

## Article

# Examining Solicited Projects of Public–Private Partnerships (PPP) in the Initiative of Indonesian Government

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**Abstract:** The value of construction projects in Indonesia is significantly enhanced by partnering, leading to the adoption of the model by the government. The Indonesian government, through the Ministry of Finance, is developing the partnering model based on Public–Private Partnerships (PPPs) projects to further accelerate extensive infrastructure development. By leveraging PPPs, these projects intend to bridge the funding gap experienced by the government to facilitate swift infrastructure development and enhance the value of construction projects even further. Therefore, this study aimed to examine PPPs, such as the solicited projects occurring in Indonesia. Solicited projects were government-initiated PPPs based on long-term development plans. A qualitative method was adopted, conducting in-depth analyses at three locations with solicited PPP projects. Using Soft System Methodology (SSM) and expert Focus Group Discussion (FGD) through the Delphi method, this study investigated the interactions and depth of partnering in PPP projects. The obtained results emphasized the positive impact of solicited projects on Indonesian infrastructure development, addressing the funding gap experienced by the government. This study further contributed new insights for stakeholders and academics in the development of the projects in Indonesia, emphasizing the necessity of extensive development to support the implementation.

**Keywords:** government projects; partnering; PPP; solicited projects



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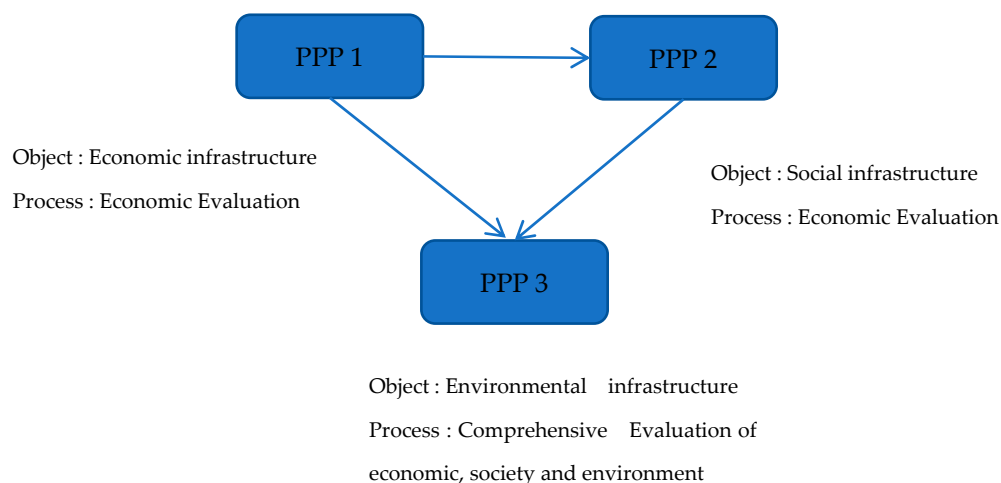
## 1. Introduction

Currently, 35 government projects in Indonesia are being carried out using the Public–Private Partnerships (PPPs) based on data from the Ministry of Finance website. These projects are categorized into several infrastructure groups, namely drinking water (8), health (4), transportation (4), education (1), oil and gas (2), waste management (3), public housing (2), roads (8), and information technology (3). The demand for infrastructure in Indonesia is extensive due to rapid population and economic growth. The motivation to carry out PPPs is essential to achieve equitable infrastructure development.

Yun et.al. (2015) [1] distinguished PPP management organizations into two types, namely solicited and unsolicited, with different characteristics in management. Solicited projects are government-initiated and prioritized at the national level, while unsolicited projects are proposed by business entities to the government [1]. In developed countries such as the United Kingdom, PPPs have been widely implemented to build infrastructure including roads, prisons, schools, health-related infrastructure, and several important

infrastructures [2,3]. PPP projects' service management can be in the form of availability payment (AP) [3] or user charge [3]. AP includes periodic payments made by the government to service providers during the PPP contract period, contingent on meeting predetermined performance standards. Determining performance standards can be identified as part of the advancements identified in the financial management contract [4]. In contrast, user charge is the direct charging of PPP services such as toll roads in Indonesia [3].

Figure 1 shows the framework for assessing the feasibility of PPP projects, emphasizing the importance of addressing funding, increasing efficiency, and enhancing professionalism in PPP implementation [5]. Previous publications on PPP did not thoroughly explore the partnering model and the interaction between the owner (government) and investors, leading to issues such as unclear cooperation guidelines, weak Key Performance Indicators (KPIs) preparation, and inadequate risk-sharing among stakeholders [6,7]. The challenges faced by PPP projects are very complex, the trust of business entities is needed to invest in PPP projects, and the absence of intervention from the government is also the basic factor for PPP projects to be successful. Indonesia, with a very large solicited PPP, particularly in toll and local road construction using both AP and user charge models, can benefit from this study as a reference for improving engagement between investors and the government in PPP projects.



**Figure 1.** Conceptual Framework PPP [5].

### 1.1. PPP Projects in Indonesia

The implementation of PPP in Indonesia was governed by Presidential Regulation Number 38 of 2015, concerning Government and Business Entity Cooperation in Providing Infrastructure. Partnerships in infrastructure development should be based on applicable sector regulations. Furthermore, PPP projects were categorized into solicited and unsolicited projects, with partnerships determined through public tenders.

The government provided support and guarantees, which were included in the public tender documents [7]. The support included permits, land provision, partial construction support, tax incentives, and fiscal contributions. Land provision was regulated by GCA before the business entity procurement process, while fiscal contributions were stated in the State/Regional Revenue and Expenditure Budget (APBN/D).

