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**An Investigation of Risks Dimension Behind the Selection of Public-Private Partnership Funding
Mechanism in Indonesia: A Stakeholder Perspective.**

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Being a dissertation submitted to the faculty of The Built Environment as part of the requirements for the award of the MSc Infrastructure Planning Appraisal and Development at University College London: I declare that this dissertation is entirely my own work and that ideas, data and images, as well as direct quotations, drawn from elsewhere are identified and referenced.

A handwritten signature in black ink, appearing to read 'Wibisono', is enclosed within a light grey rectangular border. The signature is stylized and cursive.

Satryo Wibisono
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List of Abbreviation

- a. ADB : Asian Development Bank
- b. AP : Availability Payment
- c. GCA : Government Contracting Agency
- d. GOI : Government of Indonesia
- e. JICA : Japan International Cooperation Agency
- f. MOF : Ministry of Finance
- g. NAO : National Audit Office
- h. PDF : Project Development Fund
- i. PPP : Public-Private Partnership
- j. PWC : PricewaterhouseCoopers
- k. UC : User Charge
- l. VfM : Value for Money
- m. VGF : Viability Gap Fund

Abstract

Public-Private Partnership (PPP) is one of the most innovative procurement methods for an infrastructure project that is currently in high demand in Indonesia. While this scheme offers many advantages, the most significant benefit is a more proper risk allocation between the public and private sector. The risk-sharing between the two parties could be implemented in the whole project cycle, including when the project should decide its funding resources, which could be directly from the end-user (User Charge), or the annual government payment (Availability Payment). Despite the importance of risk and funding method, this study found only a few previous works of literature that are focussing on how risk could affect the selection of PPP project funding mechanism. Therefore, this research aims to identify the risks and the stakeholder preference for PPP funding mechanism in the Indonesian context.

This study performs semi-structured interviews as a qualitative data collection method. The interview participants are from numbers of PPP practitioners in Indonesia with various professional backgrounds. After several series of interview, this study found numerous risks that should be considered in the funding selection process that could be categorised into four major risk groups, which are: demand, political, relationship, and financial dimensions. This research also found that the stakeholder preference on the funding selection is classified into three contexts, which are: (1) The types of infrastructure project, (2) Sector maturity, and (3) The degree of risk uncertainty. Additionally, this research then concluded by providing four key-suggestions for a more proper PPP funding selection decision-making, that are: (1) Ensure PPP is the best option in the first place, (2) Make a standardised, integrated, and sustain policy, (3) More balance risk allocation, and (4) Enhance the PPP knowledge in various sectors.

1 Introduction

1.1 Research Background

Infrastructure has been significantly transformed in the last several decades in terms of the scheme, needs, and also the actors involved. In the past, infrastructure was only related to the public sector, and they were the only party that is accountable and willingly committed in the whole project cycle. The trend has been shifted in the recent era since the private sector plays a considerable part in the new development style. Their involvement in the development, financing, and also service provider has been recognised by many governments around the world (Zheng et al., 2008; Mahoney et al., 2009). The private participation is also shown in the Public-Private Partnership (PPP) where the government and private sector work together to provide the infrastructure with numbers of terms and conditions under one agreement. Tang et al. (2010) carried a review of the PPP methodology and summarised some advantages that they discovered from previous scholars, such as:

- Strengthen the public and private relationship (e.g. Kumaraswamy & Zhang, 2001);
- More appropriate financial analysis (e.g. Akintoye et al., 2003);
- More precise government policies (e.g. Hart, 2003);
- Revealed critical success factors (e.g. Li et al., 2005).;
- Better risk management (e.g. Li et al., 2005; Grimsey & Lewis, 2002)

Another benefit of using this partnership type is that the project could choose the funding resource for the operational project phase. As it is described by Fay et al. (2018), funding is the source of the money to pay the infrastructure and generate the revenue to repay the cost of financing and to pay the operational cost in the long-term. The resources in a PPP project could be divided into two varieties, which is directly from the end-user (User Charge) or from the government payment (Availability Payment). Several scholars have conducted some investigations and found that there is a significant correlation between the selection of the method with demand risk (Burke & Demirag, 2015; Siemiatycki & Friedman, 2012). The reason behind the significance of demand risk also strengthens by Flyvberg's report in 2007 that found 9 out of 10 large urban transit projects worldwide fail to meet the ridership expectation. However, despite the importance of demand risk, many other risks also could affect the selection of payment methodology in PPP. Although demand risk has been widely studied in the funding mechanism, there has been limited researched on the other risks that should be acknowledged in the funding selection. Furthermore, aside from the risk identification, far too little attention also has been paid to what stakeholder's opinion regarding the PPP funding mechanism.

This dissertation will use Indonesia as the location context to make more specific research due to several critical reasons. First, the archipelago has a vast infrastructure investment gap, and PPP is expected to play a significant role in its plan. Lin (2014) estimated that Indonesia still needs around \$600 billion to fulfil the infrastructure need in the next ten years, where the PPP was expected to contribute around 30% of them that makes PPP will play a considerable part in the development of Indonesia. Secondly, although private involvement is not the most recent approach in infrastructure development, the terminology of PPP has just formally acknowledged in 2005 when the legal concept was established. This condition implies that Indonesian PPP is not an old scheme and still has the potential for significant growth. Finally, Indonesia applies a decentralisation for its government system. It makes the subnational level government, such as local government, could be the public sector who is responsible for the PPP implementation rather than the national government. This unique circumstance could give a more thorough understanding of the complexity of a PPP regime since a subnational PPP project is likely more complicated than the national scale one.

1.2 Research Objective, Key Questions, and Structure

The primary aim of this dissertation is to identify the risks and the stakeholder preference on PPP funding mechanism in the Indonesian context. A research question also has been set to give more comprehensive context in this dissertation, which is: "To what extent do risks affect the selection of PPP payment mechanism in Indonesia?". Furthermore, there are two sub-questions following the main research question, which are:

- What are the risks that should be considered in the PPP payment selection?
- To what extent is a particular PPP funding mechanism preferred by various stakeholders?

There are three main objectives to support the research question of this dissertation. The first objective is to identify the risk that should be incorporated into the PPP funding selection. After that, the second objective is to analyse the preference selection of the PPP payment method from various PPP experts. Finally, the last objective is to provide some suggestion to choose the PPP funding mechanism comprehensively based on the finding of this dissertation.

To help this dissertation meet all of its objectives, this dissertation has been organised into five main chapters. Chapter one provides the dissertation introduction. This chapter will supply the general scope of the project, context, and also the rationale of the selected topic of this dissertation. The literature review can be found in the second chapter. The literature review will be divided into three main topics that are focussing on the general concept of PPP, the PPP funding mechanism, and the fundamental risk in the whole PPP project cycle. The second chapter is aimed to give basic knowledge and give a general concept of this topic. Chapter 3 will be discussing the research methodology. The

explanation of the research methodology, which is the interview, is given in this chapter to ensure how this dissertation fulfil its purpose. Chapter 4 displays a discussion about the findings from the interview and the analysis. The findings in this chapter will be divided into two findings, which are: 1) The risk dimension finding, and 2) The stakeholder preference finding. The result of this chapter will be a grounded theory from the findings and the recommendation to the Indonesian government regarding the PPP funding decision-making. Lastly, Chapter 5, as the final chapter, will provide the conclusion of this dissertation and describe the limitation of this study with the suggestion for future research.

2 Literature Review

2.1 The PPP Implementation

2.1.1 General Knowledge of PPP

There is no exact and formal definition of PPP since there are varieties of the legal, financial, political, economic, and the other backgrounds by countries or institutions (Zhang et al., 2016). This condition is also explained by The World Bank (2010) to avoid any limitation or restriction to innovate the PPP scheme in this modern era. In 2019, Asian Development Bank (ADB) defined the PPP as follow:

“Contractual arrangement between public (national, state, provincial, or local) and private entities through which the skills, assets, and/or financial resources of each of the public and private sectors are allocated in a complementary manner, thereby sharing the risks and rewards, to seek to provide optimal service delivery and good value to citizens.” (ADB, 2019)

Kwak et al. (2009) then conducted extensive research about PPP and assumed that most of the definitions of PPP would include how public and private sector could work cooperatively towards sharing of objectives, risks, and responsibilities of each party. In general, many types of partnership could be considered as a PPP form. Jang (2011) explained that PPP might be formed with the combination of two or more the following function between the public and private sector: design, build, finance, operate, maintain, own, transfer, lease, buy, refurbish. These functions could determine the allocation of risk and responsibility between the associated parties (Roehrich et al., 2014).

Although PPP sounds like an innovative solution, if it is compared to traditional procurement, PPP is a complex methodology with numbers of stakeholders involved in a project. Hawkesworth (2011) acknowledged how important sufficient PPP governance to build a robust PPP framework is. He suggested some principles for the policy-maker when selecting the PPP funding, which is an important concept for this dissertation discussion. The principles among them are:

- PPP should be understood by multi-political level across the ministries and all the public entities, especially the one who involves. It is also essential to ensure that the necessary institutional roles and capacities are present in the public sector. A dedicated PPP unit is recommended to create, manage, and evaluate a PPP project with a more comprehensive approach;
- PPP should have a clear, predictable, and well-regulated framework. Access to the information and also the decision-making process is a vital aspect of making a sustainable system. The stability of government administration and regulation could reduce the cost to the business process and enhance project chances. The government also should facilitate the investment process by minimising unnecessary delay and bottlenecking in the approval process;
- Aside from the selection of PPP as its financing approach, the decision-making of the project approval should be objective, neutral, and consider whole government perspective. The fundamental for the project approval should be based on the holistic assessment in line with other government policy tools. Once the policy-maker approve the project, then the project financing should be carefully decided for the most suitable investment method by assessing its value for money.

