Multidisciplinary Output Research For Actual and International Issue (MORFAI Journal) ISSN (e): 2808-6635
Volumes 6 No. 2 (2026)

PROJECT MANAGEMENT FOCUSED ON STAKEHOLDER MANAGEMENT IN PERTAMINA'S BOYOLALI–PENGAPON PIPELINE PROJECT

Iwan Setiawan[1]*, Gatot Yudoko[2]
[1,2]School of Business Management, Institut Teknologi Bandung
E-mail: iwamsetiawam@gmail.com

Received	: 01 December 2025	Published	: 28 January 2026
Revised	: 15 December 2025	DOI	: https://doi.org/10.54443/morfai.v6i2.5080
Accepted	: 10 January 2026	Link Publish	: https://radjapublika.com/index.php/MORFAI/article/view/5080

Abstract

The Boyolali–Pengapon pipeline project is a national-priority infrastructure initiative by PT Pertamina Patra Niaga. The project that seeks to improve Central Java's fuel distribution faces stakeholder challenges that are intricate. From securing government approval, acquiring land, and managing relationship with the local communities, an effective stakeholder engagement framework is crucial to ensure the project stays on its schedule and budget. In accordance to that, this study analyzes the application of Pertamina's stakeholder engagement in the Boyolali-Pengapon pipeline project. Data were gathered through semi-structured interviews with Pertamina project managers, government regulators, local community representatives, and the pipeline's engineering partner, supplemented by analysis of project documents and reports. Thematic analysis was conducted using stakeholder mapping tools (the Stakeholder Salience Model and Power–Interest Grid) in line with PMI's stakeholder engagement processes. The study's objectives are to identify the project's key stakeholders and their interests, assess the engagement practices used, document stakeholder-related issues, and evaluate how the stakeholder management approach affected the project's schedule, cost, and community acceptance. The research finds suggest managing stakeholder proactively benefited the project result significant. Major delays were prevented through early engagement. Challenges of land acquisition and permit were also present, yet were not a hindrance for the project as they were addressed through negotiation and collaboration with local authorities. Consequently, the disruption avoided from legal disputes that might be costly and the small investments made in engagement helps the project to stay on budget. All in all, the case shows that large infrastucture projects needs a formal stakeholder engagement process to schedule compliance, keep cost controlled, and gain support from the local community.

Keywords: ***Stakeholder Management, Project Management, Infrastructure Project, Community Engagement, Land Acquisition***

INTRODUCTION

Large-scale infrastructure projects like oil and gas pipelines are critical for economic growth and energy security but are inherently complex due to the need to coordinate multiple technical, regulatory, and social elements. These linear projects spanning multiple regions involve diverse stakeholders with distinct interests, responsibilities, and expectations. Therefore, success depends not only on technical and financial planning but also on the ability to manage relationships and align the objectives of all involved parties. Stakeholder management has consequently become a central pillar of modern project management, as effective engagement can reduce project risks, build public trust, and accelerate delivery, whereas ineffective engagement can trigger conflicts, delays, cost escalations, and even project suspension. The Boyolali–Pengapon pipeline project, undertaken by PT Pertamina Patra Niaga, provides a representative case of the importance of stakeholder management in Indonesia's energy sector (Jalaludin & Sari, 2023). This strategic project involves constructing a fuel pipeline across multiple administrative regions in Central Java to improve distribution efficiency and energy security, yet it faces significant challenges in coordinating the interests of regulatory bodies, local governments, and communities along its route. This introduction frames the context in which stakeholder management is examined in this thesis, with subsequent sections detailing the study's background, company and project overview, business issue, research questions and objectives, and the research's scope and limitations. In infrastructure projects, a broad range of stakeholders—from government regulators and project partners to local communities and security forces—can affect or be affected by a project's decisions or outcomes. Effective stakeholder management aligns project goals with stakeholder expectations, ensuring timely

delivery, quality outcomes, and overall satisfaction, while inadequate engagement can lead to conflicts, permitting delays, or community opposition that jeopardize schedule and cost. Research indicates that organizations excelling in stakeholder management are 2.5 times more likely to achieve their project objectives, underscoring that managing these relationships is central to project outcomes, especially for large-scale endeavors intersecting with public interests and regulatory requirements. Infrastructure projects must navigate governmental approvals, land acquisition, environmental regulations, and community expectations, where failures in addressing stakeholder concerns have led to serious implications globally, such as delays or halts due to protests, legal challenges, or permit issues. Consequently, stakeholder management is both a risk factor and a success factor, recognized in project management standards like PMI's PMBOK Guide (2021) as a key knowledge area emphasizing proactive identification and continuous expectation management. Ensuring broad stakeholder support and mitigating stakeholder-related risks are thus imperative for successful project implementation. The Boyolali–Pengapon pipeline project exemplifies these dynamics, highlighting how stakeholder management directly influences execution in Indonesia's energy infrastructure. As a strategic initiative to enhance distribution, it faces the full spectrum of stakeholder challenges, from regulatory compliance to community relations, underlining the broader industry reality that successful delivery hinges on effective multi-stakeholder coordination. The following sections provide an overview of the company and project, outline the business issue driving this research, delineate the research questions and objectives, and clarify the study's scope and limitations.

Business Issue

The central business issue examined in this thesis is the challenge of managing a complex multi-stakeholder environment in the Boyolali–Pengapon pipeline project, focusing on how Pertamina Patra Niaga can effectively engage and coordinate numerous stakeholders to ensure smooth execution and success. This issue stems from the need to navigate varying stakeholder interests, regulatory frameworks, and potential conflicts, with the risk of project delays, cost overruns, or operational hurdles emerging when stakeholders are inadequately managed or misaligned with the project's goals. The project operates within a multifaceted stakeholder landscape that includes regulatory agencies, local governments, security forces, and local communities. Key regulatory stakeholders such as PT Kereta Api Indonesia (KAI), the Ministry of Public Works and Housing (PUPR), and the Ministry of Environment and Forestry (KLHK) wield significant influence, as missing permits from any single agency could halt the project. Local governments in regions like Semarang City and Boyolali Regency are crucial allies for issuing location permits and facilitating land acquisition, while security forces like the National Police (POLRI) provide oversight for public order and asset protection.

Perhaps the most delicate stakeholders are local communities and landowners, whose acceptance is critical for construction access and long-term operation. Indonesian law mandates community consultation through the Analisis Mengenai Dampak Lingkungan (AMDAL) process, requiring public consultations in every affected village. Proactive measures such as early engagement with village leaders, transparent information sharing, and securing written consents are essential to prevent resistance, as demonstrated by past incidents where inadequate engagement led to protests and work stoppages in similar projects. Significant management challenges arise from permit and approval delays, complex land acquisition negotiations, and maintaining community relations. Each regulatory permit involves lengthy bureaucratic procedures, and land acquisition often faces resistance from holdout landowners demanding higher compensation, requiring creative negotiation and local government mediation (Muchsin, 2025). Community relations must be maintained continuously, as construction disturbances can lead to protests, emphasizing the need for the project team to keep commitments and address grievances swiftly to uphold its social license. In summary, the multi-stakeholder environment presents a complex management puzzle where ineffective engagement risks schedule slippages, cost overruns, or project suspension, as evidenced by historical cases like the Duri–Dumai pipeline project. Studies, including those by Asiedu and Alfen (2016), confirm that stakeholder-related issues are critical contributors to delays in linear infrastructure projects. Therefore, improving stakeholder management is not only crucial for the Boyolali–Pengapon project's success but also offers broader insights for similar infrastructure endeavors, highlighting that technical and financial readiness alone cannot guarantee timely delivery without effective multi-stakeholder coordination.

