The Strategic Role Of The Head Of The National Road Implementation Agency (BPJN) Palangkaraya In Managing The Risk Of Infrastructure Project Delays

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Abstract.

Infrastructure development is one of the Indonesian government's top priorities to support economic growth and promote equitable development across regions. However, project delays remain a significant challenge that hinders the effectiveness of national strategic programs. This study aims to analyze the strategic role of the Head of the National Road Implementation Agency (BPJN) Palangkaraya in managing the risk of delays in infrastructure projects, particularly national road projects in Central Kalimantan. The research employs a qualitative approach with a case study design, involving in-depth interviews with the Head of BPJN and several project implementation officials as key informants. Data were analyzed using thematic analysis to identify patterns of strategic decision-making in responding to project uncertainties. The results reveal that decision-making processes are carried out through a combination of rational and intuitive approaches, taking into account technical aspects, fiscal policies, and external factors such as weather conditions and material distribution. The Head of BPJN acts as an adaptive decision-maker who balances national interests with field realities. This study underscores the importance of risk-based strategic leadership in improving the performance of public infrastructure projects.

Keywords: *Strategic; BPJN and Infrastructure Project.*

I. INTRODUCTION

Infrastructure development plays a strategic role in accelerating economic growth and enhancing national competitiveness. In Indonesia, infrastructure is not only a means of interregional connectivity but also serves as a policy instrument to reduce economic disparities, improve access to productive resources, and expand the reach of public services. A well-developed national road network functions as the backbone of the economy because it facilitates the movement of goods and people and opens new economic corridors (Prasetyo & Firdaus, 2019). In line with the government's vision of positioning Indonesia as an advanced nation, various national strategic projects—such as the development of the Trans-Kalimantan road network and supporting infrastructure for the new capital, Nusantara—serve as concrete evidence of the nation's priority on connectivity-driven development.Within the institutional context, the role of the National Road Implementation Agency (BPJN) as the frontline executor of policies set by the Directorate General of Highways holds significant importance. BPJN is not only responsible for the technical functions of road construction and maintenance but also acts as a key player in translating central government policies into regional implementation. The Head of BPJN holds a crucial position in ensuring project success by managing resources, coordinating stakeholders, and making strategic decisions amidst various constraints and complex risks. Thus, the role of the Head of the Balai is not merely administrative, but managerial and strategic, shaping the direction of infrastructure policy implementation on the ground.Nevertheless, delays in infrastructure projects remain a major challenge in Indonesia's development governance.

A notable example can be seen in the structural improvement project of the Sampit South Ring Road, which was not completed within its contractual timeline by the end of 2022 (Metrokalimantan.com, 2023). Such delays are not only caused by technical problems but also by external factors, such as fiscal budget cuts from the central government that have disrupted several strategic projects in Central Kalimantan (Kalteng.tribunnews.com, 2025). These conditions demonstrate that infrastructure project management cannot be separated from policy dynamics and environmental uncertainties that often lie beyond the

technical control of project managers.This phenomenon aligns with the findings of Prameswari (2020), who identified that delays in road projects in Central Kalimantan are largely driven by external factors such as extreme weather, policy changes, and delayed budget disbursement. Consequently, the role of the Head of BPJN as a strategic decision-maker becomes highly crucial, because decisions made at the leadership level have a direct impact on project continuity. Strategic decision-making in crisis situations—such as budget reductions or supply disruptions—demands managerial capabilities that integrate technical considerations, policy contexts, and adaptive leadership.While previous studies have extensively discussed risk management and the factors contributing to project delays (Assaf & Al-Hejji, 2006; Sambasivan & Soon, 2007; Bayunayasa et al., 2020; Zali et al., 2025), there remains a limited number of studies that specifically examine how high-level public-sector leaders make strategic decisions when facing project risks. Yet, decision-making at the senior managerial level is often multidimensional, involving not only technical rationality but also political, social, and intuitive considerations. Therefore, it is essential to understand how the Head of BPJN Palangkaraya navigates uncertainty and risks in the context of national road infrastructure development.

