PERFORMANCE ANALYSIS OF SUPERVISORY CONSULTANTS ON THE PUGUK–LUBUK RESAM ROAD RECONSTRUCTION PROJECT IN BENGKULU PROVINCE

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Abstract

The performance of supervisory consultants is a critical determinant of success in construction projects, particularly in achieving quality, time, and cost objectives. This study aims to evaluate the performance of supervisory consultants on the Puguk–Lubuk Resam Road Reconstruction Project in Bengkulu Province and to identify the dominant factors influencing their performance. A descriptive quantitative approach was employed, with data collected through questionnaires distributed to 56 respondents comprising supervisory consultants, contractors, and project owners. The analysis results indicate that all variables scored above 80%, placing consultant performance within the "Good" to "Very Good" category. The highest score was recorded in the variable of technical specification comprehension (85.6%), while the lowest score was found in workforce supervision (82.6%). These findings highlight the importance of strengthening contractual literacy, enhancing cross-stakeholder coordination, ensuring responsiveness to technical deviations, and implementing technology-based supervision systems alongside a strong safety culture. Such measures are essential for sustaining and improving the effectiveness of supervisory functions in construction projects.

Keywords: performance, construction, road projects, effectiveness

INTRODUCTION

Infrastructure development is a key pillar in driving regional economic growth. In Bengkulu Province, infrastructure development, particularly in the road sector, plays a vital role in supporting interregional connectivity, streamlining the distribution of goods and services, and increasing public mobility. Roads, as part of the road infrastructure, are the backbone of supporting the smooth flow of economic and social activities.

As development needs in various sectors increase, the demand for reliable, efficient, and sustainable supporting infrastructure is also increasing. Good road infrastructure not only accelerates the distribution of logistics and services but also improves public access to public services and creates more equitable economic growth. In the implementation of road construction projects, project success is crucially determined by the collaboration between various parties, including the project owner, contractor, and supervising consultant.

The supervising consultant is a business entity engaged in construction supervision, serving as a representative or mediator for the project owner. They are responsible for carrying out communication, consultation, supervision, and oversight functions with the contractor. The strategic role of a supervisory consultant is crucial in assisting project owners, particularly in overseeing construction implementation from various aspects, such as human resources (HR), equipment, materials, costs, time, quality, and Occupational Safety and Health (OHS). Successful project management in the field is largely

determined by the performance of key personnel within the supervisory consultant, such as the Project Manager, Site Manager, and field supervisors, as well as their ability to effectively manage all activities and resources.

The active involvement of a supervisory consultant in an infrastructure development project aims to ensure that work progresses according to plan and produces productive and high-quality output. They also play a role in fostering communication between all levels of project implementation, from managerial to operational, to ensure there are no information gaps that could hinder performance. Therefore, to achieve project success, the supervisory consultant's performance is required to adapt to the dynamics of field conditions and the complexity of the work.

A construction project is considered successful if it meets three main parameters: cost, quality, and time. A project is considered efficient when expenditures are within budget, the quality of work results meets technical specifications, and completion is achieved within the planned timeframe. In this context, the presence of a supervisory consultant is crucial in ensuring the achievement of these three aspects through strict supervision and accurate progress monitoring.

According to Amir (2021), weak project supervision remains a common problem, leading to delays, cost overruns, and decreased work quality. Rani (2016) highlighted that these problems often arise from low labor productivity, minimal coordination between parties, and weak resource control.

The Puguk–Lubuk Resam Road Reconstruction Project in Bengkulu Province, which began in 2024 and had been planned since 2023, had a budget allocation of IDR 10,891,216,800. This project includes 3,703 meters of flexible pavement with a 180-day implementation period. During implementation, the project experienced a one-week delay from the established schedule. This was due to several factors, such as high rainfall, difficult-to-access terrain, and the consistent absence of the supervising consultant in the field, resulting in suboptimal oversight of the work implementation.

Although the project utilized adequate and functional equipment, such as a Total Station (TS), Nikon Waterpass, and Topcon DT-20 Theodolite, from a technical measurement perspective, the effectiveness of these measuring instruments would not have been maximized without the active involvement of the supervising consultant. This confirms that successful supervision depends not only on the equipment but also on the professionalism and commitment of the human resources managing it.

