

A Good Governance–Based Defense Procurement Model to Strengthen National Defense Industry Autonomy: A Qualitative Study from Indonesia

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Defense procurement is a strategic state function that shapes national security readiness, fiscal sustainability, and long-term technological sovereignty. Yet, defense acquisition systems are structurally exposed to integrity and performance risks due to secrecy constraints, high discretion, and complex multi-actor governance. While the literature provides extensive diagnostics on inefficiency and corruption vulnerabilities, it remains limited in offering implementable, lifecycle-embedded governance models capable of aligning procurement performance with defense industrial autonomy objectives. Addressing this gap, this study develops a good governance–based defense procurement model aimed at strengthening national defense industry autonomy, using Indonesia as an analytically relevant case of modernization pressure and persistent import dependence.

The study adopts a systems-oriented qualitative design and applies a lifecycle perspective to examine governance dynamics from planning through evaluation. Data were generated through triangulation of policy and institutional documents, semi-structured interviews with key procurement and oversight actors, and thematic analysis to identify governance bottlenecks and institutional mechanisms shaping procurement outcomes.

Findings reveal three systemic constraints: (1) fragmented institutional authority and weak cross-actor coordination; (2) significant dominance of non-technical influence over capability-based planning; and (3) partial implementation of governance principles characterized by limited traceability-oriented transparency, formal but weak accountability enforcement, and restricted structured participation beyond core institutions. These constraints generate lifecycle bottlenecks particularly in requirements formulation, vendor selection and contracting, and post-award oversight and evaluation ultimately reducing the effectiveness of technology transfer, weakening domestic

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supplier integration, and reinforcing a short-term acquisition orientation.

Based on these findings, the study proposes a lifecycle-embedded governance model structured around multi-actor coordination, classified accountability mechanisms, enforceable offset and technology transfer performance governance, and institutionalized evaluation feedback loops. The paper contributes theoretically by integrating good governance principles with the defense procurement lifecycle under secrecy constraints, methodologically by demonstrating a systems-based modelling approach for complex strategic sectors, and practically by providing a structured reform blueprint linking procurement governance quality to industrial autonomy outcomes. The proposed model is relevant to other emerging economies seeking to reconcile defense modernization with sustainable domestic capability development.

Keywords: defense procurement governance; good governance; lifecycle procurement; defense industrial autonomy; technology transfer; accountability under secrecy; emerging economies

Introduction**1.1 Global Context of Defense Procurement Governance**

Defense procurement is a strategic state function that directly shapes national security readiness, deterrence credibility, and long-term resilience. Modern defense capabilities increasingly rely on complex weapon systems, digital-enabled logistics, and platform sustainment architectures that require multi-year investment and integrated supplier ecosystems. Consequently, procurement decisions in the defense sector determine not only immediate operational capacity but also the durability of force structure across time (Markowski & Hall, 1998; Bruneau & Matei, 2013).

Unlike most areas of public procurement, defense acquisition operates under conditions that systematically raise governance risk: elevated secrecy requirements, high information asymmetry between suppliers and the state, and strong political salience. Such conditions complicate accountability mechanisms and weaken the contestability of procurement processes. International governance literature consistently emphasizes that procurement is

among the government activities most vulnerable to integrity risks, and these vulnerabilities intensify in strategic sectors where oversight is constrained and transaction values are large (OECD, 2007; OECD, 2023). Defense procurement is therefore frequently cited as a domain exposed to higher corruption risk due to limited transparency and the prevalence of discretionary decision-making (Transparency International Defence & Security, 2020).

Recent geopolitical developments have amplified the strategic relevance of procurement governance. Shifts in international security conditions accelerate acquisition and modernization cycles, which often compress procurement timelines and reduce procedural safeguards. SIPRI's recent trends confirm that the global volume of international arms transfers remains substantial, while the distribution of imports reflects security shocks and intensifying dependency patterns among importers (SIPRI, 2025a). These conditions increase the probability that procurement becomes reactive and politically pressured heightening risks of inefficiency, suboptimal capability planning, and vendor lock-in.

At a systemic level, recurring governance risks in defense procurement can be grouped into three categories. First is opacity, where national security rationales limit public scrutiny and restrict independent monitoring of budgets and contract execution. Second is political interference, whereby procurement decisions may serve elite coalitions, patronage incentives, or short-term political bargaining rather than coherent capability planning. Third is inefficiency, including cost overruns, specification failures, and inadequate lifecycle support arrangements that undermine readiness over time. OECD integrity guidance emphasizes that risks occur across the entire procurement cycle, including needs assessment and contract management not only during tendering (OECD, 2007; OECD, 2023). This insight is particularly pertinent to defense procurement, in which lifecycle sustainment constitutes a major component of total ownership cost.

In this context, defense procurement governance has increasingly been treated not merely as an administrative issue, but as a strategic determinant of national security outcomes. Robust governance arrangements reduce fiscal leakage, strengthen legitimacy of defense spending, and create institutional capacity to align procurement with long-term defense planning and industrial development.

1.2 Defense Industrial Autonomy as a Strategic Policy Objective

Alongside readiness and force modernization, many governments increasingly frame defense industrial autonomy often expressed as defense self-reliance as a core strategic objective. In conceptual terms, defense industrial autonomy refers to the state's ability to sustain and develop military capability through domestic technological, manufacturing, and maintenance ecosystems, thereby reducing exposure to external supply shocks, export controls, and politically contingent supplier behavior. Importantly, autonomy should be understood as a continuum: it ranges from limited sovereignty in maintenance and repair capacity to advanced indigenous design, systems integration, and full-

spectrum production of major weapon platforms (Bitzinger, 2015; Bellais, 2004).

The strategic salience of industrial autonomy has intensified in response to several interrelated structural shifts. First, the global arms market is increasingly influenced by strategic competition, sanctions policy, and export-control regimes, meaning that supplier reliability is frequently conditional on geopolitical alignment and external diplomatic dynamics. Second, the technological architecture of contemporary defense platforms particularly software-intensive systems and proprietary subsystems creates long-term dependency and lock-in, constraining user-state flexibility over upgrades, sustainment, and interoperability across the system lifecycle. Third, defense industrial development is widely treated as an engine of national innovation capacity, generating spillover effects into dual-use production, advanced manufacturing, and high-technology sectors (Mowery, 2012; Matthews, 2004).

In this context, defense procurement functions not merely as a purchasing mechanism but as a state capability-building instrument that can shape long-term industrial development trajectories. Procurement choices determine whether domestic suppliers are structurally integrated into defense supply chains, whether offsets and technology transfer are converted into absorptive learning, and whether capability accumulation becomes cumulative rather than episodic. Crucially, these outcomes depend less on the presence of formal policy statements than on the governance quality that operationalizes them. Weak monitoring of offset delivery, fragmented institutional mandates, and non-transparent vendor selection can transform technology transfer commitments into symbolic clauses and reinforce long-term dependence undermining industrial autonomy even where official strategies explicitly endorse self-reliance (Sköns, Perlo-Freeman, Weidacher, & Kuimova, 2014).

For emerging and middle-income countries, defense industrial autonomy is especially relevant. Many of these states depend heavily on imported

major arms and have limited bargaining power in global defense markets. SIPRI's arms transfer analysis highlights how import patterns remain concentrated among states responding to heightened security pressures, and how supplier structures shape dependence (SIPRI, 2025a; SIPRI, 2025b). Under such conditions, procurement governance becomes a strategic lever: it determines whether the procurement system merely secures platforms or also produces long-term domestic capability.

