

# Analysis of Contractor Performance the Division for Human Settlements of Public Works and Spatial Planning in Central Province

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## ABSTRACT

Contractor performance is the main factor that determines the success of a construction project. Objective and measurable performance evaluation is needed to ensure the quality, timeliness, and cost efficiency of the agreed project implementation, especially in the Cipta Karya field of the PUPR Office of Central Kalimantan Province. This study aims to identify factors that affect contractor performance, measure the level of performance, and develop appropriate improvement strategies. The methods used are the Customer Satisfaction Index (CSI) and Importance Performance Analysis (IPA), with data collection through questionnaires to 44 respondents. Based on the results of the CSI analysis, the contractor's performance is in the "Very Satisfied" category for most aspects, with the following values: Work Quality Aspect 82.350%, Implementation Time Aspect 81.243%, Implementation Cost Aspect 80.038%, Occupational Safety and Health (K3) Aspect 87.500%, Communication and Coordination Aspect 84.994%, Environmental Aspect and Work Sustainability 79.660%, and Resource Management Aspect 83.180%. From the results of the IPA analysis, the dominant factors in quadrant A are the resolution of construction defects, handling project delays and acceleration efforts, efficient use of

resources, coordination between subcontractors, workers, and supervisors, resolution of technical constraints, implementation of work with minimal environmental impact, application of environmentally friendly construction materials, overcoming resource limitations, and management of equipment and materials. The contractor performance improvement strategy is focused on several important steps: improving quality control to align with technical specifications, preparing a realistic project schedule based on resource capacity, strengthening communication and coordination, and implementing occupational safety and health. These steps are intended to increase effectiveness and productivity in project implementation.

**Keywords:** Contractor performance, Customer satisfaction index, Importance performance analysis, Performance improvement strategy

## INTRODUCTION

The success of a construction project is largely determined by the performance of the contractor responsible for executing the physical work in accordance with the established plans, technical specifications, and budget. Contractor performance is the result of work, both in quality and quantity, achieved by the contractor in carrying out

their duties based on their skills, experience, and earnestness [1]. Therefore, a structured and objective performance evaluation is essential to identify any deviations and ensure that the project achieves its intended quality, time, and cost targets [5].

However, construction projects frequently encounter significant challenges that impede optimal performance. Common issues include discrepancies between initial planning and field conditions, unexpected design changes, and work quality that fails to meet standards. These problems are often rooted in both technical and non-technical factors, such as ineffective coordination, poor communication, and weak administrative processes [6]. In the context of Central Kalimantan Province, these challenges are particularly pronounced in large-scale projects, where contractors still face constraints related to capital, technical experience, and comprehensive project management capabilities. Specific problems include delays caused by inefficient material transportation logistics and poor coordination between suppliers and the project site, which negatively impact productivity, costs, and project completion schedules.

These issues are exemplified by the construction of the Class B Regional Hospital (RSUD) in the Western Region of Central Kalimantan, which experienced significant delays. The project's progress was hampered by difficult access to the remote location, limited logistics for material procurement via sea and land routes, shortages of heavy equipment, and a lack of experienced labor. Such recurring problems highlight the urgent need for a comprehensive analysis to identify the key factors affecting contractor performance and to formulate effective improvement strategies.

Previous studies in similar regions have evaluated the performance of various actors in the construction industry. Research has been conducted on the performance of road and bridge contractors [7], supervising consultants in water resource projects [8], and planning consultants in the Cipta Karya division [9]. While these studies provide

valuable insights, they often focus more on consultants (planners and supervisors) rather than on the contractors themselves. This study addresses this gap by specifically analyzing contractor performance within the Cipta Karya (Human Settlements) division of the Public Works and Spatial Planning Agency of Central Kalimantan, which involves projects of unique complexity and scale. This research utilizes a combined approach of the Customer Satisfaction Index (CSI) [3] and Importance-Performance Analysis (IPA) [4] to assess the level of stakeholder satisfaction and to identify dominant factors that require immediate attention. The goal is to produce actionable strategies that can be implemented to enhance contractor effectiveness and support sustainable infrastructure development in the region.

