Performance Analysis of South Kalimantan Provincial Road and Bridge Implementing Contractors During The Pandemic

Handi Erfani
Students of the Study Program
Master of Civil Engineering
Universitas Lambung Mangkurat

Irfan Prasetia
Teaching Lecturers of the Master Study Program
Civil Engineering University of
Lambung Mangkurat Banjarmasin

ABSTRAK
The Covid 19 pandemic disaster, has paralyzed many trading industries in the world. Not only that, even the construction industry which was previously promoted by the Government also experienced the same impact. This study aims to analyze the most influential causal factors in the performance of road and bridge implementing contractors and appropriate strategies to improve the performance of existing contractors in South Kalimantan.
The method used in this study is Descriptive Qualitative. Primary data is taken from questionnaires and interviews with Leaders and Staff of the PUPR Office of South Kalimantan Province and Supervisory Consultants, while secondary data comes from books, journals and other data that will produce strategies to improve contractor performance.
From the results of the analysis that has been done, it can be concluded that indicators that are in the top priority category need attention because they show the lowest quadrant are variables that enter quadrant A.
The main strategy that needs to be done according to researchers is an experienced Project Manager in order to be able to maintain the project well even during the pandemic and avoid construction failure.
Keywords: *pandemic, construction, contractor performance, improvement strategy*

I.   INTRODUCTION

During the Covid-19 pandemic, budget issues are also important. Because operationally work in the field requires additional equipment related to the implementation of health protocols in field work. On the one hand, the cost of mobilizing labor and ensuring the workforce in healthy conditions are the main requirements before work. The difference from similar studies that also raise the same problem is regarding the main factor in reducing the performance of road and bridge project work that the implementation of construction services during the Covid-19 pandemic has a greater potential to have problems and construction disputes. So in this study, researchers suggest the possibility of the Covid-19 pandemic is also one of the most influential causative factors in the performance of road and bridge implementing contractors and formulating appropriate strategies to improve contractor performance. As a result of the Covid-19 pandemic, the Government has imposed a Large-Scale Social Restrictions (PSBB) policy. The result is a restriction on transportation and mobilization in a number of areas with high/medium risk zones. Based on the series of explanations above, on this occasion, the author made a research on the performance aspects of road and bridge construction projects in the South Kalimantan PUPR Office Highways for the 2021 fiscal year which were affected by the Covid-19 pandemic.

II.   LITERATURE REVIEW

The dimensions used in evaluating employee performance according to Prawirosentono (1999) are as follows:
1. Knowledge of work, clarity of knowledge of job responsibilities that are the duty of employees.
2. Planning and organization, the ability to make work plans including schedules and sequences of work, so as to achieve efficiency and effectiveness.
3. Quality of work, thoroughness and accuracy of work.
4. Productivity, the amount of work produced compared to the time used.

5. Technical knowledge, technical basis and practicality so that the work is close to performance standards.

6. Judgment, instinctive policy and the ability to conclude tasks so that organizational goals are achieved.

7. Communication, the ability to relate verbally with others.

8. Cooperation, the ability to cooperate with others and a constructive attitude in the team.

9. Attendance in meetings, ability and participation (participation) in meetings in the form of opinions or ideas.

10. Project management, the ability to manage projects, both fostering teams, creating work schedules, budgets and creating good relationships between employees.

11. Leadership, the ability to direct and guide subordinates, so as to create efficiency and effectiveness.

12. Self-improvement ability, self-improvement ability with advanced study or courses.

III. DATA AND ANALYTICS

RESEARCH DATA

There are two kinds ofresearch data used, namely primary data and secondary data,

DATA ANALYSIS

Test Validity and Reliability

Before data analysis is carried out, it is necessary to test the validity and reliability of the data. Validity indicates the extent to which the score/value/measure obtained actually states the measurement/observation result to be measured. In addition, to indicate the extent to which a measuring device is trustworthy or reliable. While reliability tests to show the extent to which a measuring device is trustworthy or reliable. Each measuring device should have the ability to provide relatively consistent measurement results over time.

Performance Level Analysis

After the data is declared valid and reliable, then an analysis will be carried out to determine the dominant factors as the cause of reduced project performance levels. The analysis tool used is index and variance analysis, where it is necessary to first tabulate the frequency of respondents' answers to each factor causing reduced levels of performance and expectations of work implementation.

