Determining Success Factors for Policy Implementation of the Port Public-Private Partnership in Indonesia: A Structural Equation Modeling Approach

Budiyono Doelrachman[1*], Muhammad Zilal Hamzah[1], Eleonora Sofilda[1]

[1] Faculty of Economics and Business, Universitas Trisakti, Indonesia
*rachmanbd@yahoo.com

Abstract. The objective of this research is to analyze the determining factors of the implementation success of the Port Public-Private Partnership (PPP) policy in Indonesia. Improving the performance of the Port PPP policy implementation will overcome the government financing deficit and have a positive impact on the availability of port infrastructure, which plays a decisive role in supporting the economic development of a country. Data collection using questionnaire survey from stakeholders consisting of government, business entities, academics and experts. Data analysis using a quantitative method PLS-SEM approach. The results prove that Project Factors (Legal, Technical and Commercial Dimensions) and Strategic Environmental Factor (Economic, Political and Social Dimensions) influence, while Institutional Factor (Government and Business Entity Dimensions) insignificant influences on the implementation success of the Port PPP policy in Indonesia. However, Institutional Factor (Government Dimension) plays a decisive role in preparing Project Factor and formulating anticipation for Strategic Environmental Factor. Institutional Factor (Business Entity Dimension) also plays an important role as Government partners in the PPP scheme. The policy implication of this finding is that adaptive and flexible regulations must be maintained in order to increase private participation in Port PPP projects in Indonesia.

Keywords: PPP, Policy Implementation, Port, SEM, Success Factors

1 INTRODUCTION

Transportation infrastructure development, including ports, plays an important role in supporting a country's economic development as measured by Gross Domestic Product (GDP), which is largely determined by the use of production factors of labor, capital, natural resource goods, technology level, and social conditions in the country concerned (Suparmoko, M. & Sofilda, E., 2020). In general, there is a positive correlation between the quantity and quality of factors of production and GDP. One of the vital capital factors is infrastructure. Therefore, to accelerate sustainable economic growth, it is necessary to provide adequate infrastructure. According to Mankiw G.N. (2003),

S. Kusairi et al. (eds.), *Proceedings of the International Conference on Sustainable Collaboration in Business, Technology, Information, and Innovation (SCBTII 2024)*, Advances in Economics, Business and Management Research 303,
https://doi.org/10.2991/978-94-6463-558-4_3

in economics, the meaning of infrastructure is a form of public capital consisting of ports, airports, roads, bridges, sewer systems, and others, as investments made by the government. The World Bank (1994) classifies infrastructure into 3 (three) groups, namely economic, social and administrative infrastructure.

The main issue of transportation infrastructure financing of the Ministry of Transportation is related to the existence of a national infrastructure financing deficit. Referring to Presidential Regulation of the Republic of Indonesia No 18 of 2020 (Perpres 18/2020) concerning the National Medium-Term Development Plan for 2020-2024 (RJPMN 2020-2024), infrastructure investment requirements amounted to Rp. 6,445 trillion, 37% from the State Budget, the rest is expected from State-Owned Enterprises by 21% and the private sector by 42%. The deficit in transportation infrastructure financing is reflected in the amount of the Ministry of Transportation's budget funding gap in 2018 - 2023 ranging from Rp. 39.4 trillion to Rp. 62.5 trillion per year. To overcome this, the Ministry of Transportation is implementing creative blended financing through Public-Private Partnership (PPP).

According to Presidential Regulation of the Republic of Indonesia No 38 of 2015 (Perpres 38/2015), PPP is a collaboration between the government (public sector) and business entities (private sector) in the provision of infrastructure and/or services for the public interest with reference to specifications previously set by the government, which partly or wholly uses the resources of business entities with due regard to risk sharing between the parties. Correspondingly, based on the World Bank's 2017 PPP Reference Guide, PPP is a long-term contract between the government (public sector) and business entities (private sector) to provide public infrastructure / services in which the private sector bears most of the risks and responsibilities, and also its business revenues are linked to performance.

PPP itself as a policy is not new to Indonesia. Formally, the PPP policy has been initiated since 1998 with the issuance of Presidential Decree Number 7 of 1998 (Keppres 7/1998) which regulates PPP in Infrastructure Development and/or Management. Furthermore, to accommodate developments, it was updated with the issuance of Presidential Regulation of the Republic of Indonesia Number 67 of 2005 (Perpres 67/2005) concerning PPP in Infrastructure Provision, and later replaced by Perpres 38/2015. Article 3 of Perpres 38/2015 outlines the PPP objectives as follows: (1) To secure sustainable funding for infrastructure development by leveraging private sector investments, (2) To ensure that infrastructure is provided with high quality, efficiency, effectiveness, and timely completion, (3) To foster an investment environment that encourages private sector involvement in infrastructure projects, guided by sound business principles, (4) To promote the concept that users should pay for the services they receive, or in some cases, consider the users' ability to pay, and (5) To guarantee that private entities receive a return on their investment in infrastructure through a system of regular government payments.

Bappenas' PPP Book from 2009 to 2023 shows that during this period there were 172 infrastructure PPP projects in all sectors that had completed the procurement

process of business entities (already tendered). Currently, there are only 5 (five) successful Transportation Infrastructure PPPs, including 2 (two) Port PPPs, namely Patimban Port PPP in West Java Province and Anggrek Port PPP in Gorontalo Province. The low performance of the Port PPP policy implementation is due to a lack of understanding of the factors that influence and determine the success of its implementation. While understanding the success factors is very important, as a basis for formulating implementation strategies and recommendations for improving policy implementation performance to overcome the problems of Port PPP policy implementation in Indonesia so far. With this background, the objective of this research is to analyze and examine the factors that determine the implementation success of the Port PPP policy in Indonesia.

This research is intended to be beneficial for theoretical and practical purposes. For theoretical purposes, it is hopeful that this research can be used as a reference for further research on PPPs in general and Port PPPs in particular. For practical purposes, this research is expected to be useful for the parties in the PPP scheme, namely the Government and the Business Entity. For the Government, this research can be used as a reference for improving the performance of the implementation of Port PPP policies that are more systematic and practical, but still adhere to the principles of good governance, and of course still in the corridor of applicable laws and regulations. For business entities, this research is expected to encourage their participation to cooperate with the Government in providing port infrastructure. So that in turn will contribute positively to the acceleration of port infrastructure provision in the future.

According to the previous literature review, until now there has been no research on Port PPP Success Factors in Indonesia. With this research gap, this research has a novelty of being the first research on the factors that determine the implementation success of Port PPP policy in Indonesia.

2 LITERATURE REVIEW

2.1 Theoretical Base

PPP is a scheme for the government to procure and deliver infrastructure and/or public services using resources and expertise of the private sector. In general, this research on Port PPP uses the perspectives of public policy theory, economic theory and public administration theory. As an implementation of public policy, this research on Port PPP uses the lens of public policy. The provision of infrastructure and/or public services relies on the private sector's participation in a cooperation scheme with an economic dimension so that research on Port PPP is also based on economic theory. As for the provision of infrastructure / public services concerning public sector governance, research on this Port PPP uses the perspective of public administration theory.

