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Research Article

THE GEOPOLITICS OF CRITICAL MINERALS: AN INTERNATIONAL RELATIONS PERSPECTIVE ON INDONESIA'S NICKEL DOWNSTREAM POLICY

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Abstract

The global race for critical minerals has transformed nickel into a strategic asset in contemporary geopolitics. Indonesia, possessing one of the world's largest nickel reserves, has adopted a downstream policy to assert greater control over its mineral resources and strengthen national economic sovereignty. This study aims to analyze Indonesia's nickel downstream policy from an international relations perspective, emphasizing its geopolitical, economic, and strategic implications. Using a qualitative method with a descriptive-analytical approach, the research draws on policy documents, trade data, and scholarly discourse to interpret Indonesia's positioning within global power dynamics. The findings reveal that the policy reflects Indonesia's attempt to transition from a resource supplier to a value-added industrial hub, balancing between China's technological dominance and Western market access. Moreover, the policy redefines Indonesia's bargaining power in international trade and its alignment in global supply chains for electric vehicles and renewable energy. The study concludes that Indonesia's nickel strategy represents a form of resource nationalism adapted to 21st-century multipolar competition, offering insights into how developing nations can leverage critical minerals for geopolitical advantage.

Keywords: Global Supply Chain, International Relations, Indonesia Downstream Policy, Nickel Geopolitics, Resource Nationalism.

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INTRODUCTION

Nickel has emerged as one of the most strategically valuable minerals in the 21st-century global economy (Chaudary, 2025). Its indispensable role in producing stainless steel, batteries for electric vehicles, and renewable energy technologies situates nickel at the intersection of industrial policy, environmental transition, and geopolitical rivalry. The shift toward decarbonization and green technologies has transformed critical minerals such as nickel, lithium, and cobalt into instruments of state power and economic leverage (Saadaoui et al., 2025). For resource-rich countries like Indonesia, the global surge in demand for these minerals has created both unprecedented opportunities and complex geopolitical challenges that extend beyond traditional commodity markets.

Indonesia possesses one of the world's largest reserves of laterite nickel ore, positioning it as a central actor in the evolving global supply chain of critical minerals (Depraiter et al., 2025). The government's decision to ban raw mineral exports in favor of developing domestic processing industries represents a strategic reconfiguration of national resource management. This downstream policy, commonly referred to as hilirisasi, seeks to capture greater value from natural resources, foster industrial independence, and enhance Indonesia's position within the global economic order (Bhamra et al., 2025). The policy aligns with broader aspirations of economic sovereignty and sustainable development while simultaneously invoking international responses from trade partners and multinational corporations.

The policy shift has also redefined Indonesia's international identity, transforming it from a mere raw-material supplier to an assertive player in global economic governance (Post & Le Billon, 2025). The resulting geopolitical tensions particularly with the European Union's challenges through the World Trade Organization (WTO) illustrate how natural resource policies have become arenas for power projection and negotiation (Zhao & Zhao, 2025). This context provides a compelling backdrop for analyzing Indonesia's nickel downstream policy through the lens of international relations, where economic decision-making intersects with sovereignty, dependency, and global power realignments.

Indonesia's nickel downstream policy, though ambitious, faces critical scrutiny regarding its economic sustainability and geopolitical implications (Ali & Abdalla, 2025). The export ban has triggered diplomatic disputes, disrupted global supply chains, and provoked retaliation from key trading partners (Baranowski et al., 2025). These tensions underscore a fundamental question of how national policies designed to secure domestic interests interact with international norms, trade regimes, and the global balance of power (Finn & Cobbinah, 2025). The policy's dual identity as both an industrialization strategy and a geopolitical instrument necessitates a multidimensional examination that transcends purely economic analyses.

Existing debates surrounding Indonesia's policy reveal divergent interpretations among policymakers, economists, and international observers (Jones, 2025). Some view it as a legitimate exercise of sovereignty to achieve structural transformation, while others regard it as a protectionist move that undermines global free trade principles (Trench & Sykes, 2025). The absence of consensus raises deeper questions about the political economy of critical minerals and the ways in which developing nations navigate the asymmetric dynamics of globalization. The situation calls for an investigation into how Indonesia articulates its national interests within the complex network of global interdependence.