Research Questions and Research Objectives

In light of the identified business issue, this research is undertaken to explore specific questions related to stakeholder management in the Boyolali–Pengapon pipeline project. The research questions guiding this study focus on identifying the key stakeholders and their roles, power, and interests; evaluating the stakeholder engagement

strategies used and their alignment with established frameworks like the Stakeholder Salience Model and PMI's processes; documenting the challenges and conflicts that have arisen in areas such as permits, land acquisition, and community relations; and assessing how the stakeholder management approach has impacted project performance to create a lesson learned register for future projects, particularly regarding schedule adherence, cost efficiency, and community acceptance. Correspondingly, the research objectives aim to identify and map the relevant stakeholders by categorizing their roles and influence, evaluate the engagement practices through established theoretical frameworks, document and examine real instances of stakeholder-related issues encountered during execution, and assess the impact of stakeholder management on project outcomes regarding schedule, cost, and satisfaction to derive lessons learned. Achieving these objectives will provide a comprehensive analysis linking practical observations with theoretical concepts, aiming not only to describe what transpired but also to evaluate why and how stakeholder management efforts contributed to the project results, ultimately generating insights to improve multi-stakeholder coordination in similar large-scale projects.

Research Scope and Limitation

The scope of this research is confined to the stakeholder management aspect of the Boyolali–Pengapon pipeline project, geographically covering its route in Central Java from Semarang to Boyolali. Thematically, it focuses on project management issues concerning external stakeholders—such as government agencies, local authorities, communities, and partners—and examines their identification, engagement, and management during the planning and implementation phases, including permit acquisition, land negotiations, and community initiatives. The study relies on data from project documents, interviews with Pertamina Patra Niaga's team, and public reports, deliberately not delving into other areas like technical design or detailed financial analysis unless they directly intersect with stakeholder issues, ensuring a targeted analysis of how stakeholder dynamics influence execution. As a single-case study, this research is inherently limited in generalizability, as findings may not uniformly apply to all other infrastructure projects due to differences in context, such as regulatory environments or stakeholder composition. Limitations also include potential biases or gaps in available information from project records and testimonies, and time constraints mean the study covers the project up to its major execution phase, excluding long-term operational impacts. Despite these limitations, the research provides a detailed snapshot of stakeholder management in practice, using triangulation from multiple sources to enhance credibility and offer valuable, context-specific insights.

LITERATURE REVIEW

Each The concept of the "stakeholder" originated in strategic management and has been adapted to project management over the decades. Freeman (2010) offered a broad definition of a stakeholder as "anyone who can affect or is affected by the achievement of an organization's objectives". In project terms, this translates to virtually anyone with a vested interest or influence in the project's outcome. Modern project management standards (such as PMI's PMBOK and ISO 21500) similarly define project stakeholders as individuals or entities that may affect or be affected by a project, or perceive themselves to be affected by it. This inclusive definition means stakeholders can be internal (e.g. project sponsors, team members, parent company) or external (e.g. regulators, local communities, contractors, NGOs). Importantly, stakeholders might impact the project positively (championing or facilitating it) or negatively (opposing or constraining it). Because of this dual potential, stakeholders "play a critical role in shaping a project's success — or its challenges". Ignoring a key stakeholder can lead to game-changing obstacles, as even a seemingly minor player can derail a project if their concerns are unmet. Stakeholder theory in the project context emphasizes that project managers must identify stakeholders early and understand their interests, influence, and interrelationships. Project success is no longer measured only by the iron triangle of scope, time, and cost, but also by stakeholder satisfaction and approval. For example, Mok et al. (2015) argue that effective stakeholder management should strive to satisfy stakeholders' interests, especially in large projects where stakeholders' influence is high. Projects that neglect stakeholder expectations risk facing resistance, legal challenges, or reputation damage. Empirical research supports this view: projects with more numerous and heterogeneous stakeholders often experience greater complexity and uncertainty in execution, which can lead to schedule delays and cost overruns. Indeed, studies have shown that projects with an abundance of external stakeholders tend to suffer schedule slippages; for instance, in large infrastructure projects, a multitude of stakeholder issues can adversely affect the project timeline (Asiedu & Alfen, 2016). A recent meta-analysis of construction delays found that for linear projects like roads (comparable to pipelines), "external issues" – including stakeholder conflicts, land acquisition troubles,

and permit problems – were the single most critical cause of delays. Thus, managing stakeholder relationships is not a peripheral task but a central component of project risk management and success.

1. Theoretical Foundation

Large infrastructure projects, such as pipelines, highways, and railways, inherently face greater stakeholder management challenges than smaller projects due to their expansive impact and multi-jurisdictional nature. Spanning long distances across multiple regions, these projects affect numerous communities, intersect with existing infrastructure, and require approvals from diverse government agencies, with stakeholder-related issues consistently cited as leading causes of delays and cost overruns. Empirical evidence strongly underscores this; Mejía et al. (2023) found that in linear projects like roads, "external issues" such as stakeholder conflicts and permit delays are the top critical factor for schedule delays, while Asiedu and Alfen (2016) observed that higher stakeholder complexity correlates with poorer schedule performance, indicating that success is heavily dependent on navigating the external environment. A recurrent flashpoint is land acquisition and compensation, where even legally compliant projects can stall if landowners dispute terms, as illustrated by Pertamina's Duri–Dumai pipeline project in Sumatra, which faced significant delays due to difficulties securing land-use permits from local authorities. Consequently, project managers have adopted more innovative and inclusive engagement strategies, such as forming community liaison committees, offering local benefits, and conducting early socialization meetings to build trust and secure a social license, as mandated by regulations like Indonesia's AMDAL process. Similarly, managing government and regulatory stakeholders requires navigating complex, often sequential bureaucratic processes across multiple agencies, where personal engagement and relationship-building become critical tools for expediting approvals and preventing administrative delays. From a project management best-practice perspective, the literature recommends early and systematic stakeholder mapping combined with continuous monitoring of stakeholder-related risks. Tools like stakeholder engagement matrices, as advocated by Olander and Landin (2005), help track interests and influence levels, while transparent communication approaches—such as publicly disclosing plans and progress—can preempt misinformation and build public trust. Effectively combining these formal techniques with adaptive, relationship-focused engagement is critical for infrastructure projects, where external stakeholder issues often dominate the risk profile and can decisively influence success or failure.

2. PMBOK Guidelines on Stakeholder Management

The Project Management Institute's Body of Knowledge (PMBOK) provides a structured approach to stakeholder management, elevating its importance by dedicating specific principles and practices to this knowledge area. In the latest PMBOK 7th Edition (PMI, 2021), stakeholder engagement is established as a core principle and a dedicated performance domain, emphasizing that effectively engaging stakeholders is essential for delivering value and reducing risk. The framework outlines a continuous cycle of identifying stakeholders, analyzing their interests and influence, planning engagement strategies, managing these engagements, and monitoring their effectiveness, promoting a proactive and outcome-oriented approach to aligning project objectives with stakeholder expectations. Central to this framework is the systematic identification of stakeholders, which involves documenting all individuals, groups, or organizations that could impact or be impacted by the project in a stakeholder register. PMI emphasizes that this is not a one-time task but an ongoing effort throughout the project lifecycle, as new stakeholders can emerge and existing ones may change in influence or interest. Ignoring even a single stakeholder can lead to unexpected challenges that jeopardize the project's outcome, making continual scanning and updating of the stakeholder register a critical practice for comprehensive risk management.

