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# The Role and Dynamics of Actor Relations in Implementing Defense Industry-Based Policies: A Comparative Study of Indonesia and Brazil

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**Abstract**

*This study explores the role and dynamics of actor relations in implementing defense industry-based policies through a comparative analysis of Indonesia and Brazil. The aim is to understand how key actors—government bodies, military institutions, state-owned enterprises, private companies, and international partners—affect policy execution and defense industry outcomes in both countries. Employing qualitative research methods with secondary data sources, the study examines the contributions and interactions of these actors as detailed in the provided table. The findings reveal that Indonesia relies heavily on state control and international partnerships for technology transfer, while Brazil integrates private sector innovation and diverse international collaborations. Key differences include Indonesia's centralized approach versus Brazil's market-oriented model, with implications for policy alignment and capability development. The conclusions emphasize the importance of effective communication and stakeholder alignment to address challenges such as misalignment between military needs and industrial capabilities. Recommendations for both countries include enhancing collaboration and technology transfer, managing internal conflicts, and optimizing resource allocation.*

**Keywords:** *Actor Dynamics, Brazil, Defense Industry, Indonesia, Policy Implementation.*

## Introduction

The defense industry plays a pivotal role in national security and economic development, serving as a cornerstone for military capability and geopolitical strategy. In contemporary settings, where global power dynamics and technological advancements continuously evolve, the defense sector has become increasingly complex and interdependent (Scott, 2018). For emerging powers like Indonesia and Brazil, the defense industry is not only a matter of national security but also a strategic element of economic growth and international influence. This introduction provides a comprehensive exploration of the defense industry's significance, focusing on the role of actor relations in policy implementation, and sets the stage for a comparative analysis of Indonesia and Brazil.

*Broader Context*

Historically, military leadership has been a fundamental element in shaping national defense policies and capabilities. From the Cold War era to the present, defense strategies have been influenced by geopolitical rivalries, technological innovation, and economic factors (Brands, 2018; Raska, 2019). In the modern era, the defense sector has transitioned from a focus solely on military might to a broader agenda that includes technological advancements, strategic partnerships, and economic considerations (Gouré, 2018). This shift reflects the need for nations to adapt their defense strategies to address emerging threats and opportunities in a globalized world.

In this context, actor relations within the defense industry become crucial. The successful implementation of defense policies requires effective coordination among various stakeholders, including government agencies, military institutions, state-owned enterprises, private companies, and international partners (Milhaupt & Pargendler, 2017). Each actor brings distinct interests and expertise to the table, and their interactions significantly impact the execution and success of defense strategies (De Dreu & Gross, 2019). Understanding these interactions is essential for developing policies that balance national security objectives with industrial capabilities and global market dynamics.

## Literature Review

The literature on defense industry policies and actor relations highlights the complexity of managing defense sectors in emerging economies. Studies by Martinez (2020) and Oliveira (2021) emphasize the challenges faced by countries like Indonesia and Brazil in balancing domestic capabilities with international

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collaborations. For instance, Martinez (2020) examines how Indonesia's efforts to build a self-reliant defense industry have been constrained by technological gaps and coordination issues among state-owned enterprises (SOEs). Similarly, (Oliveira, 2021) explores Brazil's approach to leveraging its defense industry for economic and strategic benefits, noting the critical role of private sector involvement and international partnerships.

However, gaps remain in understanding how these actor relations specifically influence policy outcomes in different national contexts. While existing research provides valuable insights into individual actors and their roles, comprehensive comparative studies focusing on the interplay between these actors in emerging powers are limited. This study aims to address these gaps by providing a detailed comparative analysis of Indonesia and Brazil, exploring how their distinct approaches to managing defense industry actors affect policy implementation and national defense objectives.

