Modeling Relationship of Risk Factors Affecting the Success of the Construction Project from Private-Public Cooperation in West Java Province

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ABSTRACT. The success of infrastructure development projects in West Java Province can be done by minimizing the failure rate of a project in terms of time, quality and cost as outlined in the contract. In government-business entity infrastructure project cooperation, there are risks borne by both parties. The fact is that road construction projects often occur late in completion time, lack of quality causes damage to occur before the planned age should not be due, so they are often reworked. The possibility of various kinds of risks affecting the successful implementation of road construction projects in cooperation between the government and business entities. The research objective was to analyze the risk factors associated with the success of infrastructure projects in collaboration between the government and business entities in West Java Province. Survey or non-experimental research was used as the method of this research. Likert scale is used to collect data from 115 respondents. Samples were taken purposively, namely representatives of PPP cooperation project management in the cities of Bogor, Depok, Bekasi, Bandung, Cimahi, Sukabumi, Tasikmalaya, Banjar, and Cirebon. A modified Likert scale questionnaire instrument from Robert & Albert, and Chen et al. Data analysis using SEM-PLS. The results of this study can develop a conceptual framework for the assessment of risk factors associated with the success of a joint government-business entity construction project in infrastructure development in the regions.
Keywords: *Risk Factors, Project Success, Government-Private Cooperation.*

1. INTRODUCTION

Infrastructure is an important factor in supporting economic growth. Provision of adequate infrastructure can affect the increase in the quality and quantity of economic activity. Good transportation infrastructure, for example, will help smooth the flow of people and goods so that they can drive the economy more sustainably[1] The government is fully aware of the important role of infrastructure, so that in the 2015–2019 National Medium-Term Development Plan, infrastructure development is one of the national priority agendas to create a competitive nation and increase people's productivity. The infrastructure investment needed during 2015–2019 is IDR 4,796 trillion and of this amount approximately 40% comes from the PUPR sector (for example roads, water resources, clean water and waste, and housing), which the government can only cover about 41, 25% of it is through the State / Regional Budget (APBN / D) (Wibowo, 2016). This condition is a serious challenge in facing the high financing of infrastructure provision[2]

The high level of FDI (Foreign Direct Investment) / foreign investment is also supported by the availability of infrastructure to remote areas where the investment will be carried out. However, with limited funds both from the APBN and APBD, infrastructure development cannot be fully carried out by the government (public). Therefore, the government will cooperate with investors (private / private) in implementing infrastructure development known as public private partnership or PPP [3] In Government Regulation no. 38, 2015 concerning Public Private Parhership (PPP) in providing infrastructure, it is stated that this partnership aims to accelerate infrastructure development in which in partnership the two parties will share benefits and potential risks as well as support and incentives from the government [4]. To improve the quality and effectiveness of public services and to make operations more efficient, Public-Private Partnerships (PPPs) have emerged as a strategic instrument in the Dutch maritime industry. They are being pursued by public and commercial service providers who work together and gather knowledge, skills and resources. complementary power over a longer period of time [5]. PPP is a contract agreement involving the government and the

private sector where the distribution of financial and labor resources comes from a cooperation agreement between the two parties in producing public products or services [6]. According to [7]. PPP was implemented to answer the challenge of budget constraints. The PPP concept itself is investment, risk, responsibility, and profit for the government and private sector.

PPP or in Indonesia itself recently known as PPP (Government and Business Entity Cooperation) has been stated in the 2015-2019 National Medium Term Development Plan (RPJMN), in which the Indonesian government targets 58.7 % or US $ 359.2 billion of the total national infrastructure investment requirement is financed by the private sector and BUMN. Currently, he noted, there have been 57 projects using the PPP scheme, consisting of 36 connectivity projects, 11 urban facility projects, and 10 social facility projects. In detail, until last year there were two PPP projects that are currently in the operational stage (US $ 159.1 million). Then 11 projects are in the construction stage (US $ 8.757 billion), 11 projects are in the transaction stage (US $ 4.4 billion), 18 projects are in the preparation stage (US $ 3.338 billion), and 8 projects are in the planning stage. These projects are part of the National Strategic Project, including toll roads, energy, telecommunications, and water supply, as well as additional sectors such as railways, airports, waste management, and hospitals.