Once stakeholders are identified, the next step is planning stakeholder engagement by developing tailored strategies based on analysis of their power, interest, and influence, often using tools like the power-interest grid or salience model. This planning process transforms stakeholder analysis into actionable strategies, specifying communication methods, involvement levels, and prioritization of efforts to focus resources on the most critical stakeholders. The resulting engagement plan aligns with the overall project communication strategy and ensures that each stakeholder receives appropriate attention to foster support and mitigate resistance. Managing stakeholder engagement involves executing the plan through day-to-day interactions, requiring strong interpersonal skills such as empathy, conflict resolution, and trust-building (Rambe & Wijaya, 2025). This process includes communicating with stakeholders, addressing their needs, negotiating when necessary, and building positive relationships to maintain commitment and proactively handle concerns. For a pipeline project, this might mean working with government officials to facilitate permitting, holding regular meetings with community leaders to resolve grievances, and collaborating with partners to align interests, thereby preventing issues from escalating into crises. Monitoring

stakeholder engagement is the final process, where the project team tracks interactions and evaluates the effectiveness of engagement strategies, adjusting plans as needed based on changes in stakeholder attitudes or involvement. Techniques include gathering feedback, measuring satisfaction, maintaining an issue log, and conducting periodic reviews to ensure emerging risks or conflicts are spotted early. This continual monitoring closes the loop, feeding back into updated identification and engagement strategies, and ensures that stakeholder management remains dynamic and responsive throughout the project lifecycle. Through these iterative processes, PMBOK emphasizes a proactive approach where stakeholder engagement is not merely about information dissemination but about achieving alignment between project objectives and stakeholder expectations. By actively addressing stakeholder needs and concerns, projects can reduce resistance, build necessary support, and avoid costly surprises, thereby increasing the likelihood of success. For the Boyolali–Pengapon pipeline project, these guidelines provide a valuable best-practice baseline for planning and evaluating stakeholder management, underscoring that systematic and transparent engagement is critical for navigating complex, multi-stakeholder environments.

3. Stakeholder Salience Model (Power, Legitimacy, Urgency)

One foundational framework for analyzing and prioritizing stakeholders is the Stakeholder Salience Model developed by Mitchell, Agle, and Wood (1997), which proposes that project managers determine which stakeholders matter most by evaluating three key attributes: power, legitimacy, and urgency. Power refers to a stakeholder's ability to influence project outcomes, legitimacy is the perceived validity of their involvement, and urgency is the degree to which their needs demand immediate attention. The model posits that stakeholders possessing more of these attributes will be accorded higher priority, with the greatest attention given to those who have all three. Stakeholders are classified into three broad categories based on attribute combinations: latent stakeholders, who possess only one attribute and generally have low salience; expectant stakeholders, who have two attributes and moderate salience, requiring more active engagement; and definitive stakeholders, who possess all three attributes and merit immediate and full attention. This classification helps managers allocate resources effectively, as definitive stakeholders can be project-threatening if ignored, while expectant stakeholders can quickly become critical if their concerns are unmet, and latent stakeholders should not be overlooked as they may gain attributes over time. The Stakeholder Salience Model is especially useful in complex projects like the Boyolali–Pengapon pipeline, as it helps the project team identify which stakeholders are most critical at any given time and reminds managers that stakeholder importance is dynamic, evolving as the project progresses. For example, an environmental regulator with authority to issue permits might be a definitive stakeholder, while a local community group might initially be dependent but could shift categories by gaining power through media or political support, requiring continual reassessment throughout the project lifecycle. By understanding each stakeholder's power, legitimacy, and urgency, project managers can tailor engagement strategies effectively, ensuring that definitive stakeholders are closely engaged, dominant stakeholders are kept informed and supportive, and even latent stakeholders are monitored for potential changes in salience. This dynamic approach ensures that stakeholder management is responsive and strategic, adapting to shifting influences and priorities to mitigate risks and enhance project outcomes.

4. Power-Interest Grid and Stakeholder Mapping

Another widely used tool for stakeholder analysis is the Power-Interest Grid, often attributed to Mendelow (1991) and popularized in PMI's methodology, which categorizes stakeholders based on their level of power over the project and their level of interest in its outcomes. By plotting stakeholders on a four-quadrant grid, the project team can visualize stakeholder groups and determine appropriate engagement strategies for each category, thereby ensuring that management efforts are allocated efficiently based on the stakeholders' ability to influence and their stake in the project's results. Stakeholders with high power and high interest can strongly influence the project and are highly invested in its success, requiring close management through frequent communication, involvement in decision-making, and prompt issue resolution. Those with high power but low interest, such as senior officials, should be kept satisfied with periodic high-level updates to maintain their positive or neutral stance and prevent them from exercising their power in a way that could hinder the project. Stakeholders with low power but high interest, like local communities, should be kept informed and heard to leverage their support and insights while preventing minor grievances from escalating. Lastly, stakeholders with low power and low interest require minimal effort, being monitored only to ensure they do not become unexpectedly concerned. Using the power-interest grid helps the project team recognize that not every stakeholder requires the same level of attention, emphasizing that high-power stakeholders can block or advance the project and thus merit immediate attention, while high-interest stakeholders can become vocal champions or critics needing transparent and involved management. Importantly, like the salience

model, the power-interest map is not static, as stakeholders can shift positions as the project progresses, such as gaining power through media mobilization or experiencing increased interest due to public controversies. Therefore, project managers should periodically re-assess the grid and adjust their engagement strategies accordingly to ensure that emerging key players are not overlooked and that engagement plans remain aligned with stakeholders' current levels of influence and concern. Regular updates to the stakeholder map maintain the effectiveness of engagement efforts and help navigate dynamic stakeholder landscapes, thereby enhancing the project's ability to manage risks and foster supportive relationships throughout its lifecycle.

METHOD

This chapter details the qualitative single-case study methodology used to examine stakeholder management in the Boyolali–Pengapon pipeline project, employing semi-structured interviews and secondary data collection, analyzed through qualitative content analysis and frameworks like the Stakeholder Salience Model and Power-Interest Grid, with measures such as triangulation and member checking to ensure validity and reliability, all conducted within rigorous ethical standards (Creswell, 2013).

Research Design

This study employs a qualitative single-case study design to investigate stakeholder management in the Boyolali-Pengapon pipeline project, enabling a deep and contextual exploration of the project's stakeholder environment as a bounded case. This approach, aligned with Yin (2018) guidelines, is selected to analyze detailed dynamics, perceptions, and relationships that broader surveys might miss, and is particularly suited for understanding the non-numerical, social, and behavioral aspects of stakeholder interactions, as it allows for rich descriptive data and nuanced insights into stakeholder strategies and company engagement. The project serves as an instrumental and intrinsic case, offering insights into a broader phenomenon due to its status as a national strategic project involving numerous stakeholders from local to national levels, making it ideal for examining practices of stakeholder salience and power-interest considerations. The research design is both exploratory, in mapping the stakeholder landscape, and explanatory, in examining how management approaches influence project outcomes, incorporating multiple data sources and analytical lenses while being grounded in project management standards like PMI's PMBOK Guide to ensure alignment with both academic theory and professional practice, ultimately providing a robust understanding of stakeholder dynamics and generating applicable insights for future infrastructure projects.

