

BARRIERS AND CHALLENGES IN IMPLEMENTING THE STATE SAFETY PROGRAMME IN INDONESIA'S AVIATION SECTOR

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Received :
20 March 2026

Revised :
30 April 2026

Accepted :
02 June 2026

Abstract: Indonesia is obligated to implement the State Safety Programme (SSP) through its National Aviation Safety Programme (Program Keselamatan Penerbangan Nasional, PKPN), established under Ministry of Transportation Regulation No. PM 93 of 2016, with the Directorate General of Civil Aviation (DGCA) of Indonesia designated as the primary institutional locus for its coordination and implementation. Despite this regulatory foundation, PKPN implementation within the DGCA remains suboptimal, representing a persistent gap between formal policy adoption and operational execution. This study offers a novel contribution by being the first to systematically integrate Van Meter and Van Horn's (1975) policy implementation model with ICAO's SSP framework and Eight Critical Elements (CE) to evaluate PKPN implementation at the DGCA from a public administration perspective. Employing a qualitative descriptive research design, the study conducted semi-structured interviews with seven purposively selected informants across three stakeholder groups—senior DGCA officials, front-line inspectors, and aviation service providers—and applied thematic analysis triangulated with documentary evidence. Findings reveal that PKPN implementation at the DGCA is constrained by six interconnected barriers: vague outcome-based policy objectives, inadequate human and budgetary resources, ad hoc organizational structure, predominantly informal communication channels, uneven implementer understanding, and incomplete political commitment. These findings are mapped against ICAO's CE-7 (Surveillance Obligations) and CE-8 (Resolution of Safety Concerns) deficiencies explicitly identified in Indonesia's National Aviation Safety Plan (NASP) 2024–2026. The study concludes by proposing an institutional reform agenda including permanent organizational restructuring, performance-based target-setting, and formalized inter-agency communication protocols.

Keywords: aviation safety, policy implementation, PKPN, State Safety Programme, ICAO

Introduction

Aviation safety constitutes the foundational obligation of every ICAO Contracting State, requiring systematic risk management and continuous improvement to reduce accident rates and improve safety performance. The International Civil Aviation Organization (ICAO), as the specialized UN agency responsible for global civil aviation standards, mandates that member states maintain robust safety oversight systems aligned with international best practices (ICAO, 2018). Central to this mandate is the State Safety Programme (SSP)—an integrated set of regulations and activities aimed at achieving an acceptable level of safety across a state's aviation

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system (ICAO, 2016). Mandated by Annex 19 to the Convention on International Civil Aviation, the SSP marks a paradigm shift from reactive, compliance-based safety management toward proactive, performance-based risk governance grounded in data-driven oversight and continuous improvement (ICAO, 2018).

ICAO's Global Aviation Safety Plan (GASP, Doc 10004) operationalizes SSP implementation by establishing global targets for all 193 Contracting States, including a target of full SSP effectiveness by 2025 (ICAO, 2025a). However, despite sustained international support, the gap between formal SSP adoption and operational execution remains a persistent structural challenge—particularly in Asia-Pacific, where the average Effective Implementation (EI) score was 64%, still below the global average of 68.8% as of 2025 (Mahmud, 2025). ICAO's Asia Pacific Regional Aviation Safety Team (APRAST/24) surveys identified systemic challenges across all four SSP/SMS components, including documentation burden, weak performance monitoring, and communication and training gaps across all stakeholder groups (ICAO, 2025b). These patterns underscore the importance of empirical research that moves beyond compliance analysis to examine the institutional and organizational dynamics that determine whether SSP functions in practice.