Previous studies have shown that the performance of the supervising consultant is significantly influenced by factors such as work quality, cost efficiency, report quality, and personnel competence (Sumajouw & Tarore, 2013; Setiawan & Febryanto, 2018). Marselina and Iranius (2021) noted discrepancies between road project implementation and contract documents due to weak supervision. Meanwhile, Prasetyo (2019) stated that the use of a digital monitoring and evaluation system has been proven to increase the effectiveness of field supervision.

The Bengkulu region itself has a complex geography, with hilly topography and the potential for disasters such as landslides. This situation requires careful and responsive oversight from the supervisory consultant, particularly in conducting risk analysis and implementing appropriate mitigation measures.

Strengthening the supervisory system and improving the performance of supervisory consultants is an urgent need for the success of infrastructure projects. A comprehensive evaluation of the role of supervisory consultants is not only crucial for accountability but also as a basis for

improving the professionalism of future supervision.

Based on this background, researchers felt the need to conduct a more in-depth study of the performance of supervisory consultants on infrastructure projects. Therefore, this study is entitled "Analysis of Supervisory Consultant Performance on the Puguk-Lubuk Resam Road Reconstruction Project in Bengkulu Province."

LITERATURE REVIEW

Construction Project

A construction project is a series of planned activities over a specific period of time to produce a physical product in the form of infrastructure, such as roads, buildings, and bridges. This project requires the management of labor, materials, equipment, and capital to achieve the stated objectives (Ahmad, 2024). According to PMI (2021), a construction project is a temporary endeavor to create a unique product, service, or result within specific timeframes, budgets, and specifications. Cova and Hoskins (1997 in Carlos et al., 2014) emphasized that construction projects are complex transactions involving specific services and work to produce assets within a specific timeframe, thus requiring effective coordination between stakeholders.

Construction projects have specific characteristics, including time constraints, unique outputs, systematic implementation stages, and fluctuating activity intensity. Projects also involve a diverse workforce, take place at specific locations, and adhere to applicable technical specifications (Yuliana, 2018). Ervianto (2023) added that construction projects are unique, require diverse resources, and require a solid organizational structure to integrate diverse expertise and interests in achieving goals.

Generally, construction projects are divided into building and civil engineering projects (Ervianto, 2023). Building projects include the construction of homes, offices, and industrial facilities, while civil engineering projects focus more on public infrastructure such as highways, bridges, and dams. Hafnidar (2017) classifies construction projects into four categories: (1) residential construction, (2) building construction, (3) heavy engineering construction, and (4) industrial construction. Each type has different technical complexities and requires specific

Management strategies.

Project Management

Project management is the effective application of managerial functions such as planning, organizing, implementing, and controlling resources to achieve predetermined objectives (Yuliana, 2018). According to Husen (2009), project management focuses on utilizing skills and resources to achieve optimal results in terms of cost, quality, time, and safety. PMBOK defines it as the application of knowledge, capabilities, tools, and techniques throughout the project life cycle. Ervianto (2023) emphasizes that project management involves planning, implementing, monitoring, and evaluating to ensure the project runs according to agreed time, cost, and quality standards. Therefore, the primary functions of project management are establishing clear objectives, managing resources, carrying out operational coordination, and developing communication systems between stakeholders.

Construction management plays a crucial role as a coordinator throughout all project stages. This role is divided into four systems: Agency Construction Management (ACM), Extended Service Construction Management (ESCM), Owner

Construction Management (OCM), and Guaranteed Maximum Price Construction Management (GMPCM). Each system has a different approach to the involvement of consultants and contractors, but the primary goal remains to control time, cost, and quality, as well as the consultant's independence in providing recommendations to the project owner.

Supervision Consultant

A supervision consultant is a business entity or individual appointed to ensure project implementation adheres to the planned quality, cost, and time. The primary role of a supervision consultant is to oversee the project's progress to ensure compliance with the construction service contract and to act as a mediator between the project owner and the contractor (Pratama, 2024). Yoneda et al. (2023) emphasize that the quality of a supervision consultant's performance is determined by the competence of personnel in managing resources in the field. Furthermore, a supervision consultant also maintains coordination between parties through a clear project organizational structure (Dwiretnani et al., 2024).

The supervision consultant's duties include managing contract administration, routine supervision, reporting, providing technical advice, and approving technical drawings. Their authority includes issuing warnings, stopping work in the event of a contract violation, reviewing technical specifications, and making changes through official minutes. Thus, the supervision consultant plays a central role in ensuring the project's success according to the contract.

