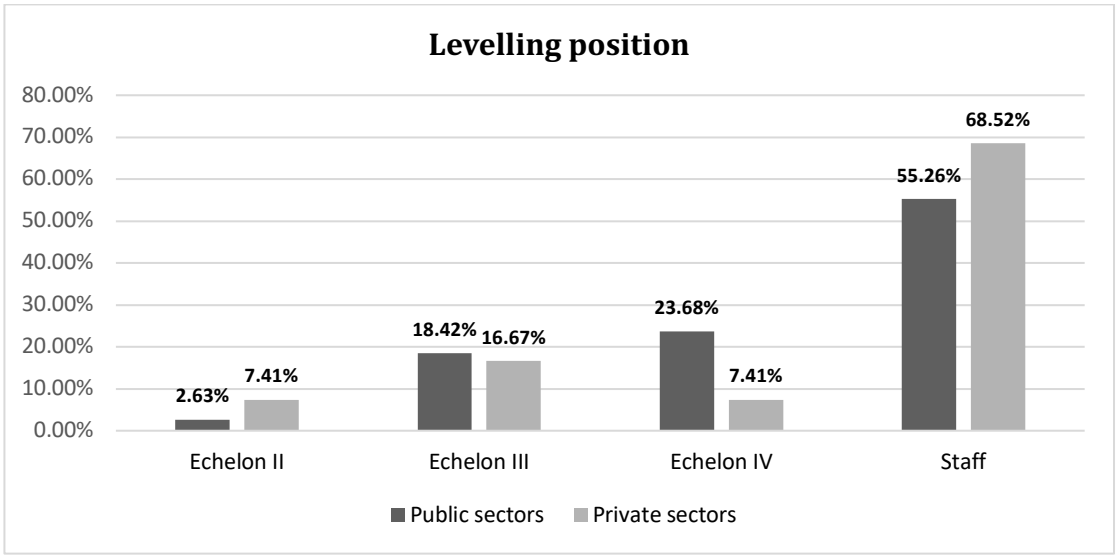
4.1.2. Description of respondents' levelling position

Commonly, organisational structure results in a levelling position with different tasks and function. The higher the structural position means the grander the scale of responsibility and vice versa. The levelling position in this survey refers to the hierarchical

structure of the Indonesian government. Based on the Head of Indonesian National Civil Service Agency (Badan Kepegawaian Negara/BKN) Regulation No. 13/2011 on Guidance to Formulate Competency Standard of Civil Servant Position, the levelling position in Indonesian government structure is classified into five classes, namely staff, echelon IV, echelon III, echelon II, and echelon I. The former is the lowest position while the latter is the highest position. In the context of this study, the levelling position was selected as a profile question as it will relate to the responsibilities of each position. The author did not include public officials who hold an echelon I position to participate in this survey due to their positions of authority in the institution and the challenge of communication within the rigid Indonesian bureaucratic system. Thus, it was deemed sufficient to include personnel in echelon II positions and under to contribute to this survey.

Table 1 shows that based on the levelling position 5.43% respondents are identified as echelon II, 17.39% respondents are echelon III, 14.13% respondents are echelon IV, and 63.04% respondents are operational and administrative staff. Figure 4 will illustrate the number and percentage of participants of each position.

Figure 4. The respondents' levelling position



Source: Author compilation based on the survey result.

The position level of civil servants determines their tax, function, and authority. The Institute of Applied Psychology University of Indonesia (Lembaga Psikologi Terapan Universitas Indonesia/LPTUI) classifies the rank and structural position of a public servant (LPTUI 2010), as follows:

1. *Staff*

The staff classification is the lowest position in the hierarchical structure of the Indonesian civil service. It is also the first position which is usually occupied by newcomers. However, the rules can be different in the private sectors; newcomers can apply for a higher position based on their experience. In the context of PPP toll road, the staff play vital roles regarding field and operational activities.

2. *Echelon IV:*

Echelon IV is the fourth layer of Indonesian public servant structural hierarchy and has the task and function related to guaranteeing quality. This level refers to a line manager for a work unit and must be occupied by the experienced person. They are responsible for any tasks inherent in the program that comprise the third level of the structural hierarchy.

3. *Echelon III:*

Echelon III is the third layer of the Indonesian public servant structural hierarchy. This position refers to the middle manager of the work unit or institution that has a task of coaching and developing. Their assigned tasks show that this position must be held by the qualified individual in the related field and responsible for clarifying the scope and scheduling of programs derived from strategic planning that is assigned by the second level of structural hierarchy.

4. *Echelon II:*

Echelon II is the second layer of Indonesian public servant structural hierarchy, and the position refers to the top manager of the work unit or institution. The employees who

occupy this position are assigned to carry tasks regarding coaching and developing. While echelon III also carries the same 'premise' as echelon II in a coaching and developing role, there is a significant difference in the range of responsibility and authority. Endorsement of echelon II is required for any activity to proceed with partners from both inside and outside the institution. The individual that occupies this level must be responsible for the effectiveness of the institution. The individual is responsible for the design and implementation strategies of the organisation to adapt into policy.

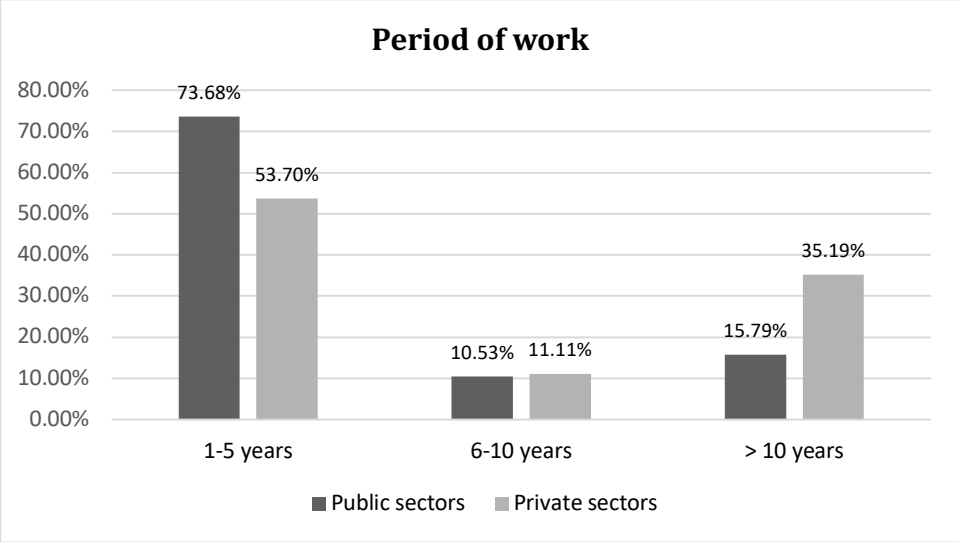
4.1.3. Description of respondents' work of period

It is widely believed that the more time employees have worked in a workplace increases their capability to deal with set tasks and in handling problems as they appear. T According to Kreitner and Kinicki (2012, cited in Kurniawati 2014, p. 316), the longer the period of work in a particular field, raises the level of employees' engagement with the company and improves work performances. Kurniawati (2014, p. 312) agrees claiming that employees can display great work performances if they are directly involved in their jobs and are happy, they will perform above what is expected. Kreitner & Kinicki (2012, p. 175) concur, suggesting that job engagement will emerge when employees are willing to present their all at work with 'feelings of urgency, feelings of being focused, feelings of intensity, and feelings of enthusiasm'.