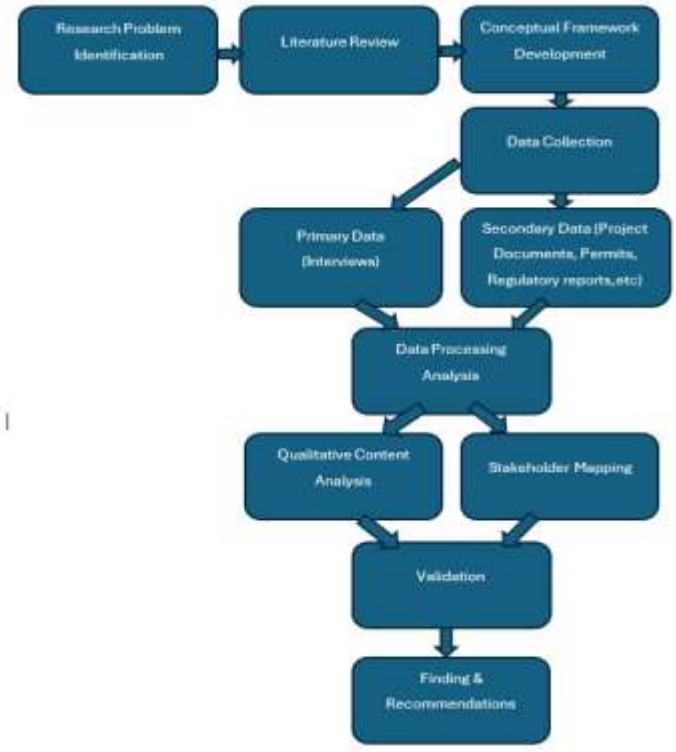

Figure 1. Research Flow Diagram

Data Collection Method

Data collection was conducted through multiple sources to ensure a comprehensive understanding of the project's stakeholder management, utilizing both primary and secondary data (Dini et al., 2024). Semi-structured interviews served as the primary data source, engaging key stakeholders from government regulators, company personnel at Pertamina Patra Niaga, local community leaders and landowners, and project partners like PT PGAS Solution. Secondary data, including project documents such as internal reports, stakeholder registers, regulatory permits, and media articles, provided contextual depth and verification. Triangulation across these diverse sources was employed to enhance the credibility and reliability of the research findings, ensuring a well-rounded and validated analysis. The interviews, each lasting 45-60 minutes and conducted in-person or via teleconference, followed a semi-structured format with a guiding questionnaire and flexible follow-up questions to elicit rich qualitative insights into participants' experiences and perspectives. In total, 10 interviews were conducted, with representation from each stakeholder category to capture diverse viewpoints, and all sessions were audio-recorded and transcribed for analysis. Complementary secondary data, including the Analisis Mengenai Dampak Lingkungan (AMDAL) report, land acquisition documents, regulatory permits like the IPPKH from KLHK, and media coverage, helped contextualize interview findings and understand the power dynamics and timelines involved. Together, these methods provided a robust evidence base for examining stakeholder interactions and management strategies within the project. Rich case for this study is built upon evidence convergence from these multiple sources. By converging evidence from these multiple sources, the study builds a rich case record. Table 1 below summarizes the stakeholder groups and the types of data collected from each.

Table 1. Stakeholder Groups and Data Sources in Data Collection

Stakeholder Group	Role in Project	Data Collection Method	Data Type
PT Pertamina Patra Niaga	Project owner & implementer	Interviews, reports	Primary & Secondary
KAI (Railway Authority)	Permit approval, railway crossings	Interviews, regulations	Primary & Secondary
BBWS	Water resource permits	Interviews, project docs	Primary & Secondary
KLHK & PUPR	Environmental & infrastructure permits	Interviews, regulations	Primary & Secondary
Local Governments	Land and spatial planning	Interviews, reports	Primary & Secondary
Landowners & Communities	Land acquisition & social acceptance	Interviews, media	Primary & Secondary

As shown in Table 1, a deliberate effort was made to gather data from all major stakeholder categories identified in this case. This comprehensive data collection ensured that the research captures multiple perspectives and can cross-check information (for example, comparing a community leader's claim about delayed road repairs with project documents and news reports to validate the claim). The combination of interviews and documentary evidence is in line with best practices for case study research, which often emphasize using multiple sources of evidence to build a robust understanding of the case.

Data Analysis

All collected data, including interview transcripts and documents, were analyzed using qualitative content analysis following the approach of Hsieh and Shannon (2005), involving a systematic process of coding textual data to identify themes and interpret meaning. The analysis began with immersive reading of transcripts to develop an initial coding framework that combined both inductive codes emerging from the data—such as "permit delays" and "community communication"—and deductive codes derived from theoretical frameworks like the Stakeholder Salience Model and Power-Interest Grid, including attributes like "stakeholder power" and "legitimacy." This directed content analysis allowed each piece of data to be examined for indicators of a stakeholder's power, legitimacy, urgency, and interest, facilitating an application of established models to the case. As coding progressed, data were grouped by stakeholder to draw findings, such as collating all excerpts related to the Ministry of Environment (KLHK) to understand its influence and concerns, or gathering community reactions to identify primary

issues. The Stakeholder Salience Model (Mitchell et al., 1997) was then applied to categorize stakeholders based on their possession of power, legitimacy, and urgency, using evidence from the data to classify them as latent, expectant, or definitive, with a resulting Stakeholder Salience Matrix summarizing these classifications for the Boyolali–Pengapon project.

Table 2. Stakeholder Salience Matrix – Boyolali–Pengapon Pipeline Project

Stakeholder (Group)	Power (Ability to Influence)	Legitimacy (Validity of Stake)	Urgency (Need for Immediate Attention)	Salience Category (Mitchell et al. 1997)
National Regulators (e.g. KAI, PUPR, KLHK)	Yes – High (can halt or green-light project via permits)	Yes (legal authority and mandate over project aspects)	Yes (their approvals tied to project timeline)	**Definitive** – All three attributes present; must be given top priority.
Local Governments (Regencies/Cities along route)	Yes – Moderate (influence local permitting and public support)	Yes (jurisdiction over local interests and land issues)	No (supportive stance, no pressing claims unless issues arise)	**Dominant** (Expectant) – Power + Legitimacy; important and should be kept satisfied, but no urgent demand currently.
Security Forces (Police, TNI)	Yes – High (ensure security, can enforce or restrict site access)	Yes (mandated to safeguard public order and strategic assets)	No (only become active if a security issue emerges)	**Dominant** (Expectant) – Power + Legitimacy; need to be kept informed/satisfied, though not urgently demanding unless incidents occur.
Local Communities & Landowners	No – Low formal power (cannot unilaterally stop project; influence mainly via protests or appeals)	Yes (directly affected stakeholders with legal rights to land, entitled to consultation/compensation)	Yes (concerns like land compensation and environmental safety are immediate)	**Dependent** (Expectant) – Legitimacy + Urgency; their valid urgent needs should be addressed, but they lack power and thus rely on the company or authorities to advocate for them.
Project Partner (PT PGAS Solution)	No – Low formal power vis-à-vis project owner (acts under contract; limited authority over project scope)	Yes (legitimate contractual partner responsible for execution)	Yes (under schedule pressure to deliver project milestones)	**Dependent** (Expectant) – Legitimacy + Urgency; they have to be supported by the owner to meet urgent deliverables, despite not controlling overall decisions.
General Public / Uninvolved (e.g. wider community not directly on route, or neighboring govt	No (cannot influence project)	No (no specific stake or role in project)	No (no immediate interests at play)	**Non-stakeholder / Minimal Salience** – Not actively considered in project stakeholder strategy beyond basic public information.

Stakeholder (Group)	Power (Ability to Influence)	Legitimacy (Validity of Stake)	Urgency (Need for Immediate Attention)	Salience Category (Mitchell et al. 1997)
agencies not impacted)				

RESULTS AND DISCUSSION

This chapter presents the findings from the stakeholder interviews and project documents, organized thematically according to the research questions and an analysis of how stakeholder management unfolded in Pertamina Patra Niaga's Boyolali–Pengapon Pipeline Project. The discussion addresses each research question through stakeholder mapping results, examination of engagement effectiveness, identified challenges, and the formulation of business solutions with implementation plans.

1. Stakeholder Identification and Roles

The project's stakeholders were systematically mapped using the Power-Interest Grid and Stakeholder Salience Model to clarify their levels of influence, legitimate stakes, and urgency of concerns. National regulators such as KAI, PUPR, and KLHK fall into the "Manage Closely" category due to their high authority and interest, while local governments are positioned in the higher power and high-interest range. Local communities and landowners have high interest but low formal power, categorizing them as "Keep Informed" stakeholders, and the main contractor PT PGAS Solution is classified as a dependent stakeholder requiring support. According to the salience model Mitchell et al. (1997), definitive stakeholders, including national regulators, possess all three attributes of power, legitimacy, and urgency and must be prioritized. Dominant stakeholders like local governments and security agencies need to be kept satisfied through regular communication, while dependent stakeholders such as communities and the project partner require substantial support. This structured mapping provided a clear basis for evaluating how each stakeholder group was managed in practice.