The government further provided guarantees covering the financial obligations of Contracting Agency (CA) due to risk events [3]. These guarantees were outlined in the PPP agreement, and addressed issues such as delays in obtaining permits or licenses, regulatory changes, lack of tariff adjustments, and failure to integrate networks or facilities [8]. It was also provided through a government-formed business entity for infrastructure guarantees. Each explanation related to solicited and unsolicited projects was given based on the information in the following image.

Figure 2 shows the design for the process for solicited projects based on Presidential Regulation Number 38 of 2015 starting from the Ministry's policy, followed by a study of spatial planning, costs, and social benefits [9]. After completion, the proposal for the finalized project was submitted. The next stage included determining the infrastructure for PPP collaboration and executing the partnership agreement [5].

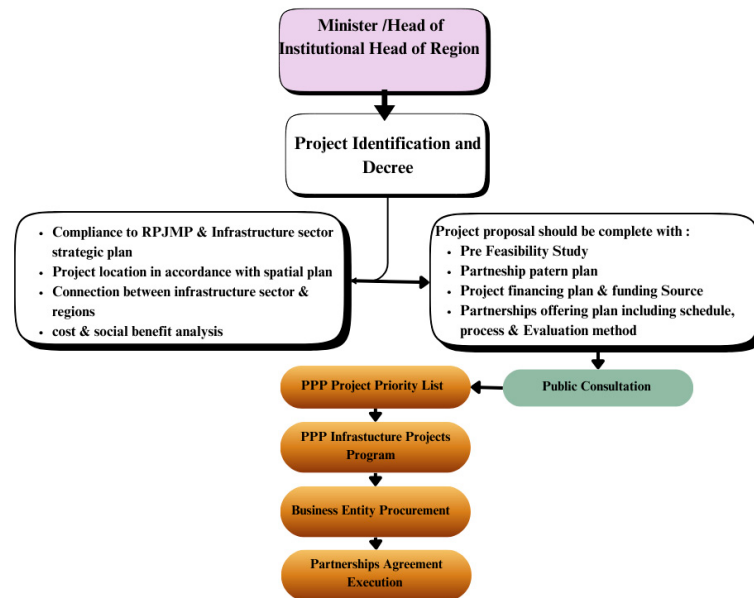


Figure 2. Solicited Projects [1].

Figure 3 explains the unsolicited projects' process, where the initiator had various options, including Right To Match (RTM), when a tender participant presented a higher offer. Incentives could be selected when the initiator did not wish to take the offered project [5,9]. However, the unsolicited scheme in Indonesia was still under development, leading to the exclusive implementation of the solicited projects scheme to avoid unresolved issues.

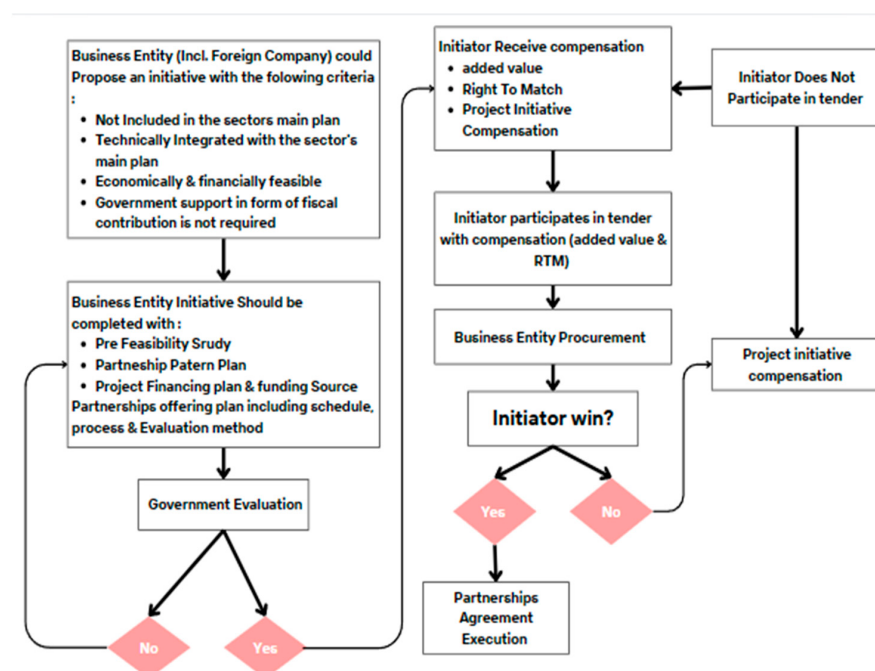


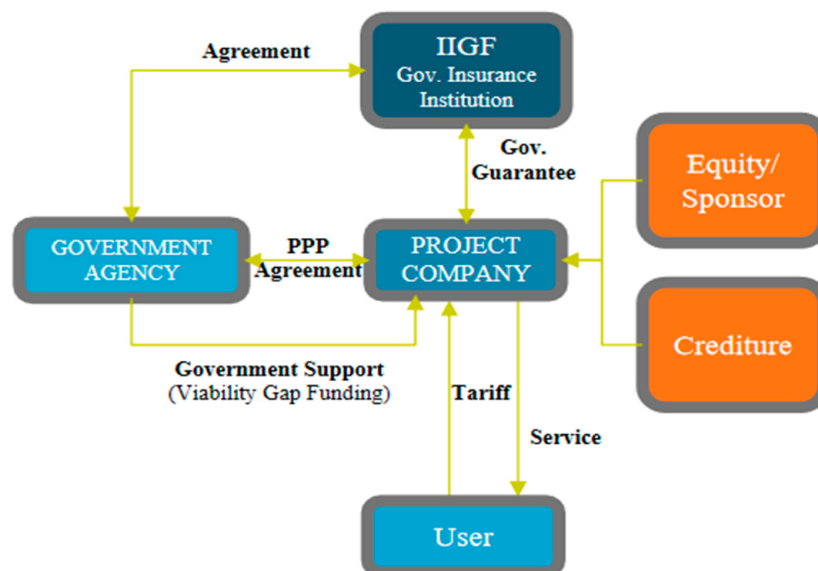
Figure 3. Unsolicited Projects [1].