In this study, the length of time employees has worked is viewed as important in determining the factors that influence the success of the PPPs toll road project. The survey results identify that the dominant group surveyed are employees with 1-5 years' experience in PPP toll road sectors - 73.68% respondents from the public sectors and 53.70% respondents from the private sectors. The employees responding with more than 10 years' experience are 15.79% from the public sectors and 35.19% from the private sectors. Lastly,

10.53% of respondents from the public sectors and 11.11% of respondents from the private sectors have worked in the field for 6-10 years. Figure 5 depicts the range of the total number of respondents based on their period of work.

Figure 5. The respondents' period of work



Source: author's compilation based on the survey result

4.2. Critical success factors

This study employed several statistical descriptive analyses in identifying critical success factors that influence the success of PPPs toll road from public and private sectors perspective by employing an online survey as a data collection method. Through the survey, respondents were asked to answer several questions related to their working background and rank the 17 critical success factors using the Likert scale. The ranking ranged from number one (1) for the least important factor, number two (2) for the slightly important factor, number three (3) for the moderately important/neutral factor, number four (4) for the important factor and number five (5) for the most important factor. This study sought to rank the top three critical factors for the PPPs toll road success according to the respondents' perception from both public and private sectors. It is expected that these five

factors will highlight the main problems that PPPs stakeholders should be concerned with in achieving the success for the PPPs project. To ensure the reliability and validity of the data, this study utilised Cronbach's alpha test which is supported by significance test that used One Sample Chi-Square Test.

4.2.1. The reliability and validity test using Cronbach's alpha

Cronbach's alpha test was employed to measure reliability and internal consistency of the data. Cronbach's alpha is calculated by correlating each scale score item with each observation total score and then comparing that to the variance for all individual item scores. The test coefficient ranges from zero value to one, in which a value of zero depicts no consistency, while a value of one show precise consistency. Although the standards for what makes a "good" α coefficient are entirely arbitrary and rely upon the theoretical knowledge of the size in question, in this study a minimum α coefficient between .65 and .8 was used as a data set (Christmann & Van Aelst 2006; Tavakol & Dennick 2011, as cited in Purbo, Smith & Bianchi 2019). The detail of the reliability and internal validity is presented in Table 2 and Table 3 respectively.

Table 2. Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.933	.934	17

In Table 2, the Cronbach's alpha test for 17 factors measured, generated a reliability coefficient of .934, which means the collected data is reliable.

Table 3. Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Macro-economic condition	67.21	92.188	.594	.585	.930
Favourable legal framework	66.68	91.954	.678	.687	.928
Sound economic policy	66.92	91.412	.705	.627	.927
Available financial market	67.00	94.110	.528	.407	.931
Multi-benefit analysis	66.92	91.522	.686	.639	.928
Appropriate risk allocation and risk sharing	66.70	92.236	.673	.708	.928
Commitment and responsibility of public and private sectors	66.78	91.688	.678	.686	.928
Strong and good consortium	66.87	92.400	.668	.652	.928
Good governance	66.68	92.878	.617	.536	.929
Shared authority between public and private sectors	66.90	91.672	.637	.521	.929
Political support	67.02	90.483	.573	.548	.931
Social support	67.11	94.406	.509	.552	.932
Well-organised and committed public agency	66.89	90.823	.756	.728	.926
Competitive procurement process	66.86	93.683	.627	.663	.929
Transparency procurement process	66.84	90.358	.768	.676	.926
Government involvement by providing guarantee	66.90	91.320	.639	.542	.929
Thorough and realistic assessment of the cost and benefit	66.75	92.541	.718	.618	.927

The yellow highlighted blocks in Table 3 inside the column *Corrected Item-Total Correlation* show that the validity of all factors is more than .30 (>.30), which means that that the collected data is valid (Nurosis 1994, as cited in Cristobal, Flavian & Guinaliu 2007). The corrected-item total correlation describes how each item correlates to all questionnaire score; hence, the correlation less than .30 indicate that the item is not valid or does not belong to the scale.

4.2.2. Significance test – One Sample Chi Square Test

The significance test of this study is performed using one sample chi-square test to examine if all factors show a similar importance level. Table 4 shows the hypothesis test summary for this study.

Table 4. Hypothesis test summary using one-sample chi-square test

Null hypothesis	Sig.	Decision
The categories of Macro-economic Condition occur with equal probabilities	.000	Reject the null hypothesis
The categories of Favourable legal framework occur with equal probabilities	.000	Reject the null hypothesis
The categories of Sound economic policy occur with equal probabilities	.000	Reject the null hypothesis
The categories of Available financial market occur with equal probabilities	.000	Reject the null hypothesis
The categories of Multi-benefit analysis occur with equal probabilities	.000	Reject the null hypothesis
The categories of Appropriate risk allocation and risk sharing occur with equal probabilities	.000	Reject the null hypothesis
The categories of Commitment and responsibility of public and private sectors occur with equal probabilities	.000	Reject the null hypothesis
The categories of Strong and good consortium occur with equal probabilities	.000	Reject the null hypothesis
The categories of Good governance occur with equal probabilities	.000	Reject the null hypothesis
The categories of Shared authority between public and private sectors occur with equal probabilities	.000	Reject the null hypothesis
The categories of Political support occur with equal probabilities	.000	Reject the null hypothesis
The categories of Social support occur with equal probabilities	.000	Reject the null hypothesis
The categories of Well-organised and committed public agency occur with equal probabilities	.000	Reject the null hypothesis
The categories of Competitive procurement process occur with equal probabilities	.000	Reject the null hypothesis
The categories of Transparency procurement process occur with equal probabilities	.000	Reject the null hypothesis
The categories of Government involvement by providing guarantee occur with equal probabilities	.000	Reject the null hypothesis
The categories of Thorough and realistic assessment of the cost and benefit occur with equal probabilities	.000	Reject the null hypothesis

The confidence level of this study is 95% and the p-value is .05. In terms of this study, the p-value is less than .05, which means that it is lower than significance level and the results are statistically significant. Thus, it can be inferred that statistically, all factors are meaningful or important according to respondents' perceptions.