Operational and Project Management as Theoretical Foundations

Operational management is a field of management focused on ensuring that production and service processes run efficiently and effectively. Heizer et al. (2017) define operational management as a series of activities that create value through the transformation of inputs into useful outputs. In public construction projects, operational management ensures that all stages—planning, procurement, and supervision—are carried out according to established standards of quality, time, and cost. A closely related subdiscipline is project management. Soeharto (1999) describes project management as a systematic effort to plan, organize, direct, and control resources to achieve specific project objectives within predetermined time constraints. According to the Project Management Institute (PMI, 2017), every project goes through a lifecycle consisting of initiation, planning, execution, monitoring, and closure. The key to project success lies not only in accurate planning but also in the ability to control deviations that occur during execution. Therefore, project management is dynamic, adaptive, and demands leadership that responds effectively to changing field conditions.Kerzner (2017) further emphasizes that project success depends on the integration of three main elements: time, cost, and quality. Yet, these elements are frequently pressured by risks that emerge beyond initial predictions. As such, modern project management positions risk management as a critical instrument to ensure project sustainability and success.

Risk Management in Infrastructure Projects

Project risk management is a systematic process of identifying, analyzing, and responding to risks that may hinder project objectives (PMI, 2017). Wideman (1992) defines project risk as the cumulative effect of uncertain events that may affect project outcomes. This process includes risk planning, identification, probability and impact analysis, response planning, and continuous monitoring. The aim is not only to avoid losses but also to strengthen an organization's ability to capitalize on opportunities arising from uncertainty.
Risk response strategies generally fall into four categories: avoidance, transfer, mitigation, and acceptance (PMI, 2017). In public infrastructure projects, the choice of strategy is often influenced by policy factors, resource availability, and diverse stakeholder interests. Thus, effective risk management depends not only on technical procedures but also on leadership competencies in making strategic judgments.

Factors Contributing to Project Delays

Project delays result from complex interactions between internal and external factors (Assaf & Al-Hejji, 2006). Internal factors include inadequate planning, inefficient resource management, and weak coordination among project teams (Sambasivan & Soon, 2007). External factors may include extreme weather, material supply delays, complicated permitting processes, and social dynamics within the project area. Kaming et al. (1997), in their study in Indonesia, found that time and cost overruns often stem from early planning errors and insufficient ongoing project evaluations.In the context of national road projects in Central Kalimantan, external risks such as fiscal policy shifts, geographical constraints, and limited availability of local labor significantly contribute to delays (Prameswari, 2020). This complexity demands

that the Head of BPJN function not only as a technical manager but also as a strategic decision-maker capable of balancing policy requirements, budget realities, and field conditions.

Strategic Decision-Making in Risk Management

In facing uncertainty, strategic decision-making becomes a central element of project risk management. David and David (2017) define strategic decisions as long-term decisions that have significant impacts on organizational direction and involve major resource commitments. Such decisions often arise in unstructured situations where available information is incomplete and outcomes are difficult to predict.

Herbert Simon's classical decision-making model divides the process into four stages: intelligence, design, choice, and implementation (Turban, Sharda, & Delen, 2019). The intelligence stage involves gathering information to understand the problem; the design stage formulates alternative solutions; the choice stage selects the best alternative based on specific criteria; and the implementation stage ensures that the chosen solution is carried out effectively. In the context of this study, Simon's model is relevant in analyzing how the Head of BPJN navigates complex risks and determines strategic priorities under constraints.Robbins and Judge (2019) explain that in practice, decision-makers may use three main models: rational, bounded rationality, and intuitive.

The rational model assumes complete information and optimal decision-making, whereas bounded rationality acknowledges cognitive and time limitations, leading to "good enough" decisions. The intuitive model emphasizes experience and managerial sensitivity to identify patterns and make rapid decisions under time pressure. In public infrastructure projects, these three approaches may appear simultaneously depending on the situation and leadership characteristics.Existing research provides a solid foundation linking risk management to project success. For instance, Masombe et al. (2021) emphasize that risk factors significantly influence project delays, while Sukindrawati and Kartika (2022) highlight project manager leadership as a dominant factor influencing construction project success. However, few studies have delved into how top-level leaders in public institutions make strategic decisions in managing infrastructure project risks, especially within Indonesia's bureaucratic context. This is the gap that the present study seeks to address by focusing on the Head of BPJN Palangkaraya as a case study.This research attempts to integrate three major theoretical frameworks—project management, risk management, and strategic decision-making theory—to understand how strategic decisions are made amid uncertainty. This approach is expected to provide a comprehensive understanding of leadership dynamics in managing infrastructure project risks in the public sector.

