

Strategic Leadership Under Uncertainty: How Agile Decision-Making Enhances Organizational Resilience In Military High-Risk Environments

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Abstract. Military organizations operating in volatile, uncertain, complex, and ambiguous (VUCA) environments face decision-making challenges demanding adaptive leadership. This conceptual paper examines how agile decision-making, operationalized through the OODA Loop and Mission Command doctrine, can strengthen organizational resilience in military high-risk settings. Integrating Strategic Leadership Theory, Dynamic Capabilities Theory, and Organizational Resilience Theory, the paper develops the Military Agile Leadership–Resilience (MALR) model and four theoretical propositions. The model links commander cognitive agility, doctrinal competence, and emotional intelligence to decentralized authority, rapid sense-making, adaptive planning, and disciplined initiative, which are theorized to support anticipatory, adaptive, recovery, and transformative resilience. Organizational culture and technological enablement are proposed as moderators, while shared mental models and organizational learning capacity serve as mediating mechanisms. Illustrative discussion of Ukrainian military adaptation and NATO-oriented Mission Command informs the conceptual synthesis but does not constitute empirical validation. The framework offers directions for leadership education, organizational design, technology integration, and future empirical testing.

1 Introduction

The operational landscape of contemporary military organizations is characterized by unprecedented levels of volatility, uncertainty, complexity, and ambiguity, collectively described by the VUCA framework, a concept originally developed by the U.S. Army War College to describe post-Cold War strategic conditions (Troise et al., 2022). The proliferation of hybrid threats, cyber warfare, multi-domain operations, and information-degraded environments has fundamentally challenged traditional command-and-control

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paradigms that rely on hierarchical, centralized decision-making processes (Hollands et al., 2024). In this context, military leaders' capacity to make rapid, adaptive decisions (what scholars increasingly term agile decision-making) has emerged as a critical determinant of organizational effectiveness and survival.

Organizational resilience, defined as an organization's capacity to anticipate, adapt to, and recover from disruptions while maintaining core functions (Hillmann & Guenther, 2021), has drawn substantial scholarly attention across management, engineering, and public administration. However, the specific mechanisms through which strategic leadership behaviors (particularly agile decision-making) contribute to resilience in military contexts remain theoretically underdeveloped. Existing literature predominantly examines resilience in corporate and public sector settings (Boin & van Eeten, 2013; Hollands et al., 2024), with comparatively limited theoretical integration of military-specific doctrines such as Mission Command and the OODA Loop (Observe, Orient, Decide, Act) framework.

This conceptual paper addresses this gap by developing an integrated theoretical framework (the Military Agile Leadership–Resilience (MALR) model) that explicates how agile decision-making enhances organizational resilience in military high-risk environments. The paper draws on three theoretical pillars: Strategic Leadership Theory (Hambrick & Mason, 1984; Finkelstein et al., 2009), Dynamic Capabilities Theory (Teece et al., 1997; Eisenhardt & Martin, 2000), and Organizational Resilience Theory (Weick & Sutcliffe, 2015; Lengnick-Hall et al., 2011). By synthesizing these perspectives with military doctrine, the paper advances four theoretical propositions and identifies moderating factors that shape the leadership–resilience relationship.

The paper contributes by extending strategic leadership perspectives to military resilience, interpreting the OODA Loop as an organizational coordination mechanism, and identifying implications for military education and leadership development. Its propositions are conceptual, rather than tested causal relationships.

2 Theoretical Framework

2.1 Strategic Leadership and Dynamic Capabilities

Strategic Leadership Theory posits that top-level leaders exert disproportionate influence on organizational outcomes through their cognitive frameworks, values, and decision-making behaviors (Hambrick & Mason, 1984). The Upper Echelons perspective argues that organizational decisions reflect senior leaders' bounded rationality and cognitive schemas, making leadership quality a primary determinant of organizational adaptation (Finkelstein et al., 2009). In military contexts, this theoretical lens is particularly salient: a commander's cognitive agility, doctrinal competence, and situational awareness directly shape the operational effectiveness of entire units and formations.

