

Bridging the Policy-Practice Gap in Military HRM: An Nvivo-Based Analysis of Adaptive Competence and Institutional Inertia in TNI

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ABSTRACT

The Indonesian National Armed Forces (TNI) faces increasing pressure to operate effectively in a Volatile, Uncertain, Complex, and Ambiguous (VUCA) security environment. However, current Human Resource Management (HRM) practices remain rooted in traditional, seniority-based structures that often hinder agility and cross-domain interoperability. This research investigates the misalignment between strategic VUCA awareness and operational HRM realities by employing a qualitative multi-method design. Utilizing NVivo-assisted thematic analysis, data were triangulated from strategic doctrines, regulatory frameworks, operational After-Action Reviews (AARs), and academic publications. The analysis revealed a significant “policy-practice disconnect,” in which institutional inertia, characterized by outdated curricula and rigid seniority systems, contrasts with the latent adaptive potential of operational personnel. Four critical pillars of adaptive competence were identified: Cognitive Agility, Cross-Domain Interoperability, Heuristic Problem-Solving, and Affective Resilience. To bridge this gap, this study proposes a strategic framework operationalized through an Agile Learning Ecosystem and Future-Oriented Talent Analytics. Key policy reforms include implementing micro-credentialing for emerging technologies, establishing merit-based promotion systems tied to joint assignments, and institutionalizing heuristic problem-solving approaches. These findings provide a concrete roadmap for transforming TNI HRM from a compliance-based system into an adaptability-driven force capable of thriving in modern hybrid warfare environments.

INTRODUCTION

The global security architecture has undergone a seismic shift over the past decade, transitioning from relatively predictable state-centric conventional threats to decentralized, multi-domain hybrid challenges. For Indonesia, an archipelagic nation situated at the confluence of major geopolitical currents, this transition is compounded by unique domestic dynamics, vast maritime jurisdictions requiring constant surveillance, and evolving regional power competition. To address these complexities, the urgency of defense transformation has been underscored at the highest political level. In his 2024 State Address, President Prabowo Subianto emphasized the imperative of comprehensive defense reform that extends beyond hardware modernization to include institutional agility and human capital development (Prabowo Subianto, 2024).

Aligning with this mandate, the Ministry of Defense's Strategic Plan (Rencana Strategis or Renstra Kemhan) 2025–2029 explicitly acknowledges this reality, articulating a vision for a “transformed, modern, and professional” TNI capable of credible deterrence and rapid adaptive response (Kementerian Pertahanan RI, 2024). However, the definition of “professionalism” in this context cannot be confined to technical proficiency, physical readiness, or adherence to standard operating procedures (SOPs) derived from past conflicts. It must fundamentally encompass adaptive competence—the dynamic capacity of personnel to function effectively amid ambiguity, learn rapidly from novel and unstructured situations, and operate seamlessly across service boundaries and non-military domains (Scharre, 2023).

Despite doctrinal commitments to jointness (Tri Matra) and technological modernization as mandated by national defense doctrine (TNI, 2023), empirical observations drawn from official reports and scholarly critiques suggest persistent structural and cultural gaps. Personnel often remain psychologically and operationally confined to service-specific (matra) mindsets, educational curricula struggle to keep pace with exponential technological advancements, and career systems continue to prioritize seniority and length of service over demonstrated adaptive performance in complex environments (Indrayana & Wijaya, 2022). This misalignment between stated strategic intent and actual human capital development poses a direct threat to operational readiness in scenarios where speed, flexibility, cognitive endurance, and cross-functional collaboration are decisive factors. In a VUCA environment, the cost of organizational rigidity is measured not merely in inefficiency but also in potential mission failure and loss of life (Australian Defence Force, 2024).

This study addresses this critical gap by investigating how Defense Human Resource Management (HRM) can be systematically reconfigured to cultivate adaptive competence as the new benchmark of professionalism for the Three Services. Unlike previous studies that focus primarily on material procurement or doctrinal revision, this research centers on the human element as the primary variable of adaptation. By employing a comprehensive document-based policy analysis methodology enhanced by systematic computer-assisted qualitative data analysis software (CAQDAS), this paper grounds its arguments in authoritative texts that shape TNI's institutional behavior, ensuring analytical rigor without reliance on self-reported survey data.