Apart from the benefits obtained from the project management system with the PPP concept that have been felt by many countries, not a few projects with the PPP concept have failed to achieve the goals agreed upon by both parties before implementation, the failure was related to the budget, implementation time limit (Deadline), and quality of work. Schedule delays and cost overruns in PPP projects are risks that are the main causes. [8]; [6]. In general, a public-private partnership scheme can be described as successful if it offers greater value-for-money, provides sufficient financial returns to private investors (Ng et al. 2013), reduces construction time, maintains a high level of service quality (Akintoye et al. . 2003) and satisfy stakeholders [9]; [10]; [11]. As with any project, no PPP project is without risks. It can even be said that a long-term project, a large investment, plus it has high complexity, the level of risk for those involved in it will be even greater [12].

According to the World Bank, 381 PPP projects were unsuccessful in several countries. Meanwhile, in the Southeast Asia region, Malaysia is a country that has the highest percentage of projects with the PPP concept, with 22 projects that have failed, despite the number of Malaysia implementing projects with the PPP concept [13] Many risks are associated with decisions made throughout the project cycle. Risk management is defined as a formal process of "coordinated activities to direct and control organizations related to risk" (International Organization for Standardization, 2018; [14]. From the many reviews and studies that the author has studied, there is no assessment of the risk factors that affect the success of government-business partnership projects. So it is necessary to do research on this issue

2. METHODOLOGY

The research method uses a quantitative approach with a causality design. The population of this research is the actors and management of construction projects in cooperation with government-business entities totaling 115 people. The sampling technique used was purposive. Data were collected through a 31-question questionnaire adapted from [2]; [15]; and [16]. Data were analyzed using SEM with warp PLS

3. RESULT AND DISCUSSION

According to [17], Goodness of fit measures the suitability of observational / actual inputs, with the prediction of the proposed model. There are 3 criteria for model fit indices or model suitability, namely the Average Path Coefficient (APC), Average R-square (ARS) and Average Variant Inflation Factor (AVIF). Following are the results of the fit Model output:

TABLE I. Model Fit

Model	Fit Indices	P Values
APC	0.170	P = 0.015
ARS	0.994	P< 0.001
AVIF	2.282	Good If < 0.5

From the output results in table I shows that the model fit indicator with an average path coefficient (APC) 0.015 <0.05. While the Average R-squared (ARS) 0.001 <0.05. Likewise, the AVIF value is 2.282 <5, which means that the model has a good fit so that there is no multicollinearity problem between exogenous variables. Convergent validity is assessed based on the correlation between the indicator score and the construct score (outer loading). According to Chin (1998), each indicator can be said to be valid if its outer loading value is greater than 0.7. However, for research in the early stages of developing a measurement scale the loading value of 0.60 is considered sufficient [17]. If an indicator does not meet these criteria, then the indicator is declared invalid and needs to be removed from the model.

TABLE II. Outer Loading Value

Variables	Indicator	Outer Loading	Conclusion
Source	X1.1	0.777	Valid
	X1.2	0.899	Valid
	X1.3	0.886	Valid
Commitment	X2.1	0.835	Valid
	X2.2	0.791	Valid