Supervision Consultant Performance

The performance of a supervision consultant is an indicator of project management effectiveness. Optimal performance can increase productivity, streamline administration, and strengthen communication between the owner and contractor (Putra et al., 2021; Yoneda et al., 2023). Conversely, weak performance can result in delays, inefficiencies, and even project failure.

According to Soeharto (2001), performance is a condition that needs to be measured to determine an organization's achievement of its vision and mission. In the context of project supervision, performance indicators include technical skills, communication, teamwork, professionalism, productivity, leadership, and integrity (Ervianto, 2023). Evaluation of these factors is crucial to ensure supervision effectiveness.

Factors Influencing Supervision Consultant Performance

Azis et al. (2016) identified seven main factors that influence the performance of the supervisory consultant, namely: (1) understanding of contract documents, (2) understanding of technical specifications, (3) availability of materials, (4) quality of labor, (5) effectiveness of equipment use, (6) implementation methods, and (7) compliance with local regulations. These factors are interrelated in determining the success of construction project supervision.

RESEARCH METHODS

This study used a quantitative approach with descriptive methods to provide a systematic overview of the performance of the supervisory consultant based on predetermined indicators. The object of this study was the factors influencing the performance of the supervisory consultant on the Puguk–Lubuk Resam Road Reconstruction Project in Bengkulu Province, including understanding of contract documents, technical specifications, materials, labor, equipment use, implementation methods, local government regulations, and OHS

aspects. The research variables were operationalized as measurable indicators using a five-point Likert scale (1 = strongly disagree to 5 = strongly agree) to measure respondents' perceptions. The study population was all 56 project stakeholders, consisting of contractors, supervisory consultants, and the public works department.

The sampling technique used was saturated sampling, so the entire population served as the research sample. Data collection was conducted through a structured questionnaire as primary data and a literature review as secondary data.

The ranking of the research variables was calculated based on the comparison between the actual score and the ideal score. The actual score was obtained from the calculation of all respondents' opinions, while the ideal score was calculated based on the highest predicted score multiplied by the number of questionnaire questions and the number of respondents. The formula for this calculation is as follows:

$$\% \text{ Actual Score} = \frac{Actual\ Score}{Ideal\ Score} \times 100\%$$

The actual score weighting is divided into five categories: "very good" if the result is >84%, "good" if the result is 68.01-84%, "adequate" if the result is 52.01-68%, "poor" if the result is 36.01-52%, and "poor" if the result is <36% (Purwandi, 2018).

Questionnaire Validity Testing was conducted to ensure the validity and reliability of the instrument used in this study. The validity test used a Pearson Bivariate (Product Moment) correlation with $\alpha \leq 0.05$. Question items that correlated significantly with the total score indicated the instrument's validity. For the reliability test, the reliability coefficient was calculated using Cronbach's Alpha. Reliability was considered adequate if the Cronbach's Alpha value was ≥ 0.6, indicating a good level of internal consistency of the instrument.

RESEARCH RESULTS

Respondent Characteristics

Respondent identity related to age, education level, employment status, and length of service work was identified using data from 32 parties involved in the Wae Kampas irrigation network improvement project.

Table 1 Respondent Characteristics

Characteristics		Amount	Percentage
Age Highest Education	20-25 years	4	7%
	26-35 years	19	34%
	36-45 years	14	25%
	Over 45 years	19	34%
Employment Status	High School/Equivalent	4	7%
	Diploma	1	2%
	Bachelor's/Master's/Doctoral Degree	51	91%
Characteristics Age	Project Implementer/Contractor	22	39%
	Supervisory Consultant Team	21	38%
	Public Works and Housing Agency	13	23%
Highest Education	Less than 1 Year	3	5%

	1-3 Years	4	7%
	3-5 Years	6	11%
	Over 5 Years	43	77%

Source: Researcher Data Processing, 2025

Based on demographic data, the majority of respondents were in the productive age range. The majority were aged 26–35 and over 45, with 34% each, followed by 36–45-year-olds at 25%. This indicates that respondents' experience in construction projects is fairly evenly distributed, with a predominance of mature and experienced age groups. In terms of education, the majority of respondents had a higher education background (Bachelor's/Master's/Doctoral) (91%), while only 7% had a high school/equivalent degree, and 2% had a diploma. This finding indicates that the workforce involved in the project generally possesses adequate academic competencies.