## **MATERIALS & METHODS**

### **Research Methodology**

This research employs a quantitative approach utilizing a survey method to analyze contractor performance. The research design involves several stages, starting from a preliminary study, determining performance variables, collecting data, analyzing the data using specific methods, and finally formulating performance improvement strategies.

### **Data Collection and Variables**

Primary data was collected through questionnaires distributed to 44 respondents directly involved in construction projects managed by the Cipta Karya Division of the PUPR Agency of Central Kalimantan Province for the 2022-2023 fiscal years. Respondents were selected using purposive sampling, consisting of agency officials (Head of Agency, Head of Division), Technical Implementation Officers (PPTK), field supervisors, and consultants. Secondary data was gathered from project documents, work contracts, and relevant literature.

The questionnaire was designed to measure two main dimensions: the perceived performance (satisfaction) and the level of

importance (expectation) of the contractor's work. A 5-point Likert scale was used for responses, where 1 indicated "Very Dissatisfied" / "Very Unimportant" and 5 indicated "Very Satisfied" / "Very Important".

The research evaluated seven key performance aspects (variables), which were broken down into 29 specific indicators. The indicators were synthesized and adapted from previous relevant studies [9, 10, 11, 12]. The seven aspects are: Work Quality, Implementation Time, Implementation Cost, Occupational Safety and Health (K3), Communication and Coordination, Environment and Sustainability, and Resource Management.

### Data Analysis

Before analysis, the instrument's quality was tested. Validity was assessed using Spearman's Rank correlation, and reliability was tested using Cronbach's Alpha, with a threshold of > 0.60 being considered reliable [13].

Two main analytical methods were used for the data:

Customer Satisfaction Index (CSI): This method was used to determine the overall satisfaction level of stakeholders with the contractor's performance. It calculates a weighted score based on the average importance and performance ratings for all indicators to produce a single index value [3].

Importance-Performance Analysis (IPA): This technique was used to identify strategic priorities for improvement. It maps each

performance indicator onto a two-dimensional grid based on its average importance and performance scores. This grid is divided into four quadrants, with indicators falling into Quadrant A (High Importance, Low Performance) being identified as the top priority for immediate improvement efforts [4].

## RESULT

This section presents the findings of the study, beginning with an overview of the respondent demographics and data quality, followed by the main analysis of contractor performance using the Customer Satisfaction Index (CSI) and Importance-Performance Analysis (IPA).

### Responden Demographics

The data for this study was collected from 44 respondents directly involved in construction projects managed by the Cipta Karya Division. The profile of the respondents, summarized in Table 1, underscores the credibility of their assessments. Professionally, the sample consists of seasoned experts; the majority have over five years of work experience, with the largest group (31.82%) having 5-10 years of experience. This aligns with the dominant age groups of 40-50 years (34.09%) and 30-40 years (29.55%). Academically, the participants are highly qualified, with 75.00% holding a Bachelor's degree and nearly 25% possessing postgraduate degrees. The sample was predominantly male, comprising 75.00% of the respondents.

**Table 1. Respondent Demographic Profile (n=44)**

No.	Respondent Demographic Profile	Total	Persentase
1.	Gender		
	Male	33	75%
	Female	11	25%
2.	Age		
	20-30 Years	6	13,64%
	30-40 Years	13	29,55%
	40-50 Years	15	34,09%
	>50 Years	10	22,73%
3.	Education		
	Bachelor's Degree (S1)	33	75,00%
	Master's Degree (S2)	10	22,73%
	Doctoral Degree (S3)	1	2,27%

4.	Work Experience		
	<5 Years	6	16,64%
	5-10 Years	14	31,82%
	10-15 Years	6	16,64%
	15-20 Years	10	31,82%
	>20 Years	8	16,64%
	Total	44	100%

### Data Quality Assurance

To ensure the integrity of the research findings, the questionnaire instrument underwent rigorous testing. As summarized in Table 2, all seven aspects of the instrument demonstrated high reliability, with Cronbach's Alpha values significantly

exceeding the 0.60 threshold for both the performance and importance scales. Furthermore, a validity test using Spearman's Rank correlation confirmed that all 29 individual items were valid ( $p < 0.05$ ), affirming that the instrument accurately measures the intended constructs.