Contribution and Research Significance

Theoretically, this study is expected to enrich the literature on project risk management by incorporating the dimension of strategic leadership within the public sector. Many previous studies have focused on technical variables such as planning and project execution, while cognitive and strategic aspects of decision-makers have received less attention. Practically, the study offers insights for government leaders in developing adaptive and risk-based approaches to managing national strategic projects. By understanding how strategic decisions are made under uncertainty, public organizations can strengthen managerial capacity and improve the effectiveness of infrastructure development policies.Thus, the role of the Head of BPJN Palangkaraya should not be viewed merely as an administrative position but as a strategic figure operating at the intersection of national policy, project management, and field realities. Uncovering the decision-making patterns and leadership approaches used to manage project delay risks will provide meaningful contributions to understanding risk-based leadership in the Indonesian public sector.

II. METHODS

This study employs a qualitative approach with a case study design, as its main objective is to gain an in-depth understanding of the strategic decision-making processes carried out by the Head of the National Road Implementation Agency (BPJN) Palangkaraya in managing the risk of infrastructure project delays. A qualitative approach was chosen because it allows the researcher to explore meanings, perceptions, and leadership strategies within complex social and organizational contexts—elements that cannot be adequately captured through quantitative data alone (Creswell, 2018). The case study design was selected because it

enables a detailed exploration of a phenomenon within its real-life context (Yin, 2017).The research was conducted within the BPJN Palangkaraya office environment, a technical implementation unit under the Directorate General of Highways, Ministry of Public Works and Housing. This location was chosen because BPJN Palangkaraya plays a strategic role in managing national road projects in Central Kalimantan, an area characterized by unique geographical conditions, policy dynamics, and high-risk operational challenges. The researcher also considered data accessibility and the willingness of key informants to participate and provide relevant information.Informants were selected through purposive sampling, based on their relevance and knowledge related to the phenomenon being studied (Sugiyono, 2018).

The primary informant was the Head of BPJN Palangkaraya, while supporting informants included Commitment Making Officials (PPK), planning staff, and project supervisors involved in national road project management. The selection focused on individuals with direct experience in decision-making or policy implementation related to the projects. Data were collected through three main techniques: in-depth interviews, non-participant observation, and document analysis. Semi-structured interviews were used to allow the researcher to explore informants' experiences and perspectives flexibly while maintaining alignment with the research focus. Observations were conducted to understand how decision-making dynamics unfold in daily work settings, whereas document analysis included reviewing project reports, internal policy documents, and minutes of strategic meetings.Data were analyzed thematically following Braun and Clarke's (2006) steps: familiarizing with the data, generating initial codes, identifying themes, reviewing relationships among themes, and producing final interpretations. To ensure the credibility of the findings, source and method triangulation were used by comparing data from interviews, observations, and documents to confirm consistency. Validity was also strengthened through member checking, in which informants were asked to review and clarify the researcher's interpretations.Through this methodological approach, the study aims to provide a comprehensive depiction of how public-sector leaders make strategic decisions when facing project risks, and how such decisions influence the effectiveness of infrastructure project management within the BPJN Palangkaraya work area.

III. RESULT AND DISCUSSION

General Overview of the Research Setting

The Central Kalimantan National Road Implementation Agency (BPJN Kalimantan Tengah) is a Technical Implementation Unit (UPT) under the Directorate General of Highways, Ministry of Public Works and Housing. BPJN is responsible for planning, constructing, and preserving national roads and bridges throughout Central Kalimantan Province. The agency is structured into three Work Units (Satker), each handling different territorial segments based on geographical characteristics and infrastructural needs.

This organizational structure is highly relevant to the present study because strategic decision-making related to project risk follows a hierarchical escalation process: starting from the PPK (operational level), to the Satker Heads, and ultimately to the Head of the Balai as the highest risk owner. Understanding this structure is crucial for analyzing how risks are identified, evaluated, and prioritized.

Informant Characteristics

The study involved six key informants who play strategic roles in risk evaluation and decision-making at BPJN Central Kalimantan. These include the Head of the Balai, three Satker Heads (PJN 1–3), the Head of the Preservation Section, and a representative from planning and supervision. All informants possess firsthand experience dealing with risk-related issues such as budget cuts, material shortages, social pressure, and project delays.