1.3 Empirical Problem: The Indonesian Case

Indonesia offers an analytically significant setting to examine how defense procurement governance influences industrial autonomy outcomes. As a large archipelagic state with extensive maritime and airspace security requirements, Indonesia requires sustained modernization across naval, aerospace, and land systems. Yet the procurement system continues to reflect substantial dependence on imported defense equipment, despite long-standing national policy discourse emphasizing self-reliance and domestic defense industry strengthening (Animus Grahadi Perdana Putra, 2025).

The empirical problem is not solely industrial capacity constraints; it is also institutional and governance-related. The procurement ecosystem involves multiple actor clusters including the defense ministry, parliament, audit bodies, procurement agencies, and defense state-owned enterprises whose incentives and authority boundaries often intersect. Where coordination mechanisms are weak, procurement decisions risk fragmentation and short-termism, reducing the consistency of long-term capability development and industrial strategy alignment (Animus Grahadi Perdana Putra, 2025).

Governance gaps are also observable across the defense procurement lifecycle. Vulnerabilities can arise during planning and requirements definition (capability needs articulation, prioritization, and budgeting), during vendor selection (contestability, transparency, and conflict-of-interest management), and during contract execution and sustainment (monitoring,

performance evaluation, and offset implementation). OECD integrity guidance emphasizes that integrity and performance risks extend throughout the procurement cycle, including the post-award stage (OECD, 2007; OECD, 2023). This lifecycle view is critical in defense acquisition because sustainment and technology absorption are as strategically important as initial platform acquisition.

Accordingly, Indonesia represents a case in which procurement governance quality can substantially determine whether industrial autonomy objectives technology absorption, domestic content strengthening, and sustainable defense production ecosystems are achievable beyond policy rhetoric.

1.4 Research Gap

Despite the breadth of research addressing defense procurement problems, at least three critical gaps remain. First, a substantial share of the existing scholarship is still normative or evaluative in orientation. Much of it concentrates on corruption prevention, compliance, or efficiency deficits, but stops short of producing implementable governance architectures that can operate in complex, multi-actor defense acquisition environments. Anti-corruption studies and audit-based assessments generate important diagnostics regarding integrity risks and control weaknesses; however, these diagnoses are frequently insufficient to inform practical institutional design, particularly in procurement ecosystems characterized by high discretion, information asymmetry, and lifecycle complexity (Schooner, 2002; Kelman, 2005; Thai, 2001).

Second, there is a limited supply of empirically grounded procurement governance models particularly models built from field evidence that incorporate political constraints, secrecy requirements, and organizational fragmentation. Transparency International's defense integrity frameworks underscore systemic corruption risks and institutional control weaknesses across defense sectors, but these require contextualized model translation into procurement governance design suitable for specific state structures

(Transparency International Defence & Security, 2020).

Third, there is inadequate integration between governance theory and the defense procurement lifecycle. OECD emphasizes that risk is distributed across stages and that governance must operate throughout the cycle (OECD, 2007; OECD, 2023). Yet defense procurement studies frequently separate lifecycle models from governance frameworks, leading to reforms that concentrate on tendering procedures while under-addressing planning-stage vulnerabilities and contract execution risks.

These gaps are especially acute for emerging economies, where defense modernization pressure, political sensitivities, and limited governance capacity converge.

1.5 Research Objectives and Questions

This study aims to develop an empirically grounded model of defense procurement governance that supports national defense industrial autonomy. The research objectives are:

1. To analyze the current condition of defense procurement governance in Indonesia, including actor configurations, institutional interactions, and governance constraints.
2. To examine how good governance principles can be embedded across the defense procurement lifecycle in a strategic-sector context.
3. To formulate a governance-based defense procurement model that aligns defense acquisition with national defense industry autonomy objectives.

Accordingly, the study addresses the following research questions:

1. What is the current state of defense procurement governance in Indonesia?
2. How can good governance principles be embedded across the defense procurement lifecycle?

3. What governance model is most suitable to align defense procurement with national defense industrial autonomy?

1.6 Contribution and Structure of the Paper

This paper provides three main contributions.

Theoretical contribution. The study advances defense procurement governance scholarship by embedding good governance principles across procurement lifecycle stages rather than treating governance as an external normative overlay. It draws on the established governance understanding that effective governance requires accountability, transparency, participation, and institutional effectiveness (UNDP, 1997).

Methodological contribution. This study employs a systems-oriented qualitative research design that is well suited to complex strategic sectors involving multiple actors, competing mandates, and high institutional interdependence. By adopting a systems lens, the approach enables the structured representation of institutional interactions, incentive misalignments, and lifecycle governance vulnerabilities dimensions that are often insufficiently captured by narrowly procedural evaluations or compliance-focused procurement analyses (Checkland, 1999; Dubois & Gadde, 2002; Voss, Tsikriktsis, & Frohlich, 2002).

Policy contribution. The proposed model offers a structured reform blueprint to strengthen integrity and efficiency while directly supporting industrial autonomy outcomes, such as meaningful technology transfer, domestic supply chain integration, and sustainment sovereignty. This is increasingly important given contemporary shifts in arms transfer patterns and supplier dependence structures (SIPRI, 2025a; SIPRI, 2025b).

The remainder of the paper is structured as follows. Section 2 reviews the literature on defense procurement governance, good governance in strategic sectors, and defense industrial autonomy. Section 3 presents the integrated analytical framework. Section 4 details the methodology. Sections 5 and 6 report findings and discussion. Section 7 proposes the

governance model. The paper concludes with policy implications and future research directions.

Literature Review

2.1 Defense Procurement Studies

2.1.1 Economic and efficiency-oriented perspectives

Defense procurement scholarship has historically been shaped by defense economics and performance-oriented public contracting research, which conceptualize acquisition as a high-risk contracting environment marked by technological uncertainty, long development horizons, and persistent information asymmetry between state buyers and specialized suppliers. Within this analytical tradition, procurement performance is commonly evaluated through cost and efficiency indicators such as unit price evolution, fiscal discipline, delivery timeliness, and total ownership or lifecycle cost. These measures are considered consequential because defense acquisition absorbs significant public expenditure and materially determines force readiness, sustainment viability, and the durability of military capability over time (Hartley & Sandler, 1995; Bruck, 2008; Bajari & Tadelis, 2001).

A recurring finding in this literature is that defense procurement is structurally prone to inefficiency due to a combination of supplier concentration, evolving technical requirements, and political pressures that distort demand signals. Overruns and delays are often interpreted not solely as contractor opportunism but as consequences of system-level deficiencies such as unstable requirements, weak baseline specification, and limited capacity for cost realism. Cost growth may therefore be generated early in the procurement process, particularly in the planning and requirements-setting phase, and later amplified through repeated scope changes (Liscow, 2024). In addition, quantitative evidence indicates that overruns often intensify as programs progress, suggesting persistent weaknesses in forecasting, contract governance, and corrective action mechanisms over the project lifecycle (Fox, 1993).

The efficiency tradition also emphasizes incentive structures and contract design. Under conditions of incomplete contracting and weak monitoring, suppliers may shift risks to the buyer through renegotiation mechanisms, while agencies may tolerate cost escalation due to political imperatives and sunk-cost logic. These dynamics support the argument that efficiency failures must be understood as institutional problems rather than purely technical ones.