The objective is to provide a theoretically robust and practically actionable framework for transforming TNI's human capital system to meet the demands of the mid-21st-century security landscape. The benefits of this research are expected to be significant for various stakeholders. For TNI leadership and defense policymakers, this study provides a concrete roadmap for HRM reform aligned with VUCA-era demands. For the Ministry of Defense, it offers evidence-based insights for implementing the Strategic Plan 2025–2029. For military educational institutions, it provides a framework for curriculum modernization and integration of adaptive competencies. For personnel development agencies, it offers guidance for redesigning career progression and performance evaluation systems to incentivize jointness and adaptive behavior. For the academic community, this study enriches the literature on military adaptation and provides a methodological template for NVivo-assisted policy analysis. For the broader national interest, a more adaptive TNI strengthens credible deterrence and sovereignty protection. For future researchers, this study identifies directions for empirical

validation, including psychometric measurement of adaptive competence and AI-based talent analytics.

METHOD

Research Design: Qualitative Document Analysis

This study employed a qualitative document analysis design to examine policy-driven phenomena through the analysis of official documents as representations of institutional intent and practice (Howlett & Cashore, 2021). The analysis focused on strategic plans, doctrines, regulations, and academic literature to evaluate the alignment between stated objectives and operational realities while avoiding the ethical and logistical challenges of collecting primary data from active-duty military personnel (Yin, 2023). The Indonesian defense Human Resource Management (HRM) system was treated as a bounded case, with the Three Services (Angkatan Darat [AD], Angkatan Laut [AL], and Angkatan Udara [AU]) serving as embedded units of analysis to support cross-service comparison within a joint defense framework (CSIS Indonesia, 2024). All coding and theme development were conducted using NVivo 14 to ensure analytical transparency and consistency.

Data Collection and Selection Criteria: Visualized Corpus Overview

Data were collected through purposive sampling of authoritative documents published between 2020–2025. Documents were selected based on three criteria: (a) direct relevance to VUCA adaptation, military professionalism, or defense HRM; (b) authoritative provenance from government ministries, TNI headquarters, accredited academic institutions, or recognized defense think tanks; and (c) publication within the specified timeframe. A total of 62 key documents were analyzed. To enhance transparency, the complete inventory is presented below in four structured tables.

Table 1. Strategic & Doctrinal Texts Analyzed (n=18)

No.	Document Title	Year	Issuing Authority	Relevance to VUCA/ACB-HRM
1	Ministry of Defense Strategic Plan 2025–2029	2024	Kemhan RI	Primary strategic framework outlining human capital transformation goals
2	TNI Doctrine: Tridharma Eka Karma	2023	Mabes TNI	Foundational doctrine defining joint operations and professional standards
3	TNI Joint Operations Concept 2023–2027	2023	Mabes TNI	Operationalizes jointness requirements across three services
4	TNI Force Posture Plan 2025–2029	2024	Mabes TNI	Links force structure to competency requirements
5	Baintalad Annual Report 2023	2024	Baintalad TNI	Official assessment of personnel development progress
6	TNI Bais Annual Report 2023	2024	Bais TNI	Intelligence perspective on emerging threat competencies
7	Defense Human Resource Development Policy 2024	2024	Kemhan RI	Regulatory basis for adaptive HRM reforms
8	Joint Professional Military Education Implementation Guidelines	2023	Sesko TNI	Curriculum framework for joint officer development
9	TNI Officer Competency Standards	2022	Baintalad TNI	Baseline competency definitions for career progression

No.	Document Title	Year	Issuing Authority	Relevance to VUCA/ACB-HRM
10	Indonesia Defense White Paper 2024	2024	Kemhan RI	Public articulation of defense posture and professionalism
11	Defense Equipment and Human Resource Modernization Roadmap 2025–2030	2025	Kemhan RI	Integrated material-human capital development plan
12	Revised Guidelines for Military Operations Other Than War (MOOTW)	2023	Mabes TNI	Addresses ambiguity in gray-zone operations
13	National Cyber Resilience Strategy	2022	BSSN/Kemhan	Cyber competency requirements for defense personnel
14	Military Personnel Character Development Framework	2023	Baintalad TNI	Affective resilience and ethical dimension of professionalism
15	Evaluation Report on the Implementation of the Ministry of Defense Strategic Plan 2020–2024	2024	Inspektorat Kemhan	Retrospective assessment identifying implementation gaps
16	Memorandum of Understanding on Military Higher Education Cooperation	2023	Unhan/Mabes TNI	Civilian-military knowledge exchange framework
17	Chief of Army Staff/Chief of Navy Staff/Chief of Air Force Directives on Human Resource Transformation	2024	respective Chiefs	Service-specific adaptation priorities
18	TNI Vision Document 2045	2023	Mabes TNI	Long-term professionalization trajectory

Source: Compiled from official documents of the Ministry of Defense, TNI Headquarters, and respective service headquarters (2022–2025)

Table 2. HRM Regulatory Frameworks Analyzed (n=22)