CSI (*Customer Satisfaction Index*)

CSI is an index to determine the level of overall customer satisfaction with an approach that considers the importance of the attributes of the product or service being measured. The CSI test aims to analyze the level of performance of the implementing contractor of the Road and Bridge Office of the PUPR Office of the South Kalimantan Provincial Government in the field of Highways during the pandemic and to determine CSI used a questionnaire consisting of a scale of Performance and importance

IPA (*Importance Performance Analysis*)

This method measures the level of customer importance (customer expectation) in relation to what should be done by the company in order to produce high-quality products or services. The IPA test proceeds to analyze the factors that have a dominant influence on contractor performance during the pandemic, Scoring and analysis are carried out after the questionnaire is completed, the interpretation of differential semantic scale scores cannot be done directly, but must be compared with the scores of normative groups. IPA analysis is depicted in the form of a 2-dimensional quadrant that is graphical and easy to interpret.

RECAPITULATION OF QUESTIONNAIRE RESULT DATA

Table III.1 Recapitulation of Performance Questionnaire Results Data

No	Performance Aspect	Variable	Respondents Answers					Total
			STP	KP	CP	TP	STP	
1.	Performance	K.1	-	1	9	13	7	30
		K.2	-	-	12	14	4	30
		K.3	-	-	13	14	3	30
		K.4	-	-	15	11	4	30
2.	Government Policy	$KP._1$	-	-	15	11	4	30
		$KP._2$	-	-	16	13	1	30
		$KP._3$	-	1	7	15	7	30
		$KP._4$	-	-	12	14	4	30
3.	Health Protocol	$PK._1$	-	1	9	15	5	30
		$PK._2$	-	1	7	18	4	30
		$PK._3$	-	-	11	14	5	30
		$PK._4$	-	1	10	14	5	30
		$PK._5$	-	-	15	11	4	30
4.	Material	$M._1$	-	1	10	14	5	30
		$M._2$	-	-	5	16	9	30
		$M._3$	-	1	7	18	4	30
		$M._4$	-	-	11	14	5	30

Table III.2 Recapitulation of Expectation Questionnaire Results Data

No	Performance Aspect	Variable	Respondents Answers					Total
			STP	KP	CP	TP	STP	
1.	Performance	K.1	-	-	4	17	9	30
		K.2	-	-	10	13	7	30
		K.3	-	-	8	17	5	30
		K.4	-	-	-	14	16	30
2.	Government Policy	$KP._1$	-	-	15	11	4	30
		$KP._2$	-	-	3	18	9	30
		$KP._3$	-	-	-	15	15	30
		$KP._4$	-	-	11	14	5	30
3.	Health Protocol	$PK._1$	-	1	10	14	5	30
		$PK._2$	-	-	9	17	4	30
		$PK._3$	-	-	4	16	10	30
		$PK._4$	-	1	10	13	6	30
		$PK._5$	-	-	9	17	4	30
4.	Material	$M._1$	-	-	4	17	9	30
		$M._2$	-	-	9	14	7	30
		$M._3$	-	-	-	17	13	30
		$M._4$	-	-	12	12	6	30

VALIDITAS

From the results of the validity test on 30 respondents as in Table III.3, it is known that the value of the Spearman rank correlation coefficient (R) is greater than the critical value ($R_{0.05} = 0.316$) so that it can be concluded that all items are valid.

Table III.3 Performance Validity Test Results

No	Performance Aspect	Variable	R	Conclusion
1.	Performance	$K.1$	0,817	Valid
		$K.2$	0,719	Valid
		$K.3$	0,619	Valid
		$K.4$	0,768	Valid
2.	Government Policy	$KP._1$	0,768	Valid
		$KP._2$	0,609	Valid
		$KP._3$	0,766	Valid
		$KP._4$	0,719	Valid
3.	Health Protocol	$PK._1$	0,687	Valid
		$PK._2$	0,761	Valid
		$PK._3$	0,743	Valid
		$PK._4$	0,790	Valid
		$PK._5$	0,768	Valid
4.	Material	$M._1$	0,790	Valid
		$M._2$	0,613	Valid
		$M._3$	0,761	Valid
		$M._4$	0,743	Valid

Table III.4 Expected Validity Test Results

No	Performance Aspect	Variable	R	Conclusion
1.	Performance	$K.1$	0,525	Valid
		$K.2$	0,691	Valid
		$K.3$	0,593	Valid
		$K.4$	0,502	Valid
2.	Government Policy	$KP._1$	0,619	Valid
		$KP._2$	0,515	Valid
		$KP._3$	0,473	Valid
		$KP._4$	0,617	Valid
3.	Health Protocol	$PK._1$	0,800	Valid
		$PK._2$	0,632	Valid
		$PK._3$	0,656	Valid
		$PK._4$	0,799	Valid
		$PK._5$	0,632	Valid
4.	Material	$M._1$	0,525	Valid
		$M._2$	0,680	Valid
		$M._3$	0,461	Valid
		$M._4$	0,652	Valid