Based on employment status, respondents fell into three main categories: project implementers/contractors (39%), supervisory consultants (38%), and employees of the Public Works and Housing Agency (23%). This distribution demonstrates a balanced representation of field technicians, supervisors, and regulators. Meanwhile, when viewed in terms of length of service in the construction sector, the majority of respondents had more than five years of experience (77%), while a relatively small number of respondents with less than five years of experience (23%). Thus, these characteristics data illustrate that the study respondents were predominantly highly educated and experienced, enabling them to provide a credible assessment of the factors influencing the performance of supervisory consultants.

Validity and Reliability Test

Table 2 Validity and Reliability Test

Variable	No	r Count	r Table	information	*Alpha Cronbach*	information
Supervising Consultant Performance	1	0.846	0,2586	Valid	0,969	Reliabel
	2	0.817	0,2586	Valid		
	3	0.779	0,2586	Valid		
	4	0.757	0,2586	Valid		
	5	0.826	0,2586	Valid		
	6	0.853	0,2586	Valid		
	7	0.650	0,2586	Valid		
	8	0.846	0,2586	Valid		
	9	0.748	0,2586	Valid		
	10	0.787	0,2586	Valid		
	11	0.853	0,2586	Valid		
	12	0.817	0,2586	Valid		
	13	0.772	0,2586	Valid		

14	0.746	0,2586	Valid
15	0.825	0,2586	Valid
16	0.856	0,2586	Valid
17	0.681	0,2586	Valid
18	0.852	0,2586	Valid
19	0.756	0,2586	Valid
20	0.839	0,2586	Valid

Table 2 shows the validity index value for each question item in the Supervisory Consultant variable, as measured by the product-moment correlation value, which is above the validity coefficient of 0.2586. Therefore, each question is declared valid. Meanwhile, the reliability values for the statements in the questionnaire for the three variables above show Cronbach's alpha values greater than 0.70. This result indicates that the questionnaire items in the Supervisory Consultant variable have high suitability for use as research variables.

Respondent Responses to the Variables in the Credibility of Understanding Contract Documents Factor (X1)

The frequency distribution of respondents to the Credibility of Understanding Contract Documents factor is explained in the following table:

Table 3 Respondents' Responses to the Contract Document Understanding Factor

Statement:	5	4	3	2	1	Actual score	Percentage	Category
The supervising consultant understands the contents of the project contract documents.	29	18	7	2	0	242	86.4%	Very Good
The consultant understands the scope of work limitations as stipulated in the contract.	26	21	8	1	0	240	85.7%	Very Good
The consultant is aware of the strengths and	17	26	11	2	0	226	80.7%	Good

weaknesses of the contract.								
Total	72	65	26	5	0	708	84.3%	Very Good

Source: Researcher Data Processing, 2025

Based on Table 3, the Credibility of Contract Document Understanding factor (X1) aims to measure the extent to which the supervising consultant understands and masters the contents of the project contract documents that serve as the basis for the construction work. The statement "The supervising consultant understands the contents of the project contract documents" received an actual score of 242 out of a maximum possible score, or 86.4%, which falls into the Very Good category. This indicates that the majority of respondents assessed the supervising consultant as having a very good understanding of the contract contents as a reference for field work implementation.

Furthermore, the statement "The consultant understands the scope of work as defined in the contract" received a score of 240, or 85.7%, which also falls into the Very Good category. This means that respondents stated that the supervising consultant was able to clearly distinguish the boundaries of the work for which he or she was responsible according to the scope specified in the project contract.

Meanwhile, the statement "The consultant is aware of the strengths and weaknesses of the contract" received a score of 226, or 80.7%, which falls into the Good category. Although still in the positive category, this value is slightly lower than the previous two indicators. This indicates that some supervising consultants are still not fully aware of technical or administrative weaknesses in project contracts, which could impact fieldwork if not addressed early.

Respondent Responses to the Variables in the Understanding of Technical Specifications Factor (X2)

The frequency distribution of respondents to the Understanding of Technical Specifications Factor is explained in the following table:

Table 4 Respondents' Responses to the Technical Specification Understanding Factor

Statement:	5	4	3	2	1	Actual score	Percentage	Category
The consultant understands the technical specifications of the road work.	33	14	9	0	0	248	88.6%	Very Good
The consultant adheres to applicable technical standards.	29	17	9	1	0	242	86.4%	Very Good
The consultant quickly provides solutions when there are technical discrepancies.	21	22	10	3	0	229	81.8%	Good
Total	83	53	28	4	0	719	85.6%	Very Good

Source: Researcher Data Processing, 2025

Based on Table 4, the Understanding of Technical Specifications factor (X2) measures the extent to which the supervising consultant understands and applies technical provisions in road construction work. The first statement, "The consultant understands the technical specifications of the road work," received a score of 248 (88.6%), categorized as Very Good. This

indicates that the majority of respondents acknowledged that the consultant's technical understanding was very adequate.