4.2.3. Ranking the critical success factors based on public and private sectors' perceptions

From 17 factors, three top factors have been chosen as an indicator of critical success by both the public and private sector. The descriptive analysis of those factors has shown several differences among those two sectors as displayed in Table 5.

Table 5. The ranking of critical success factors

Success factors	Public sectors		Private sectors	
		%		%
Macro-economic condition	24	35.3	44	64.7
Favourable legal framework	25	50	25	50
Sound economic policy	14	41.2	20	58.8
Available financial market	12	40	18	60
Multi-benefit analysis	16	47.1	18	52.9
Appropriate risk allocation and risk sharing	24	51.1	23	48.9
Commitment and responsibility of public and private sectors	25	56.8	19	43.2
Strong and good consortium	19	52.8	17	47.2
Good governance	20	40.8	29	59.2
Shared authority between public and private sectors	20	54.1	17	45.9
Political support	19	47.5	21	52.5
Social support	29	42.6	39	57.4
Well-organised and committed public agency	19	54.3	16	45.7
Competitive procurement process	17	50	17	50
Transparency procurement process	18	46.2	21	53.8
Government involvement by providing guarantee	13	33.3	26	66.6
Thorough and realistic assessment of the cost and benefit	18	43.9	23	56.1

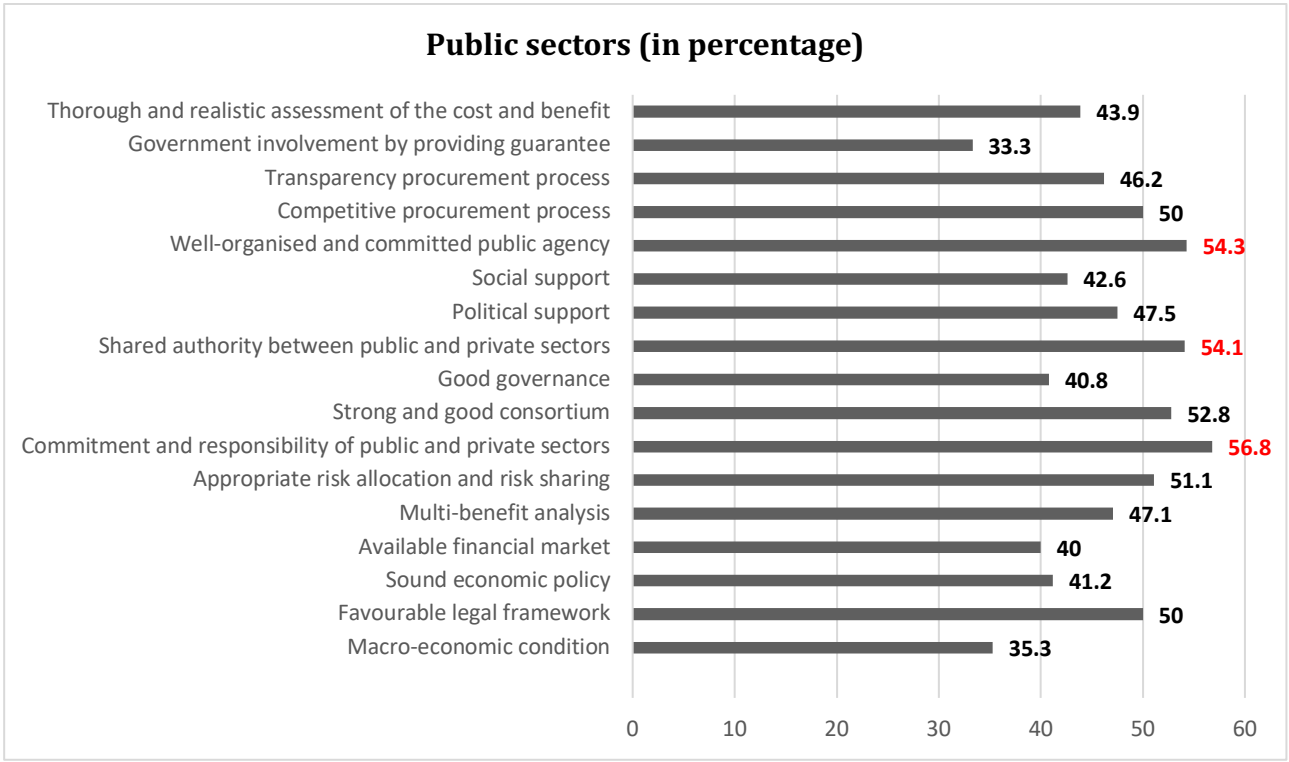
Source: author's statistical analysis

Based on Table 5 above, despite some differences in the factors viewed as a critical for success, the study has found two factors that are regarded as crucial by both public and private sector respondents; namely, a favourable legal framework and a competitive procurement process. The percentage of respondents who selected these factors are the same, 50% respondents for each sector. Hence, these findings show that both sectors agree that favourable legal framework and competitive procurement process are significant in the success of PPPs toll road projects.

4.2.3.1. Critical success factors based on Public sector respondents (top three)

Based on table 8, the top three critical success factors according to public sector's perspective are commitment and responsibility of public and private sectors; a well-organised and committed public agency; and shared authority between public and private sectors. Figure 6 shows the statistical diagram for those factors in terms of percentage.