## 1.2. Partnering

PPP projects included long-term contracts between the government and private business entities [6]. These models successfully addressed market and government failures in project management. The PPP partnering concepts contained deep collaboration at the partnership level [7,8] where all parties fostered trust in executing the projects. The government had projects requiring financing and management by private business entities [9,10]. Additionally, investors and sponsors partnered to undertake the projects collectively [3,11]. PPP comprised five aspects, namely the project, delivery method, policy, good governance, and culture [12]. These aspects depended thoroughly on partnering for effective implementation [13–16].

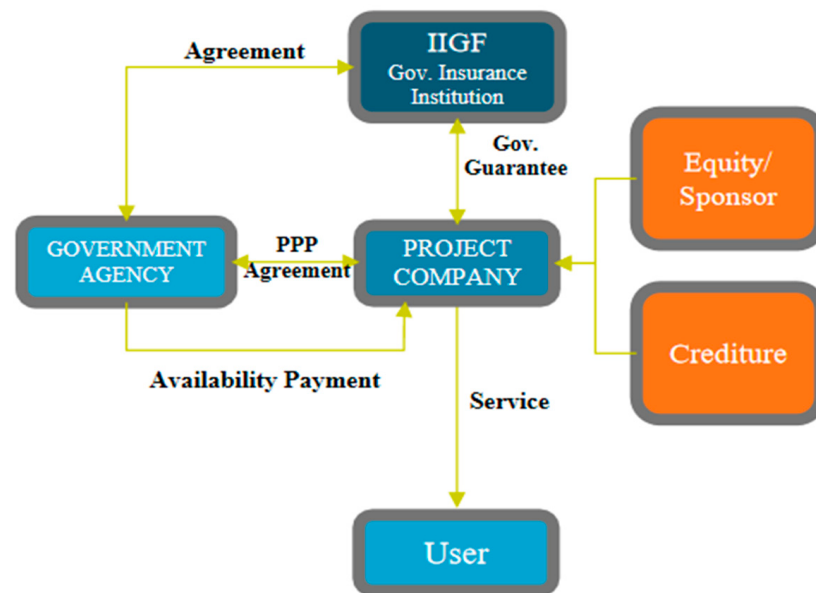
Several factors influenced the depth of partnering, including the principles of good governance, which needed to be implemented in the form of TARIF (Trust, Accountable, Responsible, Independent, and Fairness) [7,15]. PPP projects were founded on the concept of long-term and mutually beneficial partnerships [9,17]. Due to the increasing urbanization in Indonesia, rapid infrastructure development was necessary and numerous governments experienced financial deficits for the projects [9,18]. Financing considerations in urban development made it crucial to attract local and foreign investors through PPP projects [2,18,19]. This partnering aimed not only to bridge the financing gap but also to promote active participation, globalization, and significant capital attraction [3]. PPP projects offered a future solution for the government's funding challenges in public infrastructure development. Essentially, there were two types of PPP projects, namely user charge (payment collected from users) and availability-based payment (government-allocated yearly payment to investors), with fixed values and contracts typically covering 10–15 years [2–5].

Figure 4 shows the implementation of PPP projects' services with user charge [20]. The project company implemented the projects, and users were charged a tariff to access services from the PPP projects.



**Figure 4.** User Charge Model of Indonesia.

Figure 5 shows AP model, where the project company managed the services post-construction, and the government provided payments [2,4,21–23] following PPP agreement. Furthermore, the term for AP services in Indonesia was a maximum of 15 years, due to the fixed monthly tariff.

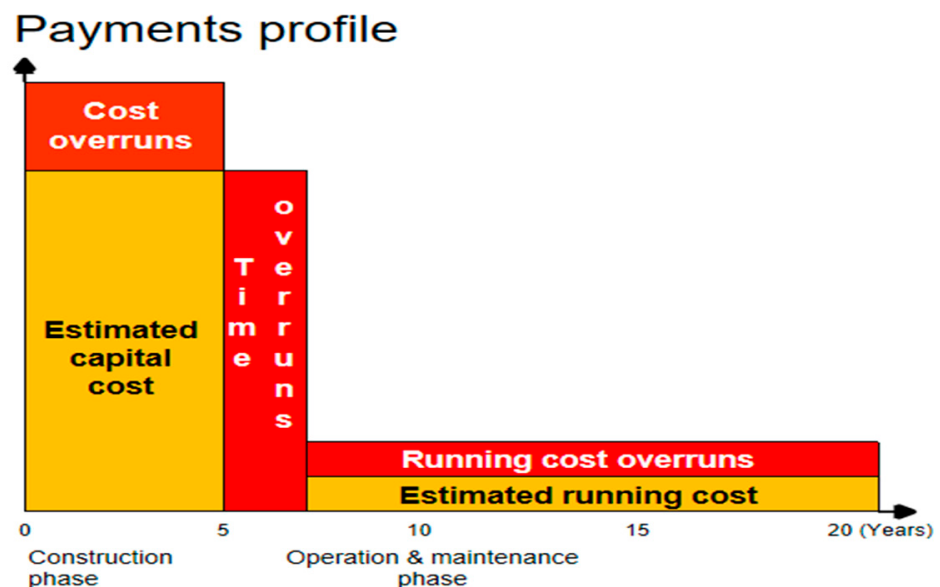


**Figure 5.** Availability Payment (AP) Model of Indonesia [19].

### 1.3. Traditional vs. PPP Projects

The management of traditional and PPP projects differed significantly. Traditional project management often led to high-cost overruns [24–27], the burden of which would be borne by the government; in contrast to PPP projects, where costs were paid by the government based on usage. The following were figures that showed the difference between traditional and PPP projects.