The statement, "The consultant follows applicable technical standards," received a score of 242 (86.4%), also categorized as Very Good. This indicates that the consultant performed their supervisory function in accordance with the technical standards required by the project. However, for the statement, "The consultant quickly provides solutions when there are technical discrepancies," the score decreased to 229 (81.8%), categorized as Good. This indicates that although technical understanding is good, the speed and accuracy in addressing technical issues in the field still need to be improved.

Respondent Responses to Variables in the Material Factor (X3)

The frequency distribution of respondents to the Material factor is presented in the following table:

Table 5 Respondents' Responses to Material Factors

Statement	5	4	3	2	1	Actual score	Percentage	Category
The consultant controls the quality of materials.	29	17	10	0	0	243	86.8%	Category
The consultant approves the contractor's material types according to contract specifications and the project owner's instructions.	21	24	9	2	0	232	82.9%	Category
The consultant inspects the materials before use.	26	20	10	0	0	240	85.7%	Category
Total	76	61	29	2	0	715	85.1%	Category

Source: Researcher Data Processing, 2025

Table 5 shows that respondents rated the material supervision factor (X3) as good. The statement "The consultant controls the quality of materials" received a high score of 243 (86.8%), indicating that the consultant implemented quality control optimally. The statement "The consultant inspects materials before use" also received a high score of 240 (85.7%) in the Very Good category, indicating consistent field supervision.

The statement "The consultant approves the contractor's material type according to contract specifications and the project owner's instructions" received a slightly lower score of 232 (82.9%) in the Good category. This indicates that coordination between the consultant, contractor, and project owner regarding material procurement needs to be strengthened to ensure compliance with specifications and avoid delays or technical errors.

Respondent Responses to the Labor Factor Variable (X4)

The frequency distribution of respondents regarding the Labor factor is presented in the following table:

Table 6 Respondents' Responses to Labor Factors

Statement	5	4	3	2	1	Actual score	Percentage	**Category**
The consultant identifies the skill level of the workforce in the field.	17	27	10	2	0	227	81.1%	Good

The consultant periodically monitors the quality of the workforce's work results.	17	24	14	1	0	225	80.4%	Good
The consultant provides guidance or reprimands if errors are found in the work execution.	30	15	10	1	0	242	86.4%	Very Good
Total	64	66	34	4	0	694	82.6%	Good

Source: Researcher Data Processing, 2025

Table 6 shows that the consultant's supervision of the workforce (X4) generally went well. The highest score was for the statement regarding reprimands for work errors (86.4%), indicating the consultant was quite firm in maintaining work quality. However, the other two indicators—skills identification and regular monitoring—scored lower (81.1% and 80.4%, respectively). This indicates the need for a more intensive and systematic supervisory approach to workforce performance.

Respondent Responses to Variables in the Equipment Usage Factor (X5)

The frequency distribution of respondents' responses to the Equipment Usage factor is presented in the following table:

Table 7 Respondents' Responses to Equipment Usage Factors

Statement	5	4	3	2	1	Actual score	Percentage	Category
Heavy equipment requirements are identified based on the type of work.	24	22	10	0	0	238	85.0%	Very Good
The consultant monitors the equipment to ensure it meets field requirements.	22	23	10	1	0	234	83.6%	Good
The consultant promptly handles defective/damaged work.	25	18	11	2	0	234	83.6%	Good
Total	71	63	31	3	0	706	84.0%	Very Good

Source: Researcher Data Processing, 2025

Table 7 shows that the equipment utilization factor (X5) was rated as Very Good overall by respondents, with a percentage of 84.0%. For the indicator "Heavy equipment needs are identified according to the type of work," the consultant received a high score of 238 (85.0%), indicating consistency in

equipment planning according to technical requirements.

However, the other two indicators, namely field equipment supervision and handling of defective/damaged work, received slightly lower scores (83.6%). This indicates that although equipment management is quite good, improvements are still needed in the speed of handling equipment issues in the field to prevent impacting the smooth implementation of the project.