2.1.2 Lifecycle models of defense procurement

The recognized shortcomings of acquisition-price and cost-only evaluations have pushed defense procurement scholarship toward lifecycle-oriented acquisition models. Within this perspective, procurement is treated as a longitudinal governance and management system spanning the full capability chain capability planning and prioritization, requirements formulation, acquisition strategy selection, supplier evaluation and contracting, delivery management, sustainment and upgrade arrangements, and eventual disposal. This lifecycle lens is particularly salient in defense because sustainment, maintenance, and modernization commitments typically account for a substantial portion of overall ownership costs and are decisive determinants of platform availability and operational readiness throughout service life (Blanchard & Fabrycky, 2011; Sandler & Hartley, 2007; Younossi, Arena, Leonard, Roll, & Jain, 2008).

Lifecycle perspectives provide a more strategic definition of value: procurement performance is not limited to acquisition cost minimization but includes long-term sustainment feasibility, interoperability, upgrade potential, and adaptability to evolving threats. Empirical evidence supports this shift. A case study of Norwegian defense procurement demonstrates that lifecycle cost-based decision-making offers superior explanatory power compared to acquisition-price-centred approaches, as it reveals long-term fiscal implications and operational constraints embedded in early procurement choices (Tysseand, 2008). In such models, early-

phase governance becomes the critical determinant of downstream outcomes: specification quality, risk allocation, and performance monitoring capacity shape not only contract execution but also long-term platform utility.

Lifecycle models also highlight the importance of post-award governance. In many systems, governance reforms concentrate on tendering, yet contract management, sustainment performance, and supplier relationship governance frequently determine whether acquisition meets strategic objectives. This lifecycle interpretation aligns with contemporary procurement management research stressing that procurement is a long-term policy process, not a discrete purchasing event.

2.1.3 Limitations of cost-centric approaches

Despite its analytical value, cost-centric defense procurement research has well-recognized limitations. First, it can reduce defense acquisition to short-term financial optimization, while defense procurement is inherently strategic, involving national security risk management, sovereign control, and long-term operational flexibility. Second, cost-based models may not adequately capture political and institutional determinants such as legislative bargaining, strategic alliance dependencies, or bureaucratic fragmentation that shape procurement decisions independent of efficiency signals. Third, and most importantly for governance-focused inquiry, cost-centric approaches tend to under-theorize integrity, legitimacy, and accountability, despite their centrality in sustaining public trust and institutional credibility.

Consequently, current scholarship increasingly argues that efficiency must be balanced with governance: procurement effectiveness is inseparable from institutional mechanisms that constrain opportunism, mitigate political capture, and ensure traceability of decisions across the procurement lifecycle.

2.2 Good Governance in Public Procurement

2.2.1 Core principles: accountability, transparency, participation, effectiveness

Public procurement governance scholarship increasingly treats procurement not as a narrow technical routine, but as an institutional arena where public values are translated into operational practice through rule systems, oversight arrangements, and disciplined decision processes. In this perspective, procurement functions as a governance mechanism through which public institutions attempt to secure integrity, legitimacy, and performance simultaneously, particularly in contexts where spending is high and discretion is significant (Araujo, Pagell, & Santos, 2015; Snider & Rendon, 2008). This framing is consistent with the broader view that procurement is a strategic public management instrument capable of shaping accountability relationships, market behavior, and policy outcomes beyond the immediate purchase transaction (Schapper, Malta, & Gilbert, 2006).

Within this governance lens, four principles are repeatedly emphasized in the international literature: accountability, transparency, participation, and effectiveness. Accountability concerns the clarity of responsibility and the existence of enforceable sanctions for misconduct or failure. Transparency concerns the availability and quality of information that makes scrutiny possible. Participation refers to structured involvement of legitimate stakeholders to ensure procurement priorities are defensible and oversight is credible. Effectiveness concerns the institutional capacity to achieve intended outcomes, including value delivery and policy alignment. Importantly, governance research consistently shows that these principles are not automatically complementary. Under certain institutional designs, transparency can become performative and may not strengthen accountability if oversight actors lack the capacity, authority, or incentives to interpret information and act on it (de Fine Licht, Naurin, Esaiasson, & Gilljam, 2014; Hood, 2010).

Empirical evidence underscores this complexity. In Swiss procurement governance, for instance, transparency does not reliably generate accountability outcomes; it produces meaningful accountability only when disclosure is paired with

enforceable oversight authority and organizational capacity to process and mobilize information (Mabillard, 2021). This pattern is consistent with broader comparative scholarship suggesting that transparency improves procurement outcomes only when embedded in institutional ecosystems that connect disclosure with monitoring, sanctioning, and learning mechanisms (Bauhr & Grimes, 2014).

2.2.2 Governance failures in strategic-sector procurement

Governance failures are particularly persistent in strategic sectors such as defense, security, and critical infrastructure, where discretion is high, contracts are complex, and oversight faces structural constraints. In such environments, corruption risks and inefficiency risks emerge from both illegal and legal-but-distortive practices, including specification tailoring, restricted competition, selective disclosure, and post-award renegotiation without robust justification.

Comparative governance studies highlight that transparency can reduce procurement corruption risk, but only when integrated with institutional capacity and enforcement mechanisms. A prominent study in the journal *Governance* argues that transparency functions as an antidote to procurement corruption when paired with institutional arrangements that transform information into consequences (Bauhr, Czibik, de Fine Licht, & Fazekas, 2020). Without enforcement, transparency can degrade into procedural ritualism, where compliance does not translate into integrity or performance improvement.

More recent research also points to the role of procurement digitalization. Studies in *Government Information Quarterly* indicate that e-procurement systems can increase openness and enable more systematic transparency measurement, but outcomes depend on institutional maturity and data governance capacity (Giannakis & Papadopoulos, 2024). In strategic sectors, digitalization can improve traceability and auditability, although

confidentiality requirements demand carefully designed access controls.

2.2.3 Applicability limits in defense context

A key theoretical tension emerges in applying procurement governance principles to defense. Defense acquisition cannot replicate civilian procurement templates because secrecy requirements restrict disclosure and open participation. In such contexts, maximal transparency may undermine operational security, yet minimal transparency increases integrity risk. Therefore, defense procurement governance must rely on bounded transparency and specialized accountability.

This implies that good governance in defense procurement requires institutional innovation rather than simplified borrowing of civilian models. Governance mechanisms may include classified parliamentary scrutiny, strengthened independent audit capacity with security clearance, formalized lifecycle performance monitoring, and robust conflict-of-interest controls. The literature suggests that defense procurement governance is not a question of “less governance,” but governance tailored to secrecy constraints without enabling impunity.

2.3 Defense Industry Development and Procurement Policy

2.3.1 Procurement as an industrial policy instrument

Defense industrial development research increasingly conceptualizes procurement as a major instrument of state industrial policy. Defense contracts are not merely transactional; they shape domestic industrial learning, supply chain structure, and technological trajectories. In this view, procurement can stimulate domestic production, strengthen supplier ecosystems, and create incentives for investment in R&D and workforce capability development. Procurement governance becomes critical because governance determines whether industrial policy objectives are implemented consistently or undermined by short-term acquisition imperatives.