Dunn H.N. (2018) emphasizes that implementation is the process of putting policy decisions into action. It involves various activities carried out by different stakeholders, including government, private sector, and non-profit entities. Kasmad, R. (2018) and

Nugroho, R. (2017) suggest there are nine models of public policy implementation from varoius experts namely: (1) Van Meter & Van Horn model, (2) Mazmanian & Sabatier model, (3) Hoogwood & Gunn model, (4) Goggin, Bowman & Lester model, (5) Grindle model, (6) Elmore model, (7) Edward model, (8) Nakamura & Smallwood model, and (9) Network model. Considering that the Port PPP Project is a market mechanism and has a top-down approach pattern, based on the map of the public policy implementation model, the appropriate reference for this research is the Van Meter & Van Horn model and the Grindle model, which state that they are 3 (three) determining factors for implementation success of the Port PPP policy, namely: (1) Project Factor, (2) Institutional Factor and (3) Strategic Environmental Factor. It can be added that the Strategic Environmental Factor is based on the Van Meter & Van Horn model which states that the determining factor includes economic, political and social aspects/dimensions.

According to Suparmoko, M. & Sofilda, E. (2020), investment is spending aimed at increasing or maintaining capital stock. Related to this research, the capital stock is port infrastructure which is a public good. Public investment is an investment or capital investment made by the government, both central and local governments, and is official. Public investment project selection is an important process in government policy planning to ensure efficient and sustainable resource allocation. Several criteria can be used to assess public investment projects. The perspective of public investment theory provides a theoretical basis for the Project Factor which has dimensions: (a) legal, (b) technical, and (c) commercial.

Public administration theory refers to a set of concepts, principles, and views used to understand, analyze, and explain phenomena related to the management of public organizations and the delivery of public services. Ansell and Gash (2007) suggest a new strategy of public governance called collaborative governance. Collaborative governance is one approach in modern public administration, which involves cooperation between various parties, including government, private sector, non-profit organizations and communities, to achieve common goals. One form of implementation of collaborative governance is PPP, which can be considered as one of the concrete formats of collaborative governance, where government and private sector work together to achieve common goals in the provision of public infrastructure or services. The perspective of public administration theory provides a theoretical basis for Institutional Factor with dimensions: (a) government and (b) business entities.

2.2 Previous Research

Previous research in the last 5 (five) years during the period 2019 - 2023, totaling 21 (twenty-one) studies are 1. Abdullahi, Y.M. & Alias, A. (2023), 2. Gitau, K.D. & John, A. (2023), 3. Toan, N.Q & Hai, D.T. (2023), 4. Munoz-Jofre, J. et al (2023), 5. Syahruddin. et al. (2023), 6. Berisha A. et al. (2022), 7. Jubair, S.M.B & Singh, J.S.K (2022), 8. Hai, D.T. et al. (2022), 9. Kandiyoh, G.E. et al. (2021), 10. Ahmad, U. et al. (2021), 11. Mallisetti, V. et al. (2021), 12. Deng, B. et al. (2021), 13. Ngullie, N. et al. (2021),

14. Chourasia, A.S. et al. (2021), 15. Nguyen, P.T. et al. (2020), 16. Helmy, R. et al. (2020), 17. Surachman, E.N. et al. (2020), 18. Chileshea, N. et al. (2020), 19. Su, B. & Hu, Q. (2020), 20. Ramli, S. & Mohamed, Z.A. (2019), and 21. Dithebe, K. et al. (2019). Taking into account previous research, the indicators of Success Factors and Implementation Success of the Port PPP Policy can be found in Table 1 below.

Table 1. Indicators of Success Factors and Implementation Success

No	Variable / Dimension		Indicator	Research References (2019-2023)
A	**Success Factors**			
1	**Project Factor**			
	Legal	1	PPP Regulatory Framework	1,2,3,4,6,8,9,10,11,12,13,14,15,16,17,18,19,20,21
		2	Project Legality	1,2,6,9,12,18
		3	Cooperation Contract Concepts	1,2,3,4,8,10,12,14,15,16,17,19,20
	Technical	1	Technical Feasibility	4,10,12,13,16,18,19,20,21
		2	Environmental Impact Mitigation	3,6,8,9,15,19,20
		3	Project Planning	3,5,6,8,9,10,12,13,14,15,17,18,19,20,21
	Commercial	1	Financial Feasibility	1,2,3,4,5,6,7,8,9,10,12,13,14,15,16,17,18,19,20,21
		2	Risk Sharing Scheme	1,3, 4,7,8,9,10,12,13,14,15,16,17,18,19,20,21
		3	Government Support or Guarantee	1,2,3,6,8,10,12,17,18,19,20
2	**Institutional Factor**			
	Government	1	Government Capability	1,3,4,5,6,7,8,9,10,12,13,14,15,16,17,18,19,20,21
		2	Government Governance	1,3,4,5,6,7,8,9,10,12,13,14,15,16,17,18,19,20,21
		3	Procurement Transparency	1,3,4,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21
	Business Entity	1	Business Entity Reputation	1,9,10,13,16,17,18,20
		2	Business Entity Financial Capability	3,6,8,9,12,13,14,15,19
		3	Business Entity Technical Capability	1,3,4,8,9,12,13,14,15

3	**Strategic Environmental Factor**			
	Economy	1	Economic Conditions	1,6,8,9,10,15,16,18,20
		2	Economic Policies	3,9,10,12,14,16,19,20
		3	Economic Prospects	3,4,9,12,15,18,20
	Politic	1	Political Conditions	3,5,6,8,12,15,19
		2	Political Policies	1,9,16,20
		3	Political Support	10,13,14,21
	Social	1	Social Conditions	4,6,12,13,14,17,18
		2	Social Benefits	3,8,9,21
		3	Community Support	1,6,9,12,13,15,16,17,18,19,20
B	**Implementation Success**			
		1	Output achievement of success	2,3,7,8,10,16
		2	Time to achieve success	2,3,8,10
		3	Cost of achieving success	2,3,7,8,10,16

Hai, D.T. et al. (2022) revealed that the Success Factors are also influenced by the type of infrastructure and the locality where the PPP takes place. For this reason, the following previous research on transportation infrastructure PPPs in Indonesia and or in other developing countries is presented in Table 2 below.