No.	Document Title	Year	Issuing Authority	Key HRM Dimension Addressed
1	Ministry of Defense Regulation No. 45/2023 on the Military Personnel Career System	2023	Kemhan RI	Career progression, promotion criteria, joint assignment requirements
2	Army Chief Regulation No. 12/2022 on Army Education and Training	2022	Kasad	Army-specific education curriculum and standards
3	Navy Chief Regulation No. 8/2023 on Naval Professional Development	2023	Kasal	Navy professional development pathways
4	Air Force Chief Regulation No. 15/2022 on Air Force Education and Training	2022	Kasau	Air Force training and competency certification
5	Baintalad Regulation No. 3/2024 on Performance Evaluation	2024	Baintalad TNI	Performance evaluation instruments and metrics
6	Standard Operating Procedures for the Selection and Promotion of TNI Structural Officers	2023	Baintalad TNI	Promotion board composition and criteria
7	Guidelines for Joint Position Rotation and Personnel Mobility	2022	Mabes TNI	Cross-service assignment procedures

No.	Document Title	Year	Issuing Authority	Key HRM Dimension Addressed
8	Military Retirement and Transition Regulations	2023	Kemhan RI	Retirement policies affecting retention and knowledge transfer
9	Standard Curriculum for Military Academies (Akmil/AAL/AAU)	2024	Respective Academies	Pre-commissioning education content
10	Curriculum of Seskoal/Seskoal/Seskoau/TNI Staff and Command Schools	2023	Respective Staff Colleges	Mid-career professional military education
11	Technical Competency Certification Guidelines	2024	Baintalad TNI	Technical skill validation mechanisms
12	Performance Allowance and Incentive Regulations	2023	Kemhan RI	Compensation structures influencing motivation
13	Promotion Proposal Submission Procedures	2022	Baintalad TNI	Administrative timeline and requirements
14	Military Personnel Discipline and Code of Ethics Regulations	2023	Mabes TNI	Ethical standards and disciplinary framework
15	Mental and Moral Development Guidelines	2022	Bais TNI	Character development programs
16	Education and Training Facility Standards	2024	Ditjen Potensi Pertahanan	Infrastructure supporting learning
17	Scholarship and Advanced Study Regulations	2023	Baintalad TNI	Advanced education opportunities
18	Internship and Field Work Practice Guidelines	2024	Baintalad TNI	Experiential learning outside military
19	Regulations on Civilian Experts and Consultants	2023	Kemhan RI	Civilian integration into defense HRM
20	Assessment Center Operational Standards	2024	Baintalad TNI	Competency-based selection tools
21	Officer Mentoring and Coaching Guidelines	2023	Baintalad TNI	Leadership development support systems
22	Unit Performance Reporting and Accountability Regulations	2024	Inspektorat TNI	Unit-level HRM accountability

Source: Compiled from Ministry of Defense regulations, TNI Headquarters regulations, and respective service headquarters regulations (2022–2024)

Table 3. Operational & After-Action Documentation Analyzed (n=12)

No.	Document Title	Year	Operation/ Exercise	Key Personnel Performance Insights
1	After-Action Review Komodo Exercise 2023	2023	Komodo 2023	Joint interoperability gaps in multinational HADR
2	Lessons Learned Garuda Shield 2024	2024	Garuda Shield 2024	Technology integration challenges in combined ops
3	After-Action Review (AAR) of the Papua Border Security Operation 2023	2023	Pamtas Papua	Ambiguity navigation in OMSP contexts
4	Evaluation of the TNI–U.S. Navy Joint Exercise	2024	CARAT 2024	Cross-cultural communication and protocol adaptation
5	2023 Maritime Task Force Performance Report	2023	Satgas Maritim	Gray-zone encounter decision-making under pressure
6	After-Action Review (AAR) of the Cianjur Earthquake	2023	Tanggap Darurat	Civil-military coordination and adaptive logistics

No.	Document Title	Year	Operation/ Exercise	Key Personnel Performance Insights
7	Disaster Response Operation Evaluation of the Joint Three Services Live-Fire Exercise	2024	Latgab TNI	Fire support integration and shared situational awareness
8	Lessons Learned from the 2024 Election Security Operation	2024	Pam Pemilu 2024	ROE application in politically sensitive environments
9	After-Action Review (AAR) of the Joint Cyber Defense Exercise	2023	Cyber Drill 2023	Digital competency gaps in real-time threat response
10	Evaluation of TNI COVID-19 Task Force Performance	2022	Penanganan Pandemi	Adaptive leadership in prolonged crisis operations
11	Public Satisfaction Survey Report on Military Operations Other Than War (MOOTW)	2024	Various OMSP	Public perception of military professionalism
12	Internal Study on the Effectiveness of Joint Exercises	2023	Multiple Exercises	Systemic barriers to genuine jointness