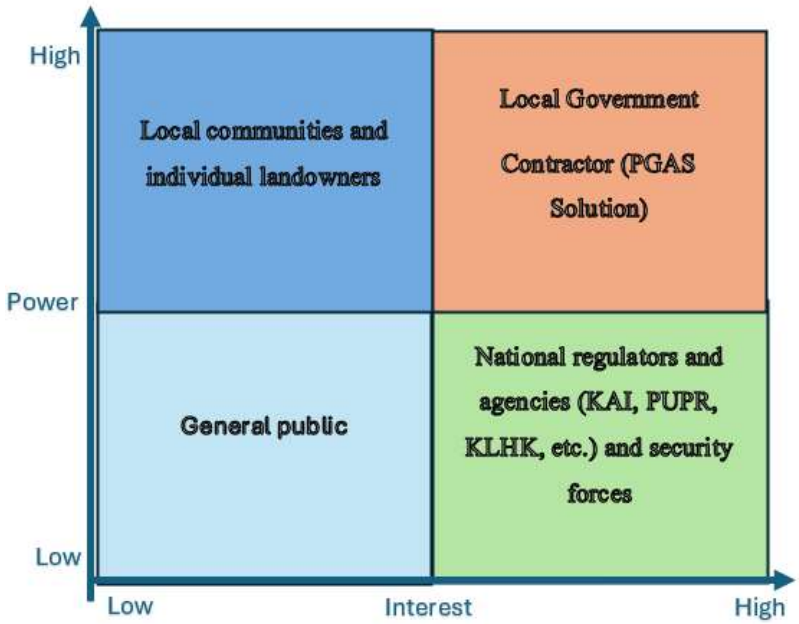

Figure 2. Power-Interest Grid of Key Stakeholders.

This diagram maps the project's stakeholders by their level of power and interest, categorizing them into four quadrants: stakeholders in the top-right quadrant ("Manage Closely"), such as national regulators and key local governments, require proactive and priority engagement due to their high power and high interest. Those in the bottom-right ("Keep Satisfied"), like security forces, need regular updates and readiness because of their high power but lower day-to-day interest. Stakeholders in the top-left ("Keep Informed"), including local communities, landowners, and the project partner, have high interest or urgent needs but low formal power, necessitating that the

project team keep them well-informed and supported. Finally, stakeholders in the bottom-left quadrant, with low power and low interest, are minimal-impact groups who should be monitored with minimal effort.

Interview findings show a clear consensus on the key stakeholders and their roles in the project, identifying primary groups such as the project proponent Pertamina Patra Niaga, government regulators like PUPR and KLHK, local governments of affected regions, local landowners and communities, and the project partner PT PGAS Solution. Government regulators view themselves as gatekeepers with high power to approve or halt aspects of the project, emphasizing their authority to ensure compliance with laws and safety standards. Company personnel at Pertamina demonstrated broad awareness of the multi-stakeholder environment, seeing themselves as central integrators who must balance all stakeholder needs and prioritize those with the biggest impact on project progress based on their potential influence and stake. Local government officials see themselves as both stakeholders and facilitators, mediating between the project's needs and community interests while ensuring alignment with local development plans and public acceptance. Local communities and landowners recognize their crucial stake through land rights and local impacts, asserting latent power despite initial feelings of exclusion, with their high interest stemming from property, safety, and livelihood concerns. The project partner PGAS Solution plays a technical execution and advisory role, holding moderate power through operational influence but relying on Pertamina for high-level stakeholder negotiations, with a strong interest in successful project delivery aligned with the company's objectives. In summary, stakeholder identification aligns with the project's context as a multi-stakeholder infrastructure endeavor, with roles ranging from regulators as permit-givers to communities as rights-holders, each possessing varying levels of formal and informal power and interest. This clear mapping, reflecting principles of stakeholder salience, set the stage for the project team's engagement strategies by recognizing that stakeholders with high power, legitimacy, or urgency must be carefully managed to ensure project success.

2. Stakeholder Engagement Strategies

This theme describes the varied engagement strategies and communication approaches used by the project team (Pertamina and its partner) towards different stakeholder groups, including regulators, local authorities, and communities, with interviews revealing a proactive and multifaceted approach tailored to the complex stakeholder landscape. The project licensing process, noted as not simple, necessitated structured communication and relationship-building from the outset, though there were areas for improvement in initial early engagement. Engagement with government regulators involved formal coordination mechanisms like monthly progress meetings and site visits, ensuring transparency and responsiveness, which regulators generally viewed as adequate but suggested could have started earlier in the planning phase. Pertamina's internal strategy included dedicated teams for community and government relations, leveraging local government channels for outreach and maintaining consistent messaging with partners, reflecting best practices akin to PMI's stakeholder management processes. Local governments reported positive and collaborative engagement, with early consultation on land acquisition and spatial plans, frequent check-ins, and a triangulated approach where officials acted as intermediaries to enhance community communication. Community and landowner engagement presented a mixed picture, with early stages marked by insufficient information leading to uncertainty, but later efforts improved through socialization meetings, one-on-one negotiations, and community liaison committees that facilitated better dialogue and responsiveness. The project partner, PGAS Solution, supported engagement primarily by providing technical input in meetings and adapting operations to stakeholder feedback, ensuring on-site behaviors aligned with commitments made by Pertamina. Overall, the comprehensive engagement strategy, combining formal coordination with grassroots outreach, demonstrated transparency, consultation, and adaptability, effectively reflecting principles from the Stakeholder Salience Model and PMI guidelines.

3. Challenges and Conflicts

The third theme of analysis concerns the challenges and conflicts in stakeholder management during the Boyolali–Pengapon pipeline project, with all groups reporting hurdles such as bureaucratic delays, land acquisition disputes, and community grievances. Land acquisition and permitting emerged as critical flashpoints, often intertwined with community and inter-agency tensions, reinforcing that stakeholder-related issues were central to the project's difficulties and echoed past cases where technically sound projects were derailed by such obstacles. Government regulators faced procedural challenges, including lengthy permit approvals due to safety and environmental requirements, and inter-agency coordination issues that required harmonizing overlapping jurisdictions. While regulators viewed these as necessary due process, they acknowledged that from the project's perspective, they created obstacles, with minor disputes arising when activities proceeded before official permits,

highlighting the tension between regulatory diligence and project urgency. Pertamina's project team encountered the widest array of challenges, with land acquisition being particularly arduous due to negotiations with numerous landowners, some of whom refused initial offers or blocked access, requiring increased compensation and local government mediation. Community grievances over noise, dust, road damage, and environmental fears led to protests and work stoppages, necessitating safety briefings and infrastructure repairs, while permit delays from multiple agencies caused schedule slips and logistical strains, forcing resequencing and resource idling. Local governments experienced challenges as intermediaries, facing pressure from residents concerned about the pipeline and having to manage political scrutiny while ensuring compliance with local regulations and spatial plans. They also addressed expectations for local benefits by negotiating community development programs, highlighting their role in defusing conflicts and translating dissatisfaction into constructive feedback. Community conflicts centered on fairness and respect, with initial land compensation disputes and construction disruptions leading to protests and property damage claims, exacerbated by communication gaps that fueled anger and mistrust. Safety and environmental fears persisted even after engagement efforts, underscoring the need for ongoing reassurance and the influence of high-urgency stakeholders despite their low formal power. The project partner, PGAS Solution, faced indirect challenges such as schedule disruptions from pending permits and land access issues, requiring inefficient resequencing and adaptation to last-minute changes driven by community preferences. These non-technical delays impacted workforce morale and necessitated additional safety measures, placing the partner in a reactive position that highlighted how stakeholder management issues were as critical as engineering problems in determining progress. Overall, these challenges validated that effective stakeholder management is essential to prevent delays and conflicts in infrastructure projects.

4. Impact on Project Performance (Timeline, Cost, Acceptance)

The final theme examines the impact of stakeholder management on project performance, specifically regarding schedule adherence, cost efficiency, and community acceptance. Interviewees universally acknowledged that stakeholder factors significantly shaped the project's trajectory, with delays and adjustments from stakeholder processes affecting timelines and budgets, while community acceptance was directly correlated with how effectively stakeholder issues were handled. This reinforces the premise that stakeholder management can "make or break" a complex infrastructure project, as effective management translates into tangible outcomes, whereas deficiencies lead to tangible setbacks. All stakeholder groups observed that the project timeline was extended compared to initial plans, largely due to stakeholder-related delays in permits and land acquisition, with company personnel estimating a slippage of roughly one year. Regulatory delays and prolonged land negotiations were accepted as necessary to achieve consensus and avoid unrest, reflecting a conscious trade-off for proper engagement. However, once major hurdles were resolved in late 2024 and mid-2025, the project accelerated by deploying extra crews, allowing it to meet revised—though extended—deadlines, demonstrating that proactive crisis management can prevent compounding delays and enable partial schedule recovery.