Table 2. Previous Research on Transportation Infrastructure PPPs in Developing Countries

No	Researcher	Infrastructure, Location	Results
1	Yusfida, I. (2022)	Airport, Indonesia	The planning and preparation stage plays an important role in efforts to prepare a comprehensive, reliable, and feasible project. A viable project can minimize project uncertainty and attract private sector investment. The limitation of this research is that it only takes 1 (one) pilot project case and does not correlate with other PPP Projects. In addition, this research only uses a qualitative approach with key stakeholder dialogues. Future research should be developed by combining a qualitative approach with a quantitative approach.
2	Kandiyoh, G.E. et al. (2021)	Toll Road, Indonesia	The factors that drive the success of the PPP project in order are: (1) environmental factors,

			(2) organizational factors, (3) political, (4) economic, (5) legal, (6) technical/physical, (7) social, (8) risk, and (9) culture. The efforts and strategies of stakeholders to fulfil the success drivers of PPP projects are to mitigate significant threats, especially avoiding development in areas that serve public needs. By harnessing the power of reputable and experienced toll road contractors to provide their insights to local governments, especially those without sufficient experience in toll road construction, local governments can communicate with the public more effectively.
3	Chourasia, A.S. et al.'s (2021)	Airport, India	First, Process Characteristics have a relatively greater influence on Public Characteristics, and similarly, the Cooperation Environment has a greater impact on Process Characteristics, but Process Characteristics have a less significant impact on Personal Characteristics. Second, this research also found that in order to provide high-quality services and the preservation of public interests under the PPP system, effective government monitoring is essential. In addition, satisfaction and the opinions of customers are decisive for the achievement of high-quality services and higher value for money. This research has contributions to the existing literature and practice. With the limitations that the direct impact of Government Characteristics on Private Characteristics was not examined and the impact of regulatory interventions on airport PPPs was not analysed, future research is therefore encouraged.
4	Kristiawan, F. et al (2020)	Toll Road, Indonesia	This research suggests a framework model to identify and measure the criteria for success and its performance as a basis for improving the implementation of PPP projects in Indonesia. A methodological model that presents the gap between implementation and performance criteria for the success of PPP toll road projects in Indonesia, so that it will be useful for measuring the performance of the implementation of toll road PPP projects in Indonesia. It is recommended that in future research, the framework model should be tested on an actual toll road project as a case study.

5	Ramli, S. & Mohamed, Z.A. (2019)	Toll Road, Malaysia	Three (3) clusters of Critical Success Factors (CSFs) were selected as the most important factor effecting in adoption of PPP namely: (1) governmental influence, (2) project viability and (3) trust. This list is advised to be examined in future studies of the influencing elements of private sectors participation into PPP notably on expressway projects. It is recognised that each different project and country will have its own unique characteristics, and the research should be adapted where necessary.
6	Panayides, P.M. et al. (2015)	Port, Developing Countries	The main institutional factors that determine the performance of PPP port projects are (1) quality of regulations, (2) openness of the market, (3) ease of starting a business, and (4) enforcement of contractual agreements, and ultimately can contribute to the development of port infrastructure and economic growth of the country. The findings are consistent with and will contribute to the theoretical literature. Practical implications for port authorities, port operators, and investors are also reviewed.

In addtion, there is another research on Port PPP Success Factors, but in developed countries, namely the North-west of Europe, conducted by Aerts, G. et al. (2014). The findings show that 8 (eight) Critical Success Factors (CSFs) are more important in port PPPs: (1) certainty and accuracy of the concession agreement, (2) ability to allocate and share risks appropriately, (3) technical feasibility of the project, (4) commitment of the partners, (5) attractiveness of the financial offer, (6) clear division of responsibilities, (7) existence of a strong and reputable private consortium, and (8) reasonable benefit/cost assessment. The research did not distinguish between different project phases but provided a broader scope and perspective.

2.3 Research Framework

According Figure1, this research framework is constructed by integrating the literature review, problem statement, research questions and research objectives.

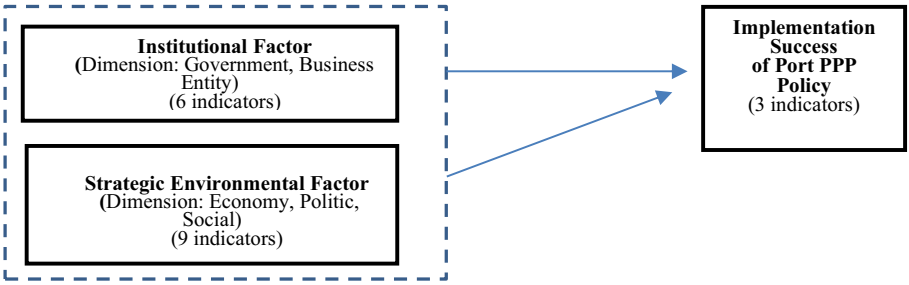

Fig 1. Research Framework (Source: Data Processed, 2024).

2.4 Research Hypothesis

Based on the problem formulation, research objectives and framework, the hypotheses of this research are as follows:

H1: Project Factor has a significant influence on the implementation success of the Port PPP policy in Indonesia.
- H1.1: Legal Dimension of the Project Factor has a significant influence on the implementation success of the Port PPP policy in Indonesia.
- H1.2: Technical Dimension of the Project Factor has a significant influence on the implementation success of the Port PPP policy in Indonesia.
- H1.3: Commercial Dimension of the Project Factor has a significant influence on the implementation success of the Port PPP policy in Indonesia.

H2: Institutional Factor has a significant influence on the implementation success of the Port PPP policy in Indonesia.
- H2.1: Government Dimension of the Institution Factor has a significant influence on the implementation success of the Port PPP policy in Indonesia.
- H2.2: Business Entity Dimension of the Institution Factor has a significant influence on the implementation success of the Port PPP policy in Indonesia.

H3: Strategic Environmental Factor has a significant influence on the implementation success of the Port PPP policy in Indonesia.
- H3.1: Economic Dimension of the Strategic Environmental Factor has a significant influence on the implementation success of the Port PPP policy in Indonesia.
- H3.2: Political Dimension of Strategic Environmental Factor has a significant influence on the implementation success of the Port PPP policy in Indonesia.
- H3.3: Social Dimension of the Strategic Environmental Factor has a significant influence on the implementation success of the Port PPP policy in Indonesia.

3 RESEARCH METHODOLOGY

This research design presents the choice of research philosophy, research approach to theory development, methodological choice, research strategy, time horizon, data

collection and data analysis tools. This research adopts the six-layered research model of Saunders et al. (2019) as a guide because the model is and encourages researchers to review each stage systematically.

According to Sugiyono (2019), this research employs quantitative methods, which are grounded in the positivist philosophy and are considered scientific or scientific methods since they satisfy scientific criteria in a concrete or empirical, objective, quantifiable, logical, and methodical way. The goals of quantitative methods are to gather data using research tools, evaluate quantitative or statistical data, and test predefined hypotheses that will be utilized to study specific populations and samples. In addition, a thorough benchmarking of the two (two) Port PPPs - Patimban Port and Anggrek Port - is conducted as a study strategy. In this study, a cross-sectional time horizon is used as the time dimension. Techniques for data collecting and analysis are part of research tactics. The method used in this research to collect data is a questionnaire survey. The technique for data analysis in this research was adapted to the research objectives and data collected, that is quantitative primary data analysis of questionnaire results using descriptive statistical methods.