Figure 6. CSFs of PPPs toll road sector based on Public Sectors' perspective

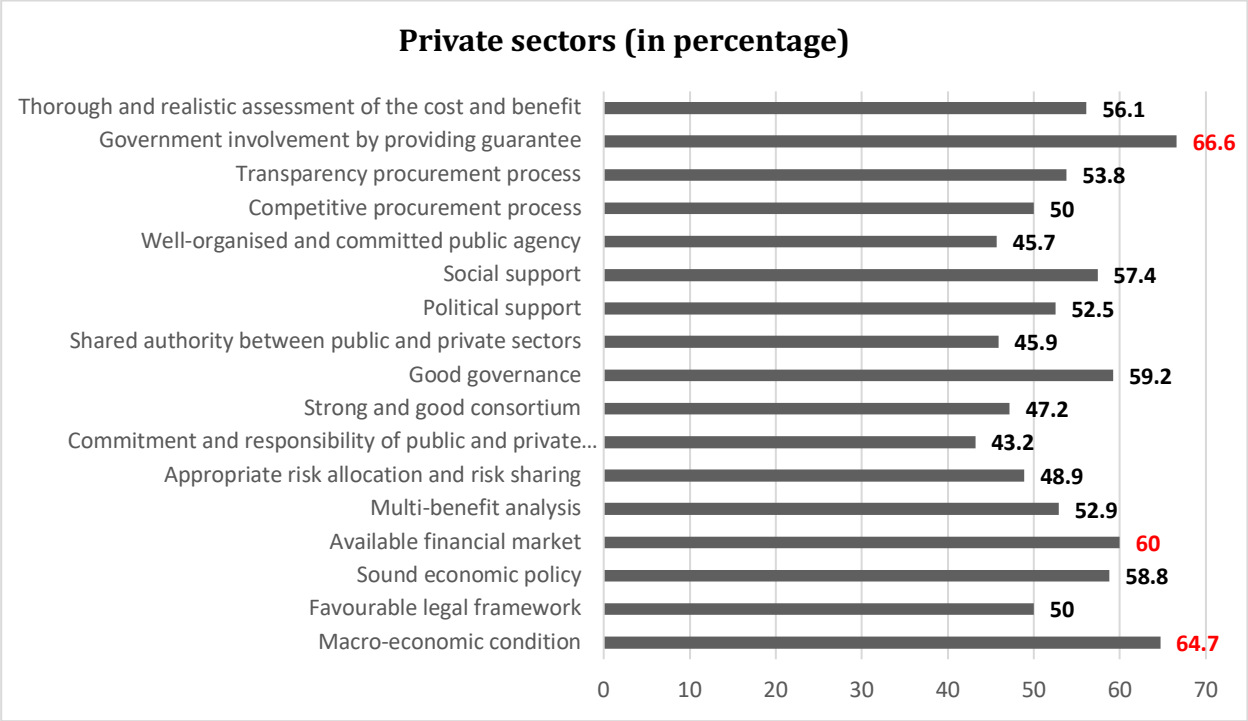


Source: the author's compilation based on survey results

4.2.3.2. Critical success factors based on Private sector respondents (top three)

The top three critical success factors affect the success of PPPs toll road based on the private sector's perspective are government involvement by providing a guarantee, the macro-economic condition, and an available financial market. These factors are shown in Figure 7.

Figure 7. CSFs of PPPs toll road sector based on Private Sectors' perspective



Source: the author's compilation based on survey results

4.2.3.3. Other off-list factors

The survey provided an open-ended question in which the respondents could answer freely and put forward their own ideas on the survey topic. The answers were recorded as other external important factors influencing the PPPs toll road construction. Of the 57 responses provided by respondents from both public and private sectors, 33.33% suggested factors related to land as very important. This included land procurement, land availability, land acquisition, and location. Another factor recognised as important by 59.65% of respondents related to the resources used to conduct the construction project, which

included the financial and material resources, and human resources development. Some respondents also suggested that the government should consider the multiplier effect of the project, to determine whether it can raise the prosperity of people in the surrounding areas, recommending it should be acknowledged in the initial planning stage. Table 6 shows the survey respondents' responses toward open-ended questions.

Table 6. Off-list factors contribute to PPPs toll road success

Factors	Description
Land	- Land procurement: a clear and transparent tender process. - Land acquisition: sound land regulations, proper compensation for people surround the location. - Real demand survey of land: a survey that is conducted to measure the needs of land to establish particular project.
Resources	- The commitment of field executors in conducting their authorised functions - Government support for project feasibility - Mature industry, which might refer to an experienced or grown-up industry, that has faced any challenges but continues to grow. - Competitive and competent private partners. - Reliable human resources - The utilisation of domestic materials - Public awareness about infrastructure development and public sector's mindset about value for money and quality infrastructure delivery - Transparent, honest and accountable project - Adequate time available for project construction
Impacts	impacts of toll road development that must be considered even in the initial planning.

Source: author's compilation based on survey result

Overall, these findings reflect the results of the survey showing the differences between the factors contributing to the PPPs toll road success as selected by public and private sectors. The top three critical success factors based on public sectors are commitment and responsibility of public and private sectors, a well-organised and committed public agency, and shared authority between the public and private sectors. According to the private sector, the top three critical success factors contributing to PPPs toll road success are government involvement in providing a guarantee, the macro-economic condition, and the available financial market. In addition, land and resources issues are factors that should be considered in developing infrastructure under the PPPs mechanism.

However, those factors need to be clarified, in order to gain a better understanding on how they may contribute to project success. Moreover, obstacles that may hinder the development of toll roads project under the PPPs scheme also needs to be identified, as they may present as challenges for PPPs stakeholders when undertaking project construction. The exploration of those factors and the analysis of the potential obstacles will be presented in chapter 5, Analysis and Discussion section.

CHAPTER 5

ANALYSIS AND DISCUSSION

This chapter provides further analysis and discussion of the critical success factors from the public and private sector perspectives, based on the findings. First, it analyses the top three critical success factors according to the public sector perspective. Then, this analysis is followed by the investigation of top three critical success factors determined by the private sector. Finally, it examines the answers to an open-ended question given to the survey respondents in the questionnaire. These will develop an understanding of the specific factors that relate to PPPs toll road construction in Indonesia. Moreover, the demographic background of the each sector's respondents is included in the discussion, for it linked to their particular human resources productivity and capability in undertaking work in a PPPs scheme However, the result of the one-sample chi-square test shows that all factors reject the null hypothesis, which means that statistically, all factors are matters for both public and private sectors respondents.

5.1. Top three critical success factors: public sector perspective

According to Figure 5, most of the public sector respondents perceived that commitment and responsibility of public and private sectors is the most important factors that influence the level of success of PPPs toll road sector construction (60.5%), followed by a well-organised and committed public agency (54.3%), and shared authority between public and private sectors (54.1%).

5.1.1. Factor 1: Commitment and responsibility of public and private sectors

60.53% respondents from public sectors chose 'the commitment and responsibility of public and private sectors' as the most important factors. However, 43.2% of respondents from the private sector perceive that this factor is less likely to affect the PPP's success in toll road construction. The selection of this factor might be driven by public sector belief that commitment to the initial contract influences the success of PPPs projects. Indeed, the PPPs toll road project will be successful if both public and private sectors understand each other, have a uniform view, and commit to the project's completion. This result aligns with the study conducted by Chan et al. (2004); Ismail & Ajija (2013); and Li, B et al. (2005), who claim that a strong relationship between public and private sector is the foundation of a durable partnership. All parties involved should commit their resources, such as financial, human, and expertise towards the partnership project. Moreover, the commitment must also establish at all levels of organisation to ensure the goal is achieved.