**Table 2. Instrument Quality Assurance Summary**

Performance Aspect	No. of Items	Cronbach's Alpha (Performance)	Cronbach's Alpha (Importance)
Work Quality	5	0.886	0.932
Implementation Time	4	0.925	0.941
Implementation Cost	4	0.912	0.941
Occupational Safety & Health (K3)	4	0.734	0.871
Communication & Coordination	4	0.852	0.736
Environment & Sustainability	4	0.893	0.958
Resource Management	4	0.904	0.904

### Contractor Performance Level (CSI Results)

The overall performance of contractors was measured using the Customer Satisfaction Index (CSI), which provides a comprehensive score based on stakeholder perceptions. The analysis revealed that the contractors' performance was generally high, with five of the seven aspects rated as "Very Satisfied" and two as "Pleased". The highest

performance was observed in the Occupational Safety and Health (K3) aspect, with a CSI score of 87.500%. The lowest score was in the Environment and Sustainability aspect at 79.660%. Although rated as "Pleased," this indicates an area with significant room for improvement. The detailed CSI results for all seven aspects are presented in Table 3.

**Table 3. Customer Satisfaction Index (CSI) Results for Contractor Performance Aspects**

No.	Performance Aspect	CSI Score	Performance Level
1.	Work Quality	82,350%	Very Satisfied
2.	Implementation Time	81,243%	Very Satisfied
3.	Implementation Cost	80,038%	Pleased
4.	Occupational Safety & Health (K3)	87,500%	Very Satisfied
5.	Communication & Coordination	84,994%	Very Satisfied
6.	Environment & Sustainability	79,660%	Pleased
7.	Resource Management	83,180%	Very Satisfied

### Priority Factors for Improvement (IPA Results)

While the overall performance was high, the Importance-Performance Analysis (IPA) was used to identify specific areas requiring

immediate attention. This method maps indicators into a four-quadrant grid, with Quadrant A (Concentrate Here) highlighting factors that are highly important to stakeholders but where performance is

perceived as low. The analysis identified nine priority factors that fall into Quadrant A, as detailed in Table 4. These nine factors

became the focus for developing targeted improvement strategies.

**Table 4. Priority Factors for Improvement (Quadrant A)**

Performance Aspect	Priority Factor	Code
Work Quality	Resolution of construction defects found during execution.	1.d
Implementation Time	Handling of delays and acceleration of work.	2.d
Implementation Cost	Efficient use of resources (materials, labor, equipment).	3.b
Communication & Coordination	Coordination between subcontractors, workers, and supervisors.	5.b
	Resolution of field issues affecting work progress.	5.c
Environment & Sustainability	Execution of work with minimal environmental impact.	6.b
	Use of environmentally friendly or sustainable materials.	6.c
Resource Management	Overcoming resource limitations during project execution.	7.c
	Management of equipment and materials.	7.b

## DISCUSSION

The analysis identified nine priority factors within Quadrant A, indicating areas where high stakeholder importance is met with low contractor performance. This section provides an in-depth discussion of each factor, proposing targeted improvement strategies derived from the research findings and validated through stakeholder interviews

### Work Quality: Resolution of Construction Defects

The low performance in *resolving construction defects* (Indicator 1.d) is a critical finding. In construction projects, especially large-scale public infrastructure, unresolved defects can compromise structural integrity, functional safety, and long-term durability, ultimately affecting stakeholder satisfaction. These issues often surface during the execution phase and, if not addressed promptly, can lead to costly rework, project delays, and disputes during the handover process. The need for a high-quality finish is paramount, and the presence of defects indicates a gap in the quality assurance process.