3.1 Data Types and Sources

Primary data are the kind of data used in this study. A survey instrument with a closed-ended question type was used as part of the data collection technique. A questionnaire, according to Sugiyono (2017), is a method of gathering data in which participants are provided with a set of questions or written statements to complete. The population in this study are policymakers, policy implementers, business entities as policy-affected parties and experts (academics/practitioners) involved in the implementation of Port PPP in Indonesia. The sample of this research was taken using a purposive sampling approach technique, which the sample is selected based on the research objectives, namely parties who have experience in implementing PPP projects in general and specifically in Port PPP projects in Indonesia.

Respondents are divided into 3 (three) stakeholder groups, namely: (1) Government, (2) Business Entities, and (3) Experts. In the context of Port PPP, Government stakeholders include Bappenas, Kemenhub (Ministry of Transportation), Kemenkeu (Ministry of Finance) and other Government Agencies. Business Entity stakeholders are port business entities and other related business entities. Experts include academics from universities and practitioners from consultants. The profile characteristics of 90 respondents according to work organization, education and work experience can be found in Table 3 below.

Table 3. Respondent Profile Characteristics

No	Descriptions	N	%	No	Descriptions	N	%
1	Work Organization	90	100	2	Education	90	100

	□ Government	32	35,6		□ < S1	2	2,2
	□ Business Entity	28	31,1		□ S1	24	26,7
	□ Academic	11	12,2		□ S2	51	56,7
	□ Consultant	19	21,1		□ S3	13	14,4
3	Work experience	90	100	4	PPP Experience –	90	100
	□ 1 – 10 years	11	12,2		Number of Projects	17	18,9
	□ 11 – 20 years	26	28,9		□ 0 (None)	39	43,3
	□ 21 – 30 years	23	25,6		□ 1 – 2 (One – Two)	15	16,7
	□ > 31 years	30	33,3		□ 3 – 4 (Three – Four)	19	21,1
					□ ≥ 5 (Five, or more)		
5	PPP Experience - Infrastructure	90	100		Note:		
		66	73,3		N = number of response		
	□ Port + Port & Other	3	3,3		S1 = Undergraduate		
	□ Airport, Railway, Road	4	4,4		S2 = Master's degree		
	□ Other Infrastructure	17	18,9		S3 = Doctoral degree		
	□ None						

3.2 Operational Definition of Variables

In this research, there are 1 (one) dependent variable and 3 (three) independent variables. The dependent variable is the variable that the researcher is most interested in. Independent variable is a variable that has a positive or negative impact on the dependent variable.

The dependent variable in this research is the Implementation Success of the Port PPP Policy. The meaning of success in this context is that the project successfully completes the stages of the PPP process from the planning stage, and preparation stage to the transaction stage. Thus, the assessment of success does not reach the implementation stage of the PPP agreement. The independent variables are the determining factor for the Success of Port PPP Policy Implementation, namely the Project Factor, Institutional Factor and Strategic Environmental Factor. The operational definition of the variables is displayed in the following Table 3 with reference to the theoretical foundation and earlier research conducted during the last five (five) years. Referring to the theoretical basis and previous research in the last 5 (five) years, the operational definition of the variables is displayed in the following Table 4.

Table 4. Operational Definition of Variables.

No	Variable / Dimension / Indicator	Assessment	Code
A	**Independent Variable**		
1	**Implementation Success**		KIKP
	Output achievement of success	The more projects (or investment value), the more successful	KIKP1

		Time to achieve success	The faster the time to achieve success, the more successful	KIKP2
		Cost of achieving success	The more cost-effective in the achievement of success, the more successful	KIKP3
B		**Independent Variable**		
	1	**Project Factor**		FP
	a	Legal		FPD1
		PPP Regulatory Framework	The more supportive, the more important as a success factor	FPD11
		Project Legality	The more legally compliant, the more important as a success factor	FPD12
		Cooperation Contract Concept	The more adaptive and flexible, the more important as a success factor	FPD13
	b	Technical		FPD2
		Technical Feasibility	The more feasible, the more important as a success factor	FPD21
		Environmental Impact Mitigation	The more mitigative the anticipation, the more important as a success factor	FPD22
		Project Planning	The more defined the project plan, the more important as a success factor	FPD23
	c	Commercial		FPD3
		Financial Feasibility	The more feasible, the more important as a success factor	FPD31
		Risk Sharing Scheme	The more proportional, the more important as a success factor	FPD32
		Government Support / Guarantee	The more supportive, the more important as a success factor	FPD33
	2	**Institutional Factor**		FI
	a	Government		FID1
		Government Capability	The more capable, the more important as a success factor	FID11
		Government Governance	The better governance, the more important as a success factor	FID12
		Procurement Transparency	The more transparent, the more important as a success factor	FID13
	b	Business Entity		FID2
		Business Entity Reputation	The more capable, the more important as a success factor	FID21
		Business Entity Financial Capability	The more capable, the more important as a success factor	FID22
		Business Entity Technical Capability	The more capable, the more important as a success factor	FID23
	3	**Strategic Environmental Factor**		FLS
	a	Economy		FLSD1
		Economic conditions	The more conducive, the more important as a success factor	FLSD11
		Economic policies	The more supportive, the more important as a success factor	FLSD12
		Economic prospects	The more prospective, the more important as a success factor	FLSD13
	b	Politics		FLSD2
		Political conditions	The more stable it is, the more important as a success factor	FLSD21

	Political policies	The more appropriate, the more important as a success factor	FLSD22
	Political support	The more supportive, the more important as a success factor	FLSD23
c	Social		FLSD3
	Social conditions	The more conducive, the more important as a success factor	FLSD31
	Social benefits	The more beneficial, the more important as a success factor	FLSD32
	Community support	The more supportive, the more important as a success factor	FLSD33

Note: Measurement of all indicators using Likert Scale 1-5.

3.3 Data Analysis Method

This research data analysis uses a quantitative method. A quantitative primary data analysis uses descriptive statistical techniques and Structural Equation Modeling (SEM) analysis tools to examine questionnaire responses. SEM can be used to examine patterns of relationships between latent constructs and their indicators, between latent constructs, and between direct measurement errors. Covariance-Based SEM (CB-SEM), Partial Least Squares SEM (PLS-SEM), Generalized Structured Component Analysis (GSCA) are available for SEM. This research used PLS-SEM modelling to test the hypotheses and investigate the interrelationships since Hair et al. (2014) recommends using PLS-SEM to test complicated structural models with limited sample sizes. PLS SEM is a variant-based SEM that can stimulate Ly performing measurement model testing as well as structural model testing. Currently, various kinds of software are available for SEM data processing, including Lisrel, AMOS and SmartPLS. In line with PLS-SEM modelling approach, this research uses SmartPLS software. Formative and reflective SEM models with various indicator measurement scales (category, ratio, Likert, etc) can be tested in a single model using SmartPLS.