Additionally, a study by Tang, Duffield & Young (2006) incorporates commitment, mutual objectives, trust and effective communication as their CSFs for project success. They state that partnering problems could be largely due to a lack of understanding of the initial concepts. Jacobson & Ok Choi (2008, p. 648) argue that pre-construction is the most critical stage in building a strong collaboration between all parties as it is when confrontations can be settled. It can be assumed that mutual understanding and a uniform perception is the key to a successful partnership, for it will keep the alliance dynamic and counter problems as they arise.

As an example, a strong partnership of a PPPs toll road construction in Indonesia in 2019, resulted in two large projects on the island of Java, the most populous island in Indonesia. Constructing Batang - Semarang toll road and Pandaan - Malang toll road

required three and four years to complete the process; an achievement quickly accomplished as it also included land acquisition as well as the construction process.

5.1.2. Factor 2: Well-organised and committed public agency

Public sector respondents picked a 'well-organised and committed public agency' as the second factor that mostly affects the PPPs toll road program success. It can be inferred from this finding that 54.3% respondents from the public sector consider that public institutions still lack a commitment to manage the partnerships. In contrast, private sector respondents view that the contribution level of this factor is low in terms PPPs project success and was only selected by 45.7% of the respondents (the second lowest).

It would appear that public sector employees' faith in government roles in this partnership had diminished. However, Figure 4 shows that the respondents' period of work in this sector identifying them as employees with 1-5 years' experience dominate the result, which means that this perception is mainly that of 'junior' workers. Here, 'junior' workers refer to new graduates or those who have just moved into their current workplace. The leaders in charge of managing such partnerships should address this issue, for better results in future projects.

According to Li, B (2003), a well-organised and committed public agency represents the capability of the governments in managing partnerships with private sectors. For example, supervision of human resources at the procurement stage so that the team, including the project owner, the sponsor, and the manager, should master the required technical capability. Hence, hiring competent advisers might be useful to improve the performance of public sector, for they can share new external skills and experiences. In respect to toll road construction, the team that understands construction methods and has

experience in this field is a valuable asset. Indeed, this expertise is an extra cost which must be considered at the outset of the project.

5.1.3. Factor 3: Shared authority between public and private sectors

The third factor chosen from the public sectors' perspective is 'shared authority between public and private sectors' and is the preference of 54.1% of the respondents. However, based on the findings, private sectors considered that this factor is less important and is shown in the Figure 6, indicating that 45.9% respondents chose this factor (the third lowest).

Perhaps it can be explained that, the term that naturally follows 'authority' is 'responsibility'. Therefore, to achieve success, the PPPs project needs equal contributions of authority and responsibility from both public and private sectors to develop a long-term alliance. According to Li, B (2003, p. 79), there are three main factors that contribute to the successful partnerships between public and private sectors, namely, 'shared authority and responsibility, joint investment, shared liability or risk-taking, and mutual benefit'. Regarding an appropriate division of authority, Frilet (1997) argues that public sectors should let private partners determine the infrastructures' physical specifications that meet the project requirement. For example, in terms of toll road construction, the public authority must be satisfied that the toll road will not only be built but will also be maintained during the concession period by the private partners.

Along with the well-organised and committed public agency, shared authority between public and private sectors are classified as factors that represent effective procurement (Li, B 2003, p. 186). Concurrent with Li's study, Hardcastle et al. (2005) also state that shared authority between public and private sectors is another key element of effective procurement, which means that in carrying out the negotiation process during the

procurement stage, both public and private sectors should respect one another. Forecasting the cost and benefit of the project before it becomes subject to procurement is the responsibility of the public clients. This process is considered part of a project's feasibility study to ensure that the project will be beneficial for the government and end-users.

The survey result that placed shared authority between public and private sectors as the third factors was mainly selected by public sector's respondents shows a lack of clarity over the division of authority for sector tasks. This situation could lead to confusion for public sector employees' involvement in assigned tasks. Hence, the project may not achieve its targets and may even experience delay. The project leader should pay attention to this issue.

5.2. Top three critical success factors: private sector perspective

Based on the Figure 6, most of the private sector respondents (66.6%) consider that government involvement by providing a guarantee is the main factor that affects the toll road project success under the PPPs scheme. The second factor is the macro-economic condition selected by 64.7% of the respondents from the private sector. The third factor is the available financial market, selected by 60% of respondents.

5.2.1. Factor 1: Government involvement by providing guarantee

66.6% of respondents from the private sector perceived "government involvement by providing guarantee" as the main factor for the PPPs toll road project in gaining success. However, public sector respondents perceived that the contribution level of this factor is less than others, which was only chosen by 33.3% of public sector respondents.

From this finding, it can be assumed that private sectors still place a high expectation on the government in relation to project sustainability, while the public sector considers a

guarantee from the government is adequate in maintaining the partnership. Private sectors feel they can work safely if a government guarantee is provided. Work safely means that in this partnership, the private sector will be protected from any social, economic or even political issues. Ismail & Ajija (2013, p. 8) state that in the PPPs project, the private sector typically has a higher responsibility than public sectors; therefore, it is irrefutable that a guarantee from the government is the most important component required by the private sector. A government guarantee diminishes the level of risk that would otherwise be borne by private partners.

Yet in Indonesia, the toll investors or operator still feel that the government supports are insufficient especially when dealing with land acquisition issues, which often need special handling in terms of location, with citizens living nearby, and high costs, resulting in elevated project costs but lower rates of return. These circumstances can lead to investor loss and impact on project feasibility (Parikesit, Setyaka & Djarwoningrum 2009). This finding is in accord with the study conducted by Li, B (2003, p. 188) about PPPs in the UK, in which the survey result yields a significance of .74 for government guarantee factors. The significance is quite high compared to other factors, meaning that the private sectors' trust in the procurement held by government is low. The private sectors require the government to provide a policy and revenue guarantee to assure the protection for their investment.

The Indonesian government responded to this issue in toll road construction by launching land-capping instruments in 2008 in order to preserve the land developer from the unpredictable high cost of land acquisition. These instruments consist of several regulations, namely 'Presidential Regulation No. 78/2010 on Guarantee Provision for PPP Infrastructure Project' and 'Minister of Finance Regulation No. 26/2010 on the 'Implementation Guidance of Guarantee Provision in PPP Infrastructure Projects' (Wibowo et al. 2012, p. 1403).