Research Findings Based on Research Questions

Key Factors Influencing the Prioritization of Risks

Analysis of interview transcripts reveals that the Head of the Balai relies not only on technical considerations but also on contextual and non-technical factors when determining risk priority. These factors fall into three major categories:

A. External Factors

a. Budget limitations and the need for efficiency

b. Centralized decision-making by national authorities
c. Public pressure and viral issues on social media
d. ODOL (Over-Dimension Over-Load) impacts
e. Cross-sector regulation, especially regarding protected forest zones

B. Contextual Factors Specific to Central Kalimantan

a. Peat soil conditions dominating the terrain
b. Dependence on materials sourced from outside the region (primarily Java)
c. Local social and cultural dynamics, including land ownership and adat land issues

C. Internal Factors

a. Limited human resources in terms of both quantity and technical competence

These findings indicate that risk prioritization at BPJN Central Kalimantan is heavily influenced by real-world conditions that go beyond formal technical documentation.

The Decision-Making Process When Risks Occur

A case study on the "budget cut crisis" demonstrates that BPJN's decision-making process aligns with Herbert Simon's (1960) four-stage decision-making model:

1. Intelligence
   The Head of the Balai identifies the problem and immediately gathers data through the program division and Satker teams.
2. Design
   Alternatives are formulated, such as reducing project targets or adjusting treatment types.
3. Choice
   The Head of the Balai selects the option that meets the primary criterion—preventing further road deterioration.
4. Implementation
   The decision is communicated to all Satkers for joint execution.

This alignment shows that Simon's model remains relevant and observable within public-sector decision-making practices.

Decision-Making Models Used by the Head of the Balai

Findings indicate that the Head of the Balai does not rely on a single theoretical model but adopts a pragmatic combination:

1. Bounded Rationality

Due to constraints in budget, time, and resources, the Head of the Balai often chooses a "good enough" (satisficing) solution rather than an ideal one.

2. Responsive/Political Model

Public pressure—especially viral issues on social media—plays a strong role in shaping priorities, requiring quick and visible action.

3. Intuitive Decision-Making

Intuition and professional judgment are used when the SOP cannot fully address complex field conditions, such as evaluating the good faith of contractors in critical projects.

Discussion

1. Project Management Theory and Real-World Constraints

Classic project management theory assumes that project delays can be controlled through standardized procedures, clear scheduling, adequate resources, and stable environmental conditions. However, the empirical data reveals that infrastructure projects in Central Kalimantan operate within structural limitations not fully captured by conventional models.

Key limitations include:

Geographical challenges (peatland, soft soil, hilly terrain, coastal instability).Uneven material availability, sometimes requiring imports from Java or neighboring provinces.Limited contractor capacity, with uneven equipment distribution and aging machinery.Human resource deficits, including mismatched competencies and near-retirement staff. Logistical barriers, such as forest-area regulations restricting quarry

operations.From the project management perspective, these constraints directly affect time performance, making delays not merely a technical failure but a consequence of environmental and institutional realities. The interview data aligns with modern PM literature emphasizing that public-sector projects are deeply shaped by systemic constraints, not isolated operational weaknesses.

2. Risk Management Theory: Infrastructure as a High-Uncertainty System

Risk management theory positions project delays as outcomes of uncertainty — both technical and non-technical. Findings confirm that BPJN faces layered risks:

Environmental risks: unpredictable weather patterns, peatland instability, fire seasons.

Financial risks: budget cuts up to 46%, misaligned with required needs (≈2.7 trillion ideal vs. <1 trillion allocated).Social risks: diverse communities, land issues, and high public sensitivity to road conditions.Operational risks: ODOL trucks accelerating road damage, viral complaints demanding immediate response.Regulatory risks: procurement procedures, forest zone restrictions, national policy shifts. Consistent with Flyvbjerg's theory, the data shows that delays in public infrastructure are not merely technical; they are institutional, political, and social. The Head of BPJN must therefore engage in continuous risk scanning, balancing between urgent public demands, safety considerations, and limited budgets. Interestingly, the field data demonstrates that SOPs alone cannot capture the complexity of real risks. Despite formal procedures, decision responses often require improvisation, prioritization, and negotiation among stakeholders — confirming that risk management in the public sector is inherently adaptive, not purely procedural.