RELIABILITY

From the test results, it can be seen that all α obtained are greater than the minimum value of reality, so that all research question items are declared reliable

Table III.5 Performance Reliability Test Results

No	Performance Aspect	Variable	R	Conclusion
1.	Performance	$K.1$	0,942	Reliable
		$K.2$	0,944	Reliable
		$K.3$	0,946	Reliable
		$K.4$	0,943	Reliable
2.	Government Policy	$KP._1$	0,943	Reliable
		$KP._2$	0,947	Reliable
		$KP._3$	0,943	Reliable
		$KP._4$	0,944	Reliable
3.	Health Protocol	$PK._1$	0,945	Reliable
		$PK._2$	0,943	Reliable
		$PK._3$	0,943	Reliable
		$PK._4$	0,942	Reliable
		$PK._5$	0,943	Reliable
4.	Material	$M._1$	0,942	Reliable
		$M._2$	0,946	Reliable
		$M._3$	0,943	Reliable
		$M._4$	0,943	Reliable

Table III.6 Expected Reliability Test Results

No	Performance Aspect	Variable	R	Conclusion
1.	Performance	K.1	0,900	Reliable
		K.2	0,893	Reliable
		K.3	0,896	Reliable
		K.4	0,901	Reliable
2.	Government Policy	KP. 1	0,892	Reliable
		KP. 2	0,900	Reliable
		KP. 3	0,901	Reliable
		KP. 4	0,895	Reliable
3.	Health Protocol	PK.1	0,888	Reliable
		PK.2	0,894	Reliable
		PK.3	0,895	Reliable
		PK.4	0,887	Reliable
		PK.5	0,894	Reliable
4.	Material	M.1	0,900	Reliable
		M.2	0,893	Reliable
		M.3	0,902	Reliable
		M.4	0,894	Reliable

SATISFACTION LEVEL ANALYSIS

The performance measurement of the implementing contractor of the Road and Bridge Office of the PUPR Office of the South Kalimantan Provincial Government in the field of Highways during the pandemic in this study uses the CSI (*Customer Satisfaction Index*) method.

Table III.7 CSI Method Calculation Results

No	Performance Aspect	Variable	Performance MIS	Expectation MSS	WF (%)	Village
1.	Performance	K.1	3,867	4,167	6,035	25,147
		K.2	3,733	3,900	5,827	22,726
		K.3	3,667	3,900	5,723	22,320
		K.4	3,633	4,533	5,671	25,709
2.	Government Policy	KP. 1	3,633	3,633	5,671	20,605
		KP. 2	3,500	4,200	5,423	22,945
		KP. 3	3,933	4,500	6,139	27,627
		KP. 4	3,733	3,800	5,827	20,144
3.	Health Protocol	PK.1	3,800	3,767	5,931	22,341
		PK.2	3,833	3,833	5,983	22,936
		PK.3	3,800	4,200	5,931	24,912
		PK.4	3,767	3,800	5,879	22,341
		PK.5	3,633	3,833	5,671	21,740
4.	Material	M.1	3,767	4,167	5,879	24,497
		M.2	4,133	3,933	6,452	25,376
		M.3	3,833	4,433	5,983	26,526
		M.4	3,800	3,800	5,931	22,539
	Total		64,067	68,400	100	403,006

$$CSI = \frac{\sum_{i=1}^{n} WSi}{5} \; x \; 100\% \rightarrow \rightarrow \frac{403,006}{5} \; x \; 100\% 80,601\%$$

PRIORITY FACTOR ANALYSIS

The measurement of the priority level of performance of the implementing contractor of the Road and Bridge Office of the PUPR Office of the South Kalimantan Provincial Government in the field of Highways during the pandemic in this study uses the IPA (*Importance Performance Analysis*) method.