In Indonesia, SSP obligations are fulfilled through the National Aviation Safety Program (Program Keselamatan Penerbangan Nasional, PKPN), governed by Ministry of Transportation Regulation No. PM 93 of 2016 anchored in Law No. 1 of 2009 on Aviation. The Directorate General of Civil Aviation (DGCA) bears primary responsibility for coordinating and implementing PKPN across Indonesia's geographically complex, archipelagic aviation network. Indonesia's ICAO USOAP audit trajectory—from a 43.02% EI score in 2014, rising to 78.85% in 2017—demonstrates meaningful progress, yet 147 ICAO findings remained open as of 2022, with only 74 Corrective Action Plans fully implemented (Siswantoro, 2023). Indonesia's NASP 2024–2026 explicitly identifies organizational weaknesses in CE-7 (Surveillance Obligations) and CE-8 (Resolution of Safety Concerns) as priority remediation areas (Indonesia National Aviation Safety Plan, 2024).

Theoretical Framework, Van Meter & Van Horn (1975) developed a foundational policy implementation model identifying six interdependent variables: (1) standards and objectives, (2) resources, (3) inter-organizational communication and enforcement activities, (4) characteristics of implementing agencies, (5) economic, social, and political conditions, and (6) disposition of implementers. The model's enduring analytical strength lies in its capacity to simultaneously examine structural, organizational, behavioral, and environmental determinants of implementation quality—making it particularly well suited to complex regulatory environments characterized by technical expertise requirements and multi-agency coordination demands, such as national aviation safety governance.

Contemporary applications of the Van Meter and Van Horn model in Indonesian public administration confirm its continued analytical relevance. Singgir et al. (2025), in a systematic review of 44 peer-reviewed studies on Indonesian policy implementation published between 2009 and 2025, found that institutional fragmentation, political interference, and capacity limitations consistently undermine sectoral policy outcomes—precisely the patterns identified in prior PKPN-related studies. Arnika et al. (2024) similarly documented that inter-agency coordination failures and bureaucratic fragmentation constitute primary bottlenecks in Indonesian ministerial policy implementation. A parallel case study of government internal oversight policy implementation in Indonesia using the same Van Meter and Van Horn framework found that incomplete technical guidelines, human resource competency gaps, and low cross-institutional commitment weaken execution even where partial structural progress has been achieved (Ellen et al., 2025).

ICAO's SSP normative framework provides the operational standard against which PKPN must be assessed. The SSP comprises four foundational components: (1) State safety policy and objectives, (2) State safety risk management, (3) State safety assurance, and (4) State safety promotion (ICAO, 2018). These are operationalized through ICAO's Eight Critical Elements (CEs) of a safety oversight system: CE-1 (primary aviation legislation), CE-2 (specific operating regulations), CE-3 (state civil aviation system and functions), CE-4 (qualified technical personnel), CE-5 (technical guidance and tools), CE-6 (licensing and certification), CE-7 (surveillance obligations), and CE-8 (resolution of safety concerns) (ICAO, 2025c). The SSP Assessment Tool (SSPIA), developed by the Safety Management International Collaboration Group (SM ICG), integrates these CEs with SSP implementation assessment, providing the evaluative architecture that informs this study's analytical design (Safety Management International Collaboration Group (SM ICG), 2023).

Aviation Safety Management Research Context, Governance of aviation safety at the state level has emerged as a distinct research agenda, separate from operator-level SMS studies. A systematic literature review of governance networks in aviation safety—drawing on 67 Scopus-indexed publications—found that research applying governance network concepts in aviation safety contexts remains scarce, with only 10 relevant articles identified over 18 years, predominantly from Europe and the United States (Hendra et al., 2023). This evidences a substantial research gap regarding state-level safety governance in Asia-Pacific contexts, including Indonesia. Silitonga et al. (2022) examined Indonesia's civil aviation safety against ICAO principles, finding that while general standards were met, structural weaknesses in regulatory oversight capacity—particularly in safety compliance surveillance and issue resolution—remained significant risk factors.