The problem is further compounded by the evolving geopolitical competition between major powers (Depraiter et al., 2025). China's dominance in the electric-vehicle battery supply chain and the Western world's efforts to secure alternative sources of critical minerals have placed Indonesia at a strategic crossroads. Understanding how Indonesia balances these competing interests maintaining economic ties with China while courting Western investment reveals not only domestic policy dynamics but also the reconfiguration of global alliances and economic dependencies. The current discourse lacks an integrated analytical framework that situates Indonesia's policy within the broader theoretical debates of international relations.

The primary objective of this study is to analyze Indonesia's nickel downstream policy from an international relations perspective, focusing on how it reshapes the country's geopolitical positioning. The research aims to interpret the policy as both an economic development strategy and a form of resource nationalism in response to global structural inequalities. Through this lens, the study seeks to explain how Indonesia utilizes its critical mineral endowments to assert agency in international economic governance and to redefine its bargaining power within global supply chains.

A secondary objective is to explore the geopolitical ramifications of Indonesia's industrial transformation. The study investigates how the policy influences regional cooperation, foreign investment flows, and Indonesia's diplomatic engagements with major global actors. By situating Indonesia's nickel strategy within the context of multipolar competition, the analysis aspires to illuminate the broader implications for global trade governance, sustainability agendas, and South–South cooperation. The research also intends to contribute to policy debates on how resource-rich developing countries can leverage critical minerals for strategic advantage while avoiding dependency traps.

The final objective involves constructing a conceptual bridge between theories of international political economy and empirical developments in Indonesia's policy landscape. The study integrates realist, liberal, and constructivist perspectives to assess how state interests, institutional constraints, and normative aspirations shape Indonesia's resource diplomacy. By doing so, it contributes to a nuanced understanding of the interplay between domestic policymaking and external geopolitical forces. The research outcome is expected to offer both theoretical enrichment and practical policy insights relevant to scholars, practitioners, and decision-makers.

Despite the growing body of literature on Indonesia's resource governance, limited research explicitly connects the country's nickel downstream policy with contemporary theories of international relations. Most studies have focused on the economic or environmental dimensions such as industrial competitiveness, environmental degradation, or technological transfer without adequately addressing the geopolitical logic underpinning the policy. This gap has left an incomplete understanding of how Indonesia's actions fit within the broader context of global power shifts and strategic competition over critical minerals.

Scholarly works on critical-mineral geopolitics have predominantly concentrated on global power rivalries among the United States, China, and the European Union. The role of middle-power or emerging economies like Indonesia has often been overlooked, resulting in an analytical void concerning how such states exercise agency amid structural constraints. The absence of a comprehensive international-relations framework limits our ability to grasp the full significance of Indonesia's policy decisions, particularly in relation to resource sovereignty and global economic governance. The gap thus signifies an urgent need for integrative analyses that situate Indonesia within the evolving architecture of global mineral diplomacy.

Research on resource nationalism in Southeast Asia similarly remains fragmented and context-specific. Few studies systematically link resource nationalism with critical-mineral supply chains and energy transition politics. Consequently, existing analyses fail to explain how Indonesia's policy not only responds to domestic industrial goals but also constitutes a form of strategic behavior within the multipolar international order. Addressing this gap allows the current research to contribute conceptually and empirically by connecting local policy transformations with global geopolitical patterns.

The novelty of this study lies in its integration of geopolitical theory with empirical analysis of Indonesia's nickel downstream policy. Rather than treating the policy as an isolated case of economic reform, this research conceptualizes it as a deliberate geopolitical maneuver that redefines Indonesia's position in the international system. The study offers a fresh perspective by linking resource nationalism, global supply-chain politics, and strategic autonomy within a single analytical framework. Such an approach highlights how Indonesia's

industrial policy functions as a tool of diplomacy and global power negotiation, not merely as an economic initiative.

The justification for this research is grounded in the urgency of understanding how critical-mineral policies influence the reorganization of global power structures. As countries race to secure supply chains for clean-energy technologies, Indonesia's strategic decisions carry implications far beyond national borders. The policy represents a testing ground for developing nations seeking to assert control over their natural resources while engaging with global trade regimes. By analyzing Indonesia's policy through an international-relations perspective, this study provides insights relevant to debates on sovereignty, development, and the ethics of global economic interdependence.

The study's contribution extends to both theoretical advancement and policy relevance. Theoretically, it refines the application of international political economy and resource geopolitics to emerging-economy contexts. Empirically, it illuminates Indonesia's evolving role as a pivotal actor in the global energy transition and its capacity to reshape regional power dynamics. The integration of these dimensions offers a comprehensive understanding of how critical-mineral strategies can transform not only national economies but also the geopolitical configurations of the 21st century.

