Aerospace & Defense
Journal of the Elrom Center for Air and Space Studies at Tel Aviv University
No. 2(2) | December 2025

Ambidextrous Leadership in Military Aviation: A Comparative Analysis of Israeli Air Force Crisis Response During the 1973 Yom Kippur War and the 2023 October 7th Attack

Alex Dan[1]

Abstract

This study explores how ambidextrous leadership theory explains differences in the Israeli Air Force (IAF) crisis response effectiveness during the 1973 Yom Kippur War and the 2023 October 7th attack by Hamas. Using a comparative case study approach, the research shows that commanders' inability to balance exploitative and explorative behaviors led to failures in the initial response. Traditional military leadership methods proved inadequate when facing situations that require maintaining operational continuity while also pursuing tactical innovation.

Key findings indicate that cognitive flexibility, quick learning, and adaptive resource management are essential for effective crisis response. The study highlights ongoing organizational biases toward exploitation rather than exploration, despite fifty years of technological progress. This research is the first systematic application of ambidextrous leadership theory to military aviation crisis response, adapting civilian organizational ideas to suit military command needs. Practical implications include recommendations for personnel selection, simulation-based training, and organizational changes to improve crisis preparedness.

[1] **Dr. Alex Dan** is a senior researcher at the Elrom Center for Air snd Space Studies at Tel Aviv University.

To cite this article: Dan, A. (2025). Ambidextrous Leadership in Military Aviation: A Comparative Analysis of Israeli Air Force Crisis Response During the 1973 Yom Kippur War and the 2023 October 7th Attack. *Aerospace & Defense*, 2(2), 41-68. https://socsci4.tau.ac.il/mu2/elrommagazine-eng/

Keywords: ambidextrous leadership, military aviation, crisis management, Israeli Air Force, organizational adaptation, surprise attacks

Introduction

The Israeli Air Force (IAF) faced unprecedented challenges during two pivotal occasions: the 1973 Yom Kippur War, a conflict between Israel and a coalition of Arab nations led by Egypt and Syria, and the October 7, 2023, Hamas attack, which involved a coordinated surprise assault with ground infiltration, rocket barrages, and asymmetric warfare tactics. Despite fifty years of technological advancements and doctrinal evolution between these events, both crises revealed similar leadership shortcomings in responding to strategic surprises.

These experiences highlight key challenges in how military aviation leaders maintain operational efficiency while adapting to unexpected threats. The concept of *organizational ambidexterity*, introduced by James March (1991), distinguishes between exploitation—improving current capabilities—and exploration—pursuing new options. During military crises, ambidextrous leadership reflects commanders' ability to sustain operational efficiency while quickly developing innovative responses to unforeseen threats within the rigid hierarchical structures and high-stakes environment typical of military organizations (Raisch & Birkinshaw, 2008; Soeters, 2006).

Military crisis leadership differs fundamentally from civilian crisis management because of the unique structural, cultural, and operational traits of armed forces (Boin et al., 2016; Kolditz, 2007). The combination of hierarchical authority, standardized procedures, and high-stakes missions creates distinct challenges for leaders trying to balance exploitative and exploratory behaviors during crisis response (Soeters, 2006; Weick & Sutcliffe, 2007). Air forces especially face these challenges as they operate in dynamic threat environments where leaders must execute standard procedures while also adapting to unexpected threats under extreme organizational constraints. The IAF's initial responses to both attacks followed similar patterns: strict adherence to established protocols followed by costly delays before adopting new strategies. Existing research often emphasizes transformational and adaptive leadership in military contexts (Bass & Riggio, 2006; Heifetz, Linsky, & Grashow, 2009) but overlooks the organizational ambidexterity theory, which explains how leaders exploit existing capabilities while developing new approaches during crises (Yammarino et al., 2010).

The IAF serves as a prime case study due to Israel's unique strategic context, where the air force is crucial to a small nation in which operational mistakes

can have immediate strategic consequences, and its distinctive organizational characteristics: a formal military hierarchy combined with operational flexibility, extensive combat experience across various threat environments, and a reputation for both technological excellence and tactical innovation (Ben-Israel, 2011). This strategic criticality amplifies the importance of effectively managing surprise situations, as leadership failures in such contexts can quickly escalate beyond tactical setbacks to threaten national security. However, both surprise attacks revealed significant gaps in decision-making, especially when established paradigms proved insufficient for rapidly changing battlefield conditions.

This article examines the ambidextrous leadership behaviors that enable effective or ineffective crisis adaptation in military aviation and how these insights can inform the selection, training, and organizational structure of contemporary air forces. The underlying assumption is that by identifying these specific leadership capabilities, military organizations can systematically select, train, and adapt their structures to develop such competencies. The article employs comparative case study analysis of responses by high-ranking IAF officers during both conflicts and follows four stages: (1) synthesizing a military-crisis-leadership framework through the organizational ambidexterity theory, (2) analyzing ambidextrous leadership dimensions in each conflict, (3) identifying common leadership patterns beyond technological factors, and (4) translating insights into practical recommendations to improve military aviation crisis leadership capabilities across air forces globally, using the IAF as a representative case study.