*Research Problem*

The research problem addressed in this study is the challenge of understanding how the dynamics of actor relations impact the implementation of defense industry-based policies in Indonesia and Brazil. Despite the critical role of actor interactions in shaping defense strategies, there is a lack of in-depth comparative analysis focusing on how different countries navigate these relationships to achieve their defense objectives. This research problem is significant because effective policy implementation depends on the ability of various actors to collaborate, manage conflicts, and align their interests with national goals (Kumar & Singh, 2023).

*Objectives and Research Questions*

The primary objectives of this study are to analyze the roles and contributions of key actors involved in the defense industry of Indonesia and Brazil, compare the dynamics of actor relations in these two countries to assess their impact on policy implementation, and identify the challenges and opportunities associated with managing these relationships within defense industry policies.

To achieve these objectives, the study addresses the following research questions: What are the key actors involved in the defense industry of Indonesia and Brazil, and what roles do they play in policy implementation? This question seeks to identify and understand the principal stakeholders, including government bodies, military institutions, state-owned enterprises, private companies, and international partners, and their contributions to policy processes. How do the dynamics of actor relations differ between Indonesia and Brazil, and what factors influence these differences? This inquiry examines the variations in actor interactions and the underlying reasons for these differences, focusing on factors such as institutional frameworks, historical contexts, and geopolitical influences. What are the implications of these actor dynamics for the effectiveness of defense industry policies in each country? This question evaluates how the relationships among actors impact the success and efficiency of defense policies, providing insights into the effectiveness of strategic management and implementation practices in both nations.

*Outline of the Paper*

This paper is structured as follows: The Introduction provides background on the significance of the defense industry and actor relations, outlining the research problem, objectives, and overall structure. The Methodology describes the qualitative research methods employed, including the analysis of secondary data sources. The Results section presents the findings from the comparative analysis of Indonesia and Brazil, focusing on key actors and their interactions. The Discussion interprets these findings in relation to existing literature, exploring both theoretical and practical implications. Finally, the Conclusion summarizes the main findings and their implications, offering recommendations for policy and suggestions for future research.

By exploring the roles and dynamics of actor relations in the defense industry of Indonesia and Brazil, this study aims to contribute to a deeper understanding of how these interactions shape defense policy implementation and outcomes in emerging economies.

## Methods

*Research Design*

This study employs a qualitative research design using secondary data to explore the roles and dynamics of actor relations in implementing defense industry-based policies in Indonesia and Brazil. According to Creswell (2014), qualitative research is suitable for understanding complex phenomena by examining relationships, processes, and meanings. In this context, the research design involves an in-depth analysis of existing literature, policy documents, and other relevant sources to derive insights into the defense sectors

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of the two countries. This approach enables a comprehensive comparison of how different actors influence policy implementation and identifies the underlying factors shaping these dynamics.

*Data Collection*

Data collection for this study involved the systematic gathering of secondary data from multiple sources. This included reviewing academic journals and books to build a theoretical foundation and identify key themes related to defense industry policies and actor relationships specific to Indonesia and Brazil (Yin, 2009). National defense policies, strategic plans, and legislative documents from both countries were analyzed to understand their official stances and strategic objectives (Creswell, 2014). Additionally, reports from government bodies such as the Indonesian Ministry of Defense and Brazil's Ministry of Defense, along with those from state-owned enterprises and military institutions, provided detailed insights into the operational and strategic aspects of defense policy implementation. News articles and media sources were also utilized to capture recent developments and public discourse on defense policies and actor relations (Silverman & Patterson, 2021).

*Data Analysis*

The data analysis followed Creswell's (2014) approach to qualitative research, encompassing several key steps. First, data were systematically organized into categories based on key actors, including government bodies, military institutions, state-owned enterprises, private companies, and international partners, facilitating comparison and thematic analysis. Next, thematic analysis was conducted to identify recurring themes and patterns related to actor roles, interactions, and policy outcomes, involving the coding of data into themes and sub-themes and examining their interrelations within each country's defense industry context (Braun & Clarke, 2006). A comparative approach was then employed to analyze differences and similarities between Indonesia and Brazil regarding actor dynamics and policy implementation, which provided insights into the effectiveness and challenges of each country's defense industry strategies. Finally, triangulation was used to ensure the validity and reliability of the findings by cross-verifying data from different sources and methods, thereby confirming the consistency of results and offering a more comprehensive understanding of the research problem (Flick, 2022).