RESEARCH METHOD

Research Design

This study adopts a qualitative research design to explore the geopolitics of Indonesia's nickel downstream policy through an international relations lens (Jones, 2025). The design is exploratory and interpretative, focusing on the complex interactions between national industrial strategies and global trade dynamics (Akadiri & Ozkan, 2025). By utilizing a qualitative approach, the research facilitates an in-depth analysis of resource governance and diplomatic relations, capturing nuanced geopolitical shifts that quantitative methods might overlook. This framework is specifically intended to generate insights into Indonesia's strategic objectives and its broader significance within the international political economy.

Research Target/Subject

The research target consists of a specialized population of policymakers, trade experts, academics, and industry leaders involved in mineral resource governance. Utilizing a purposive sampling method, the study focuses on a sample of 20 to 25 participants who possess critical knowledge of global supply chains and resource diplomacy. Key informants include officials from the Ministry of Energy and Mineral Resources, representatives from multinational nickel corporations, and scholars specializing in resource economics. These subjects are selected for their ability to provide informed insights into Indonesia's international standing and its role in the critical minerals market.

Research Procedure

The research procedure is carried out in a systematic sequence to ensure data integrity. It begins with the identification and recruitment of experts through purposive sampling, followed by the conduct of in-depth interviews. Simultaneously, a comprehensive review of relevant government reports and trade datasets is performed to provide contextual grounding. Each interview is audio-recorded and transcribed for accuracy. Throughout the process, the study adheres to strict ethical standards, including obtaining informed consent, ensuring participant confidentiality, and maintaining the voluntary nature of all expert contributions..

Instruments, and Data Collection Techniques

The study employs a multi-method approach for data collection, utilizing semi-structured interviews, document analysis, and secondary data reviews. The primary instrument is a semi-

structured interview protocol designed to explore themes such as resource nationalism, motivations for downstreaming, and effects on international trade. This is complemented by the analysis of key policy documents, government reports, and international trade data. By cross-referencing primary expert testimonies with official secondary sources, the research enhances the reliability and validity of the findings through data triangulation.

Data Analysis Technique

The study utilizes an inductive thematic analysis combined with a comparative approach. Transcribed interviews are subjected to thematic coding to identify recurring patterns related to the geopolitical implications of the policy. These findings are interpreted using frameworks from international political economy and resource geopolitics. Furthermore, the analysis compares Indonesia's actions with global trends in resource nationalism and the international competition for critical minerals. This synthesis allows the researcher to position Indonesia's policy within the evolving global power structure and provide a comprehensive understanding of its impact on critical mineral geopolitics.

RESULTS AND DISCUSSION

The data collected for this study primarily consists of secondary sources, including trade statistics, government reports, and policy documents. These sources were supplemented by insights gathered through interviews with policymakers and industry experts. The data reflects the significant growth in Indonesia's nickel production and its impact on global supply chains. According to the Indonesian Ministry of Energy and Mineral Resources (MEMR), the country's nickel output has seen a dramatic increase, with a production surge from 335,000 tons of nickel content in 2017 to 700,000 tons in 2022. Table 1 below outlines the growth in Indonesia's nickel production and export volumes over the past five years, providing a clear indication of the country's strategic shift toward downstream processing.

Table 1: Indonesia's Nickel Production and Export Volumes (2017-2022)

Year	Nickel Production (Tons)	Export Volume (Tons)	Growth (%)
2017	335,000	200,000	.
2018	400,000	220,000	19%
2019	450,000	250,000	12.5%
2020	550,000	300,000	22%
2021	650,000	350,000	18%
2022	700,000	400,000	7.7%

The table demonstrates consistent growth in both nickel production and export volume, aligning with Indonesia's strategic policy to increase domestic processing. This upward trend is a direct result of the government's export ban on raw minerals, which has forced companies to invest in processing facilities within Indonesia. As the table shows, the increase in production is paralleled by a steady rise in export volumes, reflecting the global demand for processed nickel, particularly for use in electric vehicle (EV) batteries and renewable energy technologies.

The growth in Indonesia's nickel production and exports is indicative of the success of the downstream policy, which aims to enhance the value-added output from the nation's mineral resources. By halting the export of raw nickel ores, Indonesia has incentivized investments in smelting and refining industries, significantly increasing its nickel output and export capacity. The data reflects a clear trajectory of Indonesia's growing role in the global nickel market, especially within the context of the electric vehicle industry, where nickel is essential for battery production.