2.3.2 Technology transfer and domestic content policies

Offsets, technology transfer, and domestic content requirements are widely used mechanisms intended to convert procurement expenditure into domestic capability formation. However, international evidence indicates that results are mixed and highly conditional. Offsets can contribute to capability building when aligned with domestic absorptive capacity and governed through measurable performance indicators. Yet they can also be symbolic commitments if monitoring is weak, if clauses are vague, or if institutional incentives prioritize rapid acquisition over capability learning.

A recent empirical study focusing on defense offsets suggests that capability outcomes are more likely when offsets are direct (co-production, joint development, or domestic maintenance infrastructure) rather than indirect, and when governance mechanisms ensure verification of delivery and absorption (Catrina, 2022). Domestic content policies face similar implementation risks. If imposed without industrial readiness, local content rules can inflate costs and jeopardize delivery; if phased strategically, they can strengthen supply chain depth and long-term sustainment sovereignty.

2.3.3 Institutional coordination challenges

A widely recognized obstacle to procurement-led industrial development is institutional fragmentation. Defense procurement systems are multi-actor ecosystems involving defense ministries, procurement bodies, defense SOEs and private suppliers, audit institutions, and legislative actors. When mandates overlap or incentives conflict, industrial autonomy objectives often lose priority to short-term procurement urgency.

Recent defense supply chain research emphasizes that supplier dependence, coordination failures, and delivery constraints limit industrial performance and system resilience, particularly when procurement governance does not provide coherent long-term demand signals (Hellberg, 2025). This implies that industrial autonomy

cannot be achieved through procurement spending alone. It requires coordinated governance that aligns acquisition strategy, industrial development objectives, and lifecycle sustainment planning.

2.4 Research Gap Synthesis

2.4.1 Absence of integrated governance–procurement models

The review reveals a persistent fragmentation across three research streams. Defense economics and acquisition management provide tools for analysing cost growth and incentive problems, but governance variables often remain peripheral. Procurement governance studies provide strong integrity and accountability frameworks, but frequently lack defense-sector specificity and lifecycle embedding. Defense industrial development scholarship recognizes procurement as an industrial policy tool, but often under-specifies governance mechanisms that ensure technology transfer, domestic content learning, and supply chain upgrading.

This fragmentation contributes to reform approaches that target isolated components such as competitive tendering while neglecting systemic vulnerabilities in requirements definition, offset monitoring, post-award contract governance, and institutional coordination. As a result, procurement reforms may improve procedural compliance without delivering industrial autonomy or sustained acquisition performance improvement.

2.4.2 Need for context-sensitive and actor-oriented frameworks

The literature indicates that strategic-sector procurement governance requires frameworks that are context-sensitive and actor-oriented. Defense procurement is not a single-agent optimization problem; it is an institutional system shaped by competing rationalities: operational readiness, political legitimacy, fiscal control, and industrial development. Therefore, governance designs must be multi-actor and lifecycle-embedded, capable of capturing incentive conflicts, information constraints, and secrecy trade-offs.

Taken together, the literature supports the need for an empirically grounded integrated model that embeds good governance principles across defense procurement lifecycle stages while explicitly linking procurement governance quality to defense industrial autonomy outcomes.

Methodology

3.1 Good Governance Framework

3.1.1 Conceptual foundations

Good governance in public administration is fundamentally concerned with how authority is exercised to produce legitimate, accountable, and effective outcomes. In the procurement domain, governance is not limited to compliance with rules; it includes the institutional capacity to manage discretion, resolve conflicts of interest, and allocate resources in ways that can be justified to principals (citizens, taxpayers, and political institutions). In high-value procurement, the central analytical issue is not only “what is purchased,” but “how decisions are made, monitored, and corrected over time.”

Governance theory provides a strong basis for interpreting procurement outcomes because procurement systems involve a chain of delegation: elected officials delegate to executive agencies; agencies delegate to procurement professionals and program managers; and contractors execute delivery under incomplete contracts and uncertainty. Under such conditions, governance quality determines whether delegated agents act in alignment with public objectives. This logic is closely aligned with principal–agent scholarship, which emphasizes information asymmetry, moral hazard, and the need for credible monitoring and sanction mechanisms in government contracting (McAfee & McMillan, 1986).

3.1.2 Governance dimensions relevant to defense procurement

In defense procurement, governance must be interpreted as **“bounded openness with heightened accountability”**. The defense context includes legitimate confidentiality and strategic secrecy; therefore, governance cannot

rely solely on open public scrutiny. Instead, governance requires institutional designs that can deliver accountability under secrecy constraints, including classified parliamentary oversight, specialized audit access, and traceable decision records.

The governance dimensions most relevant to defense procurement can be operationalized as follows:

1. **Accountability** (answerability + enforceability). Accountability is reflected in clear assignment of roles, responsibility for decisions, and existence of consequences for poor performance or misconduct. In principal–agent terms, accountability mechanisms reduce divergence between principals’ objectives and agents’ behavior by increasing detectability and expected sanctions (McAfee & McMillan, 1986).
2. **Transparency** (traceability rather than publicity). Defense procurement requires a narrower meaning of transparency: not necessarily public disclosure, but institutional traceability and auditability (i.e., the capacity of authorized oversight bodies to reconstruct decisions and verify rationales).
3. **Participation** (structured stakeholder inclusion). Defense procurement has constrained participation, but still requires structured inclusion of legitimate oversight stakeholders especially parliament, audit institutions, and designated cross-ministerial actors to reduce capture and improve requirements realism.
4. **Effectiveness** (performance + adaptability). Defense acquisition occurs in dynamic threat environments. Governance must therefore support effectiveness not only in delivering a platform, but in sustaining capability across the system lifecycle.

These dimensions align with the defense governance argument that procurement risks are not primarily technical; they are governance vulnerabilities arising from delegation, discretion, and secrecy (Reykers, 2020).

3.2 Defense Procurement Lifecycle Model

3.2.1 Stages: planning, acquisition, production, oversight, evaluation

The defense procurement lifecycle provides the organizing structure through which governance principles can be embedded. Lifecycle models conceptualize procurement as a continuous system rather than a one-off transaction. For this study, the lifecycle is structured into five stages:

1. Planning – capability assessment, needs articulation, prioritization, budgeting, and requirements definition.
2. Acquisition – procurement strategy, tender design (or negotiated purchase), evaluation, and contract award.
3. Production/Delivery – manufacturing, delivery milestones, training packages, and integration.
4. Oversight – contract management, performance monitoring, sustainment governance, and offset monitoring.
5. Evaluation – post-procurement assessment, audit feedback loops, lessons learned, and capability impact evaluation.

This staged view clarifies where governance mechanisms operate and where vulnerabilities concentrate.

3.2.2 Governance risks at each stage

Lifecycle analysis highlights that governance risks vary by stage, and therefore require different institutional controls.

1. Planning risks. Planning is vulnerable to specification manipulation, misaligned priorities, and capability “wish lists” disconnected from fiscal realities. Governance risk is high because requirements definition creates downstream lock-in.
2. Acquisition risks. Acquisition is vulnerable to limited competition, information asymmetry, and strategic behavior by vendors. The political economy of tender design and evaluation may bias outcomes toward preferred suppliers.
3. Production risks. Production and delivery are exposed to cost escalation, schedule slippage,

and quality shortfalls due to incomplete contracts and technological uncertainty. Incentive models show that contract design and monitoring strongly shape these outcomes (Rogerson, 1995).