Figure 6 shows how the estimated running costs were planned. However, the running cost overruns were also high [28–34].



**Figure 6.** Traditional Project Management [28].

Figure 7 showed that the costs incurred in the form of payments depended on the use of both AP and user charge [2,4,12,18]. Exploring this effectiveness, Table 1 shows the comparison in a tabular form between traditional and PPP projects management from the government sight, as follows:

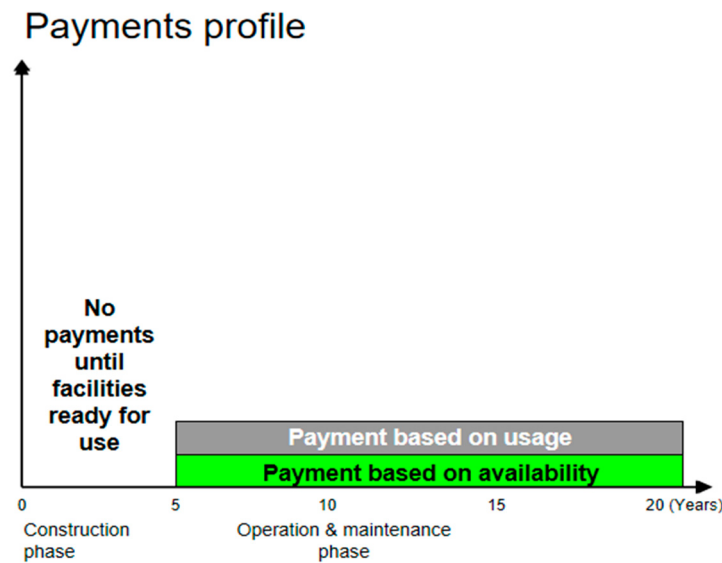


Figure 7. PPP projects Management [18].

Table 1. Comparison Traditional vs. PPP Projects [2–5,7].

| No | Aspect              | Traditional Projects                                                                                                              | PPP Projects                                                                                                                                                             |
|----|---------------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Initiation Project  | Proposed by the government.                                                                                                       | Proposed by the government or the initiating business entities.                                                                                                          |
| 2  | Payment Method      | Not flexible, followed the cycle of disbursement of funds from the government, so it was flexible when used in sudden conditions. | Very flexible because it was funded by the private sector with investment disbursement of funds that could be carried out whenever necessary according to project needs. |
| 3  | Project Delay       | There were work delays due to the inflexible disbursement of funds.                                                               | There were no work delays as work was completed early.                                                                                                                   |
| 4  | Project Maintenance | Project maintenance was poor.                                                                                                     | Project maintenance was very good because there was operational guarantee in maintenance of both user charges and availability payment (AP).                             |
| 5  | Potential Risk      | Possessed risk.                                                                                                                   | No risk.                                                                                                                                                                 |
| 6  | Operational         | The government was responsible.                                                                                                   | The private sectors were responsible for operation and maintenance.                                                                                                      |
| 7  | Audit               | By Government.                                                                                                                    | Internal auditor maintained quality assurance.                                                                                                                           |

Table 1 shows that traditional projects with independent government financing would impact operational risks and project delays [25,29,30] compared to PPP projects [4,10]. These projects guaranteed maintenance performance because it affected the services provided and payments from the government based on service usage.

#### 1.4. Soft System Methodology (SSM)

SSM comprised seven stages to analyze unstructured problems into structured problems that could be resolved through rich picture analysis [31,32]. This method aimed to break free from the constraints of traditional thinking [31] with the following stages:

Steps 1 and 2: These steps included identifying the situation and problem and then expressing the issues through a rich figure, which is a type of diagram allowing for more knowledge to be communicated visually.

Step 3: This step focused on formulating a definition of the root problem. The root definition was a sentence that described the system's purpose, participants, those affected, and who could influence it. The conceptual model and root definition were formulated

by considering elements from CATWOE (Customers, Actors, Transformation Process, Weltanschauung, Owners, and Environmental factors). The results varied depending on stakeholder perspectives for each case.

Step 4: A conceptual model was built to identify activities related to the main objective, represented as a series of logical actions implied by the root problem's definition.

Step 5: This step included comparing the conceptual model with the real world. It addressed when the conceptual model reflected real situations, how it was implemented, and based on what criteria the assessment was made. This comparison led to a consensus among stakeholders on the proposed model and the changes that could be implemented to improve the situation.

Step 6: This step identified real changes that were systematically desired and culturally feasible in real-world systems. Feasibility related to the potential worth of pursuing the changes, while cultural appropriateness was considered vital, recognizing the culture was not static. Furthermore, the assessment was based on comparisons made in the previous stages.

Step 7: The final stage included implementing the changes identified in Step 6.

## 2. Materials and Methods

This study used case evaluations of three PPP projects, specifically toll roads using AP services and user charges. The developed model was based on the analysis of these projects. The following presented brief data on the projects analyzed in the case study.

Table 2 presents three locations as case studies to be analyzed for the depth of partnering, interactions between stakeholders, and factors influencing the success of PPP projects. Data for these projects were obtained from the official website of the Ministry of Finance in Indonesia.