2.1.2 PPP in Indonesia

PPP has been one of the most crucial options from the Government of Indonesia (GOI) to secure the infrastructure investment gap. This method has been one of the most significant topics in the last decade, and it is all implemented under the Presidential Decree 38/2015 in Indonesia. Furthermore, the President Decree also describes the eligible infrastructure sector that could implement a PPP approach, that is divided into economic infrastructure and social infrastructure.

The basic partnership concept in Indonesian PPP is quite similar to the implementation in the other countries which involve the public and private party. Suhendra (2017) explained how the PPP contract could be formed in Indonesia. He described that in Indonesia, the public sector, through a Government Contracting Authorities (GCA) would be the one who represents the state in a PPP agreement with the private sector for the whole project cycle, including the selection of funding method. Wibowo (2010) also illustrated the basic Indonesian PPP structure as in Figure 1. However, it might be possible for a project to have a different entity structure than in Figure 1 due to its specific needs, context, and regulation.

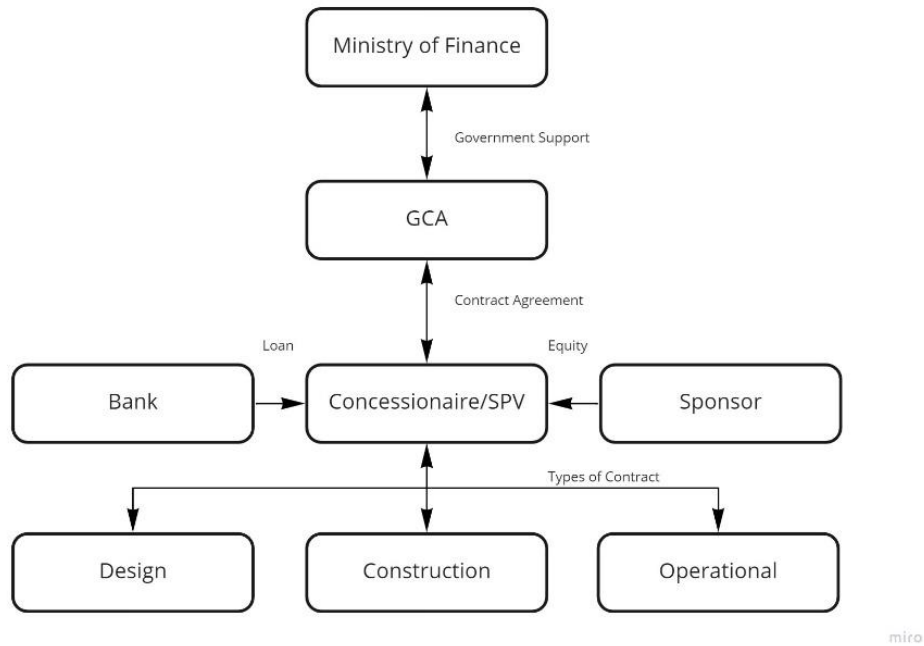


Figure 1. Indonesian PPP Structure (Wibowo, 2010)

As a decentralized nation, the GCA in Indonesia could be a national-scale government such as the related minister or could also be a subnational government level like a major or governor of the cities. Apart of the GCA, PPP has several advantages and uniqueness if it is compared to the traditional procurement in Indonesia. Ministry of Finance (MOF) (2018) identified several fundamental differences between a conventional and PPP approach in Indonesia as summarised in Table 1.

Table 1. Differences between Conventional and PPP Procurement in Indonesia (MOF, 2018)

	Conventional	PPP
<i>Funding</i>	100% tax-payer money; Need of upfront money	The involvement of private money; Funding commence in the operational phase.
<i>Time</i>	Short-term (5 years maximum) and could not exceed the major/governor (GCA) regime period	Long-term up to 50 years.
<i>Risk</i>	All risks borne by the public sector	Allocated to the most suitable party

One of the most significant advantages of the PPP approach is that PPP usually will assess the project more comprehensively since it involves the private investor. The assessment should justify PPP eligibility criteria, that include their capacity to meet the economic and financial viability (Deep, 2019). However, many Indonesian PPP projects have a problem to meet the eligibility criteria. To overcome

this issue, the GOI launches several government-supports that could help the project to improve its capability and attract private capital investment. Toyib and Nugroho (2018) noticed there are three main government supports. First, the Project Development Fund (PDF), a non-fiscal government grant to support the project preparation stage by providing the funding to develop a reliable and robust project technical document. Secondly, the Viability Gap Fund (VGF), fiscal support by the government for a project that is economically viable, but not financially viable. The MOF gives the financial grant to the project that could be used for all aspect of construction cost, aside of land acquisition cost. VGF could cover up to a maximum of 49% of the project cost and suitable for the project that utilises the user charge payment method. The grant could also help the project to attract the investor without reducing the project quality or increase the proposed tariff (Surachman, 2018). The last one is the Government Guarantee that could cover all the financial loss due to the political risk. The establishment of the government guarantee is aimed to give comfort to the investor since the political risk is one of the most significant risks in PPP (Chan et al., 2011)

2.2 PPP Funding

PPP Funding is defined by PPP-Certification (No Date) as the source of money to pay the private sector for all their capital investment, operational, and maintenance cost over the whole period of contracts. The most common type of PPP funding is by tracking the source of the funding, which can be divided into two types. The first method is a user charge method where the end-user will be directly charged by the private sector. Secondly, an availability payment approach, where the government will be the one who pays the provided service. PWC (2017) illustrated the basic organizational structure of a user charge PPP and an availability payment, or what they called service-payment PPP in Figure 2.

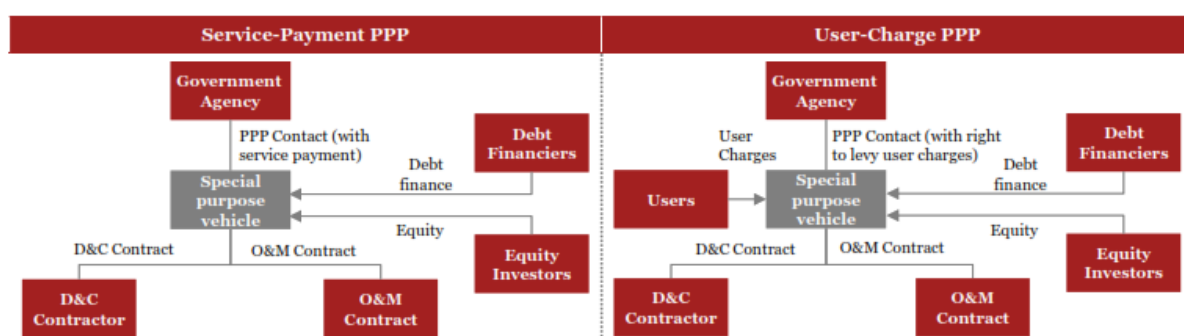


Figure 2. The PPP Payment Structure Organization (PWC, 2017)

2.2.1 User Charge

Vassallo (2019) explained a user-payment PPP mechanism as an approach where the revenue is generated from the fares that are charged to the user and directly paid to the private sector. The user-charge, commonly called concession agreements, are calculated to cover all the private sector responsibility that include construction, repair, maintenance, and operation during the contract's lifespan. The amount of fare in this type of model usually has been set and regulated in the contracts through price caps that will be updated in the periodical time (usually yearly basis) depending on the inflation and productivity growth. JICA (2016) described the payment scheme of the user charge is as simple as a regular or traditional payment scheme where the end-user money will be transferred into the private sector account without any intervention (Figure 3).

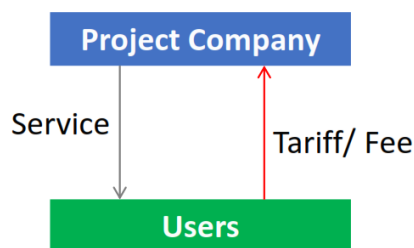


Figure 3. User Charge Scheme (JICA, 2016)

The self-financing nature of this model makes this approach favourable for the government in comparison to the other model as the solution for government's budget constraints considering the entire demand risk will be borne by the private sector (Yescombe, 2007). Vassallo (2019) indicated that this strategy should presuppose that the project could be running independently without any subsidy or intervention. This concept also could lead to the idea that the responsibility of the private sector to bear all the demands might also be an incentive for the private sector to maintain the project's performance and operational (Evenhuis & Vickerman, 2010; Abdel Aziz, 2007).

However, NAO (1999) argued that transferring all the demand risks to the contractor could drive to an additional risk for both parties, especially when the demand for the project could not be predicted precisely. This high uncertainty condition indicates that the private should add an extra cost to manage the risk that could potentially motivate the project cost to be more expensive than before. Therefore, Akintoye et al. (2011) believed that the government sector could help by providing government support such as minimum revenue guarantee to ensure the private sector still generate monthly profit or by issuing some capital grants to improve their bankability. Nonetheless, they also mentioned that the state should be careful when they choose to provide government support. A miss-calculation could

lead to a backfire and makes the government carry too many risks whereas their original objective to use PPP procurement to reduce the project risk by transferring into the private sector.

2.2.2 Availability Payment

Availability Payment is more convenient for a project that is not feasible applying the user-pay mechanism due to the user incapability to pay or the unfavourable political condition (Mladenovic & Queiroz, 2014). Unlike the user-charge method, this scheme might be considered as a two-step payment since the end-user will pay the service to the GCA before they transfer the money to the private sector (illustrated in Figure 4). The amount of money that will be received by the private sector is exact each year, regardless of its revenue or demand (JICA, 2017). This approach let the private sector to be more responsible for the designing, building, financing, operating, and maintaining the project (Sharma and Cui, 2012.). It is expected that the private sector will be more motivated to deliver the project on-time and on-price so the public sector could provide the service faster while the private sector could be benefiting by avoiding ineffective project cost.