To address this, the primary strategy is to strengthen the quality control (QC) system. This involves implementing stricter, periodic inspections at every key stage of the project, not just at the end. This system should be complemented by providing continuous technical training for the workforce to improve precision and minimize errors, as skilled human resources are key to achieving

quality targets [14, 15]. This strategy's relevance is strongly supported by the validation interviews conducted for the thesis. The Project Commitment Officer (PPK) confirmed that while quality supervision protocols are in place, their on-the-ground implementation needs to be more "intensive and structured." This feedback suggests that the current QC process may be too reactive. A more proactive and systematic inspection schedule is therefore required.

### Implementation Time: Handling Delays and Acceleration

The difficulty in *handling delays and accelerating work* (Indicator 2.d) highlights a significant weakness in project time management. Delays in construction are often caused by a variety of factors, including logistical challenges with material supply, adverse weather conditions, and limitations in skilled labor. Ineffective management of these delays can have a cascading effect, leading to cost overruns, idle resources, and a loss of stakeholder confidence. The proposed strategy is to move from reactive problem-solving to proactive time management. Contractors should implement formal project monitoring systems from the project's inception, utilizing established methods like the Critical Path Method (CPM) to identify activities that directly impact the overall project duration. When delays on this critical path are identified, clear strategies such as *crashing* or *fast-tracking* can be systematically applied [14]. The validation

process underscored the necessity of this approach. Interviews revealed that while project monitoring is performed, it often lacks the systematic rigor to prevent delays from escalating. The finding that delays still occur in several sections indicates that a more robust, forward-looking planning and control mechanism like CPM is required from the very beginning of the project.

### **Implementation Cost: Efficient Use of Resources**

Inefficient use of resources (Indicator 3.b), covering materials, labor, and equipment, was identified as a key issue that directly impacts project costs. In large government projects, this inefficiency can lead to budget overruns. This problem manifests as uncontrolled material consumption, unproductive labor due to poor scheduling, or suboptimal use of heavy equipment. To combat this, the research recommends that contractors adopt modern management principles such as Lean Construction and implement technology like Enterprise Resource Planning (ERP) systems for real-time monitoring.

The optimization of human resources through effective management is also a critical component of this strategy [14, 15]. The practical need for these strategies was confirmed during field observations. The validation found that resource management is still not optimal and ERP technology has not been fully implemented. This reveals a significant gap between current practices and available best practices, highlighting a clear opportunity for improvement.

### **Communication and Coordination**

The analysis pinpointed two related weaknesses: poor *coordination between teams* (Indicator 5.b) and *ineffective resolution of field issues* (Indicator 5.c). A breakdown in coordination can lead to execution errors, safety hazards, and significant project delays, while slow problem-solving allows minor issues to escalate. The proposed strategy is to establish a more structured and responsive

communication framework. This includes implementing Daily Coordination Meetings where all on-site teams can align on the day's tasks and challenges. This should be supported by the use of digital project management platforms for transparent, real-time information sharing [14]. For more complex problems, forming a dedicated multi-disciplinary problem-solving team is crucial for rapid resolution. The validation interviews strongly supported these measures. It was revealed that coordination is often hampered by a lack of a clear on-site organizational structure and reliance on ineffective communication channels, leading to slow decision-making on technical issues.

### **Communication and Coordination**

Two environmental factors were highlighted as priorities: the need for *work with minimal environmental impact* (Indicator 6.b) and greater *use of environmentally friendly materials* (Indicator 6.c). This finding aligns with national strategic goals for sustainable infrastructure and indicates a gap between stakeholder expectations and current performance [16]. The core strategy is the formal adoption and consistent implementation of Green Construction principles. This extends beyond simple compliance and includes proactive measures such as creating clear SOPs for on-site waste management, recycling materials, and educating procurement teams on sourcing certified sustainable materials. The validation process confirmed a gap between policy and practice. Interviews and observations showed that while environmental SOPs exist, their application in the field is still inconsistent. Furthermore, the use of green materials was found to be limited and not yet socialized across all project teams, indicating a need for greater leadership commitment and education.