4. Oversight risks. Oversight failures can create weak enforcement, permissive renegotiations, and poor sustainment planning. In defense acquisition, sustainment capability is often a dominant cost driver and readiness determinant, making oversight governance central to lifecycle value.

5. Evaluation risks. Evaluation is frequently under-institutionalized; without feedback loops, procurement systems repeat the same failures. Weak evaluation also undermines learning about offsets and technology transfer effectiveness.

These risks demonstrate why procurement governance must be lifecycle-embedded rather than concentrated only on tender compliance.

3.3 Integrated Analytical Framework

3.3.1 Embedding governance principles across procurement stages

This study proposes an integrated framework in which good governance dimensions are embedded across each lifecycle stage. The key analytical principle is that defense procurement integrity and effectiveness do not emerge automatically from formal rules; they arise from **institutional arrangements** that constrain discretion and align actors’ incentives across the lifecycle.

Under this framework, each lifecycle stage is assessed using governance dimensions:

1. Planning: accountability of requirements justification; traceability of priorities; participation through cross-actor coordination.
2. Acquisition: transparency of evaluation criteria (traceability), conflict-of-interest controls, and accountability for supplier choice.
3. Production: performance accountability via milestone governance; transparency through delivery reporting; effectiveness via adaptive program management.

4. Oversight: enforceable accountability mechanisms, audit access, and contractual governance of offsets and sustainment.

5. Evaluation: systematic assessment of capability outcomes and institutional learning.

A key implication is that governance must “travel with the procurement program” across stages rather than being treated as a compliance checkpoint.

3.3.2 Linking governance quality to industrial autonomy outcomes

The integrated framework also establishes an explicit link between procurement governance and defense industrial autonomy. Defense industrial autonomy requires more than procurement spending: it requires consistent capability-building outcomes such as meaningful technology transfer, development of domestic supplier networks, and sustainment sovereignty.

Procurement governance affects these outcomes through multiple mechanisms:

1. Credible long-term demand signals that enable domestic firms to invest in capacity.
2. Governance of offsets and ToT, ensuring obligations are specific, measurable, and enforced. Empirical defense industry research indicates that offsets often drift into symbolic compliance when governance is weak (Maharani, 2023).
3. Institutional coordination, aligning defense capability needs with industrial policy objectives.
4. Oversight capacity, preventing capture by foreign suppliers and reducing lock-in.

Thus, governance quality is positioned as a structural determinant of whether procurement produces industrial learning or reproduces dependence.

3.4 Analytical Propositions

Proposition 1: Governance quality influences procurement outcomes

Higher governance quality defined as lifecycle-embedded accountability, traceable transparency, structured participation, and adaptive effectiveness improves procurement outcomes

such as cost control, schedule performance, and delivery quality. This proposition is grounded in contract incentive theory and principal–agent governance: when monitoring and enforceable accountability increase, opportunistic behavior and hidden action decline, improving outcome reliability under uncertainty (Rogerson, 1995; McAfee & McMillan, 1986).

Proposition 2: Procurement governance shapes long-term industrial capability

Procurement governance does not only determine acquisition efficiency; it shapes long-term defense industrial capability by influencing technology transfer effectiveness, supplier development, and sustainment sovereignty. Where oversight is weak and coordination fragmented, offsets and local content provisions are likely to produce limited absorptive impact. Conversely, when governance embeds enforceable capability-building clauses and maintains rigorous oversight, procurement becomes an industrial development mechanism. This proposition is consistent with research emphasizing the role of contractors and institutional arrangements in shaping security governance and procurement decisions, particularly in contexts where political bargaining is significant (Reykers, 2021; Rossiter, 2025).

Findings

5.1 Existing Defense Procurement Governance Structure

5.1.1 Institutional fragmentation

The findings indicate that Indonesia’s defense procurement governance operates within a fragmented institutional architecture, characterized by distributed authority and overlapping mandates across key actors. Procurement decisions are influenced by multiple nodes including capability planners, budget authorities, procurement units, parliamentary stakeholders, audit institutions, and defense industry entities each operating with different performance logics and accountability lines. Such fragmentation weakens coherence between defense capability planning and acquisition execution.

This institutional fragmentation resembles the governance pattern described in complex public procurement systems, where coordination costs rise as authority becomes dispersed and responsibilities are not coupled with enforceable decision rights (Schapper, Malta, & Gilbert, 2006). Fragmentation produces gaps in procurement traceability: decisions in one stage (e.g., requirement definition) are not consistently linked to later accountability for outcomes (e.g., delivery performance or sustainment readiness). The absence of a unified procurement governance authority also encourages “administrative shifting,” where performance and responsibility are displaced across institutions rather than centrally resolved.

5.1.2 Dominance of non-technical actors

A second major finding is the strong influence of non-technical actors in procurement priorities and acquisition pathways. While technical units formally define requirements, key decisions on prioritization, platform selection, and timing are frequently shaped by political and bureaucratic considerations. In strategic procurement environments, non-technical dominance is not necessarily abnormal; however, the problem emerges when it is not bounded by robust governance mechanisms that preserve technical rationality and lifecycle feasibility.

International research on defense procurement emphasizes that politicization is structurally embedded due to the scale of expenditures and the strategic symbolism of weapon systems, but the risks increase when governance arrangements allow discretionary interventions without systematic justification and traceability (Markowski & Hall, 1998). In this study, respondents consistently indicated that technical justification often competes with non-technical imperatives, creating vulnerabilities in planning realism and increasing the probability of post-award adjustments.

5.1.3 Weak coordination mechanisms

Third, coordination mechanisms across procurement institutions appear weak and unevenly institutionalized. Coordination

frequently relies on ad hoc negotiations rather than standardized cross-agency procedures. Where coordination exists, it often emphasizes formal compliance rather than integrated governance performance such as shared lifecycle risk assessment, unified monitoring dashboards, or joint evaluation frameworks.

This aligns with broader public procurement governance literature showing that coordination failure tends to appear in multi-agency procurement systems, particularly where incentives for “whole-of-government” performance are underdeveloped (Schapper et al., 2006). Weak coordination is especially consequential in defense procurement because lifecycle integration (planning–acquisition–sustainment) is essential for capability readiness.

5.2 Implementation of Good Governance Principles

5.2.1 Partial transparency

Findings suggest that transparency exists in partial forms, mainly restricted to procedural disclosure and internal administrative reporting. Stakeholders reported that information is often available, yet not consistently in a form that enables meaningful scrutiny of procurement rationale, vendor selection logic, or lifecycle trade-offs. This indicates a pattern of “procedural transparency,” where compliance reporting occurs without strong traceability of strategic decisions.

Defense procurement literature notes that secrecy constraints are legitimate, but systems can still enable accountability through traceability and authorized oversight access. The issue in practice is not whether all information is disclosed publicly, but whether procurement decisions can be reconstructed and audited across lifecycle stages (Schooner, 2002). Partial transparency without integrated traceability increases the risk of specification manipulation and weakens the evidentiary basis for performance accountability.