Literature Review

Military Leadership in Crisis Situations

Compared to their civilian counterparts, military organizations face fundamentally different leadership challenges during crises. Unique constraints distinguish military crisis leadership from civilian organizational crisis management, primarily regarding the intersection of hierarchical military structures with crisis dynamics (Soeters, 2006; Boin et al., 2016). The structural features of military organizations—rigid hierarchies, standardized operating procedures, and centralized command authority—create natural tensions with the flexibility needed during crises. These command hierarchy constraints can slow decision-making and hinder local adaptation, while standardized doctrines and procedures, designed for predictable situations, often fall short during new, unforeseen crises (Weick & Sutcliffe, 2007; Soeters, 2006). Additionally, these structural limitations are exacerbated by risk-averse organizational cultures that prioritize avoiding failure over fostering innovation, as well as compressed decision-

making timeframes, where the consequences of leadership failures extend beyond organizational performance to encompass strategic and human costs (Kolditz, 2007; Hannah et al., 2009).

Military crises intensify existing challenges, such as time pressure, high-stakes decision-making, and radical uncertainty, through additional factors including life-or-death stakes, the "fog of war" that significantly distorts information, and organizational cultures that prioritize discipline and adherence to doctrine (Kolditz, 2007; Hannah et al., 2009). Traditional military leadership theories focus mainly on transformational leadership's ability to build vision (Bass & Riggio, 2006) and adaptive leadership's flexibility in changing circumstances (Heifetz et al., 2009). However, these frameworks fall short in addressing the conflicting demands of maintaining operational continuity and promoting tactical innovation during surprise attacks within military structures. Research on military organizations reveals that leaders must uphold discipline while fostering creative problem-solving within hierarchical systems in response to dangerous situations. Recent studies have highlighted the difficulty of managing competing organizational demands simultaneously, especially with respect to balancing the need to leverage proven military capabilities with exploring innovative responses under extreme time constraints (Yammarino et al., 2010; Hannah et al., 2009; Campbell, 2012; Soeters et al., 2006).

Organizational Ambidexterity Theory

March's (1991) distinction between exploitation and exploration provides the theoretical foundation for understanding challenges in organizational adaptation. Exploitation centers on refinement, efficiency, selection, and execution, whereas exploration emphasizes search, variation, experimentation, and innovation.

Organizations prefer exploitation because of its immediate benefits and lower uncertainty, which can lead to competency traps when environments change rapidly. O'Reilly and Tushman (2013) expanded this idea by emphasizing organizational ambidexterity as the ability to pursue both exploitative and exploratory strategies simultaneously. Their research revealed that successful organizations cultivate structural and contextual systems that foster both efficiency and innovation. However, military organizations face distinct challenges when implementing ambidextrous structures due to the hierarchical nature of command and the need for standardization.

Gibson and Birkinshaw (2004) introduced the concept of contextual ambidexterity, in which individual leaders shift between exploitative and exploratory approaches depending on the situation. This concept is especially relevant for military commanders who must make quick decisions that require

switching modes during combat. Their framework highlights four behavioral traits that support contextual ambidexterity: discipline, stretch, support, and trust.

Rosing et al. (2011) described ambidextrous leadership as switching between opening behaviors (encouraging experimentation) and closing behaviors (establishing routines). Raisch and Birkinshaw (2008) argued that ambidexterity becomes essential in uncertain environments, such as when confronting surprise attacks. Their framework, however, needs adjustment for military settings where decision reversibility is limited and the consequences of errors are severe.

Ambidextrous Leadership in Military Crisis Contexts

Applying civilian ambidexterity theory to military contexts highlights key differences that change leadership priorities during crises, with Air Force environments facing unique challenges due to the speed, complexity, and high-stakes nature of aerial operations (see Appendix 1: Military vs. Civilian Ambidexterity Context Differences, p. 65).

While civilian organizations manage exploitation-exploration tensions over extended periods, military crises condense these decisions into minutes or seconds, placing extraordinary cognitive demands on senior officers (Kassotaki, 2017; Shields & Travis, 2017). The literature indicates that ambidextrous leadership in military settings necessitates the simultaneous mastery of opening behaviors (exploration) and closing behaviors (exploitation), with middle management serving as essential links for vertical ambidexterity across hierarchical levels (Akinci et al., 2022; Baskarada et al., 2016).

Military organizations present particular structural paradoxes that require ambidextrous leadership, especially in Air Force environments, where these tensions are most evident (see Appendix 2- Facilitating vs. Impeding Factors for Military Ambidextrous Leadership, p. 66). Facilitating factors include a strong organizational identity rooted in mission-critical excellence, precise performance metrics, and rapid feedback from combat operations. Impeding factors include hierarchical rigidity, standardization necessary for safety, and risk aversion driven by life-or-death stakes (Shields & Travis, 2021; Kassotaki, 2017).

Research indicates that military environments exhibit primarily vertical rather than horizontal ambidexterity, as rigid structures hinder the lateral sharing of exploratory activities across units (Kassotaki, 2017). Air Force operational settings require highly developed ambidextrous leadership skills owing to their technological complexity, fast pace, and the multi-domain nature of modern aerial combat. Leaders must balance exploiting proven tactics with exploring new solutions while ensuring split-second decision accuracy (Rashid et al., 2024; Lawrence et al., 2021).