Stakeholder challenges increased project costs beyond initial estimates due to extended durations, higher land compensation, and additional expenses for community relations and unplanned infrastructure repairs. The contractor faced extra costs from demobilization and lost productivity, likely leading to contractual adjustments. Despite these escalations, stakeholders viewed these costs as necessary trade-offs to prevent more severe financial impacts from potential conflicts or project suspension, framing investments in stakeholder management as strategic risk prevention that contained overruns to a tolerable level. Community acceptance evolved from initial skepticism and resistance to conditional support, driven by effective engagement, fulfilled promises on fair compensation, infrastructure restoration, and safety assurances. Local benefits, such as temporary jobs and improved infrastructure, further bolstered this acceptance, fostering a sense of contribution to national development. However, this acceptance remains contingent on the pipeline's safe operation and ongoing responsiveness, requiring continued vigilance and communication to maintain stakeholder satisfaction. Regulators and local governments expressed satisfaction with the collaborative process and validated roles, noting improved working relationships and local condition enhancements. The project partner, despite facing difficulties, took professional pride in delivering the project but hoped for smoother non-technical aspects in future endeavors. Collectively, these perspectives highlight that stakeholder management's impact extends beyond immediate project metrics to longer-term relational and reputational outcomes. In summary, ineffective stakeholder management initially contributed to delays and extra costs, but effective management thereafter was crucial in limiting those impacts and securing community acceptance. The project's trajectory demonstrates that actively addressing stakeholder issues transformed a potentially project-threatening situation into a manageable one, with an extended but not derailed timeline, a stretched but not blown-

out budget, and key stakeholders on board rather than in opposition. This validates the research premise that stakeholder management is pivotal to project success, as summarized by an executive's reflection that without such engagement, the project might have remained stuck or abandoned, whereas proactive efforts resulted in a finished pipeline and better relationships.

5. Strengthening stakeholder engagement processes

A dedicated stakeholder management team is established as a core, institutionalized strategy, moving from reactive to proactive engagement. Led by a manager reporting to the project manager, this team centralizes all communications through one channel to ensure coherence and alignment. It maintains stakeholder registers, executes tailored engagement plans, and emphasizes early, frequent communication to mitigate conflicts. For definitive stakeholders like regulators, the strategy shifts from passive compliance to partnership, involving pre-submission meetings to discuss timelines, concerns, and action plans, with a dedicated liaison officer per agency to humanize relationships and track approvals (PMI, 2021).Formalized multi-stakeholder forums, such as a regional Stakeholder Coordination Forum, gather local government officials, regional regulators, and community figures for progress updates and joint problem-solving, leveraging the project's National Strategic status to foster cooperation. For community conflict mitigation, a continuous community engagement program deploys liaison officers in villages to provide information and manage a formal grievance redress mechanism, where all complaints are logged, tracked, and resolved. Regular informational meetings before each construction phase pre-empt public confusion and increase transparency, which are considered best practices in construction stakeholder management. Regarding land acquisition, enhancing transparency and fairness is key, potentially involving neutral third-parties in negotiations and deploying task forces to assist landowners with paperwork and prompt compensation. Internally, a clear communication protocol with partner PGAS Solution is established via a joint engagement plan, where Pertamina leads external communications and PGAS focuses on site execution under agreed guidelines. Regular internal coordination and embedding PGAS staff into the central Stakeholder Management Team aim to eliminate duplication and ensure consistent messaging.

6. Implementing strategic improvements

The recommended strategy which is developing a formal stakeholder engagement plan as a part of the project management plan aligns with known best practices in project management and stakeholder theory. The strategy makes documenting stakeholders' needs and influence, and a tailored approach for each, while treating it as a working document updated regularly throughout the project formal. Project Management Institute (PMI) argued that to make stakeholder engagement effective, an organization have to continuously analyze and adjust engagement strategies according to stakeholders' interest and impacts. By doing that, project team can make anticipation for changes. For example, some low-interest group becomes more vocal, or if a new stakeholder emerges due to a new construction work. The strategy requires the project to keep track of stakeholder's view and influence. Stakeholder engagement matrix should be used where it list down stakeholders, their current and target engagement level, along with actions to move them to the desired state. Neutral community sentiment may need to be approached by increasing community discussions. Two-way communication and genuine consultation are also incorporated. Listening to stakeholders are emphasized instead of just sharing informations. Aligning with the modern engagement approach, the stakeholders are treated as partners instead of obstacles. Public forums and grievance channels are also held in continuation to guarantee stakeholders platforms to raise their concerns. As Pertamina is a large company, they will likely handle more projects in the region. So, building social capital by demonstrating respect and responsiveness is a must. This approach aligns with building long-term relationships beyond the project. It is also consistent with best practices in which trust and long-lasting goodwill creation is the goal of stakeholder engagement, compared to just achieve project objectives. Local leaders and third parties are involved in the strategy to mediate potential conflicts aligning with conflict resolution best practices. This approach is supported by stakeholder management literature which often suggests using respected mediators or collaborative workshops to resolve stakeholder disputes. The forum which puts all parties together can be a chance solve problems in collaboration, aligning with the concept where transparent and collective dialogue can break down opposing positions.

7. Employing visual and analytical tools to continuously monitor stakeholder status

Three key visual and analytical tools will be implemented to support and communicate the stakeholder management strategy. First, a dynamic Stakeholder Mapping Diagram will be maintained and updated at major milestones to visually track changes in stakeholder influence and interest, ensuring the team's focus remains aligned

with the current stakeholder landscape during project meetings. Second, a Stakeholder Engagement Calendar will provide a visual timeline of all scheduled interactions, such as community meetings and permit deadlines, to optimize scheduling and ensure timely execution of activities. Third, Issue and Resolution Tracking Charts (like pie or bar graphs) will monitor grievance types and resolution statuses, while a Responsibility Assignment Matrix (RACI) will clarify roles for each engagement task, transforming the process into an organized system. These tools collectively transform stakeholder engagement from a hypothetical process into a structured, measurable function, complete with its own plans, team, and performance metrics. By providing clear visuals for tracking dynamics, scheduling, issue resolution, and role clarity, they facilitate informed decision-making and demonstrate the thoroughness of the plan to higher management and stakeholders alike. This structured approach ensures stakeholder management is treated with the same rigor as technical or financial management. Ultimately, this business solution institutionalizes proactive engagement through a dedicated team and formal plans, directly addressing the identified root causes. Building closer partnerships mitigates regulatory delays, while enhanced communication, fairness, and grievance mechanisms tackle community and land issues. Internally, clarifying roles and unifying efforts through tools like the RACI matrix close coordination gaps, creating a cohesive and adaptive stakeholder management framework.

8. Implementation Plan and Justification

Having outlined the strategic solution, this section provides a concrete implementation plan, complete with timeline, responsible parties, key performance indicators (KPIs), and justifications for each recommended action. The goal is to integrate the stakeholder management strategy into the project's remaining lifecycle (and as a template for future projects) in a structured, measurable way. Implementation Plan (Timeline and Responsibilities): The implementation will be rolled out in phases, some actions being immediate and others ongoing throughout the project. Table 3 presents a high-level implementation plan for the stakeholder management improvements.