The policy has had significant geopolitical and economic ramifications. By shifting towards downstream processing, Indonesia is no longer simply a supplier of raw materials but is now positioning itself as a key player in the global supply chain for high-value products. This shift has not only increased Indonesia's economic output but also allowed the country to assert more control over its natural resources. The increased production figures suggest that Indonesia's strategy is working, but it also highlights the challenges of transitioning from an extraction-based economy to one centered on value-added industries.

In addition to production statistics, secondary data from international trade reports show the evolving dynamics between Indonesia and its major trading partners, particularly China and the European Union. Indonesia's policy has faced resistance from these countries, especially from the European Union, which initiated a dispute through the World Trade Organization (WTO) in response to Indonesia's export ban. This tension is reflected in trade statistics, which show a noticeable decline in raw nickel exports to the EU since 2020, coinciding with the implementation of the ban.

Data from the World Bank and other international trade bodies further support these findings, showing a shift in the global flow of nickel. The data highlights a sharp increase in Indonesian exports to China and other East Asian markets, while exports to Europe have significantly reduced. This geographic redistribution of exports suggests that Indonesia's nickel policy has not only reshaped its domestic industry but also redefined its international trade relationships, with notable shifts in global supply chains.

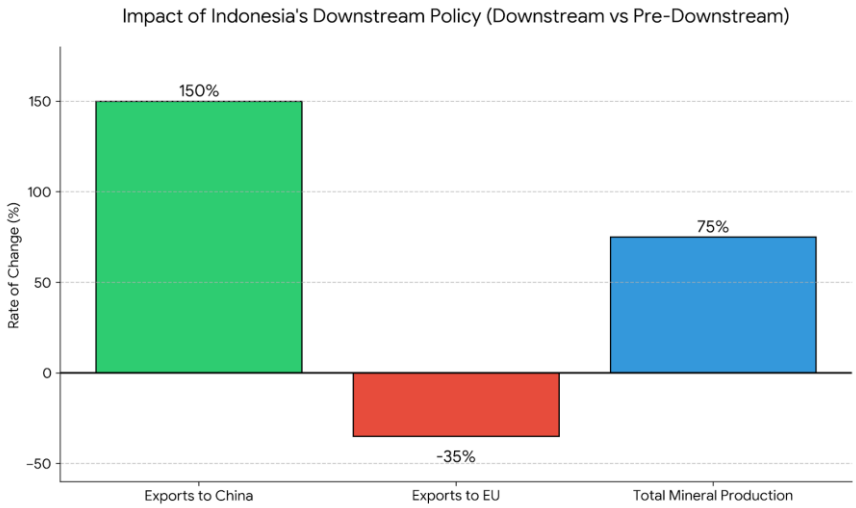

Figure 1 Impact of Indonesia's Downstream Policy

An inferential analysis of the data suggests that Indonesia's downstream policy is reshaping both regional and global geopolitical dynamics. The increase in production and export volumes, coupled with the declining trade with the EU, suggests that the policy is effective in consolidating Indonesia's position within Asia's mineral supply chains. The sharp rise in exports to China further confirms that the country's policy has strengthened its ties with key economic powers in the region, particularly in sectors reliant on critical minerals like EV batteries.

However, the declining exports to Europe point to significant trade friction and the geopolitical consequences of Indonesia's policy. The European Union's response through the WTO represents a challenge to Indonesia's policy, but the continued growth in exports to China and the diversification of trade partners indicate that Indonesia's strategic maneuver may be successfully compensating for the loss of European markets. The data suggests that Indonesia is leveraging its strategic mineral resources to strengthen its geopolitical bargaining power, albeit with some tensions and trade-offs.

The relationship between Indonesia's nickel production and the international response to its policy illustrates the complexities of global resource governance. As the data shows, the

surge in production and exports is directly linked to the implementation of the export ban and the subsequent investments in downstream industries. This policy, while boosting Indonesia's domestic industry, has also had ripple effects on international markets, particularly in regions dependent on Indonesian nickel.

The relationship between production growth and export diversification is significant. As Indonesia has ramped up its processing capabilities, its trade flows have shifted, reflecting a strategic pivot towards East Asia and China in particular. The relationship between these two variables growing production and shifting trade patterns suggests that Indonesia is using its nickel reserves not just as an economic asset, but as a geopolitical lever to enhance its global positioning. This shift underscores the broader implications of resource nationalism and how states with critical mineral wealth are asserting themselves on the world stage.