Variables	Indicator	Outer Loading	Conclusion
	X2.3	0.734	Valid
Liability	X3.1	0.900	Valid
	X3.2	0.738	Valid
	X3.3	0.796	Valid
Environment	X4.1	0.804	Valid
	X4.2	0.901	Valid
	X4.3	0.854	Valid
Delay	X5.1	0.742	Valid
	X5.2	0.671	Valid
	X5.3	0.865	Valid
	X5.4	0.849	Valid
Policy	X6.1	0.885	Valid
	X6.3	0.887	Valid
	X6.4	0.891	Valid
Competitor	X7.1	0.883	Valid
	X7.2	0.896	Valid
	X7.3	0.677	Valid
Success PPP	Y2	0.508	Valid
	Y3	0.550	Valid
	Y5	0.746	Valid
	Y6	0.841	Valid
	Y7	0.856	Valid

According to [17], to measure a construct in research, it must meet an outer loading value above 0.5 which is still acceptable. Table 2 shows that all indicators have an outer loading value of more than 0.5, so all research variable indicators are valid and can be used for structural modeling. A construct is said to be reliable seen from the composite reliability value and Cronbach's alpha value. The construct is declared reliable if the value of composite reliability and Cronbach's alpha is ≥ 0.70.

TABLE III. Reliability Testing

Variables	Cronbach's Alpha	Composite Reliability	Information
Source	0,815	0,891	Reliable
Commitment	0,700	0,830	Reliable
Liability	0,741	0,854	Reliable
Environment	0,813	0,889	Reliable
Delay	0,789	0,865	Reliable
Policy	0,865	0,918	Reliable
Competitor	0,758	0,863	Reliable
Success	0,747	0,834	Reliable

Based on Table III, it shows that the Composite Reliability value is more than 0.7, so it can be concluded that the research instrument above is reliable. Based on Table 3, the results of the warpPLS output show that the output value of composite reliability, Cronbach's Alpha> 0.7, and average variances extract (AVE)> 0, 5. The results are in accordance with the required criteria

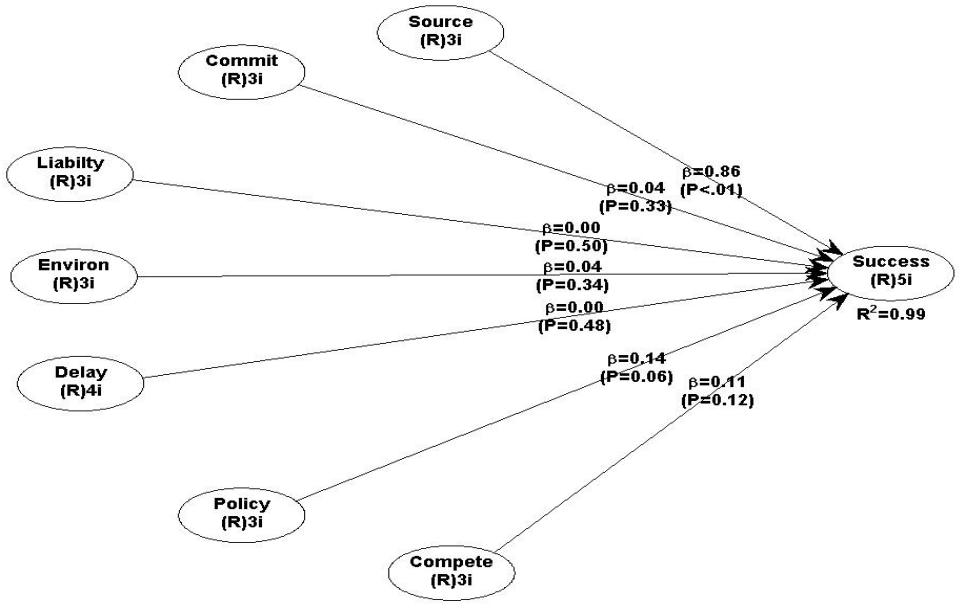

Fig 1. *Path Schem*

TABLE IV. *Path Coefficient* And *P Values*

Correlation	Path Coefficient	P-values	Conclusion
X1→ Y	0,86	0,01 < 0,05	Accepted
X2 → Y	0,04	0,33 > 0,05	Rejected
X3→ Y	0,00	0,5> 0,05	Rejected
X4→Y	0,00	0,34 >0,05	Rejected
X5→Y	0,00	0,48 >0,05	Rejected
X6→ Y	0,14	0,06 > 0,05	Rejected
X7→ Y	0,11	0,12 > 0,05	Rejected