This need for careful balance creates what Shields and Travis (2017) refer to as "pragmatic versatility," where leaders must demonstrate flexible adaptation without compromising operational safety. Building on this theoretical foundation and empirical evidence from Air Force operational contexts, the current research synthesizes various aspects of crisis leadership into a comprehensive framework. Based on this review and Air Force operational needs, it proposes a military ambidextrous leadership framework with five key dimensions that interact dynamically during crisis response, a synthesis that consolidates previously separate leadership elements into an integrated model designed explicitly for military aviation crises. The selection and integration of these particular dimensions are detailed in the methodology section, which explains the rationale for this specific combination and their dynamic interactions (see Appendix 3 – Ambidextrous Leadership Dimensions in Military Crisis Contexts, p. 67). The five key dimensions for the proposed military ambidextrous leadership framework are as follows:

Dimension (1) – Cognitive Flexibility involves quickly switching between different mental modes and tactical frameworks, including overcoming cognitive biases while remaining open to disconfirming information (Šimanauskienė et al., 2021; Kousina & Voudouris, 2023). Being cognitively flexible means shifting from pre-planned missions to real-time adjustments based on unexpected threats, requiring "mindful organizing" under intense pressure of time.

Dimension (2) – Resource Reallocation Agility involves swiftly shifting personnel, equipment, and focus between routine tasks and innovative strategies, reallocating assets quickly from standard missions to counter-surprise operations without disrupting existing commitments (Stei et al., 2024; Riyanto, 2024).

Dimension (3) – Learning Integration Speed involves applying real-time feedback to adjust strategies during ongoing operations, requiring both single-loop learning (fixing errors within existing frameworks) and double-loop learning (challenging the frameworks themselves), especially when established doctrines prove inadequate (Sarika et al., 2024; Lawrence et al., 2021).

Dimension (4) – Command Authority Balance involves toggling between centralized control for coordination and decentralized decision-making for tactical innovation, thereby addressing the tension between hierarchy and local adaptive authority (Guo et al., 2020; Al-Eida, 2020).

Dimension (5) – Operational Innovation Integration involves seamlessly incorporating new tactical methods during ongoing operations while maintaining mission effectiveness and safety standards, ensuring that exploratory actions support rather than undermine mission success (Rashid et al., 2024; Akinci et al., 2022).

These five dimensions lead to three key propositions: (1) military leaders with higher ambidextrous leadership skills respond more effectively to surprise attacks; (2) organizations that support ambidextrous leadership structures recover more quickly; (3) the rapid pace of crises highlights the importance of individual ambidextrous skills over organizational structures.

This framework offers the theoretical basis for understanding how senior Air Force officers manage complex crisis leadership challenges while maintaining operational effectiveness and engaging in innovative adaptation (Shields & Travis, 2017; Rashid et al., 2024).

Methodology

Research Design

This comparative case study methodology (Yin, 2018) examines the 1973 Yom Kippur War and the October 7, 2023, attack within the Israeli Air Force. A fifty-year span between the events allows for analyzing ongoing leadership challenges versus those specific to contexts. Data is triangulated from declassified archives, commission reports (1973), journalistic sources, and early academic articles (2023). Hebrew sources are reviewed in their original language, with validity confirmed through pattern matching and peer review.

Theoretical Framework

This study systematically adapts March's (1991) exploitation-exploration framework for military crisis leadership by selecting five dimensions that directly address the structural constraints identified by Soeters et al. (2006)—hierarchical command systems, standardized procedures, and high-stakes consequences—which Gibson & Birkinshaw's (2004) civilian ambidexterity models do not account for. The dimension selection process builds on March's original dichotomy and incorporates Rosing et al.'s (2011) behavioral switching model to capture how exploitation-exploration tensions manifest within military hierarchical structures during crises.

The five dimensions were specifically chosen based on their theoretical foundation in military organizational behavior: Cognitive Flexibility stems from March's (1991) core cognitive tensions under time pressure; Resource Reallocation Agility translates O'Reilly and Tushman's (2013) structural ambidexterity into military resource constraints; Learning Integration Speed operationalizes Argyris and Schön's (1996) organizational learning within compressed military decision cycles; Command Authority Balance addresses Yammarino et al.'s (2010) identified leadership paradoxes specific to military hierarchical settings; and Operational Innovation Integration incorporates Hannah et al.'s (2009) authentic

leadership principles related to safety and reliability in military operations. These dimensions collectively represent the essential ambidexterity behaviors that emerge when military leaders simultaneously exploit proven capabilities while exploring innovative responses under crisis conditions.

Limitations

Disparities between extensive 1973 declassified materials and limited 2023 documentation may affect comparative accuracy. The focus on a single organization and the Israeli military context restricts generalizability.

Case Study Analysis

The 1973 Yom Kippur War: Exploitation Orientation Under Fire

Organizational Context

The Israeli Air Force entered October 1973 with unwavering confidence. This confidence was directly derived from its decisive victory in the 1967 Six-Day War. The success had solidified into what Bar-Joseph (2008) called "the conception," a fixed strategic mindset that believed Israeli air superiority would deter any major Arab military initiatives.

Air Force Commander Benjamin Peled developed a doctrine emphasizing preemptive strikes and technological superiority (Bar-Joseph, 2013, 2021; Eyeland, 2023). This approach fostered an organizational culture that is deeply committed to utilizing proven capabilities (Gordon, 2008). However, this confidence was severely tested as the war progressed, revealing the limitations of such an exploitation strategy when faced with unexpected challenges. The command structure reflected this exploitation approach through several key features.