### **Resource Management**

The final set of priority factors relates to fundamental resource challenges: *overcoming resource limitations* (Indicator 7.c) and the *management of equipment and*

materials (Indicator 7.b). These issues are particularly acute in regions where logistical complexities and a limited supply of skilled labor can pose significant risks. The proposed strategies are twofold. For materials, adopting a Just-In-Time (JIT) procurement method is advised to ensure materials are available precisely when needed. For physical and human resources, a strict preventive maintenance schedule for equipment is necessary, alongside a more structured approach to worker selection and training to optimize productivity [14, 15]. The validation process confirmed the urgency of these strategies. It was noted that material procurement currently faces stock uncertainty, which a JIT system is designed to solve. It was also observed that supervision of material distribution is not yet maximal, confirming a clear gap in current management practices.

## CONCLUSION

This research was conducted to provide a comprehensive analysis of contractor performance within the Cipta Karya Division of the Public Works and Spatial Planning Agency of Central Kalimantan Province. The primary objectives were to measure the current performance levels, identify the most critical factors influencing this performance, and formulate data-driven strategies for improvement. By employing a dual-method approach of the Customer Satisfaction Index (CSI) and Importance-Performance Analysis (IPA), this study successfully quantified stakeholder satisfaction and pinpointed specific areas requiring strategic intervention. The findings from the Customer Satisfaction Index (CSI) analysis indicate that the overall performance of contractors is perceived very positively by stakeholders. Five out of the seven key performance aspects—Work Quality (82.350%), Implementation Time (81.243%), Occupational Safety and Health (87.500%), Communication & Coordination (84.994%), and Resource Management (83.180%)—were rated in the "Very Satisfied" category. This demonstrates a solid foundation of

competence and reliability. However, the aspects of Implementation Cost (80.038%) and Environment & Sustainability (79.660%) were rated as "Pleased," signaling that while performance is acceptable, these areas have not yet reached the same level of excellence and present clear opportunities for enhancement.

Despite the high overall satisfaction, the Importance-Performance Analysis (IPA) revealed critical underlying weaknesses by highlighting discrepancies between stakeholder expectations and contractor performance. The analysis identified nine specific factors that fall into Quadrant A ("Concentrate Here"), signifying that they are of high importance to stakeholders but are currently low in performance. These priority factors are: the resolution of construction defects; handling project delays; efficient use of resources; coordination between subcontractors, workers, and supervisors; resolution of field issues; execution of work with minimal environmental impact; use of sustainable materials; overcoming resource limitations; and the management of equipment and materials. These nine factors represent the most significant barriers to achieving optimal project outcomes. Based on these priority factors, this study proposes a multi-faceted improvement strategy.

The core recommendations include strengthening managerial and procedural controls through more rigorous quality inspections and the adoption of systematic project management methodologies like CPM to proactively manage schedules. Furthermore, enhancing resource efficiency through principles like Lean Construction and JIT, improving equipment maintenance protocols, and formally integrating Green Construction practices are crucial for both economic and environmental sustainability. These strategies aim not only to rectify current weaknesses but also to build a more resilient and adaptive project execution framework for the future. This study contributes a valuable, evidence-based framework that can be used by the Public Works Agency and other government bodies

for future contractor evaluations and in the formulation of more effective project delivery policies. For contractors, the findings provide a clear roadmap for targeted improvements that can enhance their competitiveness and reputation. For future academic work, it is recommended to expand the research scope to other regions or to conduct comparative analyses between public and private sector projects to identify differing challenges and best practices. Additionally, future studies could employ complementary analytical methods, such as the Analytical Hierarchy Process (AHP), to further deepen the understanding of the complex factors influencing contractor performance.