Source: Compiled from TNI After-Action Reviews, exercise evaluations, and operational reports (2022–2024)

Table 4. Academic & Analytical Publications Analyzed (n=10)

No.	Publication Title	Year	Source	Critical Perspective Offered
1	Jointness in TNI: Progress, Challenges, and Path Forward	2022	Jurnal Pertahanan & Bela Negara	Empirical evidence of sectoral persistence despite doctrine
2	Transformasi SDM TNI di Era Digital: Kesenjangan dan Solusi	2023	Jurnal Pertahanan & Bela Negara	Digital literacy gaps across rank structures
3	Military Adaptation in VUCA Environments: Comparative Perspectives	2024	Armed Forces & Society	Benchmarking TNI against other middle-power militaries
4	Indonesia Defense White Paper 2024: Adapting to VUCA Realities	2024	CSIS Indonesia	Independent assessment of reform implementation
5	Kajian Strategis Pertahanan Indonesia 2023–2027	2023	BRIN	Evidence-based policy recommendations
6	Military Human Capital Management in Great Power Competition	2022	RAND Corporation	Global best practices in adaptive HRM
7	The Military Balance 2024: Asia-Pacific Focus	2024	IISS	Quantitative benchmarking of TNI human capital
8	Joint Professional Military Education Reform: Lessons from ASEAN	2023	Joint Force Quarterly	Regional JPME innovation models
9	Adaptive Leadership in Complex Operations: TNI Case Study	2023	Parameters	Field-level adaptation narratives
10	Defense HRM in Developing Nations: Institutional Barriers	2023	Journal of Strategic Studies	Structural constraints on reform

Source: Compiled from academic journals, think tank reports, and institutional research publications (2022–2024)

These four tables collectively demonstrate the breadth, depth, and triangulation strategy of the document corpus.

Analytical Procedure: Dual Coding Strategy Using NVivo

Analysis followed Braun and Clarke's reflexive thematic analysis protocol, operationalized through a dual coding strategy in NVivo 14 to balance theoretical grounding with empirical discovery (Braun, V., & Clarke, V., 2021). This approach ensures that findings are neither purely abstract nor purely descriptive. The process unfolded in three integrated phases:

Phase 1: Deductive Codebook Construction (Top-Down)

Before engaging with the full document corpus, a structured code hierarchy was built in NVivo based on the ACB-HRM framework and VUCA dimensions established in Section 2. This served as an analytical scaffold to systematically track predefined constructs across all documents. The codebook was organized into two parent nodes: VUCA Dimensions and Adaptive Competence Pillars. Under VUCA Dimensions, child nodes included Volatility Tech Obsolescence, Uncertainty Career Rigidity, Complexity Sectoralism, and Ambiguity Gray Zone. Under Adaptive Competence Pillars, child nodes included Cognitive Agility, Cross Domain Interoperability, Heuristic Problem Solving, and Affective Resilience. Each node was accompanied by a memo defining inclusion/exclusion criteria. During initial reading, relevant text segments were dragged directly into these predefined nodes.

Phase 2: Inductive Emergent Coding (Bottom-Up)

Concurrently, an open coding process was applied to capture nuances absent from the theoretical framework. Using NVivo's In Vivo Coding feature, phrases and terms used by document authors themselves were preserved as codes. A separate parent node named Emerging Themes was created to house these data-driven codes. Examples included "Seniority vs Meritocracy", "Tokenistic Joint Assignment", Outdated Curriculum vs Drone Warfare, Incentive barriers to jointness. These codes emerged organically during close reading of operational reports and academic critiques. Memos were attached to each emergent code documenting the specific document source and rationale.

Phase 3: Integration via Matrix Coding Query and Triangulation

The final phase synthesized deductive and inductive insights using NVivo's Matrix Coding Query function. This tool enabled cross-tabulation of codes against document categories to identify patterns, contradictions, and gaps. Specifically, matrices were constructed with deductive codes as rows and document types as columns. The query output revealed quantitative disparities in code frequency that served as empirical evidence for implementation gaps. All coding decisions, memos, and query outputs were documented in an audit trail within NVivo to ensure transparency (BRIN., 2023).

Trustworthiness & Limitations

Trustworthiness was enhanced through source triangulation, peer debriefing with two defense studies academics, and transparent documentation of analytical decisions via NVivo audit trails. Limitations are acknowledged: document analysis captures formal policy but may miss informal practices; declassified operational documents may present sanitized narratives; and findings are context-specific to Indonesia. These limitations are mitigated by the breadth of the corpus and the dual coding

RESULTS AND DISCUSSION

Diagnosing VUCA Challenges Across Three Services: A Document-Based Assessment

Analysis of the document corpus reveals that while TNI leadership recognizes VUCA conceptually, its operational translation into HRM practice remains uneven across services and functional domains.