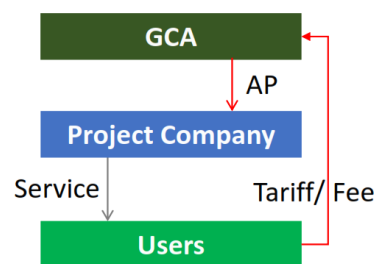


Figure 4. Availability Payment Scheme (JICA, 2017)

One of the most notable advantages using the AP scheme is that the public sector should not be troubled to provide the upfront money to finance the project like they do in traditional procurement. In Figure 5, PWC (2017) illustrated the differences between AP and conventional procurement. The AP scheme might make the government to spend more money in the operational phase than the traditional procurement. However, the payment will begin when the project is operational, which means the government will generate revenue from the user to ease their debt issue (PWC, 2017).

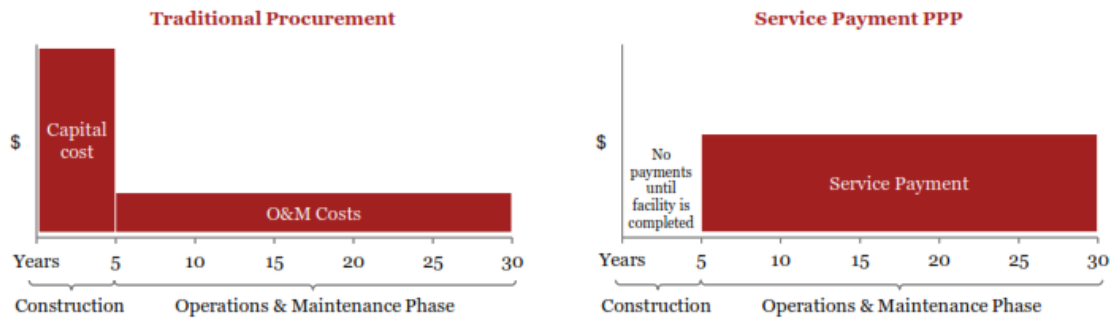


Figure 5. Comparison between Traditional and AP Procurement (PWC, 2017)

Vasallo (2019) also mentioned about the payment or reimbursement schedule that will commence only once the project has been operationalised. The payment in AP is considered as the reward of private sector’s service and performance, regardless the demand. Therefore, this scheme allows the private sector not to worry about the demand risk since it will not affect their revenue stream as long as they suffice the service availability agreement. Dochia and Parker (2009) gave an extensive concept about the terms ‘Availability’ in Availability Payment that could be analysed into two conditions, which are:

- Pure Availability : The condition where the availability of the asset or the project could be open, functioning, and could be fully-used by the public;
- Constructive Availability : Where the asset has met the *pure availability* requirement, and beyond that, they also met the performance, safety, and quality target that has been specified in the contract.

Dochia and Parker (2009) also emphasised that if the private concessionaire fails to meet the requirement, the public sector could put a penalty by reducing the payment. Although the reduction should be arranged in the contract, it could be a case by case basis based on the duration, time-of-day, and the context of the condition. The full payment by the government will be when the concessionaire could accomplish all the related target (pure availability and constructive availability).

2.3 Risk in PPP

2.3.1 Risk Identification and Allocation

Apart from various advantages that are offered by PPP method, there are numbers of risk and uncertainties which will be faced when using the PPP that often holds the government back and could make the consortium or private sector go bankrupt (Chan et al., 2011). The public and private sector need to evaluate and select reasonable risk management for all the potential risk through the whole project life cycle. There is a high amount of academic research that has already conducted to assess

and identify the potential risk and the preferred allocation in a PPP implementation (Bing et al., 2005; Rouboutsus & Anagnostopoulos, 2008; Abd Karim, 2011). Furthermore, some scholars also pick Indonesia as their case study or location to study the risk in PPP (Abednego & Ogunlana, 2006; Wibowo & Mohamed, 2010; Pangeran et al., 2012).



Figure 6. Risk Groups in PPP (Abd Karim, 2011)

The first step to having proper risk management is by profiling and identifying the potential risk in the whole project life period before ascertained a strategy to distribute the risk. In 2011, Abd Karim undertook research to identify the most vital risk in Malaysian PPP projects. He started the investigation by summarising the risk potential in PPP projects from several previous researchers (such as Wibowo and Mohamed in 2010, Grimsey and Lewis in 2002, and Li et al. in 2005). He acknowledged numbers of risks that should be anticipated in PPP and then categorised them into ten risk group related to their characteristics as in Figure 6. A more extensive and detail of more specific risks under those risk groups could be found in Appendix 1.

There are numbers of comprehensive literature reviews that outlined the importance of demand risk in a PPP scheme, especially in the PPP funding mechanism (Acerete et al., 2010; Ke et al., 2010). Burke and Demirag (2015) described the significance also caused by the demand risk's nature that is different if it is compared to the other risk types, which are its direct effect to the revenue stream and it could not be transferred into the other private subcontractors. Aside from the importance, there is still a

debate regarding the differences in stakeholder's interest and perception. Brown (2005) found evidence that in Australia, the private sector could carry more the risk since there is a specific guarantee by the government. On the other hand, Acerete et al. (2010) believed the state should undertake the risk to optimize the project performance. This finding is similar to Jupe's (2011) conclusion, where he believed that the demand risk transfer from the public to the private sector is not effective in the UK context. In Indonesia, demand risk also considered as a vital measurement. Toyib and Nugroho (2018) argued that the implementation of risk allocation for the demand risk has not been effective yet. They found that in a toll road project, which mostly uses a user charge method, the state will not provide any guarantee for the error or miss-prediction in demand risk that makes the private sector will embody all the demand risk.

Besides demand risk, Acerete et al. (2010) also observed other risks that could determine the success of the selection in the long-term, such as political commitment and motivation. The government actions such as government subvention, underperformance penalty, and even the right to bail the project out could not be done by the state without any political intervention and could affect the project long term viability. Pineda and Arboleda (2014) studied the operational phase in Colombia and found that risk in the operational phase might significantly affect the PPP funding system since private will receive payment after the project completion. They investigated the risks that could affect the operational phase, such as demand, regulatory, political, financial, and other risks. Furthermore, in 2015, Burke and Demirag discovered that several factors could affect the demand risk in the PPP implementation. They found that external factors like macro-economic, residual value and operational risk could also determine the demand risk and lead to the funding structure.

2.3.2 Risk Allocation Principle

The notion of risk-sharing has been one of the principal concepts of designing PPP procurement. PPP strictly depends on how a project could improve their Value for Money (VfM) by transferring some of the risks from the public into the least risk-averse parties (Chung et al., 2010). This idea is an innovative approach from the traditional procurement where the government's side will bear almost all the long-term risk. Numbers of empirical studies have shown that there is some benefit when the PPP could improve the VfM by re-allocating the risks, such as reduced cost to the public entities (NAO, 1999), project on-time delivery (Fitzgerald, 2004), and enabling the public to use the infrastructure sooner (Chung et al., 2010).

“Risk is identified, priced and either retained by the public sector or transferred to the private partner through an appropriate payment mechanism and specific contract terms ... If risk cannot be

defined, identified or measured, there is room for conflict over the contract, particularly when the risk realises." (Hawkesworth, 2011, p.12)

Ke et al. (2010) and Abd Karim (2011) argued that the optimal risk allocation is the key to a successful PPP operation. To achieve an appropriate risk-sharing, Toyib and Nugroho (2018) explained three critical principles that should be applied when allocating the risk in PPP procurement, which are:

- Risk should be allocated to the party who has the greatest possibility to avoid the risk;
- If it is unavoidable, the risk should be borne by the best party to manage the risk;
- It should be put to the party who can manage the risk with the most less-expensive cost.

Hovy (2015) also concluded the similar finding regarding the risk principle. She observed that the risk allocation theory in PPP is relatively simple, which is 'should be allocated to the party best able to manage them'. A better risk sharing scheme could impact the less project cost and make the greatest VFM. She also proposed that it is important to standardize the risk allocation to reduce the time and cost wasted due to the long debate and negotiation process. She also mentioned that it is often the risk-placing is based on the principle of occurrence between all the parties. It means that the party that could not control the risk will not hold the risk. Additionally, Toyib and Nugroho (2018) also recommended the risk-sharing for specific risk such as:

- a. Risk that is hard to managed by the government (e.g. construction and operational) preferably to be handled by the private;
- b. Risk that could not controlled by both parties (e.g. force major), best to be borne by all the parties;
- c. Risk that could be controlled by government, that usually more accessible by government, best to be covered by government (e.g. legal and regulation)
- d. Risk that although has been transferred to the private sector could still affect the government, best to be handled by private, but the government could take over the project.

3 Methodology

3.1 Research Question

The main research question for this dissertation is 'To what extent do risks affect the selection of PPP payment mechanism in Indonesia?'. Furthermore, there are two sub-questions following the main research question, which are:

- What are the risks that should be considered in the PPP payment selection?

- To what extent a particular PPP funding mechanism would be preferred to mitigate the risk?

3.2 Research Design

The research methodology that is selected for this dissertation is the qualitative research approach. The rationale behind this selection is it allows us to study this topic more comprehensive. This dissertation will not only gather the information regarding the basic and general concept of risk in the PPP funding selection, but also examine this topic from the experts or practitioners, especially in Indonesian context. This qualitative enquiry could result more comprehensive findings that help this study to have more rigorous analysis (Gioia et al., 2013).

3.2.1 Data Collection

An approach of a semi-structured interview is chosen to satisfy the objectives of this research. A semi-structured interview allows the discussion to be more in-depth but also more flexible that could result in various answers from different viewpoints. This methodology, or what King (2004) called as 'non-standardised' qualitative research interviews, allows the interview questions to be varied, fluid, and open for improvisation as the result of the participant's answer (Rubin and Rubin, 2011).