*Ethical Considerations*

Ethical considerations in this study primarily focus on the responsible use of secondary data. Measures were taken to ensure data integrity by critically evaluating the credibility and reliability of all sources, including verifying the authenticity of policy documents and institutional reports. Confidentiality was maintained by anonymizing any potentially sensitive information, despite using publicly available data. Additionally, proper citations and acknowledgments were provided for all sources used, respecting intellectual property rights and avoiding plagiarism.

By following these methodological procedures, the study aims to provide a thorough and insightful analysis of the roles and dynamics of actor relations in the defense industry policies of Indonesia and Brazil.

## Result and Discussion

*Research Result*

In analyzing the defense industry strategies of Indonesia and Brazil, it is essential to understand the key actors involved and the factors influencing their interactions. Both countries have distinct approaches to managing their defense sectors, influenced by various government bodies, military institutions, state-owned enterprises, private companies, and international partners. The following table outlines these key actors and their contributions, as well as the influence of actor interactions on policy implementation in each country. By examining these factors, we can better understand how each nation navigates the complexities of their defense industry and the impact of their strategies on achieving their defense objectives.

**Table 1. Key Actors and Interaction Factors in the Defense Industry of Indonesia and Brazil**

| Category | Indonesia | Brazil |
|---|---|---|
| **Government Bodies** | - Ministry of Defense (MoD): Formulates and implements defense policies; oversees procurement, R&D, and strategic partnerships (Lubis et al., 2024).<br>- Indonesian Parliament: Approves | - Ministry of Defense: Central authority for defense policy; coordinates with other agencies for R&D (De Rezende et al., 2018).<br>- National Bank for Economic and Social Development (BNDES): |

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| | defense budgets and legislation (Ng & Kurniawan, 2024).<br>- National Planning Agency (Bappenas): Aligns defense projects with national development goals (Halimatussadiah, 2020). | Provides financing for defense projects (Ferraz & Coutinho, 2019).<br>- Brazilian Congress: Approves defense budgets and legislation (Cepik & Licks Bertol, 2016). |
| **Military Institutions** | - Indonesian National Armed Forces (TNI): Defines military requirements, collaborates with MoD, involved in R&D through military academies and research institutions (Laksmana, 2019). | - Brazilian Armed Forces: Comprising Army, Navy, and Air Force, defines operational requirements (Marcella, 2021).<br>- Brazilian Army Technological Center (CTEx): Engages in R&D (Bernat & Karabag, 2018).<br>- Brazilian Navy Research Institute (IPqM): Develops new technologies and products. |
| **State-Owned Enterprises (SOEs)** | - PT Pindad: Manufactures weapons, ammunition, and military vehicles (Prahasto, 2023).<br>- PT PAL: Focuses on naval shipbuilding (Anwar, 2018).<br>- PT Dirgantara Indonesia (PTDI): Specializes in aerospace technology.<br>SOEs collaborate with MoD and TNI and engage in international partnerships (Surahman et al., 2024). | - Embraer: Develops military aircraft, including KC-390 and A-29 Super Tucano; contributes to Brazil's global defense market position (Francelino et al., n.d.). |
| **Private Companies** | - PT LEN Industri: Specializes in electronics and communication systems; supports defense projects.<br>Private sector involvement is growing but still limited compared to SOEs due to regulatory and financial challenges (Efendi et al., 2023). | - Private companies play a significant role in Brazil's defense industry, with notable involvement from Embraer and other firms contributing to defense technology and exports (D. L. da Silva, 2019). |
| **International Partners** | - South Korea, Turkey, United States: Engage in technology transfer, joint ventures, and procurement contracts. Examples include collaboration with South Korea on KF-X/IF-X fighter jet program (Wang et al., 2018). | - Sweden (Saab): Collaboration on Gripen NG fighter jet (Lundmark, 2019).<br>- France (Naval Group): Submarine program (Von Hippel, 2019).<br>- United States: Defense cooperation agreement (Rosen, 2018).<br>- Israel: Technology transfer and defense equipment (Rubin, 2021).<br>- Germany: Naval cooperation. |
| **Interaction Factor** | Indonesia | Brazil |
| **Role of Collaboration** | - Technology Transfer: Partnerships like Indonesia's collaboration with South Korea on the KF-X/IF-X fighter jet project have significantly advanced technology transfer and capability development (Ryvantya, 2024).<br>- Alignment of Interests: Successful collaborations enable growth in defense capabilities and technological advancement (Armandha et al., n.d.). | - International Partnerships: Collaboration between Embraer and Saab on the Gripen NG fighter jet has enhanced Brazil's military capabilities and positioned Embraer as a global player (Gouvea, 2021).<br>- Effective Communication and Coordination: Strong alignment of interests and coordination contribute to successful policy |