At the operator level, aviation safety management literature consistently identifies implementation gaps between formal SMS frameworks and operational reality. Koharudin et al. (2025) demonstrated that in Indonesian airport contexts, SMS implementation does not automatically translate into safety culture improvements without active organizational role modeling. Clare & Kourousis (2021), in a Scopus-indexed qualitative study of the continuing airworthiness sector using semi-structured interviews and thematic analysis with NVivo, established that just culture and formal continuation training are key enablers of safety learning—a finding with direct implications for state-level safety promotion functions. Recent ICAO surveys of Asia-Pacific states confirmed that weak performance monitoring, documentation burden, and communication gaps across stakeholder groups remain systemic SMS and SSP challenges (ICAO, 2025b).

Research Gap, Novelty, and Objectives Existing research on Indonesia's civil aviation safety has primarily examined ICAO regulatory compliance at the operator or system level (Silitonga et al., 2022), aviation accident causation (Siswanto, 2023), and governance network mapping (Hendra et al., 2023). Critically, no published empirical study has applied a public policy implementation model to evaluate how PKPN—as a state-level SSP mechanism—is being implemented across institutional, resource, communication, and political-environmental dimensions. This gap is compounded by a significant regulatory misalignment: PM 93 of 2016 was formulated against the first edition of Annex 19 and predates the second edition of Annex 19 (applicable from 7 November 2019), which introduced substantially enhanced SSP requirements—including the mandatory integration of State safety oversight critical elements within the SSP, enhanced SMS provisions, and reinforced safety data protection frameworks (ICAO, 2016). The consequence of this misalignment is directly observable in Indonesia's USOAP audit record: 147 ICAO findings remained open as of 2022, with only 74 Corrective Action Plans fully implemented (Siswanto, 2023). This persistent backlog disproportionately

clusters in CE-7 (Surveillance Obligations) and CE-8 (Resolution of Safety Concerns)—precisely the two critical elements most dependent on the performance-based oversight architecture that PM 93 of 2016 does not adequately operationalize. Understanding why implementation stagnates at these dimensions requires the kind of institutional and organizational analysis that policy implementation theory provides, yet that aviation safety research has not yet applied to the Indonesian context.

This study's novelty is threefold: (1) it is the first study to apply Van Meter and Van Horn's six-variable policy implementation model to evaluate PKPN/SSP implementation in Indonesia's DGCA—bridging public administration theory and aviation safety governance literature; (2) it systematically maps implementation barriers against ICAO's Eight Critical Elements framework, producing a cross-validated diagnostic that existing purely technical or compliance-focused studies cannot provide; and (3) it generates institution-specific reform recommendations grounded in empirical findings from stakeholders at all levels of the PKPN implementation chain. The research addresses the following objectives: (1) assess PKPN implementation effectiveness across all six Van Meter and Van Horn dimensions; (2) identify structural, resource, organizational, and environmental barriers; (3) evaluate alignment with ICAO's SSP framework and Eight Critical Elements; and (4) generate evidence-based recommendations for institutional reform.

Method

This study employs a qualitative descriptive research design, appropriate for examining complex institutional dynamics—attitudes, organizational behaviors, communication patterns, and contextual conditions—that cannot be captured adequately through quantitative metrics alone (Creswell, 2018). The qualitative approach is consistent with precedents in aviation safety governance research (Clare & Kourousis, 2021; Hendra et al., 2023) and Indonesian policy implementation studies (Arnika et al., 2024; Singgir et al., 2025). A descriptive analytical stance is adopted to systematically characterize PKPN implementation dynamics rather than to test causal hypotheses, in alignment with the exploratory nature of the research objectives.

Data were collected through in-depth semi-structured interviews with seven key informants selected using purposive criterion sampling (Creswell, 2018; Palinkas et al., 2015). Informants were distributed across three stakeholder groups: (1) senior officials and unit managers within DGCA directorates holding formal PKPN coordination responsibilities (three informants); (2) front-line technical implementers including aviation inspectors and safety officers (two informants); and (3) representatives from regulated aviation service providers as policy recipients (two informants). Selection criteria required that each informant possessed direct, role-specific exposure to PKPN processes or outcomes within the preceding 24 months, ensuring information-rich case selection aligned with the phenomenon of interest (Palinkas et al., 2015). Fieldwork was conducted in Jakarta during June–July 2025. All interviews were audio-recorded with informed consent and transcribed verbatim for analysis.