All the series of interviews took place in June and July 2020. Instead of a face-to-face meeting, the data collection uses the online interview methodology through an online platform that has been agreed between the interviewer and the participants before. The format of the interviews is an individual interview where each of the participants will be privately interviewed and spend around 45 to 90 minutes per session. Participants in the interviews are experts or practitioners in the PPP implementation in Indonesia which are selected from a different professional background, such as public, private, advisory, and academic sector with various range of experiences as listed in table 2.

The interviews began by asking the background question regarding the participant's role and experience in the field of Indonesian PPP and their understanding of this procurement. The discussion then followed by the general question regarding their perspective on risk that should be incorporated in the PPP funding selection. The response from the participant determined the follow-up question that might involve a certain degree of improvisation in the flow of the interview. However, the general interview will be based on the question list (Appendix 1) that has already prepared before. Finally, all the interview resources were asked regarding whether there is any preference to use a specific funding method that they assume could minimise all the risks that were discussed before.

Table 2. List of Interviewees

Code	Gender	Institutions Role	PPP Experience (Years)
Expert A	Male	Government Official	9
Expert B	Male	PPP Advisory and Financier Institution	8
Expert C	Female	Academic Researcher/ Consultant	13
Expert D	Female	Government Official	15
Expert E	Male	Academic Researcher/Consultant	22
Expert F	Male	Development Bank	17
Expert G	Male	PPP Advisory and Financier Institution	23

3.2.2 Data Analysis

The data that is gathered in this research will be a primary data from the interview that is generated into two types of qualitative data findings, which are the risk dimension finding and the funding preference finding. All the data findings then analysed using a qualitative analysis approach. However, due to its complexity and the massive number of data, a special methodology named 'Gioia' technique will be performed for the risk dimension finding. According to Gioia et al. (2013), this qualitative coding method will be separated into several crucial steps of the analysis routine.

The first step is by establishing a category that he named as 1st order categories or 'informant-centric', which is a category that is purely made based on the participant's statement. This coding effort will focus on the participant perspective by extracting the key aspects that could affect the funding selection phase in a PPP procurement. The next approach is the 2nd order themes, where it is constructed from the literature or theory (Zerjav et al., 2018). In this phase, the previous 1st order will be engaged with extensive literature to find if there is any relevancy between these two aspects. The completion of the categories in 1st order and themes in 2nd order will lead the analysis into the overarching risk dimensions. Additionally, with a moderate adjustment, this dissertation will adopt the research of Abd Karim (2011) as the baseline of the selected themes in 2nd order and its general risk dimension.

Once all the orders and dimension settled, the data structure could be built. This structure will not only provide the finding of this dissertation but also give a visual figure of the analysis framework from the raw concept into the finding result. Finally, to provide a more extensive result, the data structure will be analysed into a grounded theory model. Grounded theory itself is defined by Noble and

Mitchell (2016, p1) as: *'a research method concerned with the generation of theory, which is 'grounded' in data that has been systematically collected and analysed.'* The theory, which will identify the connection and relationship between all related risk dimensions in the PPP funding selection, will be provided in a framework in the analysis section of this dissertation.

3.3 Research Ethics

Before the interview began, all the participants were explained about the purpose, objective, and scope of this interview, which is part of the academic research for the dissertation. The explanation also includes the reason why they are selected as the participants. The privacy of participants also guaranteed to be well secured during and after the interview. This privacy data, including the name, age, occupation and other sensitive material or all the topics that could lead to the personal identification have not been published in this dissertation. Furthermore, all the recording of the interview, has already been approved by the participants.

4 Finding and Discussion

4.1 Finding I: Considered Risks in PPP Funding Selection in Indonesia

This section will provide the result of the interviews that are focussing on to identify the risks that should be counted in the selection process of PPP funding mechanism in Indonesia. This dissertation uses GIOA methodology to analyse the result of the interviews, as examined in Figure 7. This method allows the finding to be divided into three columns. In the 1st order column, there are all risks or aspects in PPP funding that are mentioned by the interview participants. All the listed risks then categorised into more specific themes in the 2nd themes column. This column consists of several themes that are fundamentally sourced from the previous literature of Abd Karim (2011), with a few adjustments to fit for this dissertation purpose. Finally, all the two orders then classified into four different groups to give a better and easier discussion section, which are demand, political, relationship, and financial risks.

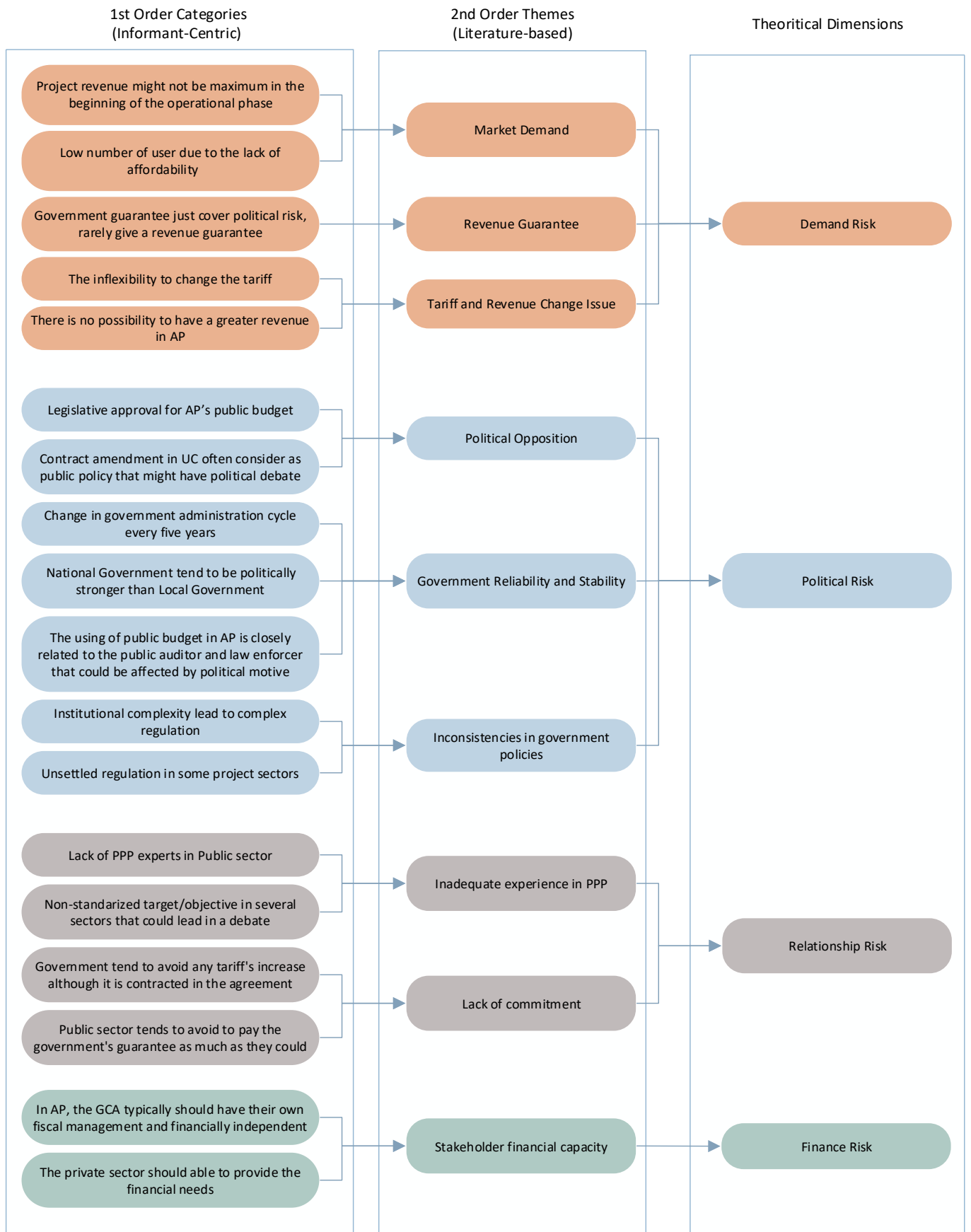


Figure 7. Interview Findings

Furthermore, the lists of the interviewees' opinion regarding the risks that should be considered in the PPP funding selection could be seen in Table 3 below. The checklist in Table 3 is basically allocated according to the risks that were mentioned by the participants in the interviews, that has already been sorted into several themes.

Table 3. Interviewees' Opinion on Risks Dimension

Risk Group	Second Order Themes	Interview Experts						
		A	B	C	D	E	F	G
Demand	Market Demand	✓	✓	✓	✓	✓	✓	✓
	Revenue Guarantee			✓		✓		✓
	Tariff Change		✓			✓		
Political	Political Opposition	✓	✓		✓	✓	✓	✓
	Government Reliability and Stability		✓			✓		✓
	Inconsistencies in Government Policy		✓	✓		✓		✓
	PPP Experience and Knowledge	✓	✓	✓	✓		✓	✓
Relationship	Lack of Commitment		✓	✓				✓
	Financial Capacity	✓	✓	✓			✓	✓
Finance								

4.1.1 Demand Risk

Demand risk is the most mentioned factors in the interview sections that is noted by all the participants. All the participants agree that this factor might be the principle reason for the selection and could play a huge role to determine the funding methodology. The demand risk could be the initial factor to distinguish between the using of AP and UC in the PPP procurement. According to the interviews, demand risk in Indonesia might consist of two general themes, which is the market issue and the tariff change.

A. Market Demand

All participants mentioned this as the fundamental of the demand risk dimension. The market demand means the number of users that will use the project and the revenue that will be generated by the project. The most influencing factor is the responsible party for this risk,

wherein the AP method, the state will absorb the risk, and in the UC approach, the private should handle this issue. In addition to this, two of the participants also highlighted the specific issue on market demand in Indonesia that often happens in user charge scheme. They explained that the project's revenue often would not be optimal at the beginning of their operational time, especially for social infrastructures with a low number of demands such as education facility, health sector, and water treatment.