First, decision-making remained highly centralized. Second, operational planning relied on detailed, predetermined protocols. Third, tactical flexibility at the squadron level was heavily restricted (Bar-Joseph, 2008; Gordon, 1998). Training programs focused on refining established procedures rather than developing adaptable skills (Gordon, 1998, 2008; Steigman, 2023). Intelligence processes reinforced existing assumptions, forming echo chambers that excluded disconfirming information about the changing capabilities of the Arab world (Gordon, 1998; Tamari, 2011). This filtering ultimately led to a strategic misjudgment with serious consequences for the IAF and broader Israeli military efforts during the conflict.

Initial Response Analysis

When Egyptian and Syrian forces launched their coordinated attack on October 6, 1973, the IAF's initial response revealed apparent limitations of a purely

exploitation-focused approach. Despite tactical warning signs, commanders attempted to carry out standard air superiority operations based on the success of 1967 (Bar-Joseph, 2008). Gordon (2008) documented how the first 48 hours saw repeated attempts to execute pre-planned strike packages against Egyptian bridgeheads. These efforts continued even as increasing aircraft losses indicated fundamental flaws in tactical assumptions. The exploitation bias manifested in three critical dimensions, proving costly.

Tactical Rigidity

Squadron commanders were given detailed mission orders that left little room for flexibility. When pilots encountered unexpected SA-6 surface-to-air missile systems, they had no authority to abort or change their attack plans (Bar-Joseph, 2021; Ben-Israel, 2011). This inflexibility reflected what Perrow (1984) described as "tight coupling" in complex systems. The result was disastrous: 14 aircraft were lost on the first day alone, a shocking toll for a force accustomed to air supremacy (Bar-Joseph, 2021; Gordon, 2008; Haber et al., 2013).

Cognitive Anchoring

Senior leadership faced a similarly significant challenge. Despite mounting battlefield evidence, commanders clung to their existing beliefs about Arab military strength and Israeli technological superiority (Bar-Joseph, 2008). The idea that low-altitude attacks could overcome Arab air defenses persisted despite numerous failed missions. Internal command discussions revealed ongoing efforts to interpret losses as failures of execution rather than as outcomes of external factors (Gordon, 2008; Marcheli, 2023). Leaders refused to recognize the fundamental tactical obsolescence, illustrating what Kahneman (2011) referred to as "theory-induced blindness."

Learning Paralysis

The rapid operational pace hampered systematic adaptation through traditional IAF methods. Individual pilots' real-time innovative efforts went unrecorded in the centralized command system. The organization's learning infrastructure, designed for peacetime refinement of proven tactics, could not support the radical experimentation necessary for responding to new threats (Finkel, 2022; Gordon, 2008; Tamari, 2011).

Ambidextrous Leadership Deficits

Analysis through the ambidextrous leadership framework reveals systematic deficiencies across all five dimensions. This analysis demonstrates how organizational excellence in exploitation can become a liability during a crisis.

Dimension (1) – Cognitive Flexibility Limitations

IAF commanders demonstrated a limited ability to adjust their mental models despite accumulating contradictory evidence. The persistence of "the conception" led to theory-induced blindness, preventing recognition of the fundamentally changed battlefield dynamics. Confirmation bias led to the selective interpretation of intelligence. Commanders emphasized reports that confirmed Arab weakness while ignoring evidence of their adversary's improved capabilities and strategic adjustments. This cognitive rigidity ultimately weakened the IAF's operational effectiveness, highlighting the urgent need for adaptive leadership in high-stakes environments.

Dimension (2) – Resource Reallocation Challenges

Resource reallocation agility was nearly nonexistent during the critical initial phase. Aircraft continued executing pre-war mission profiles aimed at anticipated threats rather than actual battlefield needs. The organizational system for tasking and resource allocation, optimized for deliberate planning cycles, failed to support quick reorientation. Ground support equipment and munitions remained set up for expected scenarios instead of emerging defensive needs (Ben-Israel, 2011; Gordon, 2008). This misallocation of resources worsened the IAF's operational challenges.

Dimension (3) – Learning Integration Failures

Learning integration speed was far below battlefield needs. The centralized command system slowed the quick spread of tactical lessons. Innovations by frontline units took days rather than hours to disseminate across the organization. Squadron-level discoveries about surface-to-air missile engagement zones, effective countermeasures, and modified attack profiles stayed localized (Bar-Joseph, 2021; Gordon, 1998, 2008). Critical tactical knowledge did not reach other units that urgently needed it (Bar-Joseph, 2008).

Dimension (4) – Command Authority Imbalance

The balance of command authority revealed the most fundamental failure of commanders' attempts at ambidextrous leadership. The crisis exposed an inability to balance centralized coordination with distributed innovation in a dynamic

manner. A rigid hierarchy prevented squadron commanders from exercising tactical initiative, even when local conditions clearly demanded deviation from central directives. Simultaneously, senior leadership lacked the granular situational awareness necessary for providing detailed tactical direction. This confluence of factors resulted in paralysis at multiple organizational levels.

Dimension (5) – Operational Innovation Integration

Only after absorbing significant losses did the IAF begin demonstrating exploratory behaviors. By Day 4, commanders authorized the use of experimental tactics. These included the employment of standoff weapons and integrated Suppression of Enemy Air Defenses (SEAD) operations (Ben-Israel, 2011; Gordon, 2008). However, this adaptation emerged through costly trial and error rather than systematic ambidextrous leadership. The eventual tactical innovations, including low-level night attacks and decoy operations, emerged from bottom-up experimentation rather than leadership-directed exploration (Ben-Israel, 2011; Gordon, 2008).