Table 3: Implementation Plan for Stakeholder Management Strategy

Action Item	Timeline	Responsible Parties	Key Performance Indicators (KPIs)
Establish Stakeholder Management Team and Coordinator role (appoint personnel, define roles)	**Month 0-1** (immediately, within 1 month)	Pertamina Project Manager (for appointment); Newly appointed Stakeholder Coordinator (to organize team)	– Team in place by end of Month 1– Roles & responsibilities documented (RACI chart completed)
Develop comprehensive Stakeholder Engagement Plan (document covering all stakeholders, engagement methods, schedule)	**Month 1-2**	Stakeholder Coordinator (lead); input from Pertamina team and PGAS partner representatives	– Plan approved by Project Steering Committee by Month 2– Plan communicated to all team members (100% staff acknowledgement of plan)
Initiate regulator pre-consultations (meetings with KAI, PUPR, KLHK, BBWS, etc. to discuss permit timelines and requirements)	**Month 2** (and ongoing as needed)	Liaison Officers for each regulator (from Stakeholder Team); Pertamina technical leads	– Meetings held with all major regulators by end of Month 2– Joint roadmap of permit process agreed (documented) with at least 3 agencies
Launch Stakeholder Coordination Forum (first forum meeting)	**Month 3**	Stakeholder Coordinator (organizer); Local Government reps (hosts)	– Forum established with TOR (Terms of Reference) by Month 2.5– Attendance of all invited stakeholders in first meeting (target 90% attendance rate)

Action Item	Timeline	Responsible Parties	Key Performance Indicators (KPIs)
Implement Community Engagement Program:Appoint community liaison officersSet up grievance mechanism (hotline, log system)	**Month 2** (liaisons in place), **Month 2-3** (grievance system live)	Stakeholder Team Community Relations lead; Pertamina HR (for hiring if needed liaison staff); IT support (for hotline)	– # of community liaisons appointed (target 1 per region, e.g. 4 liaisons by Month 2)– Grievance hotline active by Month 3– All grievances logged and acknowledged within 2 days (target 100% once system live)
Schedule and conduct periodic community meetings (socialization before major construction phases in each area)	**Ongoing, at least 1 month before each new phase in area**	Community Liaison Officers; Construction Manager (to provide schedule info)	– Meetings held as per schedule (target 100% of planned meetings executed)– Community attendance and feedback (target >70% of affected households represented in meetings; post-meeting feedback rating > 4 out of 5 on info satisfaction)
Monitor and expedite permit processes (through liaison follow-ups and management escalation if delays)	**Ongoing (Months 3-12)** until all permits obtained	Regulatory Liaisons; Stakeholder Coordinator; Project Manager (for escalations)	– Status reports on each permit updated weekly– Average time for responding to regulator queries (target < 5 working days)– All critical permits obtained by the required date (target 100% compliance with project schedule milestones)
Internal coordination alignment (integrate PGAS in stakeholder team, joint communications protocol training)	**Month 1** (protocol established) and refreshers ongoing	Stakeholder Coordinator; PGAS Solution Project Manager; All project communication staff	– Communication protocol signed off by Pertamina & PGAS by Week 4– Zero incidents of contradictory messages after Month 1 (monitored via stakeholder feedback)
Provide community benefits/CSR as agreed (e.g. infrastructure repairs, local hiring)	**Scheduled per project phase** (e.g. road repairs immediately after construction in area)	Construction Manager & Site Engineers (for repairs); Stakeholder Team (for community outreach and hiring coordination)	– % of promised community benefit actions completed (target 100% by project end)– Local labor participation rate (target X% of unskilled jobs filled by locals)
Regular review and adaptation of Stakeholder Plan (after major milestones or quarterly)	**Quarterly** (Months 3, 6, 9, …)	Stakeholder Coordinator (lead); full Stakeholder Team; Project Manager	– Stakeholder mapping updated quarterly– Number of new issues identified and addressed in plan (ensure plan remains current; target: plan updated with any new stakeholder issues within one review cycle)
Report KPIs and stakeholder status to Project Steering Committee	**Monthly** reporting	Stakeholder Coordinator; Project Controls team	– Monthly stakeholder report delivered (target 100% of months)– Steering Committee satisfaction (qualitative, target "satisfied" feedback on stakeholder management progress)

The implementation plan is structured in practical phases, beginning at Month 0, and integrates key actions, responsible personnel, and measurable KPIs into ongoing project activities without major disruption. The first three months are critical: by Month 1, a dedicated stakeholder management team with defined roles and a formal plan must be established. The subsequent two months focus on operationalizing key systems, such as grievance mechanisms and liaison processes, with continuous activities like meetings and monitoring continuing throughout

the project's lifecycle. This phased approach ensures tangible improvements, such as recognized better communication with governments and proactive community presence, which prevent issue escalation. Each element of the plan is justified by the project's root cause analysis and established project management principles. For instance, a dedicated stakeholder team addresses fragmented ownership, while a formal engagement plan aligns with best practices and secures management buy-in. Proactive regulatory pre-consultations mitigate permit delays, and a multi-stakeholder forum tackles siloed communications through collective problem-solving. Direct community engagement via liaison officers and a structured grievance mechanism builds trust and provides early warnings, with KPIs like response times ensuring accountability. Regular community meetings demonstrate respect and pre-empt rumors, and rigorous permit monitoring treats approvals as critical milestones. These combined actions, supported by internal communication protocols, commitment tracking, and regular plan reviews, elevate stakeholder management to the same rigor as technical and financial management. Regular reporting to a Steering Committee ensures top-level oversight. The ultimate justification for all recommendations is positive project outcomes: smoother execution, timely permits, fewer disputes, schedule adherence, and sustained community support. The modest cost of these initiatives is easily outweighed by the high risk of delays from unresolved stakeholder issues, thereby maximizing the likelihood of the Boyolali-Pengapon project achieving its benefits on time and on budget.

CONCLUSION AND RECOMMENDATION

Conclusion

The key stakeholders involved in the Boyolali-Pengapon pipelkine project includes national regulatory agencies, local governments, security forces, local communities, and project partner (PGAS Solution). Those parties have their own distinct roles. Regulators possess legitimacy and power such as permits and technical approval authority that gives them high power in project decisions. Their interests are making sure project follows government regulations and are not a risk to public interests. Local governments have their jurisdictions that give them moderate to high power. They can issue location permits, facilitates land acquisition, with interests in economic benefits and community impacts. The local communities had limited power yet legitimate claims and high interest as they are directly affected by the project through their land, environment, and everyday life. Their cooperation was essential for the project to operate. The community has indirect power which is shown through protest or acceptanece, inluencing the project continuity. Security forces like police and military had power to enforce order but were generally passive iunless security issues occur. PGAS as project partner had a role to execute project through their contract. They are a stakeholder to Pertamina, while not being an external stakeholder in a conventional sense. They bring legitimate interest and urgency through project's success and schedule but without power to make decisions externally. Pertamina Patra Niaga's team identified and prioritized stakeholders early, essentially applying a power-interest analysis in practice: they recognized that regulators and key local governments had to be "managed closely" (consistent with the Power-Interest Grid quadrant for high power, high interest) and thus devoted significant effort to obtaining their buy-in.

This aligns with PMI's recommendations to focus proactive communications on stakeholders with high influence and impact. Lower-power but urgent stakeholders (like communities, categorized as "dependent" in the Salience Model) were engaged through consultation and compensation efforts, aligning with their urgent needs and legitimate stakes. Concretely, strategies included holding public consultations (as part of AMDAL and beyond) in every affected village, meeting a core principle of inclusive engagement. The team established coordination meetings with local government stakeholders, effectively following PMI's process of stakeholder engagement planning by institutionalizing communication channels. The engagement strategies also had elements of the PMI stakeholder management processes: identify, plan, manage, monitor. In sum, the strategies used – regular government liaison, public consultations, MoUs, informal relationship-building, grievance handling – are well-aligned with best practices in stakeholder theory. One area that was less formally in place initially (but improved later) was a structured monitoring of stakeholder engagement effectiveness – something the frameworks would advise to do continuously.