3. Strategic Decision-Making: Adaptive Leadership in Action

The decision-making patterns shown by the Head of BPJN align strongly with bounded rationality and adaptive leadership theories.

Bounded Rationality (Simon)

The Head cannot rely on complete information, stable budgets, or perfect forecasts. Instead, decisions are made using:

b. partial data,
c. time pressure,
d. dynamic field conditions,
e. stakeholder expectations,
f. sudden viral complaints, and
g. shifting weather patterns.

Thus, decisions are not fully rational but "satisficing"—choosing acceptable, feasible options given real-world constraints.

Adaptive Leadership (Heifetz)

The empirical findings confirm three traits of adaptive leadership:

h. Flexibility — adjusting methods when budgets shrink (e.g., using temporary measures instead of full reconstruction).
i. Sense-making — rapidly interpreting incoming reports, especially from the Komensenter system and social media
j. Cross-unit coordination — involving program, planning, and satker units to evaluate impacts and prioritize responses.

The Head of BPJN acts as an adaptive leader who must bridge technical standards (SOPs, engineering norms) with political legitimacy (public expectations, media pressure).This dual responsibility is a hallmark of public-sector strategic leadership, reinforcing Moore's Public Value Theory: public leaders must balance operational capacity, authorizing environment, and public value creation.

4. Integrating Theory with Field Realities

The combined theoretical perspectives lead to three key insights:

(1) Delays are systemic, not incidental.

They arise from a combination of environmental, financial, social, and institutional forces.

(2) Risk management must be adaptive.

SOPs provide a baseline, but real decisions require flexibility, negotiation, and prioritization.

(3) Leadership decisions shape project outcomes.

The Head of BPJN's strategic responses — prioritizing road safety, reallocating limited resources, and coordinating cross-unit actions — directly influence whether delays can be mitigated or worsened.

5. How the Theory Strengthens Interpretation of Findings

k. Project management theory explains why delays persist despite procedural control
l. Risk management theory explains how uncertainty multiplies in a public works environment.
m. Strategic decision-making theory explains why leadership judgment is crucial when SOPs fall short.

This integrated theoretical understanding reinforces that infrastructure project delays in Central Kalimantan are best explained not through isolated operational problems, but through interactions between technical constraints, institutional pressures, and adaptive leadership actions.

IV. CONCLUSION

This study concludes that the management of infrastructure project delays in BPJN Palangkaraya is shaped by a complex interaction between environmental, institutional, financial, and operational factors. The findings show that conventional project management frameworks alone cannot fully explain the challenges faced in Central Kalimantan, where geographical constraints, unstable weather, limited material availability, and shifting national policies create systemic barriers to timely project delivery. These realities confirm that infrastructure projects in the region operate in a high-uncertainty environment that requires more adaptive and strategic forms of leadership.The study demonstrates that risk management at BPJN is not merely procedural but inherently adaptive. While formal SOPs and risk registers establish a baseline for technical control, real-world risk responses rely heavily on leader judgment, cross-unit coordination, and situational assessment.

The Head of BPJN consistently navigates layered uncertainties—including budget cuts, social pressures, contractor capacity, and environmental disruptions—by integrating technical considerations with institutional and public legitimacy concerns.The decision-making process used by the Head of BPJN aligns with theoretical perspectives on bounded rationality, adaptive leadership, and strategic decision-making. Decisions are made under incomplete information, limited time, and dynamic field conditions, leading to "satisficing" choices that balance feasibility, safety, and public expectations. This confirms that effective project delay mitigation in the public sector depends not only on engineering and administrative procedures but also on the strategic thinking and adaptability of leadership.Overall, this study highlights that managing national road infrastructure in Central Kalimantan requires leaders who can bridge technical standards, institutional requirements, and community expectations. The role of the Head of BPJN is therefore not merely administrative but strategically central to ensuring project continuity, maintaining public trust, and navigating uncertainties that influence project success. Future improvements in public infrastructure performance will benefit from strengthening adaptive leadership capacity, enhancing risk-informed decision-making, and building more resilient operational systems within BPJN and similar institutions.

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