Respondent Responses to Variables in the Work Execution Method Factor (X6)

The frequency distribution of respondents' responses to the Work Execution Method factor is explained in the following table:

Table 8 Respondents' Responses to the Work Implementation Method Factor

Statement	5	4	3	2	1	Actual score	Percentage	Category
The consultant ensures the work is completed on time.	33	14	9	0	0	248	82.1%	Good
The consultant monitors construction implementation in terms of quality, quantity, and the rate of volume achievement/physical realization.	29	18	8	1	0	243	85.4%	Very Good
The consultant minimizes work delays.	24	18	11	3	0	231	82.1%	Good
Total	86	50	28	4	0	722	83.2%	Good

Source: Researcher Data Processing, 2025

Based on Table 8, the work implementation method factor (X6) shows an assessment result categorized as Good (83.2%). Statements regarding quality control and work volume achievement received the highest score (85.4%), indicating that the consultant was quite optimal in terms of technical aspects and physical volume of work. Meanwhile, oversight of completion times and efforts to minimize delays remained in the Good category (82.1% each). This indicates that project schedule oversight still requires strengthening, particularly in rescheduling or corrective action if deviations occur in the field.

Respondent Responses to Local Government Regulations and OHS Variables (X7)

The frequency distribution of respondents to the Local Government Regulations and OHS variables is explained in the following table:

Table 9 Respondents' Responses to Local Government Regulations and K3 Variables

Statement	5	4	3	2	1	Actual score	Percentage	Category
The consultant ensures the use of PPE and work safety equipment in accordance with project requirements.	30	17	9	0	0	245	87.5%	Excellent
The consultant ensures the health of the workforce and minimizes	25	19	12	0	0	237	84.6%	Very Good

the risk of workplace accidents in the field.								
The consultant conducts OHS socialization and training for the workforce.	22	23	9	2	0	233	83.2%	Good
Total	77	59	30	2	0	715	85.1%	Very Good

Source: Researcher Data Processing, 2025

Based on Table 9, the compliance with regional regulations and Occupational Safety and Health (K3) (X7) factor received an average score of 85.1%, categorized as Very Good. The consultant was deemed very good at ensuring the use of Personal Protective Equipment (PPE) and monitoring work safety conditions in the field.

However, the score for the implementation of K3 socialization and training indicator was slightly lower (83.2%), although still in the Good category. This indicates that although K3 compliance is technically good, there is still a need for improvement in education and increasing worker awareness of the importance of continuous occupational safety.

Cumulative Results of the Assessment of Supervisory Consultant Performance Analysis Factors

Based on the processed and analyzed questionnaires, researchers calculated and summarized the average percentage scores for each factor used to assess the performance of the supervisory consultant. The scores for each factor were aggregated in graph form to provide a clearer visual representation of the level of performance of the supervisory consultant based on respondents' perceptions. The following is a cumulative graph of the results of the supervisory consultant performance assessment:

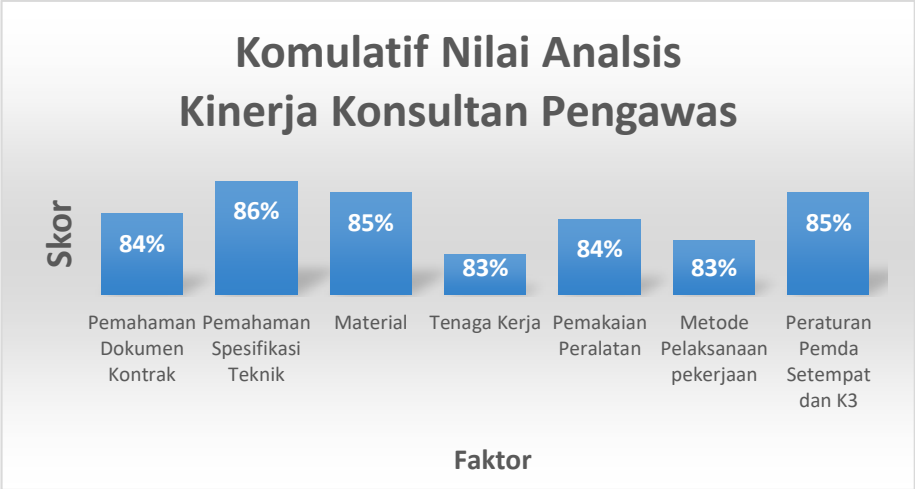

Figure 1 Cumulative Percentage Graph of Supervisory Consultant Performance Factors

The graph shows that all factors received an average score above 80%, meaning they fall into the Good to Very Good category. The factor with the highest score was Understanding Technical Specifications (X2) at 85.6%, followed by Compliance with Local Government and Occupational Health and Safety Regulations (X7) at 85.1%, and Material Supervision (X3) also at 85.1%.