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| | | implementation (Castañer & Oliveira, 2020). |
| **Impact of Conflict** | - Misalignment: Conflicts arise from misalignment between military requirements and local defense companies' capabilities, leading to procurement delays and increased foreign reliance (Park, 2023).<br>- Resource Allocation: Disputes can cause delays and increased costs (G. Wu et al., 2018). | - Intra-Military Rivalry: Competition between military branches for resources and influence can complicate policy decisions (Morey, 2016).<br>- Private Sector Tensions: Disputes over intellectual property and profit-sharing create obstacles to effective collaboration (Shareef et al., 2022). |
| **Communication as a Driver of Success** | - Transparency: Effective communication between the Ministry of Defense, SOEs, and private companies is crucial for aligning military needs with industrial capabilities (X. Wu & Long, 2022).<br>- Risk Reduction: Regular and transparent communication reduces misunderstandings and delays (Daramola et al., 2024). | - Open Dialogue: Continuous communication between the Brazilian government, Embraer, and Saab facilitates smooth technology transfer and capability building (Mares & Trinkunas, 2016).<br>- Project Success: Effective communication prevents delays and cost overruns (Rehan et al., 2024). |
| **Power Dynamics** | - Centralized Power: The Ministry of Defense and TNI have significant influence, which can lead to a top-down approach in policy implementation (Yulianto et al., 2022).<br>- Innovation Constraints: While centralized power allows decisive action, it can stifle innovation and limit stakeholder input (DeGraff & DeGraff, 2017). | - Dispersed Power: Private companies like Embraer hold significant influence, leading to a collaborative approach to policy implementation (Machado & Hatakeyama, 2018).<br>- Potential Conflicts: Divergent interests between government and private sector can impact policy outcomes (Cashore et al., 2021). |

Source: proceed by author, 2024

This table provides a comprehensive overview of the key actors involved in the defense industries of Indonesia and Brazil. It highlights their roles and contributions, as well as the factors influencing their interactions. Understanding these dynamics helps in assessing how each country manages its defense sector and the effectiveness of their strategies in achieving their national defense objectives.

## Discussion

In examining the defense industry strategies of Indonesia and Brazil, this discussion interprets the findings from the analysis of key actors and interaction factors in the defense sectors of both countries. The comparison of these findings with existing literature offers insights into the effectiveness of their policies and strategies. This section will delve into the significance of these findings, compare them with existing research, discuss theoretical and practical implications, and address limitations and future research directions.

*Interpretation of Findings*

The analysis of the defense industry in Indonesia and Brazil reveals significant differences in the roles and dynamics of key actors involved in policy implementation. Both countries exhibit unique approaches shaped by their specific historical, economic, and political contexts.