The Aftermath

The IAF's experience during the Yom Kippur War highlights the crucial need for organizations to develop adaptive leadership capabilities. Such capabilities prove essential for navigating complex and unpredictable environments effectively. The delay in adaptation came at a tremendous cost, both in terms of aircraft and pilot lives.

The 2023 October 7th Attack: Technology and Tradition Collide

Evolved Context, Persistent Culture

By 2023, the IAF had significantly improved its technological capabilities, including network-centric warfare systems, precision-guided munitions, real-time intelligence fusion, and the integration of unmanned systems (Ben-Israel, 2011, 2013). However, behind this technological sophistication, the organizational culture remained intensely focused on exploitation. Recent operations against asymmetric threats have reinforced the IAF's reliance on technological superiority and precise, pre-planned operations (Ben-Israel, 2011; Finkel, 2022, 2024a, 2024c; Heller, 2024; Selján, 2024). The command structure had adapted to include more decentralized decision-making, with squadron commanders having greater tactical autonomy than they did in 1973 (Gordon, 1998; Steigman, 2023). Still, this decentralization occurred within a framework designed to carry out variations of established procedures rather than to develop new approaches. Intelligence systems had grown exponentially in complexity, yet their design

was based on assumptions about threat characteristics that proved disastrously wrong on October 7th (Bochbot, 2025; HaCohen, 2024; Lt. Col. Y., 2024).

Surprise and System Failure

The Hamas attack's unprecedented scale and sophistication created conditions that overwhelmed the IAF's exploitation-focused systems. Initial responses showed striking parallels to 1973, indicating deep organizational continuities that went beyond technological changes, despite the vastly different contexts. Procedural paralysis took hold as commanders struggled to adapt to unprecedented scenarios by using existing response templates. IAF units initially tried to implement standard counter-terrorism protocols despite facing a complex, multi-domain assault that included ground infiltration, massive rocket barrages, drone swarms, and cyber-attacks (Ophir, 2023; Ortal, 2025; Preisler-Swiri, 2024; Selján, 2024).

The assumption that technological systems would enable effective responses through established procedures proved disastrously inadequate when facing an enemy that had studied and deliberately exploited these procedural patterns. In the technology-rich environment of 2023, information overload paradoxically became a barrier to adaptation. While 1973 suffered from a lack of information, 2023 experienced information paralysis. The vast amount of incoming data from satellites, drones, ground sensors, intelligence networks, and social media overwhelmed decision-making processes designed for more limited information flows (Selján, 2024; Wyss, 2024). Commanders faced thousands of data points and struggled to synthesize conflicting reports and identify the most urgent responses.

Coordination breakdown across domains exposed critical gaps in the IAF's integration capabilities. The multi-domain nature of the attack, which targeted air, land, sea, and information spheres simultaneously, revealed that organizational structures were still optimized for single-domain excellence rather than an integrated response (Heller, 2024; Blumental & Menashe, 2025; Wyss, 2024; Zeitoun, 2025). IAF liaison officers with ground forces lacked procedures for handling the unprecedented scenario of simultaneous mass casualty events, infrastructure attacks, and conventional military assaults.

Ambidextrous Leadership Analysis

The 2023 crisis revealed both evolution and persistence of ambidextrous leadership challenges, demonstrating how technological advancements without corresponding organizational adaptations may actually reduce crisis response capabilities.

Dimension (1) – Cognitive Flexibility Limitations

Cognitive flexibility has remained limited despite five decades of organizational learning. Modern commanders displayed similar cognitive rigidity as their counterparts did in 1973, though through different mechanisms. The availability bias caused them to interpret the attack using familiar terrorism frameworks instead of recognizing its hybrid warfare features. Command discussions disclosed ongoing attempts to apply counter-terrorism models, focusing on precision and discrimination, despite a situation that required conventional war responses prioritizing speed and mass (Dostri, 2023; Finkel, 2024a; Heller, 2024).

Dimension (2) – Resource Reallocation Challenges

Resource reallocation agility, while showing potential for improvement, still faces practical limitations. Modern command systems offer better capability for quick asset redeployment through networked communications and real-time tracking. However, organizational practices and system interdependencies currently restrain practical agility below its theoretical maximum. There is hope for improvement in this area, as the lessons learned from the 2023 crisis can guide future reforms. Aircraft configured for precision strikes against individual targets proved ineffective against massed infantry assaults that require area effects (Ashkenazi, 2025; Bochbot, 2025; Heller, 2024).

Dimension (3) – Learning Integration Speed

Learning speed demonstrated the double-edged nature of technological advancement. Real-time data systems offer unprecedented potential for rapid learning dissemination; however, organizational structures have not fully or effectively capitalized on this potential. Tactical innovations by individual units, such as using attack helicopters for urban close air support or adapting agricultural drones for reconnaissance, took hours to disseminate despite instantaneous communication capabilities. A bright future lies ahead for the integration of real-time data systems in military operations (Bochbot, 2025; Ganor, 2025; Heller, 2024; Ophir, 2023).

Dimension (4) – Command Authority Balance

The command authority balance reveals ongoing struggles with dynamic adaptation, despite apparent improvements in this area. While squadron commanders have greater formal autonomy than they did in 1973, crisis conditions have exhibited a recentralization of informal authority, as senior leadership has intervened directly in tactical decisions. Modern communications enable, but also promote, micromanagement, with senior commanders able to monitor and

override tactical decisions in real time. This issue urgently needs to be addressed to ensure effective crisis response (Heller, 2024; Ortal, 2025; Shapira, 2025).