Volatility and Technological Obsolescence

Strategic documents consistently acknowledge the accelerating pace of military technology, yet HRM regulatory frameworks show lagging adaptation. Curriculum review cycles for military academies and staff colleges remain tied to multi-year bureaucratic processes ill-suited to 18 – 24 month technology refresh cycles (IISS., 2024). After-action reviews from recent exercises repeatedly note gaps in drone countermeasures, electronic warfare integration, and cyber defense capabilities—skills that evolve faster than formal training pipelines can deliver. The volatility challenge is thus not merely technological but organizational: TNI's learning infrastructure operates on industrial-era timelines in an information-age threat environment.

Uncertainty and Career Path Rigidity:

Personnel regulations continue to emphasize linear, matra-bound career progression. While joint assignments are formally required for certain ranks, documentary evidence suggests these are often tokenistic—short-duration postings without meaningful integration into joint planning or operations (Jurnal Pertahanan & Bela Negara., 2023). The uncertainty of future operational domains (space, cyber, cognitive warfare) is not matched by uncertainty-tolerant career architectures. Personnel lack structured exposure to non-linear career experiences that build adaptive capacity, such as rotations to civilian tech firms, academic sabbaticals, or cross-government agency secondments. Career planning remains predicated on predictable progression models that VUCA has rendered obsolete.

Complexity and Persistent Sectoralism

Despite decades of joint doctrine development, resource allocation formulas, promotion board compositions, and cultural norms documented in HRM regulations still reinforce sectoral silos (Armed Forces & Society., 2024). Academic analyses consistently identify "jointness fatigue"—rhetorical commitment to integration undermined by institutional incentives that reward matra loyalty over joint contribution. Complexity in modern operations demands integrated command structures and shared situational awareness, yet HRM systems continue to evaluate and advance personnel primarily through matra-specific lenses. The complexity challenge is thus fundamentally an incentive alignment problem: until HRM rewards joint behaviors as tangibly as matra-specific achievements, doctrinal jointness will remain aspirational rather than operational.

Ambiguity and Gray-Zone Preparedness: Operational documentation reveals persistent discomfort with ambiguous mission parameters. Rules of Engagement (ROE) for gray-zone scenarios (maritime militia encounters, disinformation campaigns, proxy conflicts) are often either overly restrictive (paralyzing response) or overly permissive (risking escalation). Personnel trained predominantly for kinetic conflict struggle with the legal, ethical, and communicative dimensions of ambiguous operations (Joint Force Quarterly., 2023). HRM systems do not systematically develop or evaluate ambiguity tolerance. Performance evaluations reward clear mission accomplishment but provide no mechanism for recognizing

effective navigation of morally complex or legally uncertain situations. The ambiguity challenge is thus a values and judgment deficit: adaptive professionalism requires not just skills but the ethical fortitude to act wisely when rules are unclear.

Competency Gap Analysis: What Documents Reveal About Current vs. Required Capabilities

Synthesizing across document categories, five critical competency gaps emerge:

1. **Strategic-Cognitive Gap:** Personnel demonstrate strong tactical proficiency but limited strategic foresight. Educational curricula emphasize historical case studies and established doctrine over scenario planning, futures thinking, and systems analysis. The ability to anticipate second- and third-order effects of operational decisions—a critical VUCA competency—is underdeveloped (Survival: Global Politics and Strategy., 2024).
2. **Digital-Technical Gap:** While basic digital literacy is improving, advanced competencies in AI applications, data analytics, cyber operations, and electromagnetic spectrum management remain concentrated in specialized units rather than distributed across the force. The document corpus shows minimal integration of digital competencies into general officer development pathways (Parameters: US Army War College Quarterly., 2023).
3. **Joint-Interoperability Gap:** Shared mental models for joint operations exist at senior levels but degrade at tactical and operational levels. Cross-service communication protocols, common operational pictures, and integrated planning processes are inconsistently implemented. Personnel lack routine exposure to joint environments during formative career stages (Military Review., 2024).
4. **Adaptive-Learning Gap:** Institutional learning mechanisms (AARs, lessons learned databases) exist but function more as compliance exercises than genuine knowledge creation systems. Psychological safety for admitting failure, sharing negative lessons, and challenging assumptions is not systematically cultivated. Learning velocity—the rate of organizational adaptation—remains slow relative to threat evolution (Journal of Strategic Studies., 2023).
5. **Ethical-Ambiguity Gap:** Moral reasoning and ethical decision-making training focuses on established just war principles and LOAC compliance but inadequately prepares personnel for gray-zone dilemmas where legal frameworks are contested and moral clarity is elusive. The affective dimension of professionalism—resilience, moral courage, emotional regulation—is addressed implicitly rather than through deliberate developmental interventions (Defense & Security Analysis., 2024).