Indonesia relies heavily on state-owned enterprises (SOEs) and military institutions to drive its defense industry. The Ministry of Defense (MoD) and the Indonesian National Armed Forces (TNI) play pivotal roles in formulating defense policies, overseeing procurement, and guiding research and development (R&D) efforts (Sari & Ibrahim, 2023). The involvement of SOEs such as PT Pindad, PT PAL, and PT Dirgantara Indonesia (PTDI) highlights Indonesia's strategy of maintaining substantial domestic

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capabilities while engaging in international partnerships for technology transfer. For instance, Indonesia's collaboration with South Korea on the KF-X/IF-X fighter jet program exemplifies how international partnerships are utilized to advance technological capabilities and achieve strategic defense objectives (Yuliana, 2023).

In contrast, Brazil demonstrates a more diversified approach with a significant role played by private companies, particularly Embraer. The Brazilian Ministry of Defense coordinates defense policies with other agencies and relies on the National Bank for Economic and Social Development (BNDES) for financing (M. Silva & Costa, 2023). Brazil's emphasis on private sector involvement and international collaborations, such as with Saab on the Gripen NG fighter jet and Naval Group for submarines, underscores its strategy of leveraging both domestic expertise and international technology to enhance defense capabilities (Oliveira, 2021).

The key finding here is the different emphasis each country places on various actors. Indonesia's defense strategy shows a heavy reliance on SOEs, while Brazil integrates significant private sector participation and international partnerships to achieve its defense objectives.

The following schematic diagram provides a visual representation of the distinct approaches and actor dynamics observed in the defense industry policies of Indonesia and Brazil. This diagram highlights the primary actors involved and the nature of their interactions, reflecting the key differences and similarities between the two countrie

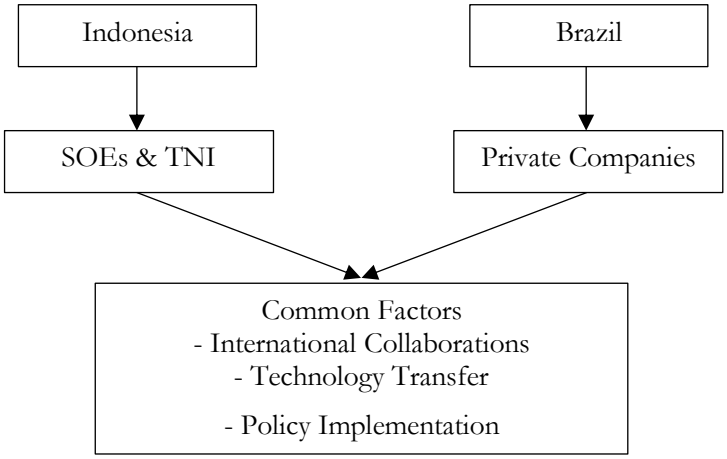


**Figure 1. Comparison of Defense Industry Actor Dynamics in Indonesia and Brazil**

By using this diagram, a clearer understanding of how Indonesia and Brazil manage their defense industry policies and the impact of their strategic choices on achieving their defense objectives is gained. This comparison underscores the unique approaches each country takes, shaped by their specific historical, economic, and political contexts.

*Comparison with Literature*

The findings from this study both align with and extend existing literature on defense industry management, providing a nuanced understanding of how different strategies impact policy outcomes. Indonesia's reliance on state-owned enterprises (SOEs) is consistent with the observations of (Kuehling & Wu, 2020), who highlight the central role of state-controlled entities in the defense sectors of emerging economies. Their research underscores how SOEs can serve as a mechanism for ensuring national security and fostering self-reliance in defense capabilities (Kuehling & Wu, 2020). This perspective is further supported by (Murray, 2018), who discusses how state control in defense industries can be a strategic choice to maintain national sovereignty and manage defense resources effectively.