The Outer Model and the Inner Model are the two submodels that make up the PLS-SEM model of Implementation Success of the Port PPP Policy. The Outer Model links latent variables and manifest variables (known as indicators). The Inner Model (structural model), which describes the relationship between latent variables based on substantive theory, ascertains the relationship between latent variables. The PLS-SEM model of this research is depicted in Figure 2 below with listed variables in Table 5.

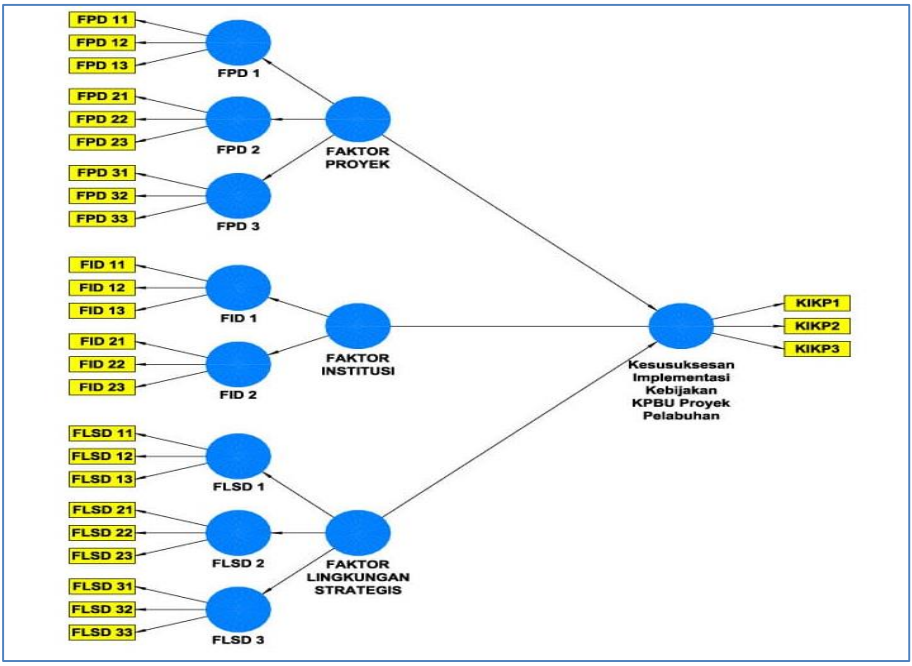

Fig 2. PLS-SEM Research Model (Source: Data Processed, 2024)

4 RESULT

4.1 Description of Research Object

National Port Policy

The provision and service activities of port services, including the provision of port infrastructure, are based on the National Port Policy, as stipulated in the Decree of the Minister of Transportation Number KP 432 of 2017 (Kepmenhub 432/2017) concerning the National Port Master, which contains port policies, location plans and national port hierarchies which are guidelines for determining the location, construction, operation and expansion of ports.

According to Kepmenhub 432/2017, the National Port Policy is directed at transforming the port sector into a competitive port service industry with a port operating system, both in the field of shipping safety and maritime environmental protection. The National Port Policy is directed at: (1) Encouraging private investment, (2) Encouraging competition, (3) Empowering the role of port operators, (4) Realizing planning integration, (5) Creating an appropriate and flexible legal and regulatory framework, (6) Realizing a safe and secure port operational system, (7) Improving maritime protection,

and (8) Developing human resources. The first direction is to encourage private investment, which is expected to increase private participation that determines success in accelerating the development of port facilities and infrastructure amid the limited financial capacity of the government (public sector).

Public-Private Partnership (PPP) Policy

Taking into account the limitations and capabilities of state finances, the Government of Indonesia introduced a policy of infrastructure provision with the PPP schemes in infrastructure supply to give the government room to work with the private sector in accordance with the proportionate risk allocation approach. PPP, by definition, is an agreement between the Government and Business Entity to provide infrastructure and/or its services for the public interest in accordance with the guidelines previously established by the Government, using Business Entity' resources either fully or partially while taking into account both parties' shared risk. Infrastructure procurement through PPP, in contrast to traditional purchase of goods and services, brings together all components of an infrastructure provision in one cooperation agreement contract, which includes financing, planning, design, construction/development, operation and maintenance.

The following are some reasons that can be considered for utilizing the PPP scheme: (1) The focus of procurement is on the provision of infrastructure services, (2) Private business entities finance the provision of infrastructure in advance, thus overcoming the limitations of the government budget, (3) There are broad opportunities for private business entities to carry out innovations that encourage efficiency both during infrastructure development and service delivery, (4) There is proposinal risk sharing between both parties, government and private business entities, (5) A single contract with business entities for all infrastructure provision activities, and (6) Government support is available at the project preparation stage.

Implementation of Port PPP Policy in Indonesia

Based on Bappenas PPP Book data for 2009-2023, it was recorded that 24 ports during the 2009-2023 period followed the PPP scheme. However, many Port PPP plans did not continue because they did not meet the PPP readiness criteria or were canceled as PPP projects and then decided with APBN or BUMN funding. The unpreparedness includes technical considerations such as incompatibility with regional spatial policies, or project feasibility considerations that require certainty of government support to increase its feasibility. There is one project, namely the Tanah Ampo Port PPP, which failed because it did not get an Implementing Business Entity at the transaction stage.

Currently, there are 2 (two) Port PPP Projects that meet the criteria and are categorized as Success Story Projects, namely Patimban Port PPP and Anggrek Port PPP. The Patimban Port PPP Implementing Business Entity (IBE) is PT Pelabuhan Patimban Internasional (PPI), formed by a winning tender consortium consisting of (1) PT CTCorp Infrastruktur Indonesia, (2) PT Indika Logistic & Support Services, (3) PT U Connectivity Services and (4) PT Terminal Petikemas Surabaya. Anggrek Port PPP IBE is PT

Anggrek Gorontalo International Terminal (AGIT), formed by a winning tender consortium consiting of (1) PT Gotrans Logistics International, (2) PT Anugerah Jelajah Indonesia Logistic, (3) PT Titian Labuan Anugrah and (4) PT Hutama Karya (Persero)

4.2 Descriptive Statistics of Variables

In this research there are 4 (four) variables studied, consisting of 1 (one) dependent variable and 3 (three) independent variables. To describe and test the influence of the independent variables on the dependent variable, a description of each variable based on the data obtained from the questionnaire is presented in Table 5.