"... As a long-term project, it is often that the project will only receive the maximum revenue after 10 or 15 years of operations in the user charge scheme. This condition also worse by the fact that many projects are located in the remote area, which often faces two demand problems: low number of user and lack of affordability. Therefore, their revenue target might not be achieved." (Expert C).

B. Government Revenue Guarantee

Three experts also agree on the significance of revenue guarantee by the public sector, especially in user charge. Although in Indonesia, there is a dedicated entity to guarantee the project, the aspect that is covered by them is only political risk, not include the revenue risk. Aside from this condition, two of the participants with consultancy background also emphasized that the Indonesian government is regulatory eligible to give the revenue guarantee, but then determined by state's intention. Furthermore, Expert E also mentioned that it is not common in Indonesia for the public sector to give the revenue guarantee for most of the project sector, but only a few sectors have already implemented a scheme that is similar with this scheme, such as toll road and airport.

C. Tariff and Revenue Change

The revenue change could be affected by the ability to change the tariff and also the ability of the project to receive indirect revenue. Both could make the project generate more revenue. These aspects should be considered by the project, according to several experts. While in AP, the project will receive definite annual payment and does not have any necessity to change the tariff or gain any other income, UC has more flexibility to do both. This capability makes the UC approach could gain its revenue by raising the tariff and seeking another resource of income.

“It should be considered that AP is an ‘all-in package’ payment method. It means the concessionaire could not claim any additional revenue (e.g. indirect revenue) that makes no higher income could be taken.” (Expert E)

4.1.2 Political Risk

All the interviewees also recognized political risk as a risk that should be calculated when choose the funding methodology. This dissertation found the three most notable themes regarding this dimension, which are:

A. Political Opposition

PPP is a politically sensitive topic, precisely when the issue about its funding that could easily trigger the political opposition and debate. Most of the participants also agree that the political opposition could be faced by both funding system, but will be more significant in the AP system because it will use the public budget that needs to be approved by the Indonesian legislative. Additionally, the high political debate could also appear when a project requests an amendment for its contract.

“The use of the public budget in AP method means that it should be got an approval from the legislative that often result in a lengthy, complex, and costly process that makes many projects turn down the AP option.” (Expert G)

B. Government Reliability and Stability

Three practitioners also argue that government reliability and stability is an important aspect as well. They claimed that the stability should be considered since the government administration will change every five years, whilst the PPP contract will last longer. This aspect will determine whether the sustainability of the project funding could be secure or not in the future since the funding will be highly influenced by its political nature. Moreover, the strength of the political figure also a critical aspect to ensure project resilience to face the political risk in the long-term. The reliability and stability could turn into a significant risk if not assessed clearly.

C. Inconsistencies in Government Policies

Four out of seven interviewees that mentioned political risk include the inconsistencies in government policies as an essential element. The inconsistency occurs due to the complex and unsettled regulation and the involvement of many stakeholders that makes the policies sometimes overlapping and not integrated one and the others. Many interviews contributor believe that this makes investor re-thinking their option with both funding instrument,

especially with the AP, which has its own regulation that makes the complexity even more complex.

“In several sectors, the regulation is too complex with multiple layers such as sectoral regulation, ministries regulation, local/national regulation. Furthermore, the regulation is not always in line with the commercial need that might make the private investor confuse and doubtful.” (Expert E)

4.1.3 Relationship Risk

Relationship risk is also a notable risk which is the one if the most mentioned risk dimensions. This risk group contains two different themes that might determine the funding selection phase, which is the PPP maturity in Indonesia and the stakeholder's commitment to the project.

A. PPP Experience and Knowledge

Almost all of the total respondents associate the lack of experience of Indonesian PPP with the funding structure selection. This issue could risk the project into making an inappropriate planning assessment and wrong result in the funding decision-making process. An interview resource with more than ten years of PPP experience also pointed out that this issue exists due to the lack of PPP experts in Indonesia, especially in the public government's side.

“It is important for the public sector to give more considerable concern to strengthen the PPP system in Indonesia by hiring appropriate experts. The mindset of the public sector to reduce the project cost by hiring an inexpensive expert (that potentially with less quality) could lead the project into a dispute, including in the funding scheme.” (Expert C)

B. Lack of commitment

The commitment issue in a PPP project is described by several experts as an essential risk to be incorporated in the funding context. The interviews found that although this issue is affecting and affected both parties, the most often problematic issue is the official willingness to fulfil the project commitment. One of the examples, as told by Expert B, is the government sometimes ask to renegotiate the tariff increase of a project, whereas it has been agreed in the initial contract. Expert G also described this issue by giving the illustration that government tend to avoid the disbursement of the government guarantee as long as they could. The long and complicated process of the disbursement makes the private sector might doubt the government's commitment to this method. These types of events could determine the level of the stakeholder's confidence (public and private), and then it will affect their selection on their funding preferences.

“The government guarantee is not always helpful and reliable due to its lengthy and complex process, especially in the claiming process.” (Expert G)

4.1.4 Financial Risk

Financial dimension is also a risk that often discussed by the interview participants. Five of the interviewees are giving considerable concern regarding financial risk, especially regarding the financial capacity of the stakeholder. The financial capability of the two funding mechanisms will be different. While all the financial risk will be borne by the private sector in the user charge scheme, the government will be responsible for the AP structure. One of the participants from financier background argued that this aspect should be taken into account, especially for the AP method, since the capability of the GCA to provide and manage their own fiscal is important for the continuity of the project.

“To have an effective AP procurement, the GCA should be an entity that has its own fiscal balance sheet management, cash flow sustainability, and understanding of the technical process.” (Expert G)

4.2 Finding II: Funding Method Preference

Before the interview begins, this dissertation is expected to identify the funding methodology preferences for each of the stakeholders. The interview finds that most of the stakeholders do not have any specific preference for any funding scheme since all the projects have their own differences, objectives, and condition that entitled to their preferences. However, with all the risks consideration, some of the interviewees gives perspective on how the decision-making of the funding selection should be based on the project’s context, especially when all the risks above taking into consideration, such as:

A. Types of Infrastructure

Two of the government officials mentioned the infrastructure types as a start to select the project funding, which they divided into two, namely: (1) Social infrastructure, infrastructure sector that is built to fulfil the public’s basic need, and (2) Economic infrastructure, infrastructure to improve economic revenue and potentially could be commercialized. Both of the officials explained that the distinction is highly correlated with the demand issue. The financial infrastructure typically has a more promising and bigger market than the social types that makes it more likely to use the UC method and vice versa.

B. Sector Maturity

The sector maturity plays an immense role to determine the funding scheme, based on two PPP advisor perspectives. This aspect is highly correlated to the regulation/political readiness, stability, and integration. One of the PPP advisors stated that *“Due to its complexity, AP is more suitable for a project with the more proven and mature sector”*. Furthermore, he also illustrates that a project with less-mature sector is less likely would choose AP as their preference. In contrast, a project with a more robust, more stable, and more sustainable industry might consider the project funding more freely and easily between the AP and UC.

C. Degree of Risk Uncertainty

One of the interviewees highlighted the funding selection based on data availability and its certainty level. He explained that a project with a less reliable forecast, high uncertainty types of risk, and lack of data availability tend to use the AP method instead of UC since they will have assurance on the revenue. On the other hand, if the project decides to use UC, he also explained that a project with high uncertainty would make the project also cost higher. Therefore, the forecast and data availability could even distinguish the project funding selection.

4.3 Discussion

4.3.1 Grounded Theory

Two of the objectives of this research are to identify the risk that should be incorporated in the PPP funding selection and the stakeholder preference on the funding methodology. The findings of this dissertation acknowledge four risk dimension that might be the most significant when the practitioner would like to decide the funding scheme, namely demand, political, relationship, and finance dimension. For the funding preference, this research found that there is no exact preference. Still, several themes could ease the selection, which are the types of infrastructure, sector maturity, and the degree of risk uncertainty. This study then concludes by identifying the connection between the risk dimension and the preferences into a framework theory or what Gioia et al. (2013) called a grounded theory. This framework in Figure 8 illustrates that the risk dimension, combined with the project context, could determine the policymaker to decide which funding scheme should be applied.

The risk identification will be the first step to choose the funding method. All four risk dimensions should be assessed and considered by each of the proposed projects. By evaluating the risk thoroughly, the project could have better planning and preparation about the risk related to the funding in the future. Failing to manage one of the risk dimensions could damage the project funding

in the future or could lead the project to change its funding methodology. The risk dimension then should be strengthened by adding the project context in the formula. The project context is formed to give a distinction between the typical project that is using the user charge and availability payment. Although this is not strictly regulated, it could provide a fundamental concept of the funding selection. The combination of the risk dimension and project context then could give a more robust and comprehensive decision-making process to determine which funding method is the best for the project.