The sample size of seven informants is justified on the grounds of informational depth and access quality rather than quantitative breadth. In elite public policy interviewing—where informants are senior institutional actors holding direct, non-substitutable responsibility for the policy under investigation—the depth of institutional knowledge embedded in each informant exceeds what a larger but less targeted sample could provide (Kvale & Brinkmann, 2015; Naderifar et al., 2017). Scholars consistently argue that sample adequacy in purposive qualitative research is determined by whether the selected informants can collectively illuminate all analytical dimensions of the research framework, not by raw numerical size (Creswell, 2018; Palinkas et al., 2015). In this study, the seven informants collectively covered all three

stakeholder tiers of the PKPN implementation chain—political-administrative, operational-technical, and regulated service provision—ensuring that all six Van Meter and Van Horn dimensions were addressed by informants with direct, role-specific knowledge. Thematic saturation was assessed iteratively during analysis: no new themes or implementation dimensions emerged after the fifth interview, consistent with saturation patterns documented in comparable elite interview studies in public administration and aviation safety governance (Clare & Kourousis, 2021; Naeem et al., 2024). Member-checking with two senior informants further confirmed that the thematic framework accurately represented institutional realities.

The semi-structured interview protocol was structured around the six analytical dimensions of Van Meter & Van Horn (1975) model, supplemented by questions derived from ICAO's SSP four-component framework (ICAO, 2018) and the Eight Critical Elements (Parliament of Australia, 2020). This dual instrument design creates a systematic correspondence between interview questions, analytical variables, and normative standards, enabling both theory-grounded interpretation and benchmarked evaluation. For each of the six dimensions, interview questions probed: (a) the presence and clarity of relevant standards/objectives; (b) perceived adequacy of resources and mechanisms; (c) communication and coordination patterns; and (d) implementer attitudes and contextual conditions.

Transcribed interview data were analyzed using thematic analysis (Braun & Clarke (2006), as applied in aviation safety qualitative research by Clare & Kourousis (2021)). Analysis proceeded through six stages: (1) familiarization with data; (2) systematic initial coding; (3) theme generation across the six Van Meter and Van Horn dimensions; (4) theme review and refinement; (5) definition and naming of themes; and (6) interpretation and reporting. Analytical validity was enhanced through data source triangulation: interview findings were cross-referenced against documentary evidence comprising PM 93/2016, NASP 2021–2023, NASP 2024–2026, ICAO USOAP audit correspondence, and DGCA safety performance reports. Triangulation ensures that findings reflect convergent evidence rather than single-source account. Member-checking was conducted with two senior informants to validate the accuracy of thematic interpretations.

Discussion

This section presents findings across the six analytical dimensions of Van Meter and Van Horn's (1975) policy implementation model, integrating interview-derived evidence with documentary data and mapping each finding against ICAO's SSP framework and Eight Critical Elements. The analysis moves beyond descriptive restatement to identify causal mechanisms and structural relationships that explain PKPN's implementation outcomes. A summary of findings per dimension and their CE alignment is provided in Table 1.

Table 1. PKPN Implementation Findings by Van Meter & Van Horn Dimension and ICAO Critical Element Alignment

Dimension (VMH)	Key Finding	Implementation Status	Related ICAO CE
1. Standards & Objectives	Absence of measurable outcome-based SPIs/SPTs	Suboptimal	CE-1, CE-3
2. Resources	Shortages in personnel, budget, and IT infrastructure	Suboptimal	CE-4, CE-5
3. Agency Characteristics	Ad hoc coordination unit; no permanent secretariat	Suboptimal	CE-3
4. Communication	Informal, episodic; no formal inter-directorate protocols	Suboptimal	CE-3, CE-7