Dimension (5) – Operational Innovation Integration

The October 7th attack exposed critical failures in operational innovation integration. The IAF's existing doctrine maintained rigid separation between conventional military response and routine security operations, with no framework for mass infiltrations that exceeded security parameters yet fell short of conventional attack criteria (Dan, 2024; Heller, 2024). Procedures optimized for precision strikes proved incompatible with "swarm" infiltrations requiring immediate area-effect responses (Dostri, 2023). The absence of pre-approved engagement zones for infiltrators within Israeli territory, despite decades of border operations, reflected the deeper limitation of viewing air power as "supporting" rather than "leading" in border defense (Shmueli, 2025; Shimoni, 2025; Finkel, 2024).

Technological Dependence as an Exploration Barrier

A unique aspect of the 2023 case was the role of technology in constraining exploration. Sophisticated systems designed for optimizing known procedures created new barriers to innovation. Automated planning systems channeled thinking toward standard solutions. User interfaces optimized for routine operations proved cumbersome for novel approaches (Shapira, 2025). System interdependence meant that innovations required complex reconfigurations. Training focused on system operation rather than creative problem-solving. These factors suggest that technological advancement without corresponding organizational adaptation may reduce ambidextrous capability by introducing exploitation bias into system design.

Comparative Analysis: Persistent Patterns Across Eras

Enduring Exploitation Bias

Both examples highlight a strong tendency towards exploitation despite functioning in different settings. The emphasis on air dominance in 1973 mirrors the dependence on technological precision, along with similar organizational preferences for proven methods rather than experimentation, in 2023 (Finkel, 2024b; HaCohen, 2024; Heller, 2024). This consistent pattern indicates that exploitation bias stems from deeply ingrained cultural foundations that extend beyond specific technologies or doctrines. The persistence of this bias underscores key aspects of military organizational culture: a professional identity centered on mastery and expertise in validated capabilities, which fosters psychological commitment to current skills; institutional memory that upholds successful past

strategies, especially for organizations like the IAF that built their reputation through particular operational methods; risk-averse cultures driven by the high-stakes nature of military failures, making deviation from proven techniques psychologically risky; and socialization processes that systematically train officers to value discipline, standardization, and adherence to procedures over experimentation (Soeters et al., 2006; Weick & Sutcliffe, 2007).

These cultural patterns reinforce themselves through organizational reward systems, promotion criteria, and professional recognition that favor those leaders who are skilled in exploitation. They punish those whose exploratory efforts fail, regardless of their learning value. The organizational benefits of operational efficiency, predictable results, and easier training create strong institutional incentives to uphold current methods. Meanwhile, the cultural focus on avoiding failure often outweighs incentives for innovation (Finkel, 2022; Gordon, 1998). Both examples show how a focus on exploitation during peacetime can lead to systemic vulnerabilities when crises require innovation. The IAF's reputation for operational excellence—based on mastery of exploitation—can become a liability in situations that demand fundamental innovation (Dostri, 2023; Preisler-Swiri, 2024; Tamari, 2011).

Evolution in Mechanisms, Persistence in Challenges

While specific mechanisms have changed significantly over time, core leadership challenges have remained essentially unchanged (see Appendix 4 – Comparative Analysis of IAF Crisis Response Patterns by Leadership Dimension, p. 68). In 1973, mechanical limitations such as manual information processing, hierarchical communication, limited simulation ability, and slow post-action learning cycles constrained capabilities and hampered crisis response: manual information processing hampered situational awareness, hierarchical communication delayed the flow of information, limited simulation ability hindered pre-crisis planning, and post-action learning cycles were too slow for the fast pace of crises (Gordon, 2008; Haber et al., 2013). By 2023, technological innovations had removed most mechanical barriers. Digital systems enabled full situational awareness. Network communications allowed instant information sharing. Advanced simulations offered thorough scenario planning (Ashkenazi, 2025; Ben-Israel, 2011; Finkel, 2022, 2024a). Real-time data systems supported ongoing learning and adaptation.

Despite these improvements, both cases reveal similar leadership failures in cognitive flexibility, resource reallocation, learning integration, and authority balance. This pattern suggests that leadership challenges originate from human cognitive limitations and organizational factors, rather than technological

constraints. The bounded rationality that limited commanders in 1973 persists in 2023, merely shifting from information scarcity to information overload as the constraining factor (Dostri, 2023; Finkel, 2024b; Ganor, 2025).

Individual Versus Organizational Ambidexterity

Both cases reinforce the critical role of individual-level ambidextrous capabilities in crisis response. Organizational structures and systems, whether primitive (1973) or sophisticated (2023), proved too slow for the rapid adaptation required. Effective responses emerged from individual commanders who demonstrated personal ambidextrous capabilities despite organizational constraints (Ganor, 2025; HaCohen, 2024; Heller, 2024). These findings challenge the literature that emphasizes organizational-level ambidexterity mechanisms.

While such mechanisms remain important for longer-term adaptation, crisis response depends critically on individual leaders' ability to recognize when exploitation fails and rapidly shift to exploration. The temporal compression of military crises underscores the significance of individual capabilities over organizational structures.