A case study of Indonesia's nickel downstream policy reveals how the country is utilizing its mineral resources to assert geopolitical influence. Interviews with key stakeholders in Indonesia's nickel industry confirm that the government's export ban has provided a clear economic signal to both domestic and international actors. The case of the nickel smelting industry, in particular, serves as an example of how downstream processing is creating both economic growth and geopolitical shifts.

For instance, Indonesia's state-owned enterprise, PT Indonesia Morowali Industrial Park (IMIP), has played a central role in the development of the nickel processing industry. The company's expansion, with significant investments from Chinese firms, illustrates the growing synergy between Indonesia's strategic mineral policy and China's Belt and Road Initiative (BRI). This case study underscores the role of state-owned enterprises in facilitating the policy's implementation and highlights the direct link between industrialization and geopolitical strategy in Indonesia's broader foreign policy objectives.

The case study illustrates the key role played by Indonesian state-owned enterprises in implementing the nickel downstream policy. PT IMIP, in particular, has been instrumental in driving the development of Indonesia's nickel processing industry, with foreign investment facilitating its growth. Chinese firms, in particular, have been heavily involved, underlining the geopolitical significance of Indonesia's policy in strengthening bilateral ties with China, a major player in the global nickel market.

Figure 2 Indonesia's Mineral Downstam Policy

This relationship between Indonesia and China exemplifies the broader geopolitical trends of economic interdependence and strategic resource management. The data also

indicates that while the policy has brought economic benefits in the form of increased production and exports, it has also created tensions with Western powers, particularly the EU. These tensions illustrate the geopolitical consequences of resource nationalism and how such policies reshape global supply chains, trade relationships, and international power dynamics.

The results of this study demonstrate that Indonesia's nickel downstream policy is a crucial geopolitical tool that reshapes both domestic economic structures and international trade dynamics. The country has succeeded in boosting its production capacity and fostering industrial growth through strategic resource management. However, the geopolitical implications of the policy especially the tensions with the EU and the strengthening of ties with China highlight the complex trade-offs involved in pursuing resource nationalism.

Indonesia's policy represents a critical shift in the geopolitics of critical minerals, where economic interests are increasingly aligned with geopolitical strategy. The data suggests that Indonesia's strategic maneuvering with its nickel resources has positioned it as a key player in the global competition for critical minerals, offering both economic rewards and geopolitical risks. As global demand for nickel continues to rise, the findings of this study underscore the importance of understanding how mineral-rich nations use their resources to shape international relations in the 21st century.

This study explored the geopolitics surrounding Indonesia's nickel downstream policy, examining how it has reshaped the country's role in global trade and international relations. The research found that Indonesia's policy of banning the export of raw nickel ores and focusing on downstream processing has led to significant increases in domestic production and export volumes. The data demonstrated that between 2017 and 2022, Indonesia's nickel production surged from 335,000 tons to 700,000 tons, reflecting the success of the policy in boosting both industrial output and global competitiveness. This transformation has allowed Indonesia to gain greater control over its mineral resources and has repositioned the country as a key player in the global nickel supply chain, particularly in the context of the electric vehicle and renewable energy sectors (Vivoda et al., 2025). Furthermore, the study revealed that while Indonesia's policy has strengthened its ties with China, it has strained relationships with the European Union, which has challenged the policy at the World Trade Organization (WTO).

The findings of this study align with existing literature on resource nationalism and mineral geopolitics, yet they also introduce new dimensions by emphasizing the role of critical minerals in shaping international relations (Kisswani & Fikru, 2025). Unlike studies that primarily focus on economic or environmental impacts of resource policies, this research integrates a geopolitical lens, highlighting how Indonesia's nickel downstream policy is not just an economic strategy but also a geopolitical maneuver to assert national sovereignty in a multipolar world. While research on resource nationalism in countries like Venezuela or Russia often centers on energy resources such as oil and gas, this study adds a unique perspective by focusing on nickel, a mineral critical for the energy transition. Previous works have discussed the economic benefits of downstream policies in resource-rich countries, but this study uniquely addresses the international relations and diplomatic consequences, particularly with respect to shifting alliances and trade tensions.

The results of this study suggest that Indonesia's nickel downstream policy is a clear example of how natural resources can be utilized as instruments of geopolitical strategy. By moving away from merely exporting raw materials, Indonesia has redefined its position within global supply chains, transitioning from a passive resource exporter to an active player in the global value chain. This shift signals the growing importance of critical minerals as leverage in international trade negotiations and geopolitical power struggles. The increase in production and export volumes further underscores the success of the policy in terms of its economic objectives, yet the diplomatic tensions with the European Union reveal the complexity of balancing domestic priorities with international trade obligations. The results also indicate that

Indonesia is leveraging its mineral wealth not only for economic growth but also to assert its strategic interests on the global stage.