5.2.2 Formal but weak accountability mechanisms

The study identifies accountability mechanisms that are present formally but limited in enforcement power. Audit and reporting structures exist, yet accountability is often compliance-oriented rather than outcome-oriented. Respondents described a tendency to focus on conformity to procedural rules rather than assessing whether procurement delivers capability value across time. This creates institutional incentives to prioritize “paper defensibility” over lifecycle effectiveness.

International procurement governance studies emphasize that accountability is not merely reporting; it is enforceability, including sanction mechanisms and corrective actions tied to measurable outcomes (Schooner, 2002). In the defense context, weak enforcement also contributes to post-award renegotiation risks, where contract changes may erode contestability and dilute performance obligations.

5.2.3 Limited participation beyond core institutions

Participation beyond core institutions appears limited and structurally constrained. While defense procurement appropriately restricts broad public participation due to security, there remains limited structured inclusion of independent oversight stakeholders beyond primary actors. This creates a narrow accountability ecosystem, increasing vulnerability to capture and limiting the diversity of scrutiny.

Comparative governance research suggests that procurement integrity strengthens when multiple legitimate accountability actors parliamentary oversight, specialized auditors, and institutional checks are systematically integrated, even under confidentiality regimes (Wehner, 2006). The findings suggest that participation mechanisms in Indonesia’s defense procurement remain narrow, contributing to low contestability in strategic decisions.

5.3 Governance Bottlenecks Across Procurement Lifecycle

5.3.1 Planning stage vulnerabilities

The planning stage emerged as the most critical bottleneck. Vulnerabilities include unstable requirements, weak lifecycle feasibility assessment, and limited integration between capability needs and industrial development objectives. Respondents emphasized that downstream problems (overruns, sustainment issues, vendor lock-in) are frequently rooted in early-stage planning gaps.

This supports lifecycle procurement theory emphasizing that early requirement-setting is a primary driver of cost and performance outcomes (Markowski & Hall, 1998). Weak planning governance also undermines defense industrial autonomy because industrial participation and technology transfer require long-term planning signals.

5.3.2 Vendor selection and contracting risks

The acquisition stage exhibits risks linked to limited competition, evaluation opacity, and weak conflict-of-interest safeguards. Even when tender procedures exist, evaluation logic may not be sufficiently traceable to enable robust defense against disputes or manipulation allegations. Contract designs may also be weak in specifying measurable technology transfer outputs or domestic content implementation requirements.

Defense procurement scholarship underscores that contract incompleteness and information asymmetry raise supplier power, increasing risks of opportunistic renegotiation and performance slippage (Kelman, 2005). These risks are heightened when governance systems lack strong institutional capacity for market engagement and contract enforcement.

5.3.3 Oversight and evaluation gaps

Oversight and evaluation weaknesses were repeatedly emphasized. Monitoring often concentrates on delivery and budget compliance, with less systematic evaluation of sustainment performance, technology transfer fulfillment, and domestic supplier development outcomes. Evaluation is not consistently institutionalized as a feedback loop into future procurement cycles.

Evaluation gaps create systemic learning failure. Without structured post-procurement assessment, procurement systems reproduce patterns of dependency, weak domestic absorption, and repeated governance vulnerabilities (Kelman, 2005).

5.4 Implications for Defense Industry Autonomy

5.4.1 Limited technology transfer outcomes

Technology transfer clauses frequently do not translate into meaningful domestic capability development. Respondents noted that ToT may be limited to documentation transfer or low-value assembly activities rather than deeper industrial learning. The gap appears linked to weak monitoring capacity and non-specific contractual requirements, rather than simply supplier resistance.

Defense industrial policy research emphasizes that ToT effectiveness depends on absorptive capacity and governance enforcement; without measurable milestones and strong oversight, technology transfer becomes symbolic (Bellais, 2004).

5.4.2 Weak domestic supplier integration

Domestic supplier integration remains limited, particularly beyond major SOEs. The supply chain ecosystem appears shallow, with limited structured pathways for SMEs and supporting industries to enter defense supply networks. This reduces resilience and sustainment autonomy over time.

International defense industry studies note that industrial autonomy requires supplier base development and institutional alignment; concentrated reliance on a small number of firms can weaken long-term innovation and responsiveness (Bellais, 2004).

5.4.3 Short-term procurement orientation

Finally, procurement orientation appears short-term and acquisition-centric, prioritizing rapid platform acquisition over long-term sustainment sovereignty and industrial upgrading. This tendency is reinforced by fragmented governance

and political pressures, producing limited continuity in capability development programs.

Discussion

5. 6.1 Interpreting Findings Through Governance Theory

6.1.1 Governance failure as systemic, not incidental

The findings indicate that governance weaknesses are systemic rather than episodic. Institutional fragmentation, weak lifecycle integration, and limited enforceability create structural incentives for short-termism and risk displacement. From a governance perspective, the problem is not the absence of formal rules; it is the absence of an integrated mechanism that links authority, responsibility, and enforceability across procurement lifecycle stages.

This systemic interpretation aligns with governance research demonstrating that procurement failures persist when institutional designs allow discretion without traceability, and when accountability is procedural rather than outcome-based (Schooner, 2002). In defense procurement, such systemic weaknesses have strategic consequences: they shape readiness, fiscal sustainability, and industrial capability.

6.1.2 Institutional logic and path dependency

The persistence of these patterns can be explained through institutional logic and path dependency. Once procurement systems normalize fragmented authority and limited evaluation feedback, reforms tend to focus on narrow procedural adjustments rather than deep governance restructuring. Moreover, procurement practices develop adaptive routines that prioritize compliance defensibility over lifecycle performance.

Comparative institutional analysis suggests that procurement reforms often face “lock-in effects,” where existing actor coalitions benefit from the status quo and resist changes that increase traceability and enforceability (Kelman, 2005). This contributes to a cycle where governance vulnerabilities reproduce dependence on foreign

suppliers and weaken domestic capability accumulation.

6.2 Defense Procurement as Strategic Governance Instrument

6.2.1 Procurement beyond administrative function

A critical implication of the findings is that defense procurement should be treated as a strategic governance instrument rather than an administrative function. Procurement shapes national defense posture not only by acquiring platforms, but by building sustainment capability, structuring supplier ecosystems, and determining technological sovereignty. Therefore, procurement governance is inseparable from defense strategy.

International studies emphasize that defense procurement governance requires hybrid capability: technical acquisition skills combined with political governance capacity to manage competing objectives and secrecy constraints (Markowski & Hall, 1998). The findings imply that Indonesia's procurement governance would benefit from institutional mechanisms that preserve technical rationality while enabling legitimate political oversight.

6.2.2 Governance as enabler of industrial autonomy

The study strengthens the theoretical claim that procurement governance is a key enabler of defense industrial autonomy. Autonomy outcomes ToT effectiveness, domestic supplier depth, sustainment sovereignty cannot be produced by procurement clauses alone. They require enforceable governance mechanisms: measurable offset milestones, continuous monitoring, and integrated industrial policy coordination.

Defense industrial research highlights that industrial autonomy is achieved through persistent demand signals and capability learning cycles, not through episodic procurement events (Bellais, 2004). Governance reform should therefore focus on embedding industrial

autonomy requirements into lifecycle procurement governance.

6.3 Comparison with Existing International Studies

6.3.1 Similarities and divergences with other emerging economies

The Indonesian case shares similarities with other emerging economies where defense procurement is shaped by import dependence, offset-driven acquisition strategies, and fragmented institutional governance. Studies of procurement systems in comparable contexts often identify similar issues: weak lifecycle oversight, politicized procurement priorities, and limited ToT absorption capacity.