Visualizing Triangulation: NVivo Matrix Coding Query Output

To make the triangulation process transparent and visually accessible to readers, this section presents the actual output patterns generated by NVivo's Matrix Coding Query. These visualizations serve as empirical proof of the convergence (or divergence) between policy intent, regulatory frameworks, operational realities, and academic critique.

Table 5. NVivo Matrix Coding Query: Adaptive Competence References by Document Type

Deductive Code / Theme	Strategic & Doctrinal (n=18)	HRM Regulations (n=22)	Operational AARs (n=12)	Academic Publications (n=10)	Total References	Coverage %
Cognitive Agility	42	8	3	28	81	High in Strategy/Academia; Low in Ops/Regs
Cross-Domain Interoperability	38	15	7	22	82	Moderate in Regs; Very Low in Ops
Heuristic Problem-Solving	12	2	18	15	47	Highest in Ops; Lowest in Regs
Affective Resilience	25	6	9	19	59	Present in Strategy/Academia; Absent in Regs
TOTAL	117	31	37	84	269	Strategy-heavy; Ops-light

Source: NVivo 14 Concept Map Visualization (Primary Data Processing, 2025)

Table 5 illustrates the Matrix Coding Query, revealing a significant asymmetry in how adaptive competence is addressed across different document types. Strategic and doctrinal texts exhibit the highest density of references to Cognitive Agility (42 references) and Cross-Domain Interoperability (38 references), indicating strong top-level rhetorical commitment. However, this emphasis drops precipitously in HRM regulations, where references to these same competencies are minimal (8 and 15 respectively). Conversely, Operational AARs show a distinct pattern: while formal adaptive concepts are rarely cited, Heuristic Problem-Solving emerges as the most frequent theme (18 references). This triangulation suggests that while strategic leadership articulates the need for adaptation, the regulatory framework has yet to institutionalize it, leaving personnel to rely on informal, field-level improvisation.

Table 6. NVivo Concept Map Summary: VUCA Dimensions and Emerging Barriers.

Vuca Dimensions	Emerging Barriers	Adaptive Competence Pillars
Volatility	Outdated Curriculum vs Drone Warfare	Cognitive Agility
Uncertainty	Senioritas vs Meritokrasi	Cross-Domain
Complexity	Insentif Barriers to Jointness	Heuristic Problem Solving
Ambiguity	ROE Ambiguity in OMSP	Affective Resilience

Source: NVivo 14 Concept Map Visualization (Primary Data Processing, 2025)

Table 6 visually demonstrates that each VUCA dimension maps directly onto a specific emergent barrier, forming coherent causal chains. Crucially, the dashed lines connecting these barrier clusters to the Adaptive Competence Pillars node indicate weak co-occurrence—meaning that when documents discuss barriers like Senioritas vs Meritokrasi, they rarely simultaneously discuss solutions framed as Cognitive Agility or Cross Domain Interoperability. This structural disconnect in the concept map provides visual evidence that TNI’s HRM discourse treats VUCA challenges and adaptive competence as separate topics rather than integrated problems and solutions.

Table 7. NVivo Hierarchy Chart: Code Density Across Four Document Categories

Document Category	Dominant Codes (High Density)	Moderate Density Codes	Low Density / Emerging Codes	Interpretation of Visual Pattern
1.Strategic & Doctrinal Texts (n=18)	•VUCA Volatility •VUCA Complexity •Cognitive Agility •Jointness Doctrine	•Affective Resilience •Digital Literacy Basic	•Heuristic Problem Solving • Failure Tolerance	Top-Down Awareness: Large bubbles for VUCA concepts confirm that leadership understands the theory of adaptation, but small bubbles for practical skills like heuristic solving indicate a lack of operational detail.
2.HRM Regulatory Frameworks (n=22)	•Career Progression Linear •Promotion Seniority •Matra Specific Training •Discipline Compliance	•Joint Assignment Req •Technical Certification	•Adaptive Meritocracy •Cross Domain Rotation	Institutional Inertia: The largest bubbles are tied to traditional, rigid structures (seniority/linearity). The absence of large bubbles for "Adaptive" codes visually proves that regulations have not yet evolved to support agility.
3.Operationa l AARs (n=12)	• Heuristic Problem Solving Field • Adhoc Tech Workaround • Informal Networking	• Mission Flexibility • Peer Mentoring	• Formal Joint Training • Standardized ROE	Bottom-Up Adaptation: High density of "workaround" codes indicates that personnel are actively adapting to VUCA conditions through improvisation, often bypassing rigid formal procedures.
4.Academic Publications (n=10)	• Global Best Practices • Cognitive Warfare Theory • Interoperability Frameworks	•Resilience Psychology •DigitalTransformati on	•Local Context Application •HRM Policy Gaps	Theoretical Benchmark: Provides the ideal state of adaptive competence. The gap between these codes and HRM Regulations highlights the policy-practice disconnect.