**Table 2.** List of Project.

| No | Title   | Service Payment | Location       |
|----|---------|-----------------|----------------|
| 1  | PPP "A" | AP              | South Sumatera |
| 2  | PPP "B" | User Charge     | West Java      |
| 3  | PPP "C" | User Charge     | East Java      |

The methodology used comprised of qualitative methods, including analysis and comparison using SSM [31,33] to determine the importance of PPP implementation in accelerating infrastructure development in Indonesia. In-depth interviews were further conducted [34–36] to analyze the depth of partnering and interaction between project stakeholders. Subsequently, the Delphi method was carried out [37–42], with Focus Group Discussion (FGD) leading to a consensus on the depth of partnering and factors influencing the success of PPP projects in Indonesia. The study methodology was outlined in detail as follows (Figure 8):

Step 1: Conducted Schematic Literature Review (SLR) to map PPP projects' problems with previous publications, emphasizing the urgency of the study.

Step 2: Identified study novelty using SSM. This novelty included factors and variables influencing the success of PPP projects in Indonesia and the necessary preparations to ensure successful partnering. Transparent guidelines and procedures were emphasized as essential for achieving clear KPIs, specifically in developing countries such as Indonesia.

Step 3: Conducted in-depth interviews to measure the depth of partnering and stakeholder interactions based on case studies from the three project locations. These solicited projects were selected to show partnering depth during the construction, operation, and maintenance periods among PPP projects stakeholders. The results from steps 1, 2, and 3 were analyzed in depth to obtain conclusions about partnering depth in PPP projects through FGD.

Step 4: Conducted FGDs to analyze PPP projects partnering depth using the Delphi method. The aim was to reach a consensus on the factors influencing PPP projects' implementation, and the prospects for the development in Indonesia to intensify infrastructure development massively.

Step 5: Validated the results of the expert FGD, focusing on factors influencing the success of PPP projects in Indonesia and considerations for motivating deep partnering. When the results of the expert FGD were considered highly valid, the study report was prepared.

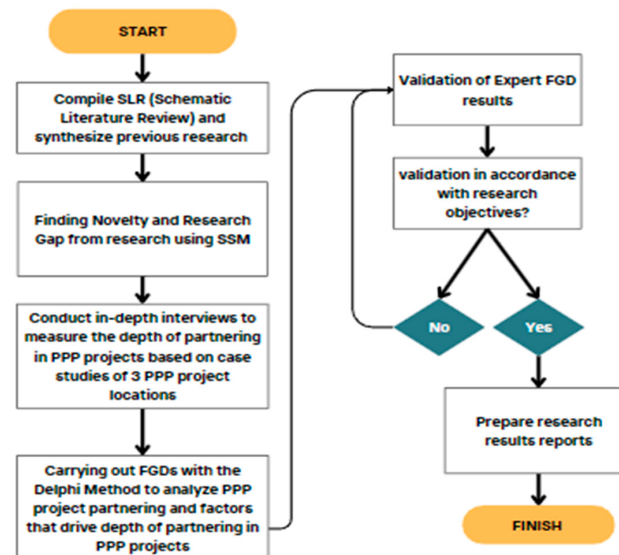


Figure 8. Steps of Study.

The profile for experts used [38,39,42] consisted of experts who had the following qualifications:

- The number of Experts was 12.
- Practitioners from contractors with a minimum of ten years of experience in PPP projects as Project Manager.
- Experts with an understanding of construction management in government projects.
- Experts knowledgeable about partnering and collaboration in government projects with good governance standards.

The composition of the expert was outlined in Table 3. These experts provided insights to analyze the depth of partnering and interactions in PPP projects and concluded the factors influencing the success in Indonesia.

Table 3. List of Panel Experts.

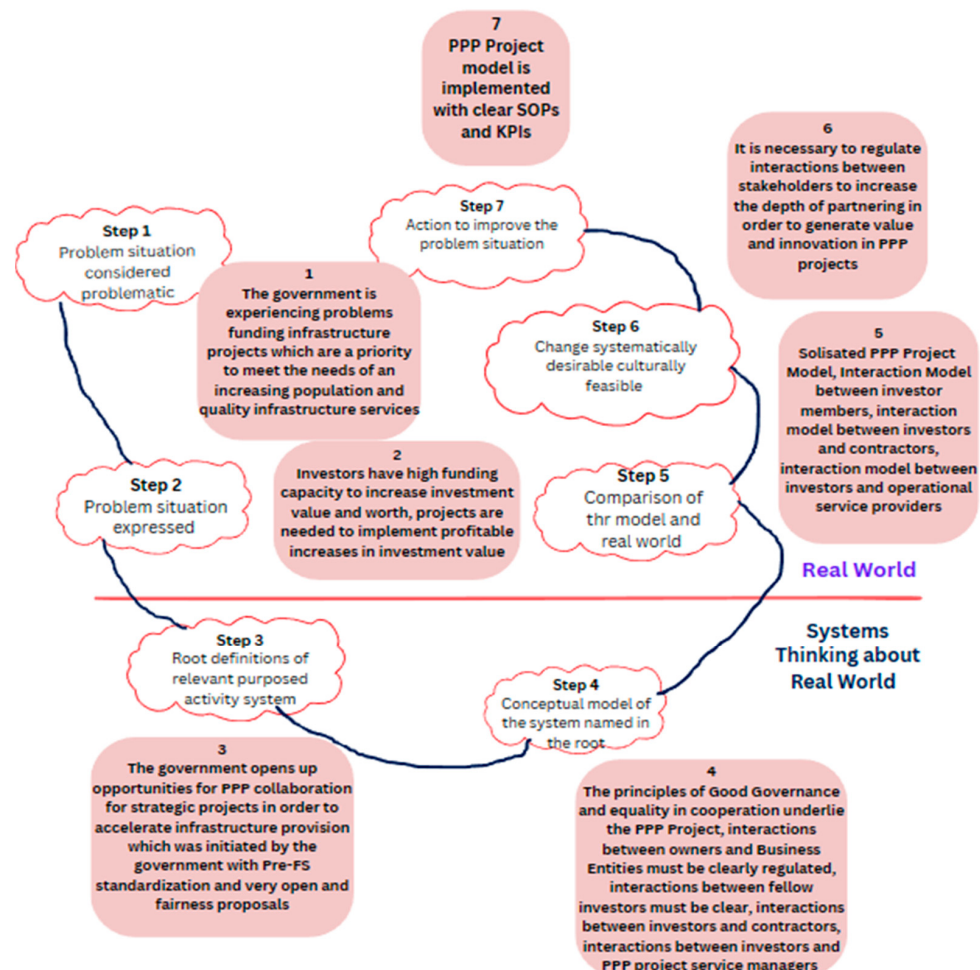
| Actors                    | Resp. | Position/Role                        |
|---------------------------|-------|--------------------------------------|
| Government                | 1     | Head of Region                       |
|                           | 2     | Project Manager Region               |
| Investor                  | 3     | CEO                                  |
|                           | 4     | Senior Manager                       |
| Contractor                | 5     | Chief Executive Officer              |
|                           | 6     | Project Manager                      |
|                           | 7     | Operational Director                 |
| Service Management Agency | 8     | Project Manager                      |
|                           | 9     | Operation Manager                    |
| Academic                  | 10    | Professor of Construction Management |
|                           | 11    | Ph.D in Construction Management      |
|                           | 12    | Ph.D in Construction Management      |