Cultural Continuity

Most significantly, both cases reveal profound cultural continuity in the IAF's approach to operations. The emphasis on technical excellence, procedural standardization, and operational precision, while contributing to peacetime effectiveness, created cognitive and behavioral barriers to crisis adaptation (Heller, 2024; Lt. Col. Y., 2024). This cultural orientation toward exploitation reflects broader Israeli military traditions that emphasize quality over quantity, technology over maneuver, and precision over mass (Ben-Israel, 2011, 2013; Gordon, 1998; Zeitoun, 2025). Changing such deeply ingrained cultural patterns requires more than technological advancements or structural reforms. It demands fundamental shifts in how military aviation organizations conceptualize effectiveness, reward innovation, and prepare for uncertainty. The persistence of exploitation bias across fifty years suggests that developing ambidextrous capabilities requires deliberate, sustained intervention rather than an expectation that it will emerge naturally from operational experience.

Discussion

The comparative analysis of IAF responses during the 1973 Yom Kippur War and the attack of October 7, 2023, highlights enduring challenges in balancing exploitation and exploration within military aviation organizations. Despite half a century of technological advancements and doctrinal evolution, the IAF

consistently struggled with this balance during the onset of these crises (Finkel, 2024c; Heller, 2024).

This persistence amplifies the fact that technological advancement alone cannot substitute for fundamental organizational and individual adaptation. Sophisticated command-and-control systems, real-time intelligence networks, and advanced munitions enhanced exploitation capabilities while coincidentally creating new barriers to exploration. The 2023 Israeli case illustrates how technological systems designed to optimize known procedures can nevertheless embed exploitation bias in organizational routines, thereby reducing the flexibility they were intended to enable.

At the heart of these failures lies the tension between operational efficiency and adaptive innovation. Peacetime optimization for exploitation yields clear benefits: reduced training complexity, predictable outcomes, and high reliability under routine conditions. These benefits come at the cost of adaptability under radical uncertainty. Both cases demonstrate how organizations optimized for known threats struggle when confronting novel scenarios that invalidate existing assumptions.

Individual-level ambidextrous capabilities are crucial for effective responses, as some commanders possess exceptional traits that enable them to shift between exploitation and exploration rapidly. Early research shows these effective leaders possess specific cognitive and behavioral features: greater tolerance for ambiguity, which enables operation with limited information; metacognitive awareness to recognize when strategies fail; psychological flexibility to abandon prior successful approaches without cognitive dissonance; and social confidence to challenge hierarchy and pursue new solutions despite organizational pressures (Gibson & Birkinshaw, 2004; Kolditz, 2007; Hannah et al., 2009). Research also indicates that switching between opening and closing activities is especially important in high-stakes military settings, where organizational structures often struggle to adapt quickly for smooth mode changes (Rosing et al., 2011; Kassotaki, 2017). However, limited documentation, especially regarding the events in 2023, hampers a complete understanding of these traits. Future research should systematically analyze the psychological profiles, career backgrounds, and decision-making styles of leaders with strong ambidextrous skills through structured interviews, psychological assessments, and long-term leadership development studies to improve selection and training (Yammarino et al., 2010; Hannah et al., 2009). Even those individuals with apparent ambidextrous abilities faced organizational barriers that hindered the dissemination of innovation. Cultural norms emphasizing centralized control, standardization, and precision created systemic friction, even during crises that required exploration. This tension

suggests future research should explore how organizational structures interact with individual ambidextrous abilities (Gibson & Birkinshaw, 2004; Soeters et al., 2006). The 2023 case emphasizes that modern communication systems which could support distributed innovation instead enabled micromanagement, with senior leaders using real-time monitoring to override local initiatives. This highlights the need to study how technological systems can be designed to support rather than hinder individual ambidextrous behaviors within military hierarchies (Kassotaki, 2017; Weick & Sutcliffe, 2007).

These observations indicate that military aviation organizations must deliberately cultivate ambidextrous capabilities at both individual and organizational levels. Structural solutions—including formalizing decentralized command, creating simulation environments for exploration, and embedding rapid feedback mechanisms—must accompany cultural shifts that reward innovation, tolerate calculated risk-taking, and recognize the value of deviating from standard procedures when conditions demand it.

The study offers critical implications for leadership development. Selection processes must identify candidates with demonstrated cognitive flexibility and adaptive problem-solving skills. Training curricula should shift from focusing on procedural mastery to developing the ability to switch between exploitative and exploratory modes based on situational requirements. Evaluation systems must reward not only precision and efficiency but also creativity and responsiveness in the face of uncertainty.

At a broader level, these findings underscore the need for military organizations to acknowledge surprise as an inherent aspect of warfare, not an anomaly. Preparing for surprise requires more than planning for specific contingencies; it demands building institutional and individual capabilities for rapid adaptation to the unknown.

Practical Recommendations

This study provides concrete recommendations for military aviation organizations seeking to enhance their crisis response capabilities through ambidextrous leadership development.

Selection and Training: Recruitment processes should identify candidates who demonstrate cognitive flexibility, openness to disconfirming information, and creative problem-solving abilities under pressure. Training programs must incorporate scenario-based exercises emphasizing rapid transitions between exploitative and exploratory modes, including surprise injects that deliberately violate standard operating procedures to force innovation.

Organizational Structure: Organizations must strike a balance between centralized planning and decentralized execution through formal mechanisms that clearly define authority delegation during crises. Communication systems should support the rapid dissemination of bottom-up innovation while maintaining necessary coordination.