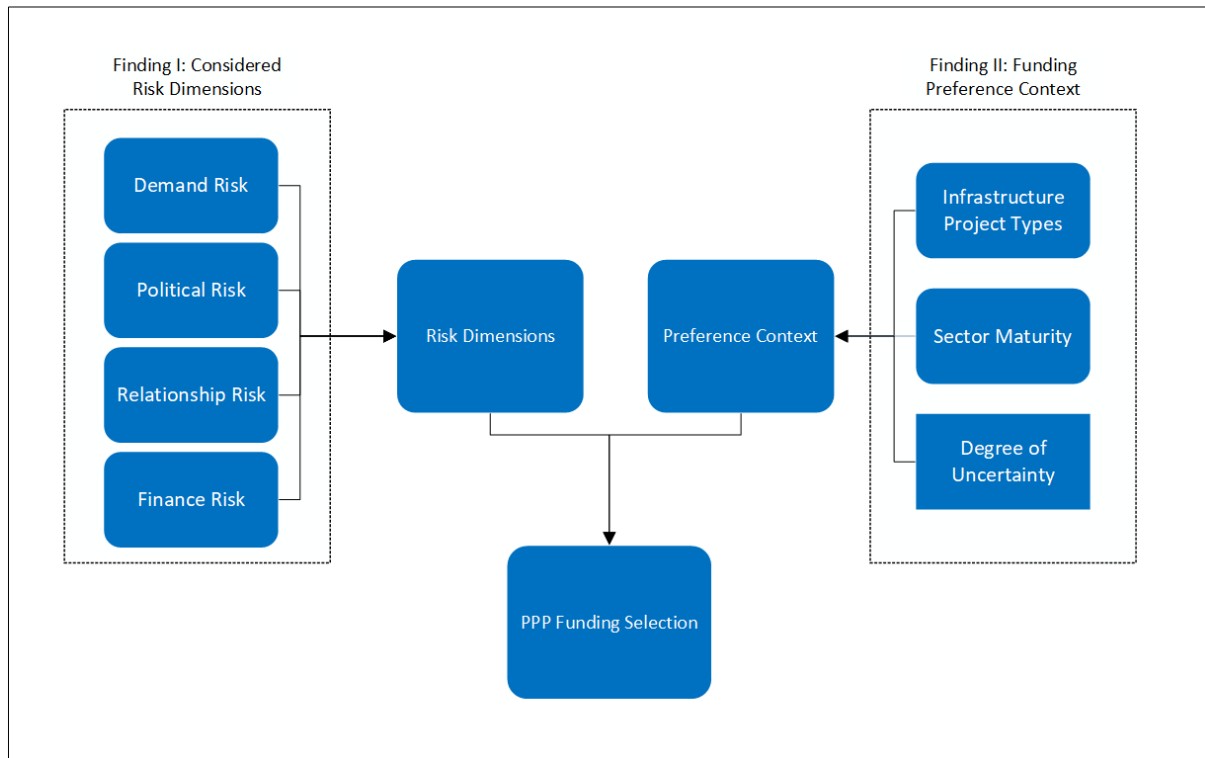


Figure 8. Grounded Theory from Findings

4.3.2 Key Suggestion for Funding Methodology Decision-Making

Based on the literature review and findings, this dissertation aims to give a suggestion for the decision-maker to select the funding methodology. The key suggestions are:

A. Ensure PPP is The Best Option in The First Place

Aside from the confusion of which payment method should be chosen, we should also ensure that the project is beneficial to be developed and PPP is the best procurement option for the project in the first place. This process means that the project should be assessed as neutral as possible to determine whether the project should be built or not, regardless of the procurement. The policy-maker in Indonesia sometimes reverse this process and jump into

the conclusion that a project should use PPP for its approach, even the appraisal or the planning document is not ready yet. If a project falsely selected PPP as their procurement scheme in the first place, it does not matter what types of funding they choose, and it will not be effective.

“Before the project decide they want to use PPP as its procurement method, the government should assess whether the project should be built or not. Sometimes, the policymaker ignores this process and select the procurement method first” (Expert C).

The importance of the distinction between the investment approval and procurement decision-making process is parallel with the concept of Hawkesworth (2011). It means that a project should be able to justify that it is need by the public, before they choose the PPP as its procurement method that will be also followed by its funding scheme. The two-step mechanism would allow the policy-maker to have a better and objective assessment and minimize the possibility for what Flyvbjerg et al. (2003) called ‘*political bias*’. It is the condition where the planner tends to overestimate the opportunities and underestimate the risk to get the project approval that also means where the project has already a wanted result before the process has completed.

One of the most suitable methodologies is by establishing a Five-business case model in the planning document. The five-business case is a planning document framework by HM Treasury (2018) that assess the project into five different dimensions, namely strategic, economic, financial, commercial, and management. The business case document will include the rationale of the project development and compares it to the other option. It also could discuss the procurement option, such as PPP, and their financial methodology (Availability Payment or User Charge). By doing so, this document could improve the quality of the project appraisal in the decision-making process.

B. Establish A Standardized, Integrated, and Sustain Policy

The regulation issue is a systemic issue that might be one of the root problems why one of the PPP funding could be more favourable than the others. In the Indonesian context, the complexity of AP regulation could lead the stakeholders to use the UC instead of the government-pay scheme. This thinking behaviour could lead to an unobjective decision-making process where the selection of a payment method is based on the easiness of the

payment implementation, but not to what the project needed. Therefore, it is essential to develop a more sustain PPP regulation to provide more robust PPP funding scheme. A sustain regulation means it should include the standardization for the whole project cycle in each project sectors, integration in all the government official involve, and also commercially friendly to be accepted by the private investor.

As one of the most substantial issues that are mentioned several times in the interviews, it is also supported by many scholars who believe that regulation is a key-factor in PPP (Abd Karim, 2011; Chan et al., 2011). The importance of a well-regulated framework for PPP, also mentioned by Hawkesworth (2011), which defined a PPP regulation should be clear, transparent, and predictable for all the stakeholders. His argument regarding the public sector obligation to remove all the unnecessary step and reduce the delay in the approval process also strengthens the importance to improve the regulation quality. The recommendation to have a suitable institutional and policy framework also similar with the suggestion from Dimitrou et al. (2016, p.30) where they believed that it could ensure the project to *'deliver the fullest possible range of transformational benefits'*.

The policy improvement should not only by integrating the top-political level but also including the standardization in the technical and micro area, such as setting the project's target and its service requirement in the AP context. This gesture could help the project to cut the unnecessary and unavoidable debate between the public and private sector when a project would like to use the AP methodology. The debate usually comes to determine what the project should achieve that could result in the amount of maximum payment and the terms of the penalty when the project could not fulfil its target, just like the concept of availability by Dochia and Parker in 2009.

C. More Balance Risk Allocation

Proper risk allocation is one of the most critical advantages in a PPP development that should be implemented in all aspects, including when selecting the funding modalities. However, this research found that several cases might indicate the risk allocation in the Indonesian PPP funding context is not always well-allocated. The example of inequal risk allocation between the government and private sector could be highlighted in the demand risk dimension when a project using user charge. It is often for the government to transfer all the risk to the private sector by not providing any government support related to the demand issue. Moreover,

some of the projects also apply a '*clawback agreement*', that means the private sector should pay some of their revenue to the public sector if the project's income is exceeding their upper limit forecast. This action could potentially jeopardize the private sector's revenue since they could face an immense loss, but could not gain higher economic benefit.

This condition is not quite similar to the concept of risk principle that is mentioned by Toyib and Nugroho (2018). One of the risk principles is the risk should be borne to the party with the best ability to avoid and manage them. In this case, we should acknowledge that demand is affecting and affected by several elements that are not only from the private sector but could also be caused by public regulation. Therefore, it perhaps more effective if the government of Indonesia is still responsible for this issue, although it does not mean they should take full responsibility. Additionally, the idea of the public sector involvement to tackle the demand issue also suggested by previous researchers (Jupe, 2011; Acerete, 2010) since it is believed that it could give increase the project viability (Kumaraswamy and Zheng, 2001) and indicate as one of the Critical Success Factors of PPP (Hardcastle et al., 2006).

"A private sector failure could lead to whole project failure. This condition could impact the public sector and also the user. Therefore, the public sector needs to involve in proper risk allocation." (Expert F)

The Government of Indonesia could also enhance the proper risk allocation in the wider context (not only in demand risk) by issuing risk guidance for each of the aspect. The risk guidance could include on the risk register, risk-sharing recommendation, and also the way to appraise the risk. This concept is once pointed out by Hovy (2015), and it could avoid many unnecessary debates that occur over and over again, which could delay the funding design decision-making process.

D. Enhance PPP Knowledge in Various Sectors

The level of PPP knowledge also a significant point that should be improved to gain a better result when deciding which types of funding is suitable for the project. The better understanding will result in a better decision on the funding. Although the government has already provided a Project Development Fund, a grant for the project to prepare the technical document specifically, the public sector still needs enhancement for the government resource itself. The lack of experts, especially with considerable experience on PPP, could potentially

lead to a nonoptimal decision where many risks could be not considered. By having a strong knowledge of PPP, the funding decision-making could be more reliable and reduce the unexpected result.

Hawkesworth (2011) also addressed this issue and explained the urgency for multi-level of government to understand the business of PPP thoroughly. One of his recommendation for this issue is by establishing a dedicated institution for PPP integration that consists of public and private entities, or what familiar with the term '*PPP Unit*'. This independent body has been established in several countries, and one of its objectives is to perform as a centre of knowledge that could help the project with the technical assistance during the whole project cycle (Burger, 2006). PPP units also could act as the gatekeeping in the approval process which makes the project should meet the PPP unit requirement to be approved (Burger and Hawkesworth, 2011).

5 Conclusion

5.1 General Summary – Responding to Research Question

One of the objectives of this dissertation is to identify the risks that should be included in the PPP funding selection in Indonesia. This objective is in line with the aim of this dissertation and the sub-question of this dissertation that has been mentioned earlier in this research. To answer and fulfil this debate, this dissertation uses the interviews methodology to gather the relevant qualitative data from the PPP practitioners in Indonesia. The result of this series of interviews has acknowledged four risk dimensions that significantly impact the funding resource decision-making in Indonesian PPP procurement, namely: Demand, political, relationship, and financial risks. The extensive in-depth risk list could be seen in Table 3, that is the combination between the result of the interviews and the literature reviews.

This dissertation also puts the analysis of stakeholder preference on the PPP funding as its objectives and aims. Initially, this research expects various result from different practitioners of Indonesian PPP, which they will choose one of the payment methods (User charge or Availability Payment) as their preference. However, instead of select one of the modalities, the interviews found that the practitioners tend to categorise the selection into three contexts, which are: (1) The types of infrastructure project, (2) Sector maturity, and (3) The degree of risk uncertainty. By looking at the context, they could choose the project funding more appropriately.