Meanwhile, the factor with the lowest score was Labor Supervision (X4) with a score of 82.6%, although it still falls into the Good category. This score indicates that the supervisory consultant has performed its duties well in all aspects. However, labor supervision and speed of

technical problem resolution can be areas of focus for future development.

The following is the sequence of factors that are used in the consultant performance analysis from the highest to the lowest average value, namely:

Table 10 Factors that are used in consultant performance analysis

No.	**Factors**	Percentage	**Category**
1	Understanding of Technical Specifications	85.6%	Excellent
2	Materials	85.1%	Excellent
2	Local Government Regulations and Occupational Health and Safety	85.1%	Excellent
4	Understanding of Contract Documents	84.3%	Excellent
5	Equipment Use	84.0%	Excellent
6	Work Implementation Methods	83.2%	Good
7	Labor	82.6%	Good

Source: Processed data (2025)

Overall, these cumulative results indicate that the performance of the supervisory consultant on the Puguk–Lubuk Resam Road Reconstruction Project was assessed by respondents as good. Several aspects demonstrated very optimal performance and several others could be improved to achieve more comprehensive supervision effectiveness.

It is crucial to better understand the levels or criteria of the factors and variables that determine the performance of a supervisory consultant on a construction project. This can be particularly helpful for companies and individuals in the consulting sector, as it serves as a benchmark for evaluating past supervision and leading to improved supervision in future projects.

CONCLUSION

Based on the data analysis and discussion previously described regarding the Performance Analysis of Supervisory Consultants on the Puguk-Lubuk Resam Road Reconstruction Project in Bengkulu Province, the following conclusions were reached:

1. In general, the performance of the supervisory consultant on the Puguk-Lubuk Resam Road Reconstruction Project was rated Good to Very Good by respondents, with an average score above 80% across all analyzed factors.
2. The factor with the highest score was Understanding of Technical Specifications (85.6%), indicating that the consultants had a strong technical understanding and adhered to applicable technical standards in the implementation of road work. However, the consultants' ability to respond to technical non-conformities still needs improvement.
3. The lowest-scoring factor was Labor Supervision (82.6%), which, although categorized as Good, indicates a need for improvement in monitoring labor performance and developing field worker skills. Other factors such as Material Supervision, Implementation Methods, Equipment Use, and OHS Compliance have shown positive results, but there is still room for improvement, particularly in terms of active supervision, coordination between parties, and internalization of a work safety culture.
4. Strategies to increase the effectiveness of supervision are needed through: improving technical and managerial competencies, active field supervision, strengthening cross-party coordination, and continuously integrating an OHS culture. These efforts will strengthen the role of the supervision consultant as the primary liaison between the project owner and the implementing contractor, thus optimizing the success of road infrastructure projects.

RECOMMENDATIONS

Based on the research findings, several recommendations can be put forward to improve the performance of supervisory consultants on construction projects. First, supervisory consultants are expected to be more active in conducting direct field

supervision to ensure all work stages comply with contract documents and technical specifications, and are able to provide prompt solutions to potential deviations. Second, technical and managerial competencies need to be strengthened through ongoing training, particularly in project management, communication, and decision-making, so that consultants can adapt to project dynamics. Third, intensive coordination and communication with contractors and project owners must be strengthened to create synergy and alignment of goals. Fourth, an Occupational Safety and Health (OHS) culture needs to be continuously internalized, not merely for administrative purposes but also to become an ingrained work habit in the field. Fifth, independence and professionalism must be maintained so that consultants can carry out supervisory duties objectively and with high integrity.

For future researchers, it is recommended to expand the scope of research to include construction projects of various types and regions, such as buildings, bridges, and irrigation, to obtain a more comprehensive picture of variations in supervisory consultant performance. Comparative research between projects, taking into account scale, location, and organizational structure of supervision, can provide more in-depth findings. In addition, the use of qualitative approaches, for example direct interviews with consultants, contractors, and project owners, will enrich understanding of contextual factors that have not been reached through quantitative instruments.

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