The pipeline project faced several challenge, the significant one being permit and approval-related challenge from the regulatory bodies causing schedule delays. Other than that, legal disputes or refusals were minimized yet some of the landowners disputed the compensation amount also causing delays. Community relations challenge were also present where people mainly raised concerns to the local village head and project's office about the construction hindering mobility. Miscommunication issues also took place where a rumor about a pipeline route went around the community, but were quicky dispelled through community meetings. In addition to that, external communication challenges with project partner also existed where PGAS and Pertamina might approach the same stakeholder separately. The issues that did arise highlight pressure points typical for such projects: the interface with government

bureaucracy, the negotiation at the community level, and the necessity of clear communication. The approach used in managing stakeholders in the project positively impacted the project in terms of outcomes and lessons learned. It averted major delays through proactively securing stakeholder buy-in, despite having small delays due to procedural proecess. Cost efficiency was also affected, where cost overruns due to delays or conflict were prevented through avoiding disputes and negotiations despite having direct budget for community engagement activities. Community acceptance had the biggest impact where through the project efforts in outreach, transparency, and responsiveness resulted in the community accepting or even supporting the project signaled by the absence of active oppositions.

Recommendations

These are the folowing recommendations for Pertamina Patra Niaga and similar projects based on the conclusions:

1. *Formalize Stakeholder Management in Project Governance:* Stakeholder management should be made formal for all projects. A stakeholder engagement plan that aligns with PMI practices should be made a standard and required in project kickoffs. Institutionalizing this ensures every projects considers their stakeholders are considered. On top of that, establishing a stakeholder team with its coordinator is encouraged. Lessons can also be learned in post-project review of the formal plan.
2. *Enhance Multi-Stakeholder Coordination through Government Engagement:* Working closely with higher level government is advised, like participating in National Strategic Project that made relevant agencies come together easing the coordination. In this study, having higher authority helped with bureaucratic delays. While this may be beyond an individual project's control, the company's leadership can bring this recommendation to policymakers, emphasizing how multi-stakeholder projects benefit from such integration.
3. *Maintain Early and Continuous Community Engagement:* A written guide for community engagement for successful strategies used in this study should me made to execute activities. Each project should consider the budget for community engagement activities to invest in goodwill rather than to pay for conflict. Additionally, respect and transparency should be demonstrated continuously through public information disseminatio and keeping promises to the public.
4. *Empower Local Governments as Partners:* Local government should be made allies through joint planning, showing project's potential contribution to the local agendas. Early engagement through MoU signing or cooperation agreements should be made to create accountability within the two parties. Local governments have to always be informed, even after the construction to maintain good relationship.
5. *Implement Robust Stakeholder Issue Tracking and Response Systems:* A tracking system to log issues and track the resolution should be a standard, allowing project managers to oversee issues and ensure they are promptly resolved. The logs should be reviewed in regular meetings, signaling its importance and ensures that the company is accountable.
6. *Capacity Building in Stakeholder Management:* Stakeholder management skill should be made company competency through investment in training project managers and teams. Workshop and modules of community engagement activities, land negotiations, media training, and others would be valuable. Knowledge sharing between projects is also recommended, where cases from this project and similar ones can be highlighted both in its successes and room for improvement.
7. *Plan for the "worst-case" stakeholder scenarios:* Worst-cae scenarios should be made for future projects, despite this one avoided major conflict. Contingency plans should be made for escalating issues, like how to respond to protests or a denied permit. Having plans for the scenarios guarantees a composed reaction from the team, in which the plan should be included in the risk management plan.
8. *Sustain Stakeholder Relationships Post-Project:* Stakeholder relationship should not end when the project does. Continuous efforts through establisihing a long-term community liaision is important to be a good neighbor for the community, raising company reputation to undertake future project in the region.
9. *Apply Lessons to Future Policy –"Stakeholder Management is Project Risk Management":* It is advised for future projects to integrate stakeholder considerations into every key decision. This shows respect for the stakeholders, making execution smoother. Stakeholders should be considered as risky as technical risk where it can deratil progress. Stakeholder aobjectives like obtaining permit or having public acceptanece should be explicitly mentioned and institutionalized.

To conlcude, Pertamina Patra Niaga has managed the Boyolali-Pengapon Pipeline Project's stakeholder environment positively. Its stakeholder management approach can also be strengthened by learning lessons on the experience and applying the recommendations in this study. The Boyolali–Pengapon project's lessons serve as a guiding example of how challenges can be turned into collaborative opportunities, and how strategic stakeholder focus can ultimately deliver projects that are not only successful in engineering terms, but also sustainable and accepted by the society they serve.

REFERENCES

Asiedu, R. O., & Alfen, H. W. (2016). Understanding the Effects of Project Complexity on Schedule Performance: A Stakeholder Perspective. *Engineering, Construction and Architectural Management*, *23*(4), 51–70. https://www.emeraldgrouppublishing.com/journal/ecam

Creswell, J. W. (2013). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (4th ed.). London : SAGE Publications Ltd.

Dini, Y. I. F., Harun, F. M., Natalia, P., & Joecy, V. (2024). Laporan Analisa Manajemen Proyek pada Proyek Usaha "NetShell." *Innovative: Journal Of Social Science Research*, *4*(4), 16111–16122. https://doi.org/10.31004/innovative.v4i4.12484

Freeman, R. E. (2010). *Strategic Management: A Stakeholder Approach*. Cambridge University Press.

Hsieh, H.-F., & Shannon, S. E. (2005). Three Approaches to Qualitative Content Analysis. *Qualitative Health Research*, *15*(9), 1277–1288. https://doi.org/10.1177/1049732305276687

Jalaludin, I. S., & Sari, A. P. (2023). Komitmen PGN untuk Negeri: Perkuat Ketahanan Energi di Jateng, PGN Solution-Pertamina Patra Niaga Bangun Pipa Minyak Pengapon-Boyolali. *Kompas.Com*. https://nasional.kompas.com/read/2023/10/12/19484801/perkuat-ketahanan-energi-di-jateng-pgn-solution-pertamina-patra-niaga-bangun?page=all

Mejía, G., Sánchez, O., Castañeda, K., & Pellicer, E. (2023). Stakeholders' Issues as a Source of Project Delays: A Meta-Analysis Between Building and Road Projects. *Revista de La Construcción*, *22*(1), 51–70. https://doi.org/10.7764/rdlc.22.1.51

Mendelow, A. (1991). Stakeholder Mapping. *Proceedings of the 2nd International Conference on Information Systems, Cambridge, MA*.

Mitchell, R. K., Agle, B. R., & Wood, D. J. (1997). Toward a Theory of Stakeholder Identification and Salience: Defining the Principle of Who and What Really Counts. *The Academy of Management Review*, *22*(4), 853–886. https://doi.org/10.2307/259247

Mok, K. Y., Shen, G. Q., & Yang, J. (2015). Stakeholder Management Studies in Mega Construction Projects: A Review and Future Directions. *International Journal of Project Management*, *33*(2), 446–457. https://doi.org/10.1016/j.ijproman.2014.08.007

Muchsin, H. (2025). *Cijago: Lintasan Historis Pembangunan Jalan Tol Cinere-Jagorawi*. Jakarta : Penerbit Gramedia Pustaka Utama.

Olander, S., & Landin, A. (2005). Evaluation of Stakeholder Influence in the Implementation of Construction Projects. *International Journal of Project Management*, *22*(4), 321–328. https://doi.org/10.1016/j.ijproman.2005.02.002

PMI. (2021). *The Standard for Project management and A Guide to the Project Management Body of Knowledge (PMBOK® Guide)* (7th ed.). Pennsylvania : Project Management Institute Inc. https://tegnum.edu.pe/wp-content/uploads/2023/09/Project-Management-Institute-A-Guide-to-the-Project-Management-Body-of-Knowledge-PMBOK-R-Guide-PMBOK®-Guide-Project-Management-Institute-2021.pdf

Rambe, K. F., & Wijaya, C. (2025). Keterampilan Komunikasi Interpersonal Kepala Sekolah Dalam Menyelesaikan Konflik Di SMA Swasta Budysatrya Medan. *Research and Development Journal Of Education*, *11*(1), 551 – 560. https://doi.org/10.30998/rdje.v11i1.28867

Yin, R. K. (2018). *Case Study Research and Applications: Design and Methods* (6th ed.). Thousand Oaks, CA: Sage.