Table 5. Descriptive Statistics of Variables

Variabel/Dimension/ Indicator	Mean			Stdev			Minimum			Maximum		
FPD11 FPD12 FPD13	4.400	4.477	4.233	0.614	0.584	0.687	3.00	3.00	2.00	5.00	5.00	5.00
Legal		4.370			0.500			3.00			5.00	
FPD21 FPD22 FPD23	4.488	4.333	4.388	0.545	0.560	0.593	3.00	3.00	3.00	5.00	5.00	5.00
Technical		4.403		0.459				3.00			5.00	
FPD31 FPD32 FPD33	4.444	4.233	4.144	0.672	0.687	0.696	2.00	2.00	2.00	5.00	5.00	5.00
Commercial		4.274			0.518				3.00		5.00	
Project Factor		**4.349**			**0.402**		**3.22**			**5.00**		
FID11 FID12 FID13	4.388	4.444	4.433	0.648	0.521	0.561	2.00	3.00	3.00	5.00	5.00	5.00
Government		4.422			0.481			3.00			5.00	
FID21 FID22. FID23	4.355	4.455	4.255	0.623	0.638	0.696	2.00	2.00	2.00	5.00	5.00	5.00
Business Entity		4.355			0.564			2.33			5.00	
Institutional Factor		**4.388**			**0.445**			**3.17**			**5.00**	
FLSD11 FLSD12 FLSD13	4.177	4.333	4.266	0.628	0.560	0.632	3.00	3.00	2.00	5.00	5.00	5.00
Economy		4.259			0.513			3.00			5.00	
FLSD21 FLSD22 FLSD23	4.266	4.333	4.233	0.683	0.618	0.671	2.00	2.00	2.00	5.00	5.00	5.00
Politics		4.277			0.545			2.33			5.00	
FLSD31 FLSD32 FLSD33	4.255	4.211	4.266	0.591	0.570	0.649	2.00	3.00	3.00	5.00	5.00	5.00
Social		4.244			0.486			3.00			5.00	
Strategic Environmental Factor		**4.260**			**0.451**			**3.00**			**5.00**	
KIKP1 KIKP2 KIKP3	3.788	3.544	3.644	1.075	0.901	0.915	2.00	1.00	2.00	5.00	5.00	5.00
Implementation Success of Port PPP Policy		3.659			0.775			2.00			5.00	

4.3 Results of SEM-PLS Processing

The validity test in this research was carried out using two criteria. First, Convergent Validity which is done by proving that the statement on each latent variable can be understood by the respondent as intended by the research. The criterion used is outer loading with the criterion that if the outer loading value is between 0.5 to 0.6, the statement of the latent variable is considered valid (Ghozali, 2008). Second, Discriminant

Validity which is accomplished by figuring out how certain constructs in the research model correlate with one another. The test is conducted using the Average Variance Extracted (AVE) value where the indicator is said to be valid if it has an AVE value> 0.5 (Hair et al, 2014).

Reliability testing is carried out using Composite Reliability criteria to determine whether a variable can be said to be reliable only if it has a Cronbach Reliability value ≥ 0.7. The processing results of validity and reliability testing show that the four variables and their dimensions are valid and reliable, as can be seen in the following Table 6.

Table 6 Validity and Reliability Testing of Variables

.

Variable / Dimensi	Indicator	Outer Loading	AVE	Composite Reliabiity
Project Factor				
Legal	FPD11 FPD12 FPD13	0.818 0.812 0.762	0,636	0.840
Technical	FPD21 FPD22 FPD23	0.809 0.787 0.834	0,656	0,851
Commercial	FPD31 FPD32 FPD33	0.697 0.849 0.720	0,575	0.801
Institutional Factor				
Government	FID11 FID13 FID12	0.742 0.868 0.895	0,701	0,875
Business Entity	FID23 FID21 FID22	0.851 0.857 0.888	0,749	0,900
Strategic Environmental Factor				
Economy	FLSD11 FLSD12 FLSD13	0.868 0.866 0.806	0,718	0,884
Politic	FLSD21 FLSD22 FLSD23	0.868 0.862 0.760	0,691	0,870
Social	FLSD31 FLSD32 FLSD33	0.803 0.844 0.767	0,649	0,847
Implementation Success of Port PPP Policy	KIKP1 KIKP2 KIKP4	0,768 0,821 0,828	0,650	0,858

Multicollinearity testing is used to test whether the independent variables in the SEM research model are not related to each other. The processing results for multicollinearity testing is presented in Table 7 below, which shows that all VIF values of the independent variables have a VIF value <10, and it can be concluded that there is no multicollinearity in the Port PPP Policy Implementation Success model,

Table 7. Multicollinearity Testing

Independent Variable	Port PPP Policy Implementation Success Model
Project Factor	1.672
Institutional Factor	1.468
Strategic Environmental Factor	1.436

Table 8 below presents the results of processing the coefficient of determination for the Port PPP Policy Implementation Success model showing an Adjusted R square value of 0.209, which means that the variation or behavior of the independent variables (Project Factor, Institutional Factor and Strategic Environmental Factor), can explain the variation of the dependent variable (Implementation Success of the Port PPP Policy) by 20.9% while the remaining 79.1% is a variation of other independent variables that affect the dependent variable but are not included in the model. For behavioral models related to the perceptions of individuals related to research variables, the R Square Adjusted value of 0.209 can still be continued with theoretical hypothesis testing.

Table 8. Coefficient Determination (R-Square)

Model	R Square	R Square Adjusted
Implementation Success of Port PPP Policy	0.236	0.209

The results of hypothesis testing processing are presented in Table 9 below.

Table 9. Research Hypothesis Testing

	Hypothesis	Path Coefficient	$T_{statistisk}$	P-value	Conclusion
H1	Project Factor → Implementation success of the Port PPP policy in Indonesia	0.283	2.115	0.035**	Positive and significant
H1a	Legal Dimension	0.844	20.064	0.000**	
H1b	Technical Dimension	0.826	24.808	0.000**	
H1c	Commercial Dimension	0.773	11.738	0.000**	
H2	Institutional factor → Implementation success of the Port PPP policy in Indonesia	0.045	0.313	0.754	Positive but insignificant
H2a	Government Dimension	0.845	28.474	0.000**	
H2b	Business Entity Dimension	0.866	33.236	0.000**	
H3	Strategic Environmental Factor → Implementation success of the Port PPP policy in Indonesia.	0.242	1.689	0.092*	Positive and significant
H3a	Economic Dimension	0.867	25.649	0.000**	
H3b	Political Dimension	0.861	23.524	0.000**	
H3c	Social Dimension	0.912	43.190	0.000**	
	*Note: *= 10% **= 5%*				

5 DISCUSSION

The research hypotheses were tested using the Structural Equation Model (SEM) technique through the Partial Least Squares (PLS) approach and SmartPLS3 software assistance, with the processing results showing that:

The Project Factor is a Success Factor that contributes the most and has a significant influence on the implementation success of the Port PPP policy in Indonesia. Sequentially, the three dimensions, namely the Legal Dimension, Technical Dimension and Commercial Dimension, make a significant contribution to the formation of the Project Factor.

The Strategic Environmental Factor is the second largest contributing Success Factor and has a significant influence on the implementation success of the Port PPP policy in Indonesia. The Social Dimension makes a significant contribution to the formation of

Strategic Environmental Factor, followed by the Economic Dimension and the Political Dimension.

The Institutional Factor is not a Success Factor, proven to have no significant influence on the implementation success of the Port PPP policy in Indonesia. The Business Entity Dimension makes a significant contribution to the formation of the Institutional Factor variable, followed by the Government Dimension.