However, a distinctive feature in Indonesia appears to be the strong institutional segmentation among actors with overlapping mandates, combined with limited integrated monitoring systems to trace procurement decisions across stages. This divergence matters because it increases coordination costs and undermines industrial policy coherence.

6.3.2 Contextual uniqueness of Indonesia

Indonesia's uniqueness also lies in the strategic requirement to modernize across multiple domains (maritime, air, and land) within an archipelagic security environment, while simultaneously pursuing defense industrial strengthening. This multi-domain modernization pressure intensifies procurement volume and complexity, making governance integration more crucial.

Therefore, Indonesia provides an instructive case demonstrating that defense industrial autonomy is not primarily a technological problem; it is equally a governance architecture problem. Reform efforts that emphasize domestic production targets without governance integration risk producing symbolic autonomy rather than sustainable capability.

Proposed Governance Model

7.1 Model Design Principles

7.1.1 Governance embedded across lifecycle stages

This study proposes a governance model that treats defense procurement as a continuous lifecycle system rather than a discrete purchase. The model is designed around the principle that integrity, performance, and industrial capability outcomes depend on governance being embedded at every stage from planning and requirements definition to post-award oversight and evaluation feedback loops.

The design logic is consistent with contemporary public procurement scholarship that emphasizes procurement governance as a system of rules, oversight, and institutional capacity spanning the full procurement cycle, including contract management and performance control (Arrowsmith, 2010). In defense procurement, this lifecycle embedding is essential because (i) early-stage requirements create long-term lock-in; (ii) post-award contract adjustments can erode contestability; and (iii) technology transfer and domestic capability building are realized primarily through execution and sustainment phases, not the tender stage alone.

Accordingly, the proposed model embeds governance dimensions accountability, traceability-oriented transparency, structured participation, and effectiveness/adaptability into each lifecycle stage using enforceable institutional mechanisms rather than normative declarations.

7.1.2 Multi-actor coordination logic

A second core design principle is multi-actor coordination. Defense procurement sits at the intersection of defense planners, procurement bodies, finance/budget authorities, parliament, audit institutions, and defense industry actors. Where these actors operate in parallel with weak integration, the procurement system becomes fragmented and vulnerable to political capture, duplicative processes, and capability–industrial mismatch.

The model therefore adopts a coordination logic aligned with collaborative governance theory: coordination is not an ad hoc interaction but a structured set of inter-institutional arrangements

with defined authority boundaries, joint decision protocols, and shared evaluation metrics (Emerson, Nabatchi, & Balogh, 2012). In strategic sectors, coordination must also balance secrecy requirements with accountability to legitimate principals; thus, coordination mechanisms must include formal channels for classified scrutiny rather than defaulting to opacity.

7.2 The Good Governance–Based Defense Procurement Model

7.2.1 Structural components

The model consists of five structural components:

1. National Defense Procurement Governance Council (NDPGC).

A high-level coordinating body that aligns capability priorities, industrial objectives, and fiscal constraints. Its central role is lifecycle integration: ensuring planning decisions translate into acquisition strategies and enforceable industrial outcomes.

2. Lifecycle Procurement Authority (LPA).

A specialized authority that manages procurement as a program lifecycle, integrating technical requirement management, contracting strategy, performance governance, and sustainment readiness.

3. Classified Oversight and Integrity Mechanism (COIM).

A structured mechanism enabling parliamentary/audit oversight with appropriate security arrangements, including (a) documented decision rationales; (b) conflict-of-interest registers; (c) controlled access to procurement data. This reflects scholarship showing that accountability under secrecy requires specialized oversight institutions rather than broad disclosure (Born & Leigh, 2005).

4. Industrial Capability Development Unit (ICDU).

A dedicated unit responsible for translating procurement into measurable industrial outcomes: technology transfer milestones, domestic supplier development, local content pathways, and sustainment capability.

5. Performance Evaluation and Learning System (PELS).

A formal feedback loop producing post-procurement evaluation outputs, feeding them into requirements discipline, acquisition strategy refinement, and industrial policy calibration. Without a learning system, procurement failure becomes path dependent and repeats cyclically.

These structural components are designed to resolve a key weakness identified in the findings: fragmented authority without lifecycle accountability.

7.2.2 Functional mechanisms

The model operationalizes governance through six functional mechanisms:

(1) Requirements Governance Gatekeeping

Before acquisition starts, requirements must pass structured gatekeeping: feasibility checks, lifecycle cost realism, industrial capability fit, and risk analysis. This reflects international project governance insights that early-stage governance decisions dominate downstream success (Too & Weaver, 2014).

(2) Procurement Strategy Alignment Protocol

Each major acquisition must include an explicit alignment document: capability need → procurement method → industrial outcomes → oversight design. This minimizes opportunistic strategy shifts and strengthens traceability.

(3) Competitive Integrity and Conflict-of-Interest Controls

Mandatory disclosure of relationships, standardized evaluation logs, and independent probity oversight for high-value programs. Research shows that integrity risk increases in complex contracting when probity controls are weak and discretion is high (Arrowsmith, 2010).

(4) Offset/Technology Transfer Performance Contracting

ToT and offsets are transformed from “clauses” into performance governance: specific deliverables, milestones, verification procedures, and penalties for non-compliance. Defense industrial studies emphasize that capability

outcomes from offsets require governance enforcement and absorptive capacity alignment (Bitzinger, 2015).

(5) Sustainment Sovereignty Framework

Contracts must specify sustainment readiness outcomes: domestic MRO capability targets, spare-part resilience, training pipelines, and upgrade pathways. This converts sustainment from an afterthought into a strategic governance objective.

(6) Independent Lifecycle Audit & Evaluation

Evaluation includes not only financial compliance but (i) capability outcomes; (ii) industrial learning outcomes; and (iii) resilience outcomes. Such multi-dimensional evaluation reflects best practice in complex public sector program governance (Too & Weaver, 2014).

7.2.3 Institutional roles

The model assigns clear roles:

1. Ministry of Defense / Armed Forces: capability definition, operational requirements, acceptance testing.
2. Lifecycle Procurement Authority: acquisition planning, contract governance, supplier management, sustainment governance.
3. Parliament/Oversight bodies: classified scrutiny, approval constraints, performance accountability.
4. Audit institutions: lifecycle performance audit, probity review, lessons learned extraction.
5. Defense SOEs/private suppliers: delivery performance, domestic capability commitments, supply chain development.
6. Industrial Capability Development Unit: industrial outcomes management (ToT, local content, supplier development).

This division minimizes mandate overlap and reduces the incentive for responsibility shifting.

7.3 Model Applicability and Transferability

7.3.1 Conditions for implementation

Implementation requires enabling conditions:

1. **Legal mandate for lifecycle governance:** procurement authority must control full lifecycle governance, not only tender.
2. **Classified accountability infrastructure:** oversight mechanisms must have legitimate access without compromising security.
3. **Institutional capacity and professionalization:** program management competence and contract enforcement capacity.
4. **Industrial absorptive capacity planning:** ToT targets must match domestic readiness to avoid symbolic compliance.
5. **Political commitment to integrity:** high-level commitment reduces capture and selective enforcement risks.