### 3. Results

#### 3.1. SSM for PPP Projects

PPP projects played a crucial role, necessitating extensive socialization to enhance the active participation of investors in addressing government funding challenges for infrastructure development. A systems thinking method was adopted, detailing steps 1 to 7 as follows:

Figure 9 shows the need for detailed arrangements in identifying potential collaborations through PPP projects, emphasizing the importance of stakeholder interactions in creating value and fostering innovation [11,15–17]. Successful PPP projects relied on clear Standard Operating Procedures (SOPs) and defined success indicators.



**Figure 9.** SSM for PPP Projects Identification.

#### 3.2. Case Study PPP Projects

##### a. South Sumatra East Cross Road Preservation Project

The South Sumatra East Cross Road Preservation Project adopted the AP service method. Managed by the Ministry of PUPR, with PT. JAA as the investor, the project included two contractors, namely PT. A and PT. B. The operating contract spanned 15 years with a fixed payment amount. The interaction process in the project was described as follows:

Figure 10 depicts the interaction process where the government and investor collaborated closely [2,9–11,23], showcasing a deeper interaction termed collaboration [12,14,43]. This deep partnering observed owners and investors united in the vision to build PPP projects grounded in good government principles [44,45]. The arrangement ensured that

investors financed government projects based on feasibility studies and proposals. Investor guarantees against losses hinged on the risks experienced during operation and maintenance [45–48]. A risk-sharing article [48] was suggested to address potential disasters or chaos causing damage exceeding 50%, triggering a review of service rates paid by the government.

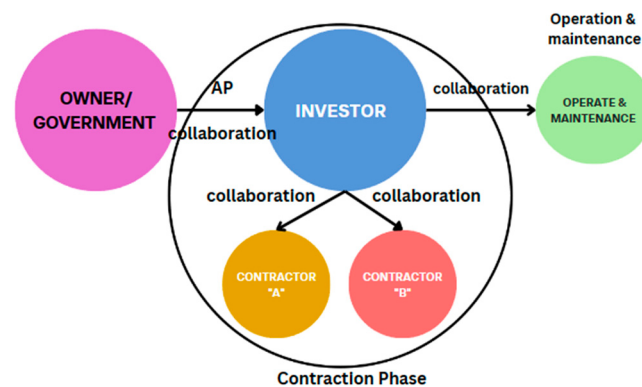


Figure 10. Interaction and partnering PPP project.

b. Cileunyi, Sumedang, Dawuan Toll Road

The Cileunyi, Sumedang, Dawuan Toll Road project used the user charge service method. The Ministry of PUPR, which was the project owner, managed PPP projects through a consortium of several contractors to form a parent company as the investor [7,49,50], and proposed cooperation. The description of the interaction in the project was detailed as follows:

Figure 11 showed the interaction and collaboration of PPP “B”, where deep partnering occurred in the form of coalescence [12,14,51], which made the contractor merge into a single entity to form a business entity as an investor for PPP projects. This was the highest level of partnering as the investors would subsequently collaborate [12,14,51] to work on the construction phase of PPP projects. After the completion of the project, investors collaborated with the toll road management agency to provide facility services using a user charge model.