Tabel III.8 analyzes IPA

No.	Question	Score Performance	Performance	Score Expectation	Expectation
1	K.1	116	3,867	125	4,167
2	K.2	112	3,733	117	3,900
3	K.3	110	3,667	117	3,900
4	K.4	109	3,633	126	4,533
5	KP. 1	109	3,633	109	3,633
6	KP. 2	112	3,500	126	4,200
7	KP. 3	118	3,933	135	4,500
8	KP. 4	105	3,733	113	3,800
9	PK.1	114	3,800	114	3,767
10	PK.2	115	3,833	115	3,833

11	$PK._3$	124	3,800	136	4,200
12	$PK._4$	113	3,767	114	3,800
13	$PK._5$	109	3,633	115	3,833
14	$M._1$	114	3,767	125	4,167
15	$M._2$	113	4,133	118	3,933
16	$M._3$	115	3,833	113	4,433
17	$M._4$	114	3,800	114	3,800
	Total	1922	64,067	2052	68,400

Table III.9 Quadrant Results

Performance Aspect	No	Variable	Coordinates (x, y)	Kuadran
Performance	1	$K.1$	3,867, 4,167	B
	2	$K.2$	3,733, 3,900	C
	3	$K.3$	3,667, 3,900	C
	4	$K.4$	3,633, 4,533	A
Government Policy	5	$KP._1$	3,633, 3,633	C
	6	$KP._2$	3,500, 4,200	A
	7	$KP._3$	3,933, 4,500	B
	8	$KP._4$	3,733, 3,800	C
Health Protocol	9	$PK._1$	3,800, 3,767	D
	10	$PK._2$	3,833, 3,833	D
	11	$PK._3$	3,800, 4,200	B
	12	$PK._4$	3,767, 3,800	C
	13	$PK._5$	3,633, 3,833	C
Material	14	$M._1$	3,767, 4,167	A
	15	$M._2$	4,133, 3,933	D
	16	$M._3$	3,833, 4,433	B
	17	$M._4$	3,800, 3,800	D
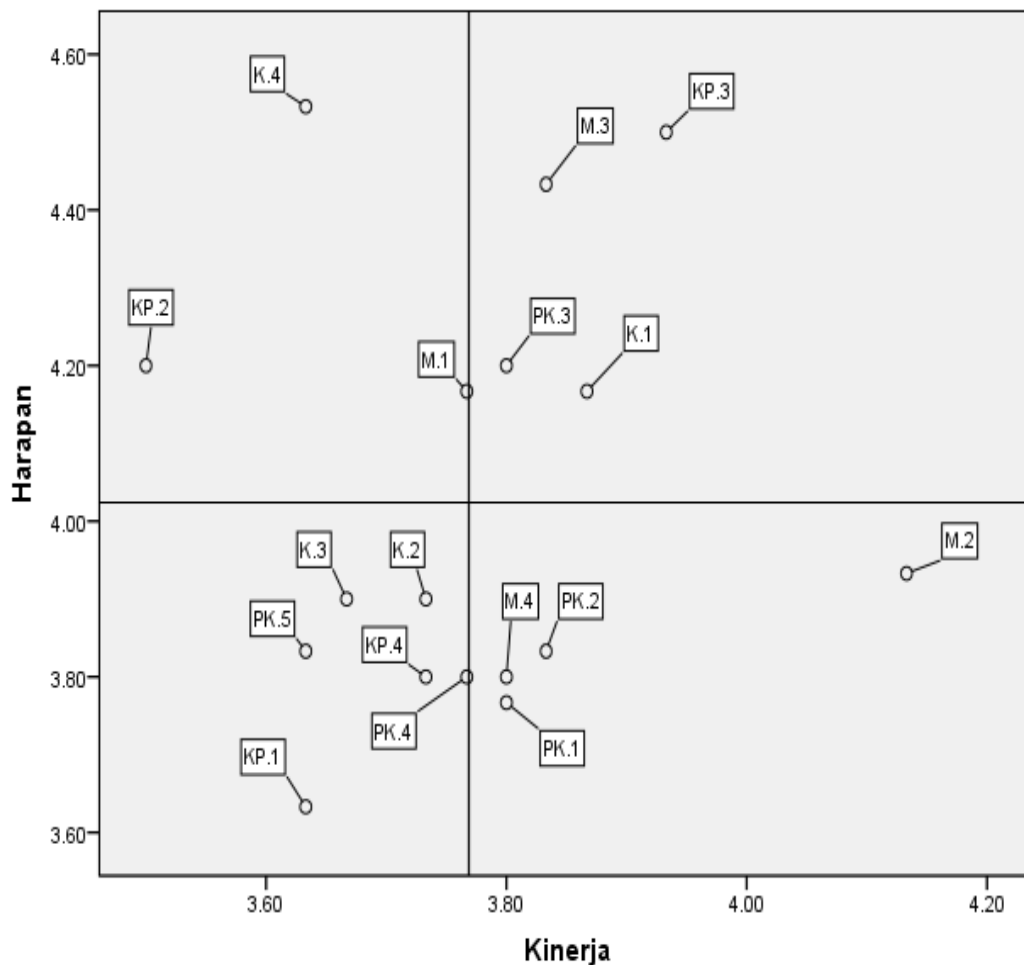
Gambar III.1 Diagram *Importance Performance Analysis*

DIRECTION OF IMPROVEMENT STRATEGY

1.　　According to PPK, the holding of meetings once a week to discuss work progress, problems during work time and strict health protocol rules are strategies to maintain coordination and cooperation relations withthe PUPR Office of the South Kalimantan Provincial Government in the field of Highways and Supervisory Consultants, if you cannot meet face to face, you can via zoom.