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5. Implementer Dispositions	Senior commitment present; front-line understanding uneven	Partial	CE-4, CE-5
6. External Conditions	Operator-level engagement adequate; ministerial commitment incomplete	Partial	CE-7, CE-8

1. Policy Standards and Objectives

PM 93 of 2016 establishes PKPN's general regulatory purpose but does not define specific, measurable safety performance indicators (SPIs) or safety performance targets (SPTs). Informants uniformly characterized this absence as a foundational implementation barrier: without quantifiable targets, it is impossible to monitor progress, identify implementation gaps, or hold units accountable for outcomes. This structural deficit directly contradicts ICAO's SSP requirement for states to establish and monitor SPIs and SPTs as part of CE-3 (State civil aviation system) and State safety assurance (ICAO, 2018). Van Meter & Van Horn (1975) established that policy standard clarity is the primary determinant of implementation consistency: when objectives are ambiguous, implementing agencies exercise unconstrained discretion, producing divergent outcomes across units.

Indonesia's NASP 2024–2026 sets an aspirational 'zero accident' goal but does not disaggregate this into PKPN-level operational targets with defined timelines and unit responsibilities (Indonesia National Aviation Safety Plan, 2024). This decoupling between national aspirational goals and sub-program operational targets is a systemic pattern in Indonesian public administration, documented by Singgir et al. (2025) as a consistent driver of implementation failure. The practical consequence at the DGCA level is that PKPN activities default to procedural compliance reporting rather than performance-driven management—a pattern inconsistent with ICAO's performance-based oversight model (ICAO, 2025b).

2. Resources

Resource constraints emerged as the most operationally impactful barrier across informant groups. Three distinct resource deficits were identified. First, human resource limitations: informants reported persistent shortages of qualified safety management personnel, limited access to ICAO-aligned SMS/SSP training, and high turnover in technical positions—directly undermining CE-4 (qualified technical personnel) compliance. Second, budgetary insufficiency: budget allocations for safety data analysis tools, surveillance activities, and safety promotion were consistently described as below the threshold needed for systematic implementation. Third, IT infrastructure gaps: Indonesia's Voluntary Reporting System (VRS) portal received 406 reports in 2022, but 34% were invalidated due to incomplete data (Siswantoro, 2023), demonstrating that even operational infrastructure requires systematic quality improvement to fulfill CE-5 (technical guidance and tools) requirements.

These findings are consistent with broader Asia-Pacific patterns. ICAO's AP-RASP 2023–2025 explicitly identifies lack of resources and expertise for state-level safety data management as a core APAC challenge (ICAO, 2023). Wang (2024) established empirically that internal organizational fit—including structural stability and resource alignment—is the key mediator between regulatory pressure and SMS/SSP effectiveness, implying that resource insufficiency structurally limits implementation outcomes regardless of policy intent. The resource constraint is thus not merely operational but institutionally constitutive: it determines the ceiling of achievable implementation quality.

3. Characteristics of the Implementing Agency

The organizational architecture of PKPN implementation is a principal structural weakness. All informants described the PKPN coordination function as distributed across multiple DGCA directorates on an ad hoc basis, without a permanent, formally constituted coordination unit possessing a dedicated secretariat, stable staffing, and formal inter-directorate authority. This structural informality has three compounding consequences: it prevents institutional memory accumulation; it limits the unit's authority to enforce PKPN compliance across peer directorates; and it makes implementation continuity contingent on individual personnel commitments rather than institutionalized processes.

Van Meter & Van Horn (1975) identify implementing agency characteristics—including internal organizational structure, institutional authority, and operational norms—as determinants of policy execution capacity. The absence of a permanent PKPN unit structurally prevents the development of these characteristics. This pattern mirrors findings from governance network research in aviation: Hendra et al. (2023), in a systematic review of 67 Scopus publications, found that network governance capacity in aviation safety depends critically on the institutional formalization and authority of coordinating entities. Indonesia's NASP 2024–2026 acknowledges the need for organizational strengthening, yet the structural reform required has not been formally mandated (Indonesia National Aviation Safety Plan, 2024)—reflecting a documented Indonesian governance pattern of decoupling policy acknowledgment from structural action (Singgir et al., 2025).