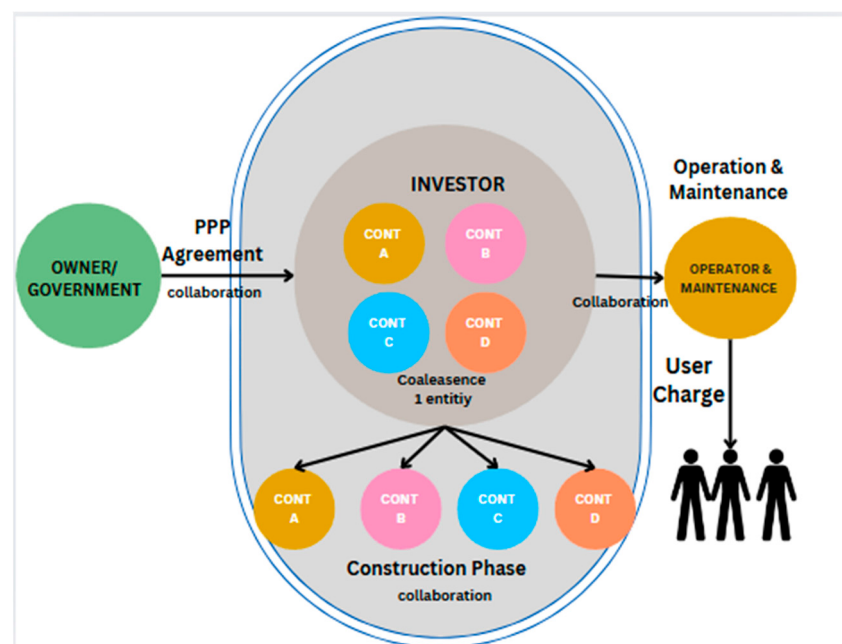
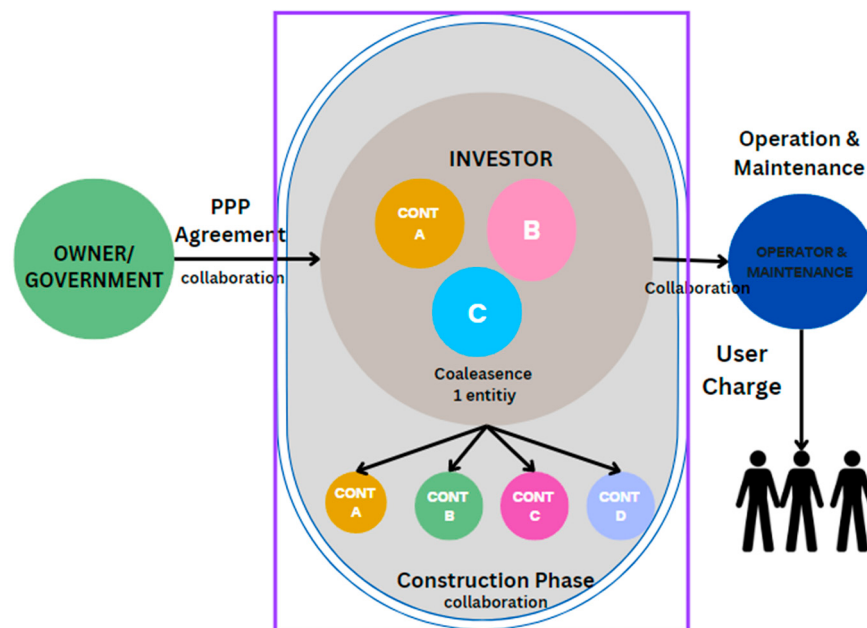


Figure 11. Model interaction and partnering PPP.

### c. Probolinggo Bayuwangi Toll Road

The Probolinggo Bayuwangi Toll Road project also used the user charge service method. The project owned by the Ministry of PUPR included investors comprising contractors and several shareholders [12,14,51] to form a new business entity as an investor. Furthermore, the investor consortium appointed several contractors to perform the construction of PPP projects. After the completion of the construction phase, a toll road manager with user charge services would be appointed. This description was further detailed as follows:

Figure 12 showed that there was an in-depth cooperation to form a single entity [15,16] as an investor, including contractors who carry out construction work. The model was similar to PPP “B”, but in PPP “C” it was possible for contractors not to participate. Investees were invited to collaborate in completing the construction phase [52–54].



**Figure 12.** Model interaction and partnering PPP.

### 3.3. Focus Group Discussion: The Delphi Method

FGD was conducted using the Delphi Method to obtain expert judgement. This method facilitated an evaluation and consensus on stakeholder interactions and identified factors influencing the success of PPP projects (Table 4).

**Table 4.** Factor Affecting in PPP Projects Succeed.

| No | Factors                | Descriptions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | References    |
|----|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| 1  | Technical/Construction | <ul style="list-style-type: none"> <li>• Lack of clarity and miscorrelation of objectives</li> <li>• Ambiguity in scope</li> <li>• Strict quality requirements</li> <li>• Ambiguity in technical methods</li> <li>• Conflicting norms and standards</li> <li>• Use of innovative technology</li> <li>• Lack of experience with technology</li> <li>• Defective design/quality problems</li> <li>• Engineering changes/design variations</li> <li>• Delays in design and regulatory approvals</li> <li>• Equipment shortage</li> </ul> | [10,11,55–58] |

Table 4. Cont.

| No | Factors        | Descriptions                                                                                                                                                                                                                                                                                                                                                                                                    | References       |
|----|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| 2  | Organizational | <ul style="list-style-type: none"> <li>• Lack of experience with parties engaged in the organization</li> <li>• Multiple contracts</li> <li>• Poor labor productivity</li> <li>• Poor labor availability/shortage of skilled labor</li> <li>• Delays in obtaining required raw materials quantity</li> <li>• Supplier and subcontractors' defaults</li> <li>• Risk of riots</li> </ul>                          | [10,55–57]       |
| 3  | Environment    | <ul style="list-style-type: none"> <li>• Unwillingness to share information/lack of visibility</li> <li>• Escalation in raw material price</li> <li>• Miscorrelation of interests/conflicts with stakeholders</li> <li>• Contract disputes</li> <li>• Increase in labor cost impact from labor union</li> <li>• Occurrence of dispute</li> <li>• Environment damage</li> <li>• Accident related loss</li> </ul> | [10,55,56,59,60] |
| 4  | Political      | <ul style="list-style-type: none"> <li>• Change in law</li> <li>• Land acquisition</li> </ul>                                                                                                                                                                                                                                                                                                                   | [13,56]          |
| 5  | Economic       | <ul style="list-style-type: none"> <li>• Increase materials cost</li> <li>• Difficulty of financing</li> <li>• Interest rate</li> </ul>                                                                                                                                                                                                                                                                         | [3,9,17,56,61]   |
| 6  | Social         | <ul style="list-style-type: none"> <li>• Cultural barrier</li> <li>• Rigid bureaucracy</li> <li>• Lobby (legal/illegal)</li> <li>• Labor union</li> </ul>                                                                                                                                                                                                                                                       | [3,56]           |
| 7  | Weather        | <ul style="list-style-type: none"> <li>• Earthquake</li> <li>• Fire</li> <li>• Rainfall</li> </ul>                                                                                                                                                                                                                                                                                                              | [10,56]          |

From Table 4, there were seven groups of factors that should be anticipated in PPP projects and included in the contract regarding every influential interaction [62–65]. For instance, the weather factor should be a concern in the service and accuracy of the construction phase when extreme weather occurred. There should also be an extension of the maintenance and construction schedule.