The findings of this research then analyse in the discussion section and resulted in a grounded theory, which is a theory or framework that is established based on the research finding. This study then found that both the risk identification and funding preference context should be combined to have a more reliable and more thorough selection process. After that, this research made several key suggestions as an approach to achieve its final objective, which is to provide some recommendations for the funding selection process. In this section, all the key suggestions came from the findings and evaluated by comparing them to the previous theories and literature reviews. The key suggestions to improve the decision-making process are: (1) Ensure PPP is the best option in the first place, (2) Make a standardised, integrated, and sustain policy, (3) More balance risk allocation, and (4) Enhance the PPP knowledge in various sectors.

From the findings and analysis, it could be concluded that risk is one of the most important aspects to be concerned in a PPP funding selection. In response to the general research question of this research, that is “To what extent do risks affect the selection of PPP payment mechanism in Indonesia?”, the risk could affect and be affected by the PPP payment selection in four substantial dimensions. Furthermore, the three major themes that are categorised by the stakeholders in selecting the PPP payment method also mostly based on their risk perspective. In conclusion, the risk is one of the most fundamental and substantial aspects that could drive a project to choose the PPP funding modalities in Indonesia.

5.2 Limitation and Future Research

Although this dissertation attempted to articulate an answer to the research question, there are some limitations in this research. By acknowledging the limitation, it is expected the future research could improve their research quality.

First, this dissertation chose to research the general implementation of PPP projects, not using any particular project sector or an infrastructure project as a case study. The rationale behind this is to give a fundamental understanding regarding the risk and PPP funding that could be fit in general PPP implementation since this dissertation found a research gap related to the risk and PPP funding. It is suggested for the future research that could be more specific into a particular project sector or choose a case study. By focusing on the selecting industry, the research could be more comprehensive, thorough, and resulting in a more in-depth analysis that could be potentially more applicable in practice.

Secondly, this dissertation collects qualitative data by conducting several interviews with people from different backgrounds. Even though this dissertation has gathered various types of perspective, further research could be improved by increasing the number of interviewees and selecting the

participants from broader and more diverse backgrounds. Additionally, it is advised that future research could collect more information from the GCA itself, as the final decision-maker that will choose the PPP funding methodology.

Finally, the result of this dissertation is strongly affected by the location context, that means although the same types of research are conducted, a different outcome could be found. Further research could choose a country or location that has a significantly different from Indonesia. The differences could be due to the macroeconomic and financial status (developing or developed country), the political condition of the country (Decentralisation or centralised country), or also the country with more developed and mature PPP scheme. Furthermore, it is also recommended that the result of further research could be compared to this dissertation and then analysed to resulting in a more global suggestion for the policy-maker.

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Appendices

Appendix 1. Interview Question List

1. Interviewee's Background

- a. How long have you been involved in PPP Projects?
- b. Are you working in a Public or Private sector?
- c. What is your role in Indonesian PPP Projects?

2. General Question

- a. Since PPP payment method is one of the most critical aspect in a PPP project, do you think that risk is one of the most significant dimensions that should be consider in the selection?
- b. What types of risk do you think that should be considered in a PPP Funding selection?
(The Interviewee's answer will affect which of the following risk dimension that will be asked afterwards)

3. Economic Related

- a. PPP is a long-term investment with a big amount of money contract. Do you think that a macro-economic risk of a country could be a significance of the selection? To what extent it could affect or be affected?
- b. How is the current condition of macroeconomic related to the payment method in Indonesia? Who is more responsible with this condition?

4. The Regulation Issue

PPP will have a close relationship with the regulation of a country. As a dynamic country, will it determine the payment method selection? How is the current risk allocation for this legal dimension?

5. Operational Phase

Funding will have a close relationship with the operational stage of the project, what is the difference between the operational risk treatment between the AP and UC?

6. Market Issue

- a. PPP Funding is closely related to the market issues, what is your opinion regarding this issue?
- b. Does the implementation of the User Charge mean that all the risk will be carried by the private sector while the public sector will face the full risk in the Availability Payment method?

7. Funding Preference

To what extent do you prefer Availability Payment (and User Charge) as your funding mechanism? What kind of project that could be suitable for the payment method? What risk that will be tackled using the method?

8. Further Question

Do you have any other opinion on risk that should be considered in the decision-making of the PPP payment selection?

Appendix 2. Risk Details (Abd Karim, 2011)

Risk Groups	Scope Details
Political	Change in law; Delay in project approvals and permits; Nationalization of assets; Poor public decision making process; Inconsistencies in government policies; Strong political opposition/hostility; Unstable government; Government Intervention; Government reliability; Inability of concessionaire.
Construction	Land acquisition; Availability of appropriate labour; Availability of Finance; Construction cost overruns; Design deficiency; Construction time delay; Excessive contract variation; Geotechnical conditions; Late design changes; Contractor Failure; Project Delay; Completion Risk; Consortium Inability; Unproven engineering technique; Resettlement and rehabilitation; Quality Risk; Insolvency of subcontractors and suppliers; Poor quality of workmanship; Change of scope
Legal	Change in tax regulation; Corruption and lack of respect for law; Legislation change; Industrial regulatory change; Import/Export restrictions; Rate of returns restrictions
Economic	Interest rate volatility; Inflation rate volatility; Foreign exchange and convertibility; Poor financial market
Operation	Operation cost overrun; Residual value; Maintenance cost higher than expected; Operation financial risk; Low operating productivity; Risk regarding pricing of product; Operation default; Quality of operation; Project/operation change; Supporting facilities risk; Technology risk; Waste of material
Market	Tariff change; Market demand; Fluctuation of material cost
Project Selection	Public opposition to projects; Uncompetitive tender; Level of demand for the project; Competition Risk
Relationship	Different working methods; Inadequate experience in PPP; Lack of commitment from public/private partner; Organisation and coordination risk; Third party tort liability; Inadequate distribution of responsibility and risk; Inadequate negotiation period prior to initiation; Staff crises; Cultural differences between main stakeholders; Non-involvement of host-community
Project Finance	Financial attraction of projects to investors; High finance cost; Lack of creditworthiness; High bidding costs; Delay in financial closure; Inability to

	service debt; Lack of government guarantees; Delay in payment of annuity; Financiers unwilling to take high risk
Natural	Force majeure; Environment; Weather

Appendix 3. Consent Form Example

CONSENT FORM

Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research.

Title of Study:

An Investigation of Risks Dimension Behind the Selection of Public-Private Partnership Funding Mechanism in Indonesia: A Stakeholder Perspective.

Department:

Infrastructure Planning Appraisal and Development, Bartlett School of Planning, University College London

Name and Contact Details of the Researcher(s):

Satryo Wibisono

Name and Contact Details of the Principal Researcher:

Dr Jonas De Vos

Thank you for considering taking part in this research. The person organising the research must explain the project to you before you agree to take part. If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before you decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time.

I confirm that I understand that by ticking/initialling each box below I am consenting to this element of the study. I understand that it will be assumed that unticked/initialled boxes means that I DO NOT consent to that part of the study. I understand that by not giving consent for any one element that I may be deemed ineligible for the study.

		Tick Box
1.	*I confirm that I have read and understood the Information Sheet for the above study. I have had an opportunity to consider the information and what will be expected of me. I have also had the opportunity to ask questions which have been answered to my satisfaction and would like to take part in (please tick one or more of the following) - An individual discussion - a semi-structured interview	
2.	*I understand that I will be able to withdraw my data up to 2 weeks after interview.	
3.	*I consent to participate in the study. I understand that my personal information (name, age, gender, address, occupation) will be used for the purposes explained to me. I understand that according to data protection legislation, 'public task' will be the lawful basis for processing.	

4.	<p>Use of the information for this project only</p> <p>*I understand that all personal information will remain confidential and that all efforts will be made to ensure I cannot be identified (<i>unless you state otherwise, because of the research design or except as required by law</i>).</p> <p>I understand that my data gathered in this study will be stored anonymously and securely. It will not be possible to identify me in any publications.</p> <p>OR</p> <p>Anonymity is optional for this research. Please select from the following 3 options:</p> <p>(a) I agree for my real name and role/affiliation to be used in connection with any words I have said or information I have passed on.</p> <p>(b) I request that my comments are presented anonymously but give permission to connect my role/affiliation with my comments (but not the title of my position).</p> <p>(c) I request that my comments are presented anonymously with no mention of my role/affiliation.</p>	
5.	*I understand that my information may be subject to review by responsible individuals from the University for monitoring and audit purposes.	
6.	<p>*I understand that my participation is voluntary and that I am free to withdraw at any time without giving a reason.</p> <p>I understand that if I decide to withdraw, any personal data I have provided up to that point will be deleted unless I agree otherwise.</p>	
7.	I understand the potential risks of participating and the support that will be available to me should I become distressed during the course of the research.	
8.	I understand the direct/indirect benefits of participating.	
9.	I understand that the data will not be made available to any commercial organisations but is solely the responsibility of the researcher(s) undertaking this study.	
10.	I understand that I will not benefit financially from this study or from any possible outcome it may result in in the future.	
11.	I understand that I will be compensated for the portion of time spent in the study (if applicable) or fully compensated if I choose to withdraw.	
12.	I agree that my pseudonymised research data may be used by others for future research. [No one will be able to identify you when this data is shared.]	
13.	I understand that the information I have submitted will be published as a report and I wish to receive a copy of it. Yes/No	
14.	<p>I consent to my interview being audio/video recorded and understand that the recordings will be destroyed within 6 months after the data has been collected or destroyed immediately following transcription.</p> <p>To note: If you do not want your participation recorded you can still take part in the study.</p>	
15.	I hereby confirm that I understand the inclusion criteria as detailed in the Information Sheet and explained to me by the researcher.	
16.	<p>I hereby confirm that:</p> <p>(a) I understand the exclusion criteria as detailed in the Information Sheet and explained to me by the researcher; and</p> <p>(b) I do not fall under the exclusion criteria.</p>	
17.	I am aware of who I should contact if I wish to lodge a complaint.	
18.	I voluntarily agree to take part in this study.	