7.3.2 Relevance to other emerging economies

The model is designed to be transferable to emerging economies with similar characteristics: import dependence, defense modernization pressures, fragmented governance, and industrial autonomy ambitions. The transferable element is not specific institutional names but the logic: **lifecycle embedding + multi-actor coordination + enforceable industrial outcomes + classified accountability**. This is consistent with comparative governance arguments that complex procurement reforms must be adaptive to institutional context while maintaining core accountability functions (Emerson et al., 2012).

Policy Implications

8.1 Implications for Defense Policy

8.1.1 Procurement reform priorities

Defense policy should shift from acquisition quantity targets to **governance quality targets**. Reform priorities include:

1. strengthening requirements discipline (planning-stage governance),
2. integrating sustainment sovereignty into procurement objectives,
3. enforcing ToT outcomes through performance-based verification,

4. expanding classified oversight mechanisms to reduce political capture.

This aligns with international defense governance scholarship emphasizing the need to treat procurement governance as part of national security architecture rather than back-office compliance (Born & Leigh, 2005).

8.1.2 Governance redesign

Governance redesign should establish a single accountable lifecycle authority and formal coordination mechanisms. Defense procurement should adopt program governance logic (gatekeeping, milestone accountability, evaluation learning systems), reflecting best practices in complex project governance (Too & Weaver, 2014).

8.2 Implications for Defense Industry Development

8.2.1 Strengthening domestic industrial ecosystems

Industrial policy should focus on **supply chain depth**, not only prime contractors. Policy mechanisms include:

1. structured supplier development pathways (SME entry programs),
2. long-term contracting frameworks to provide predictable demand,
3. financing mechanisms tied to verified capability milestones,
4. knowledge transfer institutions to strengthen absorptive capacity.

Defense industry research indicates that sustainable industrial autonomy depends on the depth and innovation capacity of supplier ecosystems, not merely assembly capability (Bitzinger, 2015).

8.2.2 Aligning procurement with long-term capability building

Procurement contracts must be explicitly designed to build long-term capability, including:

1. MRO (maintenance, repair, overhaul) capability localization,

2. modular upgrade capacity,
3. domestic engineering workforce development,
4. cross-program learning continuity.

This prevents “one-off procurement” dynamics that purchase platforms without capability sovereignty.

8.3 Implications for Public Procurement Governance

8.3.1 Extending governance theory into strategic sectors

This study extends procurement governance into a strategic-sector frame: defense procurement must adopt bounded transparency prioritizing traceability and authorized scrutiny rather than full publicity. This requires governance theory refinement: participation and transparency must be reconceptualized for high-security domains, ensuring accountability without compromising operational secrecy. Such an extension is consistent with strategic-sector governance literature emphasizing differentiated accountability regimes in security policy (Born & Leigh, 2005).

The policy message is that defense procurement does not justify weaker governance; rather, it demands more sophisticated governance.

Conclusion

This study examined defense procurement governance as a strategic determinant of national defense industry autonomy. Using a governance-oriented lens and a lifecycle procurement perspective, the research investigated how procurement institutions, decision processes, and oversight arrangements influence not only acquisition performance but also long-term capability building outcomes. The analysis of Indonesia as an empirical case demonstrates that defense procurement should not be treated as a technical or administrative procurement routine; rather, it is a governance system that shapes security readiness, fiscal sustainability, and industrial sovereignty.

9.1 Summary of Key Findings

Four key findings emerged.

First, the study finds that Indonesia’s defense procurement governance is characterized by **institutional fragmentation**, where authority and accountability are distributed across multiple actors without sufficiently integrated lifecycle governance. This fragmentation creates traceability gaps and increases coordination costs, weakening the consistency of procurement decisions from planning through execution and evaluation.

Second, the findings indicate a persistent **dominance of non-technical actors** in strategic procurement decisions. Political and bureaucratic considerations often influence prioritization and acquisition pathways, while technical rationality and lifecycle feasibility are not consistently protected through enforceable governance gatekeeping. This dynamic increases vulnerability to requirement instability, scope change, and downstream performance deviations.

Third, implementation of good governance principles remains **partial and uneven**. Transparency exists largely in procedural and internal reporting forms rather than robust traceability mechanisms that support credible oversight. Accountability mechanisms are present but tend to be compliance-oriented rather than outcome-oriented, limiting enforcement effectiveness. Participation beyond core institutions is restricted, reducing the breadth of structured scrutiny and increasing risks of capture and discretionary decision-making.

Fourth, the analysis reveals that governance bottlenecks across the procurement lifecycle especially in early planning, vendor selection, and post-award oversight translate directly into weakened defense industrial autonomy outcomes. Technology transfer frequently produces limited absorptive impact, domestic supplier integration remains narrow and shallow, and procurement orientation is predominantly short-term and acquisition-centric rather than long-term capability building.

9.2 Theoretical Contributions

This study contributes to theory in three ways.

First, it advances defense procurement scholarship by re-framing procurement performance as a function of governance quality across lifecycle stages, not solely of contract choice or cost efficiency. This strengthens the argument that procurement outcomes are institutionally produced rather than merely program-specific deviations.

Second, the study extends governance theory into a strategic-sector context by conceptualizing defense procurement governance as bounded transparency with enhanced accountability. It highlights that in high-security domains, the core governance requirement is traceability and authorized scrutiny, rather than broad public disclosure.

Third, it integrates governance principles with the defense procurement lifecycle and demonstrates how governance arrangements shape industrial autonomy outcomes positioning procurement as a bridge between defense policy objectives and industrial capability formation. This integration addresses a persistent gap in existing scholarship where governance frameworks and lifecycle models are often treated separately.

9.3 Practical Contributions

The research provides practical value through an actionable governance model that embeds good governance principles across planning, acquisition, production/delivery, oversight, and evaluation. The model offers a reform pathway that links procurement governance to measurable industrial autonomy outcomes, including technology transfer effectiveness, domestic supply chain development, and sustainment sovereignty.

For policy-makers, the study suggests that defense procurement reform should prioritize: (i)

strengthening requirements discipline through governance gatekeeping; (ii) institutionalizing classified oversight mechanisms to reduce capture while preserving security; (iii) converting technology transfer and offsets into enforceable performance governance with verification milestones; and (iv) creating learning systems that institutionalize evaluation feedback into future procurement cycles. These reforms support not only integrity and efficiency, but also national defense resilience and industrial sustainability.

9.4 Limitations and Future Research

This study has several limitations. First, as a qualitative governance study, the findings emphasize institutional dynamics and mechanisms rather than statistical generalization. Second, the defense sector's confidentiality constraints restrict the degree to which procurement information can be openly triangulated, potentially limiting external verification for some aspects of the analysis. Third, the study focuses on Indonesia as a single-country case, meaning that transferability to other contexts should be treated as analytical rather than deterministic.

Future research can strengthen and extend this agenda in multiple directions. Comparative studies across emerging economies could test whether similar governance bottlenecks produce comparable industrial autonomy outcomes. Quantitative or mixed-methods designs could assess how specific governance interventions (e.g., integrity controls, lifecycle gatekeeping, offset enforcement mechanisms) correlate with procurement performance indicators. Finally, further research should explore how digital governance infrastructure such as secure e-procurement platforms and classified performance dashboards can enhance traceability and accountability under secrecy constraints while preserving strategic confidentiality.

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