The Dynamic Capabilities framework, originally developed by Teece et al. (1997), conceptualizes organizational competitiveness as a function of the capacity to sense environmental changes, seize emerging opportunities, and reconfigure internal resources. Eisenhardt and Martin (2000) further elaborated this framework by demonstrating that dynamic capabilities manifest as identifiable organizational routines

and processes that enable adaptation in high-velocity environments. In military organizations, dynamic capabilities correspond to doctrinal flexibility, rapid force restructuring, and the ability to transition between operational modes in response to evolving threat environments.

The OODA Loop, developed by military strategist John Boyd (1976), provides the most influential framework for understanding agile decision-making in military contexts. Boyd conceptualized competitive advantage as a function of decision cycle speed: the combatant who can observe, orient, decide, and act faster than the adversary achieves cognitive and operational superiority. Critically, the orientation phase—shaped by mental models, cultural traditions, previous experiences, and doctrinal frameworks—serves as the cognitive engine that determines decision quality. Recent scholarship has extended Boyd's individual-level model to organizational decision processes, arguing that collective OODA cycle acceleration represents a fundamental source of military organizational agility (Hollands et al., 2024)..

2.2 Organizational Resilience

Organizational resilience has emerged as a central construct in management and organizational theory, yet definitional consensus remains elusive. In a comprehensive systematic review of the resilience literature, Hillmann and Guenther (2021) identified three dominant conceptualizations: resilience as a stock (a stable organizational property), resilience as a process (a dynamic sequence of adaptive behaviors), and resilience as an outcome (successful recovery from adversity). For military organizations, a process-based conceptualization is most theoretically appropriate, as it captures the dynamic, iterative nature of organizational adaptation across the phases of crisis anticipation, response, and recovery.

Weick and Sutcliffe (2015) contributed foundational insights through their analysis of High Reliability Organizations (HROs), systems that operate in high-hazard environments with remarkably low failure rates. Their framework identifies five cognitive processes that underpin HRO resilience: preoccupation with failure, reluctance to simplify interpretations, sensitivity to operations, commitment to resilience, and deference to expertise. Military organizations, particularly special operations forces and nuclear command structures, exemplify many HRO characteristics, suggesting that HRO theory provides a productive theoretical bridge between organizational resilience scholarship and military leadership research.

Lengnick-Hall et al. (2011) advanced the understanding of resilience as a strategic capability by demonstrating that human resource management practices (including cognitive, behavioral, and contextual mechanisms) contribute to organizational resilience capacity. Their framework is particularly relevant for military organizations, where personnel selection, training, and leadership development are the primary mechanisms for building and sustaining resilience capacity. Boin and van Eeten (2013) further argued that resilience is not merely a reactive capacity but a proactive organizational orientation that shapes how institutions anticipate, prepare for, and learn from disruptive events.

2.3 Mission Command and VUCA–BANI Conditions

Mission Command represents the dominant doctrinal framework for agile military leadership in NATO and U.S. Army doctrine. Codified in ADP 6-0 (U.S. Army, 2019), Mission Command is defined as the commander exercising authority and direction through mission orders to enable disciplined initiative within the commander's intent, empowering agile and adaptive leaders. The doctrine rests on six principles: building cohesive teams through mutual trust; creating shared understanding; providing a clear commander's intent; exercising disciplined initiative; using mission orders; and accepting prudent risk.

Mission Command's organizational logic directly addresses the fundamental tension in military decision-making between the need for coordinated, unified action and the operational reality that front-line commanders have superior situational awareness relative to higher headquarters. By decentralizing execution authority while maintaining unity of purpose through commander's intent, Mission Command creates the conditions for organizational agility: subordinate leaders can adapt their actions to local conditions without awaiting instructions from higher authority, thereby accelerating the collective OODA cycle and enabling the organization to respond faster than adversaries can adapt (Hollands et al., 2024).

The VUCA framework has become the dominant conceptual lens for analyzing organizational challenges in turbulent environments across both military and civilian domains (Troise et al., 2022). Cascio (2020) proposed an evolution of this framework through the BANI construct (Brittle, Anxious, Nonlinear, and Incomprehensible) arguing that contemporary conditions have exceeded the descriptive capacity of VUCA and require new conceptual tools for understanding organizational vulnerability and adaptive capacity.