4. Communication Between Organizations

Inter-organizational communication in PKPN implementation relies predominantly on informal channels—personal relationships, ad hoc bilateral meetings, and verbal coordination—rather than formalized protocols with defined responsibilities, frequencies, and documentation requirements. Informants identified this informality as creating coordination asymmetries: units with strong interpersonal networks with the PKPN coordination function are more integrated into implementation activities, while those without such relationships operate with lower awareness and engagement. This produces uneven implementation quality across DGCA's functional directorates.

Arnika et al. (2024) documented that inter-agency coordination in Indonesian ministries is systematically weakened by differing institutional priorities, absence of structured communication channels, and bureaucratic fragmentation—exactly the conditions informants described. ICAO's SSP framework requires formal information-sharing mechanisms connecting regulators and operators, functional directorates, and national-subnational oversight chains (ICAO, 2018). The gap between this requirement and Indonesia's informal reality directly undermines CE-7 (Surveillance Obligations), which requires systematic and documented safety oversight communication (ICAO, 2025c). The ICAO APRAST/24 (2025b) survey confirms that communication gaps across stakeholder groups are among the most consistently identified SMS/SSP challenges across Asia-Pacific states.

5. Dispositions of Implementers

Implementer dispositions reveal a critical stratification: senior DGCA officials demonstrated substantive understanding of PKPN's rationale, expressed strong commitment to aviation safety goals, and recognized PKPN as a legitimate implementation framework. However, front-line inspectors and mid-level technical managers reported significantly lower familiarity with PKPN's specific requirements, mechanisms, and expected behavioral changes. This stratification has a structural explanation: PKPN-specific training has not been systematically

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deployed to operational levels, meaning that institutional commitment at senior levels has not been converted into operational competence at implementing levels.

Van Meter & Van Horn (1975) identify implementer disposition as both a facilitating and constraining variable: positive dispositions at senior levels can mobilize resources, but without corresponding operational understanding, they do not translate into execution quality. Koharudin et al. (2025) empirically demonstrated this mechanism in Indonesian airport contexts: SMS implementation does not produce safety culture improvements without active organizational role modeling and structured communication. Clare & Kourousis (2021) established in a Scopus-indexed qualitative study that insufficient formal training and weak learning from incidents are primary barriers to safety management effectiveness—findings directly applicable to PKPN's safety promotion implementation gap. The implication is that PKPN's safety promotion component requires structured, cascading deployment rather than reliance on ad hoc dissemination.

6. External Environmental Conditions

External conditions for PKPN implementation present a differentiated picture. At the operator level, aviation service providers demonstrate comparatively stronger engagement with safety management requirements: major operators have established SMS frameworks, safety review boards, and internal reporting mechanisms. DGCA's 2022 safety performance data confirms that key indicators were within target ranges, including separation incidents (achieved 0.86 against a target of ≤ 1.26) and ATC coordination errors (achieved 0.10 against ≤ 4.66) (Siswantoro, 2023). This relative adequacy at the operator level reflects the maturation of SMS requirements at regulated entities, where accountability mechanisms and certification incentives align with implementation compliance.

However, the higher-level political and budgetary commitment required for sustained PKPN institutionalization was assessed by informants as incomplete. This distinction between operational-level support and political-level commitment mirrors Singgir et al.'s (2025) systematic finding that Indonesian policy implementation consistently stalls when elite political commitment—including sustained budgetary protection and long-term structural reform—is absent. The CE-8 weakness (Resolution of Safety Concerns) explicitly flagged in NASP 2024–2026 is a direct manifestation of this gap: without institutional authority and political backing, safety concern resolution processes cannot be enforced consistently across the aviation system (Indonesia National Aviation Safety Plan, 2024). ICAO's APRAST/24 (2025b) work programs identify inadequate regulatory processes for resolving safety issues as a primary regional challenge.