Source: NVivo 14 Hierarchy Chart Visualization (Primary Data Processing, 2025)

Table 7 illustrate the hierarchy chart makes visible what textual analysis alone cannot: the distribution of attention across the ecosystem. Strategic documents talk about VUCA but don't regulate it; regulations talk about careers but not adaptability; operations live adaptability but don't codify it; academia sees the whole picture but lacks implementation authority. This four-quadrant visualization is the definitive triangulation output that grounds every claim in Sections 4.1 and 4.2.

Strategic Framework for Adaptive HRM

To bridge the gap between strategic VUCA awareness and operational rigidity, this study proposes a holistic transformation of TNI's human capital management. As noted by the RAND Corporation (RAND Corporation., 2022) , modern military effectiveness increasingly depends on agile human capital systems capable of navigating great power competition. Building on this global perspective and the specific barriers identified in Section 4.3, four adaptive pillars are proposed to reorient TNI HRM from compliance-based to adaptability-driven practices.

1. The Four Pillars of Adaptive Competence

The proposed framework rests on four strategic pillars, each addressing specific gaps identified in Section 4.3:

- 1) **Pillar 1:** Agile Learning Ecosystem (Cognitive Agility). Moving beyond static curricula, this pillar emphasizes continuous, micro-credentialled learning focused on emerging technologies (AI, drones) and rapid decision-making. It directly addresses the Outdated Curriculum vs Drone barrier by ensuring personnel remain cognitively flexible in the face of technological volatility.
- 2) **Pillar 2:** Joint Operational Framework (Cross-Domain Interoperability). This pillar institutionalizes cross-matra collaboration through mandatory joint assignments and shared training modules. It aims to dismantle the Incentif Hambatan Jointness by creating a culture where interoperability is a prerequisite for career advancement rather than an optional extra. Aligning with global standards such as the NATO Allied Joint Doctrine (NATO., 2023), this framework emphasizes that true interoperability requires not just technical compatibility, but also shared mental models and standardized operational procedures across all branches of the TNI.
- 3) **Pillar 3:** Field Improvisation Culture (Heuristic Problem-Solving). Recognizing that formal regulations often lag behind operational realities, this pillar validates and institutionalizes "smart improvisation." By formalizing After-Action Reviews (AARs) as a merit-based metric, it transforms informal field workarounds into organizational knowledge, addressing the Seniority vs Meritocracy divide.
- 4) **Pillar 4:** Resilient Mindset & Future-Oriented Talent Analytics (Affective Resilience). This pillar combines psychological resilience training with data-driven talent management. By using analytics to identify individuals with high ambiguity tolerance, the TNI can better manage ROE of confusion OMSP and ensure that personnel are psychologically prepared for the stresses of modern hybrid warfare

2. Operationalization of the Framework

To translate these theoretical pillars into actionable HRM practices, Table 4 details the specific indicators, barriers, and strategic interventions for each component.

Table 8. Operationalization of the Four Adaptive Competence Pillars

Adaptive Pillar	Key Indicators (NVivo Codes)	Primary Barrier (From Table 2)	Strategic Intervention (Proposed)
1. Cognitive Agility	• Rapid Decision-Making • Situational Awareness • Tech-Literacy	Outdated Curriculum vs Drone Warfare	Implement Micro-credentialing in military education to update drone/AI curricula every 6 months.
2. Cross-Domain Interoperability	• Joint-Planning Skills • Multi-domain Communication • Shared ROE Understanding	Incentive Barriers to Jointness	Create a Joint Career Track where promotion is tied to successful cross-matra assignments.

Adaptive Pillar	Key Indicators (NVivo Codes)	Primary Barrier (From Table 2)	Strategic Intervention (Proposed)
3. Heuristic Problem-Solving	- Field Improvisation - Resourcefulness - Ad-hoc Networking	Seniority vs Meritocracy	Institutionalize "After-Action Reviews" (AAR) as a formal metric for merit-based promotion.
4. Affective Resilience	- Stress Tolerance - Ambiguity Management - Failure Recovery	ROE Ambiguity in OMSP	Develop Psychological First Aid protocols and clear "Commander's Intent" guidelines for ambiguous scenarios.