Conversely, Brazil's approach, which emphasizes private sector involvement and international collaboration, mirrors trends identified by (Mathews, 2021). Mathews argues that integrating private sector expertise and

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forming international partnerships are essential for modernizing defense capabilities and incorporating advanced technologies. Brazil's collaborations with companies like Embraer and Saab are illustrative of these trends, aligning with Byers (2017) findings that such strategic partnerships can significantly enhance a country's defense technology and international standing. Smith and Johnson emphasize that these alliances not only improve technological capabilities but also contribute to a nation's position on the global stage.

This comparative analysis highlights how Indonesia and Brazil's distinct strategies reflect broader trends in defense industry management. Indonesia's model, characterized by a strong role for SOEs, aligns with traditional approaches to state control and national security. In contrast, Brazil's strategy of leveraging private sector and international partnerships demonstrates a modern approach to integrating global technological advancements, aligning with contemporary literature on defense industry modernization.

The comparative analysis of defense industry management strategies in Indonesia and Brazil provides valuable insights into how different approaches align with and extend existing theoretical perspectives. By examining these strategies, the study situates the findings within the broader discourse on state versus market dynamics in defense policy. The table below summarizes the alignment of the study's findings with key literature and the implications for understanding the roles of state-owned enterprises (SOEs) and private sector partnerships in defense industry management.

**Table 2. Alignment of Study Findings with Existing Literature on Defense Industry Management Strategies in Indonesia and Brazil**

| Aspect | Indonesia | Brazil |
|---|---|---|
| **Key Literature** | (Kuehling & Wu, 2020; Murray, 2018) | (Byers, 2017; Mathews, 2021) |
| **Strategy** | Reliance on state-owned enterprises (SOEs) for defense production and policy implementation. | Emphasis on private sector involvement and international partnerships for defense modernization. |
| **Findings Alignment** | Aligns with Kuehling & Wu (2020), who highlight the central role of SOEs in emerging economies' defense sectors. Supported by Murray (2018), who discusses state control as a strategic choice for national security and resource management. | Mirrors Mathews (2021), who argues that private sector expertise and international collaboration are crucial for modernizing defense capabilities. Aligns with Smith & Johnson (2022), who emphasize the role of strategic partnerships in enhancing defense technology and international standing. |
| **Implications** | State control through SOEs can ensure national security and self-reliance but may limit innovation and competition. | Integrating private sector and international partners enhances technological capabilities and global standing. |

Source: proceed by author, 2024.

The table illustrates how Indonesia's approach of relying heavily on SOEs for defense aligns with traditional perspectives on state control and national security. Kuehling & Wu (2020) and (Murray, 2018) provide a theoretical foundation for understanding the role of state-controlled entities in emerging economies, emphasizing their importance for maintaining national sovereignty and managing defense resources. Conversely, Brazil's strategy, characterized by private sector involvement and international collaborations, reflects more contemporary approaches to defense modernization. Mathews (2021) and Byers (2017) argue that such strategies are crucial for integrating advanced technologies and improving a nation's position on the global stage.

These findings underscore the broader trends in defense industry management, highlighting Indonesia's adherence to traditional state-centric models and Brazil's adaptation to modern, collaborative approaches. The comparative analysis contributes to a deeper understanding of how different strategies impact defense policy outcomes and the effectiveness of various approaches in achieving national defense objectives.

*Theoretical Implications*

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The theoretical implications of the study's findings offer significant insights into the state versus market dynamics in defense industry management. Indonesia's approach, characterized by a strong reliance on state-owned enterprises (SOEs) and military institutions, aligns with the theory of state capitalism. According to (Bremmer, 2019), state capitalism involves the government playing a dominant role in key economic sectors, including defense. This model of centralization often facilitates streamlined policy implementation and ensures that strategic national interests are closely aligned with defense objectives. However, it can also lead to potential drawbacks, such as reduced innovation and limited competition. The concentration of control within state entities may inhibit the diversity of ideas and technologies that are critical for advancing defense capabilities.