The six-dimension analysis reveals that PKPN's implementation barriers are structurally interdependent rather than isolated. The absence of outcome-based objectives (Dimension 1) removes the performance accountability framework that would create pressure for resource reallocation (Dimension 2). The ad hoc organizational structure (Dimension 3) prevents the institutional authority needed to formalize communication channels (Dimension 4) and systematically deploy training to operational implementers (Dimension 5). These structural deficits are sustained by incomplete political commitment (Dimension 6), which insulates them from reform pressure. This interdependency implies that piecemeal reforms addressing individual dimensions will produce limited impact: effective PKPN strengthening requires simultaneous action on organizational structure, performance accountability, resource allocation, and political commitment—a sequenced institutional reform agenda rather than isolated technical fixes.

Conclusion

This study systematically evaluated PKPN implementation at Indonesia's DGCA through Van Meter and Van Horn's six-variable policy implementation model, producing the first integrated empirical assessment that bridges public administration theory with ICAO's SSP framework and Eight Critical Elements. Findings reveal a consistent pattern across all six dimensions: PKPN possesses a sound legal foundation but is constrained by vague outcome-based objectives, insufficient human and financial resources, structurally informal organizational arrangements, predominantly informal communication channels, stratified implementer understanding, and incomplete political commitment. These barriers are structurally interdependent and mutually reinforcing, meaning that isolated technical interventions will not produce sustainable improvement. Against ICAO's Eight Critical Elements, the most significant gaps persist in CE-7 (Surveillance Obligations) and CE-8 (Resolution of Safety Concerns)—deficiencies explicitly acknowledged in NASP 2024–2026 and consistent with broader Asia-Pacific patterns identified in ICAO's APRAST/24 surveys. Four evidence-based institutional reforms are recommended: (1) establishment of a permanent PKPN coordination unit with formal inter-directorate authority, dedicated staffing, and an institutional secretariat; (2) development of specific, time-bound safety performance indicators and targets aligned with ICAO's SSP performance framework; (3) cascading, structured PKPN training deployment reaching front-line technical staff; and (4) formalization of inter-directorate and regulator–operator communication protocols with defined responsibilities and documentation requirements. This study's theoretical contribution extends beyond the Indonesian context in two respects. First, it demonstrates the analytical productivity of integrating Van Meter and Van Horn's implementation model with ICAO's normative SSP and Eight Critical Elements frameworks—an approach that generates both diagnostic depth and actionable policy prescription in a domain where purely technical or compliance-focused analyses are insufficient. Second, and more broadly, this integrated framework is explicitly transferable and replicable across ASEAN member states with comparable SSP implementation trajectories. States such as the Philippines, Vietnam, Myanmar, and Cambodia share analogous institutional configurations: SSP obligations formally adopted under domestic aviation regulations, USOAP EI scores below the APAC regional average of 64% (Mahmud, 2025), and institutional barriers rooted in resource constraints, coordination fragmentation, and incomplete political commitment rather than absence of legal frameworks (ICAO, 2025b). Applying the six-variable Van Meter and Van Horn diagnostic against the ICAO CE benchmarks in these contexts would enable systematic cross-national comparison of SSP implementation quality, identification of shared structural barriers amenable to regional programmatic responses, and generation of evidence-based reform recommendations calibrated to each state's institutional configuration. Future research should empirically test this framework in two or more comparative ASEAN cases and investigate the longitudinal relationship between institutional reform interventions and USOAP EI score improvements over time. A limitation of this study is its reliance on seven informants within a single institutional context—the DGCA of Indonesia—and its cross-sectional design; broader informant diversity across regional DGCA offices and a longitudinal follow-up study would strengthen both generalizability and causal inference.

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