Factors that influence the success of a PPP project must be included in the PPP project contract in the context of risk sharing. These factors must be grouped into each phase, starting from the PPP project initiation phase, PPP contract, PPP implementation and PPP operation and maintenance. The risk management directly related to investors and PPP managers must be anticipated so that there is effective risk sharing in managing PPP projects in Indonesia.

#### 4. Discussion

In collecting data from interviews conducted using in-depth methods [34–36], participants were initially asked about their willingness to participate in interviews to obtain data. Subsequently, comprehensive interviews with various stakeholders validated the issues related to partnering and interaction in PPP projects. The data gathered were translated into the following conclusions:

- **Government:** The implementation of PPP in Indonesia should be motivated by good governance in interaction between the government and business entities including foreign investors [65–69]. Effective arrangements can bridge the funding gap faced by the government. Many investors actively contribute to procuring infrastructure projects,

eventually leading to mutually beneficial collaborations between the government and business entities [49,50,52,70].

- **Investors:** Investors should review the pre-feasibility studies and proposals submitted for PPP projects [5,7]. It is advisable for investors to collaborate with several business entities, including contractors, to expand ownership in project implementation. The interaction process should be transparent to avoid overlapping rights and obligations [45,46]. The appointment of a toll road management body should include a professional business entity with prior experience in the industry. For AP services, swift improvements are essential, as good service quality directly impacts AP payments, which are often based on user usage. Therefore, service excellence must be a priority [2,4].
- **Contractors:** PPP projects require clarity in jointly managing risks between contractors and investors [71]. A deep partnering pattern is essential for fostering risk-sharing and ownership among stakeholders. Contractors should not merely be monitored for mistakes, but also be perceived as investors with a vested interest in the projects' success. The quality of the project will impact the contractor's investment value, which also serves as a benefit to the investors [7,12].
- **Service Management Agency:** PPP projects' management using AP and user charges depends on the level of service provided to users. Collaboration with investors [72–74] is crucial for ensuring the readiness of funds during operation and maintenance, expediting repairs when necessary. Trust between managers and investors is vital for long-term collaboration in providing services. For AP services, user satisfaction should be prioritized as it influences cost calculations.
- **Academics:** PPP projects is a solution for improving management, work methods, and governance in construction [72,73]. The parties engage in partnering based on ownership and trust, fostering innovation and value for each stakeholder [11,17,51]. Emphasis should be placed on conducting thorough feasibility studies, ensuring no land acquisition risks during project implementation as investors calculate the investment value offered. Given the long-term nature (more than 10 years) of these collaborations, communication patterns should be regulated with transparent SOPs and success indicators.

Several challenges in implementing PPP have been identified. In Malaysia, insufficient PPP implementation guidelines and challenges in managing KPIs due to non-transparent tenders [6], unclear KPI standards, and a lack of implementation guidelines hinder KPI achievement. The standardization of maintenance by ad hoc teams without proper procedures leads to poor performance. In Australia, KPIs that were difficult-to-achieve and monitor, unclear and non-negotiable risks between the government and PPP projects managers, and an unattractive payment mechanism that fails to provide incentives to contractors for exceeding performance requirements also pose issues. Additionally, predicting changes in PPP contracts related to capacity additions, legal changes, or functional requirements over a long concession period of about 20–30 years is challenging [6].

In the UK, the main issue that occurs is the difference in perceptions and expectations from the private sector and the government, as the same goals and perceptions regarding partnering in PPP projects are an important element in realizing a successful PPP project. Another problem is that funding in PPP projects must have a common perception that funding not only finances construction, but costs up to operation and maintenance must be covered [74].

The expectation from FGD is that PPP projects in Indonesia will include effective partnering between the government and business entities. Clear KPIs should be developed from the start, and various risks should be agreed upon by communicating and sharing responsibilities among stakeholders in PPP projects.

## 5. Conclusions

In conclusion, the following were suggested from the results obtained:

1. Factors Influencing Risk Management Success: Seven clusters of factors needed to be anticipated in the construction, operation and maintenance phases of PPP projects. The effective management of these factors would promote successful risk management in PPP projects.
2. PPP projects in Indonesia significantly needed massive socialization as a solution to address the funding gap faced by the government. Successful collaboration had the potential to foster active community participation through both local and foreign investors, thereby attracting substantial financial inflows into Indonesia.
3. Interaction patterns in PPP projects were highly varied and required in-depth engagement through partnering. Furthermore, stakeholder interactions needed to be based on the values of good governance and ownership to ensure that all stakeholders made significant contributions to the implementation of PPP projects.
4. Factors influencing the success of PPP projects were essential as references for stakeholders. These factors helped anticipate and predict project implementation, preparing solutions and alternative solutions by sharing risks in contracts.
5. SOPs and success indicators were necessary for every interaction between stakeholders in PPP projects. These measures would ensure transparency and foster a high level of trust among stakeholders.
6. Transparency of the process from the tender stage would promote professionalism in PPP projects in Indonesia. Clear KPIs, risk allocation, and transparent procedures would motivate investor participation in PPP projects, which were crucial for the rapid acceleration of infrastructure development, particularly in the new capital city development plan in Kalimantan.

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