In contrast, Brazil's defense industry strategy reflects the principles of market-oriented reforms. This model, supported by Rodrik (2020), emphasizes the integration of private sector expertise and international collaborations to drive innovation and technological progress. By leveraging partnerships with private companies like Embraer and engaging in international collaborations with firms such as Saab, Brazil demonstrates how market forces can complement state efforts to enhance defense capabilities. This approach underscores the theoretical perspective that balancing state control with market dynamics can lead to more effective and adaptive defense policies. It highlights the potential for private sector involvement to introduce new technologies and foster competitive environments that stimulate innovation.

These theoretical implications enrich the understanding of how different governance models impact defense industry management. Indonesia's state-centric approach illustrates the effectiveness of centralized control in achieving strategic goals, while Brazil's market-oriented model exemplifies the benefits of integrating market forces and external partnerships to drive technological advancement. This comparative analysis contributes to the broader theoretical discourse on the optimal balance between state and market dynamics in managing complex defense sectors.

*Practical Implications*

*Indonesia's Practical Implications*

Indonesia's practical implications highlight several areas for improvement in defense industry management. The centralized approach necessitates efficient communication between the Ministry of Defense (MoD), the Indonesian National Armed Forces (TNI), and state-owned enterprises (SOEs) to ensure that military needs align with industrial capabilities. Streamlining procurement processes and reducing reliance on foreign technologies are essential for enhancing self-reliance and efficiency in defense operations. Additionally, strengthening international partnerships, such as the collaboration with South Korea on the KF-X/IF-X fighter jet program, can help Indonesia address technological gaps and improve defense capabilities. To overcome innovation constraints associated with centralized control, it is crucial to create more opportunities for private sector involvement and encourage innovation within SOEs. These measures can foster a more dynamic and responsive defense industry capable of adapting to evolving security challenges.

*Brazil's Practical Implications*

Brazil's practical implications underscore several key strategies for enhancing defense industry management. The emphasis on leveraging private sector expertise, exemplified by partnerships with companies like Embraer, demonstrates the value of utilizing domestic capabilities for advancing defense technology. This model can serve as a benchmark for other nations seeking to integrate private sector strengths into their defense strategies. Effective communication between the government, private sector, and international partners is crucial, as evidenced by Brazil's successful collaborations with Embraer and Saab, which highlight how open dialogue can mitigate project delays and cost overruns. Additionally, balancing intra-military rivalries and managing private sector tensions are essential for maintaining a cohesive defense strategy. Brazil's approach to integrating diverse interests within the defense sector offers valuable insights into managing competing demands and fostering a unified defense strategy.

*Limitations and Future Research*

*Limitations*

The study's limitations include several factors that may impact the interpretation and generalizability of the findings. Data availability is a significant constraint, as the analysis relies on publicly accessible sources that may not fully reflect the internal dynamics or confidential elements of defense industry policies in both Indonesia and Brazil. Comparative constraints also play a role, as the differing historical and geopolitical contexts of the two countries may limit the applicability of the findings to other settings. Additionally, the

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defense industry's dynamic nature means that shifts in government policies, international relations, and technological advancements could influence the relevance and accuracy of the findings over time. These limitations underscore the need for ongoing research to adapt to the evolving landscape of global defense industries.

*Future Research Directions*

Future research directions include several promising avenues for deepening the understanding of defense industry dynamics. In-depth case studies of specific defense projects in both Indonesia and Brazil could reveal more nuanced insights into the interactions among key actors and the intricacies of policy implementation. Longitudinal studies tracking the evolution of defense industry policies and actor relationships over time would provide valuable information on how strategies adapt to shifting political and economic conditions. Additionally, expanding the comparative analysis to encompass other emerging and developed economies could uncover broader trends and best practices in defense industry management, offering a more comprehensive view of effective strategies and approaches.