5.2.2. Factor 2: Macro-economic condition

The second top factor affecting the PPPs project success selected by 64.7% of private sector respondents is the macro-economic condition. However, only 35.3% of public sector respondents that perceive the condition of macro-economic had an effect on the PPPs project. This result is tantamount with the study conducted by Li, B (2003, p. 188), which says that the stable macro-economic condition along with sound economic policy are the sub-factors that construct a favourable economic condition. In Li's study, a high significance of .93 shows that a good economy is one of the indicators of PPPs success; for example, a lower risk market could successfully increase the project's feasibility. From these results, it can be concluded that private sectors require the government to pay more attention to the economic conditions when planning a project under PPPs scheme. The favourable macro-economic condition must be backed up by sound economic policy to maintain the sustainability of a stable economic environment. Additionally, the sound economic policy can guarantee that private sectors can work with confidence.

According to Yehoue, Hammami & Ruhashyankiko (2006, p. 4), the stable macro-economic condition is critical for PPPs project, as partnerships are more prevalent and robust in a low-inflation state. Additionally, this favourable condition must be underpinned by fair and adequate tariff arrangements, a reputation of commitment, and sound economic policies. If the country development rating improves, the macroeconomics condition will be more stable and it; therefore, will attract more qualified investors (Dailami & Klein 1997, as cited in Yehoue, Hammami & Ruhashyankiko 2006, p. 7).

5.2.3. Factor 3: Available financial market

The third factor that is considered critical for the PPPs toll road project's success by 60% of private sector respondents is the availability and access to the financial market. In

contrast, public sector respondents consider that this factor is less critical in affecting the PPPs project success. The private sectors have a vested interest in the economy. The market is about an exchange, while the financial market is broadly about a place when trading securities occur, including stocks, bonds, forex, and other investment instruments. A study conducted by Ismail & Ajija (2013, p. 14) claims 'easy access to the financial market' as a fifth factor that influences PPPs success.

Moreover, one of the aims of PPP project implementation is to minimise the government's financial burden and transfer it to private sectors; therefore, the provision of flexible and exciting financial instruments, for instance, debt, equity, and securities are critical to support the private sector in financing a PPPs project (Zhang 2005). Additionally, according to Li, B (2003, p. 188), the availability of financial market is vital for a PPP project success but is dependent on the extent of shares and debts. The stable financial market is one source of PPPs project financing. Therefore, in the context of PPPs, wealthier nations may typically be more attractive to private investors, as their citizens regard the accessibility of road and transportation as essential and are willing to pay toll payments (Wang & Zhao 2014, p. 686).

Haikal et al. (2017) state that the financial market is a driver of economic development, for it plays a role as a source of economic funding and functions to maintain the financial stability of a country. Unfortunately, they also add that in the case of the Indonesian financial market, the activities within the market are not as profound as other ASEAN countries. As Indonesia currently is encouraging infrastructure development, more funding is needed, and the financial market serves as one of the instruments. Thirty-seven priority infrastructure projects are to be funded; it costs IDR2,394 trillion or approximately US$169.17 billion, and the state's budget can only provide 8.9% of the total funds required. As the Indonesian government looks for other alternatives to fulfil the infrastructure's

requirement, the financial market performs an important role to fill the gap. Yehoue, Hammami & Ruhashyankiko (2006, p. 4) find that PPPs are generally implemented in the countries with heavy debt burdens, where the total national demand is considerable, and the markets are available for quick cost recovery. This theory is in line with the Indonesian context, in which the state budget is limited, and the external debt has reached US$401.45 billion. Therefore, PPPs are needed to support infrastructure development.

5.3. Top factors based on both sectors' perspective

Other than the three top critical success factors affecting the PPPs success selected from each sector's perspective, the findings have shown that there are two critical factors that are selected by both public and private sectors, namely a favourable legal framework and a competitive procurement success. The numbers of respondents that chose these factors are the same, at 50% for each sector.

5.3.1. Favourable legal framework

The favourable legal framework factor is related to laws and regulations that govern and guide the PPPs project cycle. The legal framework is linked to and adds to the general guidelines for implementing the project. In the context of PPPs toll road, the legal framework would be related to regulations that specifically administer how the project works, from the feasibility study of the location, the proposal submission, procurement procedures, land acquisition, and the multiplier effect of the project. A favourable legal framework will provide clear guidance on how the PPPs scheme works; hence, the executors will be able to better comprehend the proper processes in conducting the project. Additionally, Kwak, Chih & Ibbs (2009) claim that a sound legal framework will also be essential as the foundation

for securing appropriate risk allocation and preventing the implementation stage from the likely corruption activities.

The implementation of PPPs in Indonesia is based upon Presidential Regulation No. 38/2015 on Public-Private Partnerships (Kerjasama Pemerintah dan Badan Usaha/KPBU). This regulation involves more comprehensive parameters that can be imposed on PPPs projects; not only for economic infrastructures as listed in previous regulations but also to significantly support social infrastructures (Presidential Regulation No. 38/2015, as cited in Siagian 2017). There are nineteen economic and social infrastructures involved and include: transportation, road, waste management, telecommunications and informatics Additionally, this regulation also governs the responsibility of each institution involved in the PPPs project scheme; that is, the Ministry of Finance, the Ministry of Home Affairs, the National Development Agency, and the National Public Procurement Agency. The favourable legal framework provides the lawful baseline for executors when implementing toll road construction under the PPPs scheme in Indonesia. Hence, it could be justifiably one of the top success factors for most PPPs projects and specifically for toll road construction.

5.3.2. Competitive procurement process

Both sectors recommend that the competitive procurement process factor is one of the critical factors that contribute to the PPPs toll road success. It creates an environment of effective procurement along with a transparent tender process, good governance, a well-organised and committed public agency, social support, shared authority between public and private sectors, and thorough cost-benefit analysis (Li, B 2003, p. 186). Under the PPPs project scheme, bids are gained from several applicants who can match the project requirements; they compete with one another per the project specification. As the procurement process can affect project value for money (VFM), public clients must select

only the potential bidders. The approval of too many bidders may lead to needless time and costs and bring reduction of project VFM (Walsh 1995, as cited in Li, B 2003, p. 162). Three primary conditions are required for a successful competition tender process: invitation to only bidders with the necessary prerequisites, bidders able to supply the definite requirement specifications, and bidders with the ability to apply competitive pressure over all of the procurement process (NAO 1999a, as cited in Li, B 2003, p. 168).

The competitive procurement and commitment contract negotiation can determine a better risk allocation mechanism. Thus, it can be concluded that for public sectors, transparency and competition are two critical factors in project procurement. In contrast, private sectors view that the transparent and competitive procurement is the indicator of effective procurement and consider it essential. In the context of toll road construction, the winning bidders are those who are viewed as capable of developing and operating the assigned toll road. It means that, although there is limited support from the government, the winner can still deliver value for money and continue the construction progress as a collaborative project.