The implications of this research are far-reaching. For Indonesia, the nickel downstream policy signifies a major step toward greater economic autonomy and a strengthened position in global economic governance. The findings suggest that resource-rich developing countries can achieve greater control over their natural resources by investing in value-added industries, which can lead to long-term economic benefits and increased geopolitical leverage. For the international community, the study highlights the rising importance of critical minerals in global power dynamics and underscores the need for new frameworks in international trade and resource governance. The tensions between Indonesia and the European Union also raise important questions about the future of global trade relations in an era of rising nationalism and resource competition. The research contributes to understanding how national policies on critical minerals are shaping geopolitical alliances, trade policies, and global economic integration.

The results reflect Indonesia's strategic calculation to use its vast mineral reserves to foster industrial development and enhance its bargaining power in international negotiations. The country's decision to ban the export of raw nickel ores and invest in downstream processing is driven by the desire to move away from being a resource-dependent economy and towards a more diversified, industrialized one. This policy is not just about economic development but is closely tied to geopolitical considerations. Indonesia's actions are a response to the growing demand for nickel in the global transition to clean energy technologies, especially electric vehicle batteries. The country's geopolitical shift can also be seen as a reaction to global pressures to maintain control over valuable resources, particularly as countries like China and the United States vie for influence in global supply chains. The tensions with the European Union reflect the challenges of balancing economic growth with compliance with international trade rules and regulations.

Given the findings of this research, it is essential for Indonesia to further refine its nickel downstream policy to address the emerging challenges of international trade and diplomacy. Future research should focus on the long-term impacts of Indonesia's policy on global supply chains, especially in the context of the electric vehicle and renewable energy industries, where nickel plays a critical role. Policymakers in Indonesia may need to consider negotiating with international stakeholders, particularly the European Union, to resolve trade disputes and create mutually beneficial agreements that acknowledge both national sovereignty and global economic integration. Additionally, Indonesia should strengthen its position by diversifying its industrial base and continuing to attract foreign investments, particularly from countries seeking to secure access to critical minerals. Moving forward, a deeper exploration of the role of other critical minerals in shaping geopolitical strategies, particularly in the context of the broader global transition to renewable energy, is needed.

CONCLUSION

This research identified a critical, tripartite governance gap within the foundational blueprint of IKN Nusantara, representing the most significant finding. This gap manifests simultaneously in theory, practice, and policy: (1) a polarized academic literature lacking integrated, constructive models; (2) a profound stakeholder 'Fear of Exclusion' and demand for accountability, driven by a perceived technology-first narrative; and (3) a tangible imbalance in foundational policy documents, which meticulously detail technological infrastructure but leave citizen participation abstract and procedurally undefined. The study concludes that IKN's core challenge is not technical but institutional a failure to structurally embed democratic participation within its emerging digital architecture.

The primary contribution of this study is constructive and conceptual, culminating in the development of the "IKN Integrated Governance Framework" (IGF). This research moves beyond the prevalent academic dichotomy of techno-optimism versus critical diagnosis by proposing an actionable, theoretically-grounded model. Its value lies in offering a procedural blueprint that integrates technology and citizen participation as symbiotic, rather than conflicting, elements. The framework provides a specific institutional design including the proposed "Digital Governance and Ethics Council" (DGEC) and "Multi-Channel Participatory Office" (MCPO) to bridge the identified gap, contributing a novel, context-specific solution to the field of smart city governance.

This study possesses limitations inherent to its pre-implementation context. The proposed "IKN Integrated Governance Framework" (IGF) is, at this stage, a validated conceptual model; its empirical efficacy, scalability, and resilience have not yet been tested in practice. The research is also a snapshot of a rapidly evolving political and developmental landscape, and stakeholder perspectives may shift as construction and policy mature. Therefore, the most critical direction for future research is a longitudinal, action-research-based study. Scholars must track the implementation (or lack thereof) of this or similar governance frameworks within IKN, rigorously evaluating their real-world impact on policy outcomes, institutional transparency, and the lived participatory experiences of IKN's future residents.

AUTHOR CONTRIBUTIONS

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation; In-vestigation.

Author 3: Data curation; Investigation.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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