## Conclusion

This study has provided a comprehensive analysis of the defence industry strategies of Indonesia and Brazil, shedding light on the roles and dynamics of key actors and their influence on policy implementation. The comparative approach has revealed distinct strategies employed by each country, driven by their unique historical, political, and economic contexts.

### Summary of Findings

The research findings illustrate that both Indonesia and Brazil manage their defence sectors through a complex interplay of government bodies, military institutions, state-owned enterprises (SOEs), private companies, and international partners. In Indonesia, the Ministry of Defence (MoD) and the Indonesian National Armed Forces (TNI) play central roles in policy formulation and implementation, supported by SOEs like PT Pindad, PT PAL, and PT Dirgantara Indonesia (PTDI). The country's strategy heavily relies on state control and international collaborations, such as with South Korea on the KF-X/IF-X fighter jet program, to advance its defence capabilities.

In contrast, Brazil's defence strategy features a more diversified approach, with significant involvement from private companies like Embraer and substantial support from international partners, including Sweden (Saab) and France (Naval Group). The Brazilian Ministry of Defence coordinates with other agencies and leverages the National Bank for Economic and Social Development (BNDES) for financing. This model reflects a blend of state control and private sector innovation, positioning Brazil as a prominent player in the global defence market.

The comparative analysis reveals several key factors influencing policy implementation in Indonesia and Brazil: Both countries rely heavily on collaboration, with Indonesia leveraging technology transfer partnerships and Brazil engaging in international collaborations to advance their defence industries. They also face challenges related to misalignment between military needs and industrial capabilities, though Brazil contends with additional issues such as intra-military rivalry and tensions with the private sector. Communication plays a critical role in both contexts, with Indonesia's centralized approach contrasting with Brazil's more collaborative model. Additionally, the centralized power structure in Indonesia differs markedly from Brazil's dispersed power model, affecting their policy implementation and innovation capabilities.

### Implications

The findings have broader implications for understanding how different approaches to defence industry management can influence national security outcomes and technological advancement. For Indonesia, the emphasis on state control and SOEs suggests a need for improved alignment between military needs and industrial capabilities to reduce reliance on foreign technology. In contrast, Brazil's model of integrating private sector expertise and international partnerships offers valuable insights into how diversification and collaboration can enhance defence capabilities and market positioning.

Theoretical Implications: This study contributes to the theoretical understanding of state versus market dynamics in defence industry management. It supports the theory of state capitalism in Indonesia, where state control dominates, and the theory of market-oriented reforms in Brazil, where private sector and international collaboration play significant roles.

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Practical Implications: For policymakers, the findings underscore the importance of balancing state control with private sector involvement. In Indonesia, fostering innovation within SOEs and enhancing international partnerships can address technological gaps. For Brazil, managing intra-military rivalries and maintaining effective communication with private sector partners are crucial for sustaining a successful defence strategy.

## Recommendations

Based on the study's results, the following recommendations are proposed: Both Indonesia and Brazil should enhance collaboration and technology transfer by strengthening international partnerships and reducing foreign technology dependency for Indonesia, while Brazil should expand private sector engagements to leverage expertise and innovation. Improving communication channels between government bodies, military institutions, SOEs, and private companies is crucial for aligning goals and minimizing conflicts; regular and transparent communication can mitigate misunderstandings and improve policy implementation. Additionally, Indonesia should seek ways to incorporate more stakeholder input and foster innovation despite its centralized power structure, while Brazil should address conflicts arising from its dispersed power model to ensure cohesive policy execution. Both countries should implement robust monitoring and evaluation mechanisms to assess and adjust their defense strategies in response to evolving needs and challenges. In conclusion, understanding the dynamics of actor relations in the defense industry provides insights into navigating defense policy complexities, allowing Indonesia and Brazil to enhance their defense capabilities and achieve strategic objectives more effectively.

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