Source: Author's Framework Formulation based on NVivo Analysis (2025)

Fundamental Shift in HRM Policy

Supporting these pillars requires a fundamental shift in HRM policy. Table 5 outlines the transition from traditional, compliance-based practices to adaptive, performance-driven reforms across four key domains: recruitment, education, career management, and performance rewards.

Table 9. Proposed HRM Policy Reforms for Adaptive Competence Integration

Policy Domain	Current State (Traditional)	Proposed Reform (Adaptive)	Expected Impact on VUCA Response
1. Recruitment & Selection	- Focus on physical fitness & academic scores. - Single-matra entry.	- Introduce Cognitive Agility Tests. - Open Cross-Domain Entry tracks for tech specialists.	Ensures new personnel have the mental flexibility to handle Volatility and Complexity from day one.
2. Education & Training	- Rigid, linear curriculum. - Matra-specific silos.	- Implement Micro-credentialing for emerging tech (AI/Drones). - Mandatory Joint Professional Military Education (JPME).	Addresses Kurikulum Outdated vs Drone and builds Cross-Domain Interoperability.
3. Career Management	- Seniority-based promotion. - Limited cross-services rotation.	- Merit-Based Promotion tied to AAR performance. - Mandatory Joint Assignments for career advancement.	Seniority vs Meritocracy and incentivizes Heuristic Problem-Solving in the field.
4. Performance & Rewards	- Compliance-based evaluation. - Lack of joint incentives.	- Evaluate Adaptive Competence (improvisation/resilience). - Provide Jointness Incentives (pay/allowances).	Mitigates Insentif Hambatan Jointness and supports Affective Resilience under ambiguous ROE.

Source: Author's Framework Formulation based on NVivo Analysis (2025)

Synthesis of Findings

The integration of the four adaptive pillars with the proposed HRM reforms creates a cohesive framework for TNI transformation. As demonstrated in Table 4 and Table 5, the shift from traditional, compliance-based management to an adaptability-driven model is not merely theoretical but operationally necessary.

By addressing the specific barriers identified in Section 4.3 such as Outdated Curriculum vs Drone and Seniority vs Meritocracy, through targeted interventions like Agile Learning Ecosystems and Merit-Based Promotions, the TNI can systematically dismantle institutional inertia. This synthesis confirms that adaptive competence is not a single skill but

a holistic ecosystem requiring simultaneous changes in recruitment, education, career management, and psychological support. This framework provides the theoretical and practical foundation for the conclusions and policy recommendations detailed in the following chapter.

CONCLUSION

This study examined how well TNI's current Human Resource Management (HRM) practices aligned with the demands of warfare in the VUCA era. Drawing on NVivo-assisted thematic analysis of strategic documents, regulatory frameworks, operational after-action reports, and academic literature, the research identified a clear and concerning gap: while strategic doctrines demonstrated high-level awareness of VUCA-era challenges, existing HRM regulations remained rigid and anchored in seniority-based structures, causing institutional practices to diverge from institutional aspirations. Within this gap, the study identified four adaptive competencies—Cognitive Agility, Cross-Domain Interoperability, Heuristic Problem-Solving, and Affective Resilience—as core capabilities required for modern military personnel to operate effectively. Notably, operational personnel were already developing informal adaptive practices to cope with systemic rigidity, revealing substantial latent adaptive potential that remained unsupported and, in some cases, constrained by formal structures. The analysis suggested that the most promising mechanisms for addressing this gap were micro-credentialing, joint career pathways, and merit-based evaluation of after-action performance.

These findings had direct implications for TNI leadership and defense policymakers. Promotion criteria should shift from an exclusively seniority-based model toward a hybrid system that assigns greater weight to adaptive performance and joint-domain experience. Professional military education should be modernized by integrating agile learning modules on emerging technologies, including artificial intelligence and unmanned systems, alongside heuristic decision-making approaches across all levels of training. Furthermore, jointness should be institutionalized through practical mechanisms rather than merely endorsed conceptually, including tangible financial and career incentives for cross-matra assignments to gradually reduce entrenched siloed mentalities.

The study had several limitations. Its reliance on document analysis, rather than large-scale quantitative surveys of personnel, meant that the findings reflected institutional patterns rather than measured individual-level outcomes. Future research should therefore incorporate validated psychometric instruments to assess adaptive competence in military contexts, longitudinal studies to examine how joint career pathways influence operational effectiveness over time, and further investigations into the potential application of artificial intelligence for predicting talent adaptability within HRM systems. These research directions would enable the proposed adaptive framework to be empirically tested rather than relying solely on doctrinal arguments.

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