The following is a description of the results of hypothesis testing which can be explained as follows:

Testing H1 resources has an effect on the success of PPP The calculation results in table 4 show that the resulting P-value is 0.01 <0.05 and the path coefficient is 0.86 which is positive. p value of 0.01 is smaller than 0.05 which means significant, meaning that H1 is accepted. Testing H2 Commitment affects the success of PPP The calculation results in table 4 show that the resulting P-values are 0.033> 0.05 and the path coefficient is 0.04 which are positive. p value of 0.33 is greater than 0.05, which means it is not significant, meaning that H2 is rejected. Testing H3 Liability of Third Parties affects the success of PPP The calculation results in table 4 show that the resulting P-values are 0.50> 0.05 and the path coefficient is 0.00 which is positive. The p value of 0.5 is greater than 0.05, which means it is not significant, meaning that H3 is rejected. Testing of environmental risks has an effect on the success of PPP. The calculation results in table 4 show that the resulting P-values are 0.34> 0.05 and the path coefficient is 0.04 which is positive. p value of 0.34 is greater than 0.05, which means it is not significant, meaning that H4 is rejected. Testing the delay risk affects the success of PPP The calculation results in table 4 show that the resulting P-values are 0.48> 0.05 and the path coefficient is 0.00 which is positive. p value of 0.48 is greater than 0.05, which means it is not significant, meaning that H5 is rejected. Testing H6 of financial policies has an effect on the success of PPP. The calculation results in table 4 show that the resulting P-values are 0.06> 0.05 and the path coefficient is 0.14 which is positive. p value of 0.06 is greater than 0.05, which means it is not significant, meaning that H6 is rejected. Competitor H7 testing has an effect on the success of PPP. The calculation results in table 4 show that the resulting P-values are 0.12> 0.05 and the path coefficient is 0.11 which is positive. p value of 0.12 is greater than 0.05, which means it is not significant, meaning that H7 is rejected.

The coefficient of determination of the SEM analysis results is shown as follows:

Table V. R-Squared

X1	X2	X3	X4	X5	X6	X7	Y
							0,994

Based on the output results in table V, the R squared value is 0.994, which means that the influence of the variables X1, X2, X3, X4, X5, X6, and X7 on the success of PPP (Y) is 99.4% and the remaining 0.6% is influenced by other variables outside of this research model.

4. CONCLUSION

This study aims to analyze the factors that influence the success of the government-business entity partnership project in West Java Province. Based on the results of data analysis, it can be concluded that the results of this study are as follows: (1) Resource risk has a significant positive effect on the success of the government-business entity partnership project, so H1 is accepted. This shows that the higher the available resources, the higher the success of projects carried out by the government and business entities, (2) Commitment risk has no significant positive effect on the success of the government-business entity partnership project collaboration, so H2 is rejected, (3) Third Party Liability Risk has a positive and insignificant effect on the success of the government-business entity partnership project, so H3 is rejected, (4) Environmental risk affects the success of the government-business entity partnership project cooperation, so H4 is rejected, (5) The risk of delay has a positive and insignificant effect on the success of the government-business entity partnership project cooperation, so H5 is rejected, (6) Financial policy risk has a positive and insignificant effect on the success of government-business entity partnership project cooperation, so H6 is rejected, (7) Competitor risk has a positive and insignificant effect on the success of the government-business entity partnership project collaboration, so H7 is rejected. There are several limitations in this study, namely: The value of R squared is 0.994 or 99.4% which indicates that there are other variables not used in this study that have an influence on the success of the government-to-business partnership project.

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