#### **Declaration by Authors**

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#### **REFERENCES**

1. Tumelep, J. (2014). Analisis Kinerja Perusahaan Jasa Pelaksana Konstruksi (Studi Kasus d Kabupaten Sarmi). *Jurnal Ilmiah Media Engineering*, 4(2).
2. Wibowo, W., & Phil, M. (2007). *Manajemen kinerja*. Jakarta: PT. Rajagrafindo Persada.
3. Devani, V., & Rizko, R. A. (2016). Analisis Kepuasan Pelanggan dengan Metode Customer Satisfaction Index (CSI) dan Potential Gain in Customer Value (PGCV). *Jurnal Rekayasa Dan Manajemen Sistem Informasi*, 2(2), 24-29.
4. Rangkuti, F. (2006). Analisis SWOT Teknik Membedah Kasus Bisnis. Penerbit: PT Gramedia Pustaka Utama. Jakarta.
5. Hutagaluung, M. M. A. (2018). Pengukuran Kinerja Kontraktor Dengan Metode Indeks Pada Proyek Konstruksi Guna Pencapaian Mutu Konstruksi (Studi Kasus Dinas Lingkungan Hidup Provinsi Sumatera Utara, Jl. Tengku Daud No. 5 Medan). Doctoral dissertation, Universitas Sumatera Utara.
6. Tuelah, J. D. P., Tjakra, J., & Walangitan, D. R. O. (2014). Peranan Konsultan Menejemen Konstruksi Pada Tahap Pelaksanaan Proyek Pembangunan (Studi Kasus: The Lagoon Taman Sari). *Jurnal Tekno Sipil*, 12(No. 61), 47-53.
7. Erfani, H. (2023). Analisis Kinerja Kontraktor Pelaksana Jalan Dan Jembatan Provinsi Kalimantan Selatan Pada Masa Pandemi. Tesis, Universitas Lambung Mangkurat, Banjarmasin.
8. Riany, S. (2021). Analisis Kinerja Konsultan Pengawas Pada Bidang Sumber Daya Air Dinas Pekerjaan Umum Dan Penataan Ruang Kabupaten Tapin. Tesis, Universitas Lambung Mangkurat, Banjarmasin.
9. Juliani, R. (2023). Analisis Kinerja Konsultan Perencana Pada Bidang Cipta Karya Dinas Pekerjaan Umum Dan Penataan Ruang Kota Banjarbaru. Tesis, Universitas Lambung Mangkurat, Banjarmasin.
10. Djukardi, K. A., & Semiawan, E. A. (2018). Model Indikator Kinerja Proyek Pada Sektor Bangunan Perumahan Bertingkat Tinggi Regional D.K.I. Jakarta. *Jurnal Forum Mekanika*, 7(2), P-ISSN 2356-1491.
11. Brotorahardjo, Y., Chandra, Y., & Andi. (2022). Pandangan Harapan dan Realita Kontraktor Terhadap Peranan Owner dalam Keselamatan Kerja Pada Proyek Gedung Bertingkat di Surabaya. *Jurnal Dimensi Pratama Teknik Sipil*, 11(2), Universitas Kristen Petra.
12. Saputra, E. (2024). Perkembangan Metode Evaluasi Kinerja Kontraktor Dalam Aspek Mutu Studi Kasus Bangunan Gedung Perkantoran Polda Jabar. *Sistem Infrastruktur Teknik Sipil (SIMTEKS)*, 4(1), Tesis, Universitas Sangga Buana.
13. Ghozali, I. (2009). *Ekonometrika: Teori, Konsep dan Aplikasi Dengan SPSS 17. 50*, Semarang: Badan Penerbit Universitas Diponegoro.
14. Ervianto, W. I. (2023). *Manajemen Proyek Konstruksi*. Penerbit Andi: Yogyakarta.
15. Mangkunegara, A. A. A. P. (2009). *Manajemen Sumber Daya Manusia Perusahaan*. Bandung: PT. Remaja Rosda Karya.
16. Kementerian Pekerjaan Umum dan Perumahan Rakyat. (2019). *Rencana Strategis Badan Pengembangan Infrastruktur Wilayah Kementerian Pekerjaan Umum dan Perumahan Rakyat 2015-2019*. Jakarta, Indonesia.

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