19	<p>I would be happy for the data I provide to be archived securely stored on an encrypted computer drive.</p> <p>I understand that other authenticated researchers will have access to my pseudonymised data.</p>	
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If you would like your contact details to be retained so that you can be contacted in the future by UCL researchers who would like to invite you to participate in follow up studies to this project, or in future studies of a similar nature, please tick the appropriate box below.

	Yes, I would be happy to be contacted in this way	
	No, I would not like to be contacted	

Name of participant

Date

Signature

Appendix 4. Risk Assessment

RISK ASSESSMENT FORM

FIELD / LOCATION WORK

The Approved Code of Practice - Management of Fieldwork should be referred to when completing this form
<http://www.ucl.ac.uk/estates/safetynet/guidance/fieldwork/acop.pdf>

DEPARTMENT/SECTION BARTLETT SCHOOL OF PLANNING

LOCATION(S) LONDON

PERSONS COVERED BY THE RISK ASSESSMENT SATRYO WIBISONO

BRIEF DESCRIPTION OF FIELDWORK An Investigation of Risks Dimension Behind the Selection of Public-Private Partnership Funding Mechanism in Indonesia: A Stakeholder Perspective.

Consider, in turn, each hazard (white on black). If **NO** hazard exists select **NO** and move to next hazard section. If a hazard does exist select **YES** and assess the risks that could arise from that hazard in the risk assessment box. **Where risks are identified that are not adequately controlled they must be brought to the attention of your Departmental Management who should put temporary control measures in place or stop the work. Detail such risks in the final section.**

ENVIRONMENT

e.g. location, climate, terrain, neighbourhood, in outside organizations, pollution, animals.

The environment always represents a safety hazard. Use space below to identify and assess any risks associated with this hazard

Examples of risk: adverse weather, illness, hypothermia, assault, getting lost.
Is the risk high / medium / low ?

No

CONTROL MEASURES

Indicate which procedures are in place to control the identified risk

- work abroad incorporates Foreign Office advice
- participants have been trained and given all necessary information
- only accredited centres are used for rural field work
- participants will wear appropriate clothing and footwear for the specified environment
- trained leaders accompany the trip
- refuge is available
- work in outside organisations is subject to their having satisfactory H&S procedures in place
- OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

EMERGENCIES

e.g. fire, accidents

Where emergencies may arise use space below to identify and assess any risks

Examples of risk: loss of property, loss of life

No

CONTROL MEASURES

Indicate which procedures are in place to control the identified risk

- participants have registered with LOCATE at <http://www.fco.gov.uk/en/travel-and-living-abroad/>
- fire fighting equipment is carried on the trip and participants know how to use it
- contact numbers for emergency services are known to all participants
- participants have means of contacting emergency services
- participants have been trained and given all necessary information
- a plan for rescue has been formulated, all parties understand the procedure
- the plan for rescue /emergency has a reciprocal element
- OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

EQUIPMENT	Is equipment used?	No	If 'No' move to next hazard If 'Yes' use space below to identify and assess any risks
<i>e.g. clothing, outboard motors.</i>	Examples of risk: inappropriate, failure, insufficient training to use or repair, injury. Is the risk high / medium / low ?		

CONTROL MEASURES	Indicate which procedures are in place to control the identified risk		
<input type="checkbox"/>	the departmental written Arrangement for equipment is followed		
<input type="checkbox"/>	participants have been provided with any necessary equipment appropriate for the work		
<input type="checkbox"/>	all equipment has been inspected, before issue, by a competent person		
<input type="checkbox"/>	all users have been advised of correct use		
<input type="checkbox"/>	special equipment is only issued to persons trained in its use by a competent person		
<input type="checkbox"/>	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:		

LONE WORKING	Is lone working a possibility?	No	If 'No' move to next hazard If 'Yes' use space below to identify and assess any risks
<i>e.g. alone or in isolation lone interviews.</i>	Examples of risk: difficult to summon help. Is the risk high / medium / low?		

CONTROL MEASURES	Indicate which procedures are in place to control the identified risk		
<input type="checkbox"/>	the departmental written Arrangement for lone/out of hours working for field work is followed		
<input type="checkbox"/>	lone or isolated working is not allowed		
<input type="checkbox"/>	location, route and expected time of return of lone workers is logged daily before work commences		
<input type="checkbox"/>	all workers have the means of raising an alarm in the event of an emergency, e.g. phone, flare, whistle		
<input type="checkbox"/>	all workers are fully familiar with emergency procedures		
<input type="checkbox"/>	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:		

ILL HEALTH

The possibility of ill health always represents a safety hazard. Use space below to identify and assess any risks associated with this Hazard.

e.g. accident, illness, personal attack, special personal considerations or vulnerabilities.

Examples of risk: injury, asthma, allergies. Is the risk high / medium / low?

No

CONTROL MEASURES

Indicate which procedures are in place to control the identified risk

- an appropriate number of trained first-aiders and first aid kits are present on the field trip
- all participants have had the necessary inoculations/ carry appropriate prophylactics
- participants have been advised of the physical demands of the trip and are deemed to be physically suited
- participants have been adequate advice on harmful plants, animals and substances they may encounter
- participants who require medication have advised the leader of this and carry sufficient medication for their needs
- OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

TRANSPORT

Will transport be required

NO

YES

Move to next hazard

Use space below to identify and assess any risks

e.g. hired vehicles

Examples of risk: accidents arising from lack of maintenance, suitability or training

Is the risk high / medium / low?

No

CONTROL MEASURES

Indicate which procedures are in place to control the identified risk

- only public transport will be used
- the vehicle will be hired from a reputable supplier
- transport must be properly maintained in compliance with relevant national regulations
- drivers comply with UCL Policy on Drivers http://www.ucl.ac.uk/hr/docs/college_drivers.php
- drivers have been trained and hold the appropriate licence
- there will be more than one driver to prevent driver/operator fatigue, and there will be adequate rest periods
- sufficient spare parts carried to meet foreseeable emergencies
- OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

DEALING WITH THE PUBLIC

Will people be dealing with public

No

If 'No' move to next hazard

If 'Yes' use space below to identify and assess any risks

e.g. interviews, observing

Examples of risk: personal attack, causing offence, being misinterpreted. Is the risk high / medium / low?

CONTROL MEASURES

Indicate which procedures are in place to control the identified risk

- all participants are trained in interviewing techniques
- interviews are contracted out to a third party
- advice and support from local groups has been sought
- participants do not wear clothes that might cause offence or attract unwanted attention
- interviews are conducted at neutral locations or where neither party could be at risk
- OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

WORKING ON OR NEAR WATER

Will people work on or near water?

No

If 'No' move to next hazard

If 'Yes' use space below to identify and assess any risks

e.g. rivers, marshland, sea.

Examples of risk: drowning, malaria, hepatitis A, parasites. Is the risk high / medium / low?

CONTROL MEASURES

Indicate which procedures are in place to control the identified risk

- lone working on or near water will not be allowed
- coastguard information is understood; all work takes place outside those times when tides could prove a threat
- all participants are competent swimmers
- participants always wear adequate protective equipment, e.g. buoyancy aids, wellingtons
- boat is operated by a competent person
- all boats are equipped with an alternative means of propulsion e.g. oars
- participants have received any appropriate inoculations
- OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

MANUAL HANDLING (MH)

Do MH activities take place?

No

If 'No' move to next hazard

If 'Yes' use space below to identify and assess any risks

e.g. lifting, carrying, moving large or heavy equipment, physical unsuitability for the task.

Examples of risk: strain, cuts, broken bones. Is the risk high / medium / low?

CONTROL MEASURES

Indicate which procedures are in place to control the identified risk

- the departmental written Arrangement for MH is followed
- the supervisor has attended a MH risk assessment course
- all tasks are within reasonable limits, persons physically unsuited to the MH task are prohibited from such activities
- all persons performing MH tasks are adequately trained
- equipment components will be assembled on site
- any MH task outside the competence of staff will be done by contractors
- OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

SUBSTANCES

Will participants work with substances

No

If 'No' move to next hazard
If 'Yes' use space below to identify and assess any risks

e.g. plants, chemical, biohazard, waste

Examples of risk: ill health - poisoning, infection, illness, burns, cuts. Is the risk high / medium / low?

CONTROL MEASURES

Indicate which procedures are in place to control the identified risk

- the departmental written Arrangements for dealing with hazardous substances and waste are followed
- all participants are given information, training and protective equipment for hazardous substances they may encounter
- participants who have allergies have advised the leader of this and carry sufficient medication for their needs
- waste is disposed of in a responsible manner
- suitable containers are provided for hazardous waste
- OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

OTHER HAZARDS

Have you identified any other hazards?

No

If 'No' move to next section
If 'Yes' use space below to identify and assess any risks

i.e. any other hazards must be noted and assessed here.

Hazard:
Risk: is the risk

CONTROL MEASURES

Give details of control measures in place to control the identified risks

Have you identified any risks that are not adequately controlled?

NO	<input type="checkbox"/>
YES	<input type="checkbox"/>

Move to Declaration
Use space below to identify the risk and what action was taken

Is this project subject to the UCL requirements on the ethics of Non-NHS Human Research?

No

If yes, please state your Project ID Number

For more information, please refer to: <http://ethics.grad.ucl.ac.uk/>

DECLARATION

The work will be reassessed whenever there is a significant change and at least annually. Those participating in the work have read the assessment.

Select the appropriate statement:

- I the undersigned have assessed the activity and associated risks and declare that there is no significant residual risk
- I the undersigned have assessed the activity and associated risks and declare that the risk will be controlled by the method(s) listed above

NAME OF SUPERVISOR Jonas Da Vos

SIGNATURE OF SUPERVISOR

DATE June, 2020