2.　　According to the supervisory consultant, it isto choose a more experienced project manager so that the arrangement of documents per date, month and year to be neater and easier to find, then mitigate the contractor in choosing better decisions and be more thorough in compiling updating the implementation time schedule so that the achievement is in accordance with the agreed targets.

IV.　　CONCLUSION

The conclusions that can be made from this study are:

1.　　Based on the analysis conducted with the Customer Satisfaction Index (CSI) Method and the Importance Performance Analysis (IPA) Method, it is known that the level of satisfaction with supervisory consultants issatisfied with a value of 80.601% for CSI,

2.　　For IPA factors that need to be prioritized (Quadrant A) are Efficiency of Contractor's working time during the COVID-19 pandemic ($K.4$),Temporary suspension of projects due to government regulations (Lockdown) during the COVID-19 pandemic ($KP._2$) and Mitigation of contractors against delays in material delivery to the project site during the COVID-19 pandemic ($M.1$). The factors that need to be maintained (Quadrant B)are the work standards set by the PUPR Office of South Kalimantan Province in the field of Highways ($K.1$),PSBB during the COVID-19 pandemic ($KP._3$)Implementation of periodic rapid tests for workers in the project area ($PK._3$)and Mitigation of contractors against the scarcity of materials needed during the COVID-19 pandemic ($M.3$).

3.　　The main strategy that needs to be done is to choose a Project Manager who is experienced in order to maintain the project well despite the pandemic and avoid construction failure.

REFERENCE LIST

[1].　AndiTriyawan et al, 2021. The impact of the COVID-19 pandemic on the sustainability of construction service companies. Journal of UNMUL Economic Forum, Universitas Darussalam Gontor, Ponorogo.
[2].　Cooper, D. R., & Schindler, P. S. (2006). Business Research Methods.
[3].　Ervianto, (2005), Construction Project Management, 2nd Edition, Andi, Yogyakarta.
[4].　Ghozali, I. (2009). Econometrics Theory, Concepts and Applications with SPSS 17. Semarang: Diponegoro University Publishing Board.
[5].　Kartasasmita. 1994. Development Management for Developing Countries. Jakarta: PT GeloraAksaraPratama.
[6].　Martilla, J. A. and James, J.C. (1977). Importance-Performance Analysis. The Journal of Marketting.
[7].　Muharastri, (2008). Consumer Satisfaction Analysis of Real Good UHT Milk Brand in Bogor City. Thesis. Faculty of Agricultural Technology. Bogor Agricultural University. Bogor.
[8].　Nelda Maelissa et al, 2021. The Impact of the Covid-19 Pandemic on the Implementation of Construction Projects in Ambon City, JurnalSimetrics, Ambon State Polytechnic, Ambon.
[9].　Prawirosentono, Suryadi. (1999). Employee Performance Policy. BPFE, Yogyakarta.
[10].　Santoso (2003), Project Management Concept and Impementation, GrahaIlmu, Yogyakarta.
[11].　Santoso. (2011). Consumer Perception of Telo Bun Quality with Importance Performance Analysis (IPA) Method. Journal of Agricultural Technology. 12 (1) : 9.
[12].　Shenson, H.L. (1990). Shenson on consulting: Succes strategies from the consultant's. New York. Wiley.
[13].　Sinungan. 2003. Productivity What and How. Jakarta: BumiAksara.
[14].　Suroto, 2021. The Effect of the Covid-19 Pandemic on the Performance of Electricity Infrastructure Projects at PT. PLN (Persero) West Kalimantan Development Main Unit. Thesis, LambungMangkurat University, Master of Civil Engineering Study Program. Banjarmasin.
[15].　Soemardi&; Wirahadikusumah. 2009. Proceedings of the National Seminar on Infrastructure Development for All, Cooperation between Three Universities of UI-UGM-ITB, October 29, 2009, Bandung.
[16].　Yasin, 2022. Analysis of Factors for Delays in the Implementation of Road and Bridge Projects at the Public Works and Spatial Planning Office of South Kalimantan Province. Thesis, LambungMangkurat University, Master of Civil Engineering Study Program. Banjarmasin.