5.4. Other off-list factors

57 responses from the survey gave other off-list factors they felt contributed to the PPPs toll road project success. About one-third of respondents emphasised land issues, including land availability, land acquisition, and an appropriate location, as the most critical factor affecting the success of toll road construction under the PPPs scheme. Meanwhile, approximately 60% of respondents addressed resources issues, including individuals, time, law certainty, government funding, and financial support from the banking sector as having an impact on PPPs toll road project success.

5.4.1. Critical factors related to land

From the open-ended question section of the survey, 33.33% of respondents recommended factors related to land as another factor contributing to the PPPs toll road project success. According to the respondents, the factors related to land, including land procurement, land acquisition, real demand survey, and location. If those factors are effective and appropriately managed, the respondents will surely believe that the PPPs toll road project, especially in Indonesia, will be a success.

It has been widely known in Indonesia that land issues have been a problem of toll road development and hinder private investors from spending their funds in Indonesia. A study conducted by Tamin, Marzuki & Rostiyanti (2011, p. 1) found that the complex and unclear regulations of the land acquisition process is the most significant barrier to toll roads development. In 2005, 2006, and 2010, the Government of Indonesia held an Indonesian Infrastructure Summit to attract private investment. However, these conferences failed to enthuse investors due to their prior knowledge and experiences of issues with Indonesia's land regulations. From the 36 toll road subsections (1,152 km) offered, only nine subsections (96 km) have succeeded to attract investors.

Moreover, the performance of toll road development remains low, with the growth in the 2004-2010 period only reaching 21.4 km each year. (ADB 2016) reports that the Indonesian government has encouraged private sector participation to boost the infrastructure development under PPPs scheme, rising from 0.6% of GDP in 2008-2012, to become 2.3% in recent years. However, similar findings are found in a previous study, which stated that slow progress was caused by several problems, such as disorganised PPPs legal frameworks, lack of funding support for PPPs project, and complicated land acquisition processes. Hence it can be shown that land issues are still problematic for Indonesian PPPs project investment.

To address the land issues, in 2008, the Government of Indonesia constituted a land-capping instrument aimed at protecting the toll roads developer from the unpredictably high cost of land acquisition (Wibowo et al. 2012, p. 1403). Investors observed the Malaysian government's success in attracting investment related to toll road development. The government provides a full guarantee toward land availability even before the project is tendered (Parikesit, Setyaka & Djarwoningrum 2009). It can be concluded that the investors' trust is important; hence, the Indonesia government should refine its ways to approach the citizens living near the targeted location and do a proper feasibility study before determining the next step.

5.4.2. Critical factors related to resources

Some respondents said that resources, such as financial support, domestic materials, reliable and competent individuals or workforces, adequate time made available for project construction, and strong regulations also play essential roles in PPPs toll road project success, for the concept of PPPs covers mutual benefit, cooperation, and effective sharing between government and business sectors. For private sectors, sound policies or regulations are the most important source, because the regulation will give certainty and protection to conduct their part in partnership (Pongsiri 2002). Additionally, in terms of resources owned by each sector, both public and private sectors under partnerships should commit to using the all existing resources in a way that ensures that the partnerships are well-managed to achieve the objectives.

Other factors that are considered critical in relation to resources include public awareness about the need of infrastructure development, public sector's mindset that focuses on value for money and a standardised infrastructure delivery, and competitive and competent private partners. These opinions show that each sector has expectations of each

other. Therefore, commitment and mutual understanding in a partnership should be maintained for the sustainability of the PPPs project. Public sectors commonly designate the design, financing, construction, and operation of national infrastructures to the private sectors, with the private partners ready with their capital. Therefore, a sound legal standing and political support are categorically required. These features will protect private sectors from political sensitivity, build their trust of the government, and are provided with a guarantee that they will be sheltered from the natural monopoly which often occurs inside the public domain.

5.4.3. Critical factors related impacts on stakeholders

Every government project must promote the needs of its society in the creation of the infrastructures. Thus, a participatory approach as a method to involve the community a stakeholder, in policymaking is essential. A study conducted by Arimoro (2015, p. 167) suggests that public sectors should consult with traditional rulers, community representatives, the media, women leaders, and religious leaders when planning to commence public infrastructure projects. Involving community participation in government projects provides opportunities for them to understand the project comprehensively. For example, in setting the toll prices, public authorities should discuss first with the community stakeholders, in order to ensure the private sectors are not exploitative seeking a return for the investments. At the same time the public sectors must prepared to inform communities that they must pay a higher price for the convenience of using toll roads in order for them to be properly maintained.

Moreover, public authorities should also be aware of the communities surrounding the project location. The project design must consider the impacts that arise from project development. Moreover, the feasibility study conducted before the project starts should

reflect the genuine project environment. Thus, with a reliable result of the feasibility study, it is expected that the project could raise the wellbeing of communities around the project's location.

5.5. Obstacles of toll road development in Indonesia under PPPs scheme

A study conducted by Rostiyanti & Tamin (2010) identified that issues around complex and conflicting regulations in the legal framework commonly occur during the PPPs toll road project implementation. Many people, even public employees, have acknowledged such a problem. These concerns not only happen in the PPPs project but also in other sectors and leads to poor project execution. The problem can be traced to inadequate law enforcement. For example, the land acquisition process in construction commonly needs longer time when the executors do not comply the regulations, or when the sanctions are already explicit, but the enforcement is somewhat insufficient. Osei - Kyei & Chan (2016, p. 183) suggests that thorough adherence to policy actions and measures are needed to ensure that the project can be realised, applicable, and sustainable.

Furthermore, according to a study conducted by The World Bank Indonesian team (Wibisono, Delmon & Hahm 2011), the obstacles that hinder the toll road project development under PPPs is poor project selection, with too many projects but only a few of them viable. This problem is caused by project list differences published by the related government agencies. For example, a list released by the Investment Coordinating Board outlined six guaranteed priority projects, while the Indonesia Infrastructure Guarantee Fund outlined five showcase projects, which were entirely different. This generates confusion among investors and reflects poor coordination between government agencies, and casts doubts on project certainty.

Another obstacle facing by PPPs scheme in Indonesia are the political issues. It is common knowledge that political stability of a country affects professional judgement (Voelker et al. 2008); hence, it is not the fault of investors who limit their investment. The political context of Indonesia has been well-known for its poor track record in terms of law certainty and governance and built on the assumption that the major stakeholders involved in toll road sector construction are politically related (Parikesit, Setyaka & Djarwoningrum 2009). Consequently, investors feel insecure to invest in te projects, whereas the demand for toll road development is high and increases significantly each year.