The Government Dimension of the Institutional Factor does not have a significant influence on the implementation success of the Port PPP policy, some possible reasons include policy flexibility and stability. Policy flexibility: PPP policies that are designed with flexibility allow for smooth implementation regardless of the strong Government Dimension of the Institutional Factor. For example, if the policy provides room for the Enterprises to manage the project independently with little government intervention, the implementation may be less influenced by the Government Dimension of Institutional Factor. Long-term policy stability: If the PPP policy is implemented in a stable and clear policy environment, the Government Dimension of the Institution Factor may have less impact on its successful implementation. In line with this, it is relevant to state the respondents' responses regarding the PPP regulatory framework. Port PPP regulations, at present, are considered adequate, both PPP regulations in general and port regulations.

The Business Entity Dimension of Institutional Factor does not have a significant influence on the implementation success of Port PPP policy, mainly because of the capability of the Business Entity. First, with strong managerial capacity in managing infrastructure projects, the implementation of PPP policy may run smoothly regardless of the institutional factor of the business entity. Second, high technical capability with extensive industry experience and knowledge may be able to overcome institutional constraints that arise during PPP policy implementation. Third, sufficient financial capability to implement the project may be able to overcome implementation barriers without too much influence from institutional factors.

From the experience of the successful PPP projects of Patimban Port and Anggrek Port, it is evident that the Business Entities participating in the procurement of the PPP Implementing Business Entity are proven to meet the established qualification criteria, both concerning the criteria for financial capability and technical capability. In line with that, it is relevant to put forward respondents' responses regarding the Capability of Business Entities. The capability of the Business Entity, at present, is considered capable as a government partner in the Port PPP project. The capability of the Business Entity includes managerial, technical, and financial capabilities of the Business Entity.

Although the Institutional Factor may not always be the main determining factor in the implementation success of the Port PPP policy, the role and contribution of both parties remain important in creating a conducive environment for private investment and sustainable port infrastructure development. Government Institution is the actor that determines the readiness and attractiveness of the Project Factor and formulates strategic actions in anticipation of Strategic Environmental Factor., so indirectly

contributes to the implementation success of the Port PPP policy in Indonesia. Business Entities is very important in the Port PPP scheme because it is expected to be able to cover the remaining port infrastructure development needs, so also indirectly contribute to the implementation success of the Port PPP policy in Indonesia.

6 CONCLUSION AND RECOMMENDATION

The results of this research prove that Project Factor (Legal, Technical and Commercial Dimensions) and Strategic Environmental Factor (Economic, Political and Social Dimensions) have a significant influence, while Institutional Factor has no significant influence, on the implementation success of the Port PPP policy in Indonesia. Nevertheless, Institutional Factor (Government Dimension) plays a decisive role in the preparation of Project Factor and the formulation of anticipation of Strategic Environmental Factor. Institutional Factor (Business Entity Dimension) also play an important role as a strategic partner of the Government in the PPP scheme.

The limitation of this research is that this research is only at the planning, preparation and transaction stages, and does not include the implementation stage of the Port PPP agreement, which is currently only 2.5 years of the 30-40 years agreement period. When the implementation of the Port PPP agreement has been underway for 10 years or more, continuing this research, it is recommended that further research be carried out for a whole series of Port PPP stages.

Recommendation Success factors for Port PPP Policy Implementation related to regulations directly impact port infrastructure financing. The policy implication of this research is that adaptive and flexible regulations must be maintained in order to increase Business Entity participation in Port PPP projects in Indonesia. The lack of Business Entity participation amid a situation of limited Government funding capacity certainly has a negative impact on the availability of port infrastructure which can be an obstacle to economic growth

REFERENCES

1.Abdullahi, Y.M. & Alias, A. (2023). The Success Factor of Public-Private Partnerships in Malaysia and Nigeria's Housing Sectors. Journal of Design and Built Environment, VoL22(1), 13-33, April 2022. University of Malaya.
2.Aerts, G. et al. (2014). Public-Private Partnerships for the Provision of Port Infrastructure: An Explorative Multi-Actor Perspective on Critical Success Factors. Asian Journal of Shipping and Logistics, Volume 30 Number 3 December 2014 pp. 273-298. Elsevier BV.
3.Ahmad, U. et al. (2021). Relationship between project success and the success factors in public–private partnership projects: A structural equation model. Cogent Business & Management (2021), 8: 1927468. Cogent OA.

4. Ansell, C., & Gash, A. (2008). Collaborative Governance in Theory and Practice. Journal of Public Administration Research and Theory, 18(4), 543-571. Public Management Research Association.
5. Berisha A. et al. (2022). Perspective of Critical Factors towards Successful Public–Private Partnerships for Emerging Economies. Administrative Sciences 2022, 12, 160, November 2022. MDPI AG.
6. Chileshea, N. et al. (2020). Critical success factors for Public-Private Partnership (PPP) infrastructure and housing projects in Kenya. International Journal of Construction Management · March 2020. Taylor and Francis Ltd.
7. Chourasia, A.S. et al. (2021). Critical success factors for development of public-private-partnership airports in India. Journal of Infrastructure, Policy and Development (2021) Volume 5 Issue 1. EnPress Publisher, LLC.
8. Deng, B. et al. (2021). Fuzzy Synthetic Evaluation of the Critical Success Factors for the Sustainability of Public Private Partnership Projects in China. Sustainability 2021, 13, 2551. MDPI.
9. Dithebe, K. et al. (2019). Factor analysis of critical success factors for water infrastructure projects delivered under public–private partnerships. Journal of Financial Management of Property and Construction Vol. 24 No. 3, 2019 pp. 338-357. Emerald Publishing Limited.
10. Gitau, K.D. & John, A. (2023). Critical Success Factors for Implementation of Public Private Partnerships in Health Projects at The Ministry of Health in Kenya. International Journal of Management and Business Research, Volume 5, Issue 1, 2023. Islamic Azad University, Iran.
11. Hai, D.T. et al. (2022). Critical success factors for implementing PPP infrastructure projects in developing countries: the case of Vietnam. Innovative Infrastructure Solutions (2022) 7:89. Springer International Publishing AG.
12. Ismail, S. (2013). Critical success factors of public private partnership (PPP) implementation in Malaysia. Asia-Pacific Journal of Business Administration Vol. 5 No. 1, 2013 pp. 6-19. Emerald Group Publishing Ltd.
13. Jubair, S.M.B & Singh, J.S.K (2022). Critical Success Factors of Public-private Partnership (PPP) Projects in the Kingdom of Saudi Arabia. Webology, Volume 19, Number 1, January 2022. Info Sci Publisher.
14. Kandiyoh, G.E. et al. (2021). Successful Public Private Partnership Model and Strategy in The Manado-Bitung Toll Road Project. Design Engineering. Year 2021. Issue: 8 Pages: 4713-4727. Rogers Media Publishing.
15. Kristiawan, F. et al (2020). A framework to assess success criteria performance of public private partnership (PPP) toll road projects in Indonesia. IOP Conference Series: Materials Science and Engineering 930 (2020). 4th Int. Conference on Civil Engineering Research. IOP Publishing Ltd.
16. Mallisetti, V. et al. (2021). Motivations and Critical Success Factors of Indian Public–Private Partnership Unsolicited Proposals. Journal of The Institution of Engineers (India) Series A · February 2021. The Institution of Engineers (India) 2021. Springer.
17. Munoz-Jofre, J. et al (2023). A selectivity index for public-private partnership projects in the urban water and sanitation sector in Latin America and the Caribbean. Journal of Environmental Management 335, March 2023. Elsevier Ltd.
18. Ngullie, N. et al. (2021). Critical success factors for PPP MSW projects –perception of different stakeholder groups in India. Environmental Challenges 5 (2021) 100379. Elsevier BV.
19. Nguyen, P.T. et al. (2020). Success Factors for Public-Private Partnership Infrastructure Projects in Vietnam. International Journal on Advanced Science Engineering Information Technology Vol.10 (2020) No.2. Insight.