For military organizations, VUCA/BANI conditions manifest across multiple operational dimensions. Volatility appears in the rapid escalation and de-escalation of conflict intensity; uncertainty in the fog of war and information operations that degrade situational awareness; complexity in the multi-actor, multi-domain nature of contemporary conflicts; and ambiguity in hybrid warfare tactics that blur the distinction between war and peace, combatant and civilian, state and non-state actor. These conditions impose extraordinary cognitive and organizational demands on military leaders, requiring decision-making frameworks that operate effectively under radical uncertainty (Snowden & Boone, 2007).

2.4 Military Agile Leadership–Resilience (MALR) Model

The Military Agile Leadership–Resilience (MALR) model integrates Strategic Leadership Theory, Dynamic Capabilities Theory, and Organizational Resilience Theory into a unified conceptual framework. The model posits that strategic leadership antecedents (specifically commander cognitive agility, doctrinal competence, and emotional intelligence) drive agile decision-making behaviors, which in turn enhance four dimensions of organizational resilience, moderated by organizational culture, technological enablement, and doctrinal flexibility.

Strategic Leadership Antecedents comprise three constructs. Commander cognitive agility refers to the mental flexibility and adaptive thinking capacity that enables rapid

reorientation in response to novel situations (Teece, 2018). Doctrinal competence encompasses mastery of OODA Loop dynamics, MDMP processes, and Mission Command principles. Emotional and social intelligence captures the interpersonal capacities (empathy, trust-building, and communication) that enable commanders to maintain unit cohesion under extreme stress (Joiner & Josephs, 2007).

Agile Decision-Making is conceptualized as a multi-dimensional construct comprising four behavioral dimensions: (1) decentralized authority (the delegation of execution decisions to subordinate commanders; (2) rapid sense-making) the accelerated processing of environmental signals into actionable intelligence; (3) adaptive planning (the capacity to revise plans in real-time as conditions evolve; and (4) disciplined initiative) the exercise of proactive, self-directed action within the boundaries of commander's intent (U.S. Army, 2019).

Organizational Resilience Outcomes are conceptualized across four dimensions following Hollnagel et al. (2006): anticipatory resilience (the capacity to predict and prepare for disruptions), adaptive resilience (real-time adjustment during crises), recovery resilience (restoration of capabilities post-disruption), and transformative resilience (organizational learning and evolution following adversity).

2.5 Theoretical Propositions

Proposition 1: Military commanders with higher cognitive agility and doctrinal competence will exhibit greater agile decision-making capacity, as shown by faster OODA cycle completion and more effective Mission Command implementation. This proposition is grounded in Upper Echelons Theory (Hambrick & Mason, 1984) and Dynamic Capabilities Theory (Eisenhardt & Martin, 2000). Cognitive agility enables commanders to rapidly reorient their mental models in response to environmental changes, while doctrinal competence provides the procedural frameworks through which agile decision-making is operationalized. Together, these antecedents create the conditions for accelerated, high-quality decision cycles.

Proposition 2: Agile decision-making, operationalized through Mission Command principles and OODA Loop dynamics, will positively enhance all four dimensions of organizational resilience in military high-risk environments. This proposition draws on Dynamic Capabilities Theory (Teece et al., 1997) and Organizational Resilience Theory (Hillmann & Guenther, 2021). Agile decision-making enhances anticipatory resilience by accelerating intelligence processing; adaptive resilience by enabling real-time plan adjustment; recovery resilience by maintaining decision momentum through degraded conditions; and transformative resilience by institutionalizing lessons learned through after-action review processes.

Proposition 3: Organizational culture (specifically, a culture that supports disciplined initiative, tolerates prudent risk, and rewards adaptive behavior) moderates the relationship between agile decision-making and organizational resilience, such that supportive cultures amplify resilience outcomes. This proposition draws on the organizational culture literature (Weick & Sutcliffe, 2015) and Mission Command doctrine (U.S. Army, 2019). Military organizations with hierarchical, risk-averse cultures that punish subordinate initiative will suppress the agile decision-making behaviors that Mission Command doctrine seeks to enable, thereby weakening the leadership-resilience relationship.