CHAPTER 6

CONCLUSION

Infrastructure is a term used to describe the fundamental facilities and systems that support a country's development and is typically established by a partnership between the public and private sectors. Such a partnership, commonly known as Public-Private Partnerships (PPPs), is one scheme of a cooperative arrangement between public sectors and private sectors. It is characteristically a long-term partnership formed to develop infrastructure in order to serve the nation. PPPs scheme provides an opportunity for the private sectors to participate in managing national infrastructure. The role of public and private sectors under PPPs scheme is completing and encouraging the strengths of each sector. Public sectors are responsible for controlling their regulations and legal assets to promote accountability and maintain public trust, while private sectors provide capital, practical expertise, and incentives that encourage competitiveness and efficiency. Toll roads, highways, airports, railroads, bridges, and hospitals are all examples of infrastructure commonly built through PPPs.

PPPs may also value-add to the public service, as it upgrades government competence, encourages innovation in public services delivery, reduces cost and timeframes for project construction, and shifts the risk to private sectors. However, some disadvantages may surface from the implementation of a PPPs scheme. Conflict over goals and objectives among PPPs stakeholders are likely to happen and could lead to the failure of the partnership. Another pitfall is related to accountability. Determining who is responsible for what stage should be clear from the outset. If the partners involved in PPPs cannot resolve the divisions of responsibility, then misunderstandings and miscommunications may occur frequently and cause the partnership to collapse. A PPPs

scheme should be well-managed as it is a long-term project with complexities in planning, implementation, monitoring, and evaluation. Despite these negative aspects, PPPs are still acknowledged as the conduit to support the government in minimising infrastructure gaps.

PPPs also play an important role in developing infrastructure in Indonesia. They provide a solution for supplementing the government's limited budget to develop national infrastructure and improve public services delivery. Several regulations have been authorised by the government to administer the PPPs implementation for infrastructure development, for example, Presidential Regulation No. 38/2015 on Partnership between Government and Corporation for Providing Infrastructure, and Minister of Finance Regulation No. 190/2015 on Funding Availability for PPP. These two regulations serve as a foundation for any construction projects under a PPPs scheme.

Furthermore, as Indonesia is an archipelagic country with a population of approximately 270 million, infrastructure development, especially in road sectors, is urgently needed. Sturdy solid road construction network is essential as it needs to accelerate public goods and services transport as well as people from one place to another. Moreover, Indonesia is dealing with constant and increasing traffic congestion which can further delay public services delivery. Consequently, due to their limited budget, the government must seek another option and has chosen the PPPs scheme as the solution. By involving private sectors in developing national infrastructure, it is expected that the need for toll roads could be satisfied. However, as some projects may experience failure before completion, factors that contribute to the PPPs project success or failure should be identified, to improve the knowledge of all PPPs stakeholders. Some preliminary studies have been conducted and have found several critical success factors that influence the project's rate of success or failure. Yet, merely adopting the success factors of PPPs projects

from other countries may not be suitable for the Indonesian context, with its range of geographical and demographical differences.

Identifying the critical factors that influence the success of PPPs toll road project in Indonesia is needed to improve the quality of project success. Hence, this research project aims to seek the hierarchy of these factors by employing a quantitative approach in the form of an online survey, sent by email, to the targeted respondents. The online survey utilised Qualtrics, a survey-based digital platform provided by Flinders University. There were 14 institutions that participated in this survey providing a potential 200 respondents. The response rate of this survey was 65.71%; or, from 200 samples, 92 respondents filled the survey forms. Moreover, there are six questions in the survey containing three main questions. The first four questions profile the respondents' demographic background, the fifth question outlined 17 critical success factors based on the study conducted by (Li, B 2003) and required the respondents to choose the factors they felt were most important for project success. The last question allowed the respondents to suggest or propose other factors (besides the 17) factors that may influence the project success.

Based on the survey result, it can be inferred that all factors are meaningful or essential according to the respondents' perception. It is shown by the p-value of less than .05, which means that the results are statistically significant. Further, the survey produced the top three factors selected by each sector. For public sectors, the three factors that are considered as the most important are commitment and responsibility of public and private sectors, well-organised and committed public agency and shared authority between public and private sectors. According to the private sector respondents, the three most important factors are government involvement by providing a guarantee, macro-economic condition, and available financial market. In addition, two factors considered important by both sectors are the favourable legal framework and competitive procurement process, selected

by 50% of respondents of each sector. The open-ended question of the survey also provides some insights for off-list factors contributing to PPPs toll road success. Respondents suggested that land issues, resources issues, and the project's impact on its surroundings should be taken into account by the PPPs stakeholders.

There are other obstacles that might hinder the PPPs implementation in Indonesia. First, the complex and overlapping regulations that commonly occurs during the process, could lead to the project being executed poorly resulting in excessive budget commitments that threaten its sustainability. The regulations issue mainly relates to unclear sanctions for those who violate the initial contract agreement. A poor project selection has been another problem that can impede project development and is caused by the differences in the priority project list published by related institutions, creating confusion among investors and distrust towards the government. Another major predicament that inhibits the PPPs implementation in Indonesia is the political landscape as Indonesia is well-known for its poor track record in terms of law certainty and governance. Consequently, investors may be reluctant to engage in a project which lacks accountability.

It is expected that the government of Indonesia will gain a more holistic understanding of the existence of the critical success factors to better implement PPPs. Furthermore, it is also expected that this research project will provide a significant contribution to private stakeholders' analysis before conducting the PPPs program. This activity will improve the feasibility of the PPPs project, particularly the toll road construction project. However, despite the limitations, this study could provide insights and new knowledge for the government and private sector service providers concerning the critical factors that need to be worked through to ensure the successful implementation of PPPs in the Indonesian context.

Future research may consider gathering more samples; thereby, the voice of employees could be represented in the participating respondents. Moreover, in addition to a survey, group discussion, and in-depth or semi-structured interviews could be conducted to gain a profound understanding of the evidence that will be analysed. Another issue that may need to be clarified is the practice of PPPs in Indonesia, where the state-owned enterprise acts as the private sector. Here, the state-owned enterprise is a public entity in which the government also owns the capital and has functions to provide public goods and services despite seeking profits as other private businesses. Finally, further researches could also expand the study focus to those factors that cause project failures. Therefore, the researcher would obtain a comprehensive understanding of the implementation of PPPs toll roads project in Indonesia.

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