20.Panayides, P.M. et al. (2015). The effect of institutional factors on public–private partnership success in ports. Transportation Research Part A 71 (2015) 110–127. Elsevier Ltd.
21.Ramli, S. & Mohamed, Z.A. (2019). Understanding of CSFs in the application of Public-Private Partnership (PPP) Toll Expressway in Malaysia. International Journal of Innovative Technology and Exploring Engineering (IJITEE), Volume-9 Issue-1, November 2019. Blue Eyes Intelligence Engineering and Sciences Publication.
22.Su, B. & Hu, Q. (2020). An empirical study on the key success factors of ppp-based PCA in the big data environment -- a case study of China. E3S Web of Conferences 214, 01010 (2020). EDP Sciences.
23.Surachman, E.N. et al. (2020). Critical Success Factors on PPP Water Project in a Developing Country: Evidence from Indonesia. Journal of Asian Finance, Economics and Business Vol 7 No 10 (2020) 1071–1080. Korea Distribution Science Association (KODISA).
24.Syahruddin. Et al. (2023). A Qualitative Study: Critical Success Factors of Public Private Partnerships in Indonesia. International Journal of Membrane Science and Technology, 2023, Vol. 10, No. 2, Cosmos Scholars Publishing House, Pakistan.
25.Toan, N.Q & Hai, D.T. (2023). Assessment of factors influencing on the success of public-private partnerships infrastructure projects in Vietnam. Archives of Civil Engineering Vol. LXIX Issue 1 2023. Polska Akademia Nauk, Poland.
26.Yusfida, I. (2022). Critical Success Factor for Labuhan Bajo Airport Public-Private Partnership Investment Pilot Project. Pena Teknik: Jurnal Ilmiah Ilmu-Ilmu Teknik Vol. 7, No. 1, Maret 2022 • Andi Djemma Press.
27.Dunn, W.N. (2018). Public Policy Analysis: An Integrated Approach. Sixth Edition. New York: Routledge.
28.Ghozali, I. (2008). Structural Equation Modeling, Metode Alternatif dengan Partial Least Square. Semarang: Badan Penerbit Universitas Diponegoro.
29.Hair, J., Hult, T., Ringle, C., & Sarstedt, M. (2014). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). Thousand Oaks, CA: Sage Publications, Inc.
30.Kasmad, R. (2018). Studi Implementasi Kebijakan Publik. Makasar: Kedai Aksara.
31.Mankiw, G. N. (2003). Teori Makro Ekonomi Terjemahan. Jakarta: PT. Gramedia Pustaka Utama.
32.Nugroho, R. (2017). Public Policy. Jakarta: PT. Alex Media Komputindo Gramedia.
33.Saunders, M. N. K., Lewis, P., & Thornhill, A. (2019). Research Methods for Business Students (8th ed.). Pearson Education Limited.
34.Sugiyono (2019). Metode Penelitian Kuantitatif, Kualitatif, dan R&D. Bandung: Alphabet.
35.Suparmoko, M. & Sofilda, E. (2020). Pengantar Ekonomi Makro – Edisi 6. Tangerang: In-Media.
36.Keputusan Menteri Perhubungan Nomor KP 132 Tahun 2023 tentang Tim Percepatan Proyek KPBU Sektor Transportasi.
37.Keputusan Menteri Perhubungan Nomor KP 432 Tahun 2017 tentang Rencana Induk Pelabuhan Nasional.
38.Peraturan Menteri Perencanaan Pembangunan Nasional / Kepala Badan Perencanaan Pembangunan Nasional Nomor 7 Tahun 2023 Tentang Pelaksanaan KPBU Dalam Penyediaan Infrastruktur.
39.Peraturan Menteri Perhubungan Nomor PM 50 Tahun 2021 Tentang Penyelenggaraan Pelabuhan Laut.
40.Peraturan Menteri Perhubungan Nomor PM 58 Tahun 2018 Tentang Tata Cara Pelaksanaan KPBU dalam Penyediaan Infrastruktur Transportasi di Lingkungan Kementerian Perhubungan.
41.Peraturan Pemerintah Nomor 61 Tahun 2009 jo PP 64 Tahun 2015 Tentang Kepelabuhanan.
42.Peraturan Pemerintah Nomor 31 Tahun 2021 Tentang Penyelenggaraan Bidang Pelayaran

43.Keputusan Presiden (Keppres) Nomor 7 Tahun 1998 tentang Kerjasama Pemerintah Dan Badan Usaha Swasta Dalam Pembangunan Dan Atau Pengelolaan Infrastruktur.
44.Peraturan Presiden Republik Indonesia Nomor 67 tahun 2005 tentang KPBU Dalam Penyediaan Infrastruktur.
45.Peraturan Presiden Republik Indonesia Nomor 38 tahun 2015 tentang KPBU Dalam Penyediaan Infrastruktur.
46.Peraturan Presiden Republik Indonesia Nomor 18 Tahun 2020 tentang Rencana Pembangunan Jangka Menengah Nasional Tahun 2020-2024.
47.Undang Undang Nomor 17 Tahun 2008 Tentang Pelayaran.
48.Undang – Undang Nomor 11 Tahun 2020 tentang Cipta Kerja.
49.Undang-Undang Nomor 6 Tahun 2023 tentang Penetapan Peraturan Pemerintah Pengganti Undang-Undang Nomor 2 Tahun 2022 tentang Cipta Kerja menjadi Undang-Undang.
50.Kementerian Perencanaan Pembangunan Nasional / Badan Perencanaan Pembangunan Nasional (2023, 2022, 2021, 2020, 2019, 2018, 2017, 2015). Public-Private Partnership – Infrastructure Project Plan in Indonesia 2023, 2022, 2021, 2020, 2019, 2018, 2017, 2015.
51.World Bank. (1994). World Development Report: Infrastructure for Development. Oxford University Press, New York.
52. World Bank (2017), Public-Private Partnerships Reference Guide, Version 3.