Proposition 4: Technological enablement (specifically, the integration of C4ISR systems, AI-assisted decision support, and real-time data analytics) moderates the agile decision-making–resilience relationship by accelerating OODA cycle completion and expanding situational awareness. This proposition draws on Dynamic Capabilities Theory (Teece, 2018) and emerging scholarship on AI-human teaming in military decision-making. Advanced C4ISR systems enhance the Observe and Orient phases of the OODA Loop by providing commanders with richer, more timely situational data. AI-assisted decision support tools can accelerate the Decide phase by rapidly generating and evaluating courses of action. However, the human commander remains the critical decision-making agent, as AI systems lack the contextual judgment and moral reasoning required for complex operational decisions.

2.6 Mediating Mechanisms

Two mediating mechanisms are proposed within the MALR model. Shared mental models (the degree to which commanders and subordinates share a common understanding of the operational situation, commander's intent, and decision criteria) mediate the relationship between agile decision-making and organizational resilience by enabling coordinated adaptation without explicit communication (Prayag et al., 2024). Organizational learning capacity (the institutionalized processes through which military organizations capture, codify, and disseminate lessons from operational experience) mediates the relationship between agile decision-making and transformative resilience by converting individual adaptive behaviors into collective organizational capabilities (Lengnick-Hall et al., 2011).

3 Results and Discussion

As a conceptual study, the results are the integrated MALR framework and four theoretically derived propositions presented above. The following discussion considers their theoretical meaning, potential application, and limitations; it does not report newly collected or analyzed empirical data.

3.1 Theoretical Contributions

The MALR model contributes to the theoretical landscape at the intersection of strategic leadership, dynamic capabilities, and organizational resilience. First, by extending Upper Echelons Theory to the military domain, the model shows that senior commanders' cognitive and behavioral characteristics (not merely structural or doctrinal factors) primarily determine organizational resilience. This insight challenges purely structural explanations of military effectiveness and repositions leadership development as a strategic resilience investment.

Second, the model reframes the OODA Loop from Boyd's original individual-level cognitive model to an organizational leadership framework. By conceptualizing OODA cycle acceleration as a collective organizational capability driven by Mission Command principles, the model bridges the gap between military doctrine and organizational theory. This reframing has significant implications for how military organizations design

command structures, develop leadership competencies, and evaluate operational effectiveness.

3.2 Practical Implications

The MALR model generates several practical implications for military organizations. For military education institutions, the model suggests that leadership development programs should explicitly cultivate cognitive agility (including mental flexibility, adaptive thinking, and rapid sense-making) alongside doctrinal competence. War Colleges and Staff and Command Schools should incorporate scenario-based learning that places commanders in VUCA conditions requiring real-time OODA cycle execution, rather than relying exclusively on deliberate planning exercises.

For technology integration, the model highlights the importance of designing C4ISR and AI systems that augment rather than replace human judgment. The most effective military decision-support technologies will be those that accelerate the Observe and Orient phases of the OODA Loop (providing commanders with richer situational awareness) while preserving the human agency required for the Decide and Act phases.

3.3 Limitations

This paper has several limitations that should be acknowledged. As a conceptual paper, the MALR model has not been empirically tested; the propositions are theoretical and require validation through quantitative survey research, qualitative case studies, or mixed-methods designs. The model's generalizability may be limited to military organizations operating within Mission Command-oriented doctrinal frameworks; applying it to organizations with different command philosophies (e.g., Soviet-style centralized command) requires further investigation.

4 Conclusion

This paper developed the Military Agile Leadership–Resilience (MALR) model, an integrated conceptual framework that explains how agile decision-making enhances organizational resilience in high-risk military environments. Drawing on Strategic Leadership Theory, Dynamic Capabilities Theory, and Organizational Resilience Theory, the model advances four theoretical propositions linking commander cognitive agility, Mission Command implementation, and OODA Loop dynamics to anticipatory, adaptive, recovery, and transformative resilience outcomes. Organizational culture and technological enablement are key moderating variables, while shared mental models and organizational learning capacity mediate the relationships.

Future research should empirically test the MALR model's propositions through mixed-methods designs that combine quantitative survey data from military officers with qualitative case analyses of specific operations. Comparative studies across national military organizations would also help explain how doctrinal, cultural, and technological factors moderate the leadership–resilience relationship. Additionally, the growing integration of artificial intelligence into military decision-making processes represents a critical frontier for future research, as AI-human teaming in command environments will

fundamentally reshape the dynamics of agile decision-making and organizational resilience in ways that current theoretical frameworks have yet to fully address.

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