Cultural Transformation: Cultural change initiatives should promote organizational cultures that value experimentation, tolerate calculated risk-taking, and recognize the strategic imperative of adapting to uncertainty. Reward systems must acknowledge commanders who demonstrate successful mode-switching rather than only those who excel at exploitation.

Technological Design: Command-and-control systems must enable rather than constrain adaptive behavior, supporting transparent information flows while avoiding over-optimization for routine procedures.

Theoretical Contributions

This research extends organizational ambidexterity theory into the military aviation domain by demonstrating how exploitation-exploration tensions manifest during crisis response under extreme temporal compression and life-or-death stakes. The study's unique contribution lies in its systematic application of ambidextrous leadership theory to military aviation crisis response, addressing a significant gap in existing literature that has largely overlooked the intersection of organizational ambidexterity and military command structures.

By analyzing two temporally distant yet thematically similar crises, this research demonstrates the persistence of organizational tendencies that undermine adaptability despite technological advancement. The findings reveal how technological progress can paradoxically constrain ambidextrous behavior when systems embed exploitation bias in their design, therefore extending ambidexterity theory by highlighting technology's role as a mediating factor that can either enhance or impede organizational flexibility.

Limitations and Future Research

Future research directions include cross-national comparative studies examining crisis responses of other military aviation organizations, longitudinal research tracking the development of ambidextrous capabilities in individual commanders, and experimental validation using military simulations to test specific interventions designed to enhance the exploitative-exploratory balance under time pressure.

Conclusion

The persistence of ambidextrous leadership challenges in military aviation over fifty years amplifies the understanding that technological progress alone cannot substitute for developing adaptive leadership capabilities. As surprise remains an inherent feature of warfare, military organizations must invest deliberately in cultivating leaders and structures capable of balancing exploitation and exploration under extreme time pressure.

This study provides an empirically grounded, theoretically informed framework for understanding and improving crisis leadership in military aviation. The findings suggest that military organizations must fundamentally reconceptualize their approach to leadership development and organizational design, building capacity for rapid adaptation to unknown challenges rather than optimizing for known threats.

References

Akinci, G., Alpkan, L., Yildiz, B., & Karacay, G. (2022). The link between ambidextrous leadership and innovative work behavior in a military organization: The mediating role of climate for innovation. *Sustainability*, *14*(22), 1-19. https://doi.org/10.3390/su142215315

Al-Eida, S. N. S. M. (2020). The impact of ambidextrous leadership on organizational excellence: An applied study in small and medium enterprises in Qatar. *International Journal of Business and Management*, *15*(9), 163–175. https://doi.org/10.5539/IJBM.V15N9P163

Argyris, C., & Schön, D. A. (1996). *Organizational learning II: Theory, method, and practice*. Addison-Wesley Publishing Company.

Ashkenazi, A. (2024, December 15). Tractor in the air: After October 7th, Israel changes the rules of the game on the battlefield. *Maariv Online*. [Hebrew] https://www.maariv.co.il/news/military/article-1158993

Ashkenazi, A. (2025, February 27). October 7th investigation reveals: The Air Force prevented the capture of a strategic base in central Israel. *Maariv Online*. [Hebrew] https://www.maariv.co.il/news/military/article-1176302

Bar-Joseph, U. (2008). Strategic surprise or fundamental flaws? The sources of Israel's military defeat at the beginning of the 1973 war. *The Journal of Military History*, *72*(2), 509–530. https://doi.org/10.1353/JMH.2008.0127

Bar-Joseph, U. (2013). *The watchman fell asleep: The Yom Kippur surprise and its sources*. Tel Aviv: Zmora Bitan Publishers. [Hebrew]

Bar-Joseph, U. (2021). *The Angel: The Egyptian spy who saved Israel*. Cambridge, MA: Harvard University Press.

Baskarada, S., Watson, J., & Cromarty, J. (2016). Leadership and organizational ambidexterity. *Journal of Management Development*, *35*(6), 735–757. https://doi.org/10.1108/JMD-01-2016-0004

Bass, B. M., & Riggio, R. E. (2006). *Transformational leadership* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum Associates.

Ben-Israel, I. (2011). *Raising birds: The Air Force challenges and missions*. Ra'anana: The Open University of Israel Press. [Hebrew]

Ben-Israel, I. (2013). *Israeli defense conception*. Tel Aviv: Modan Publishers. [Hebrew]

Bigman, E. (2024, January 30). The IDF invented a new defense doctrine, and the settlements are getting hit. *Mida*. [Hebrew] The IDF invented a new defense doctrine, and the settlements are getting hit

Blumental, I., & Menashe, K. (2025, February 16). The IDF will present the October 7th investigation starting next week. *Kan News*. [Hebrew] https://www.kan.org.il/content/kan-news/defense/860697/

Bochbot, A. (2025, February 27). Where was the Air Force at the beginning of the war? The investigations show: Not in the right place. *Walla News*. [Hebrew] https://news.walla.co.il/item/3730614

Boin, A., 't Hart, P., Stern, E., & Sundelius, B. (2016). *The politics of crisis management: Public leadership under pressure* (2nd ed.). Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9780511490880

Bronfeld, S. (217). From the electronic summer of 1970 to winter 1973: The story of losing air superiority. *Between the Poles*, 12, 143–174. [Hebrew]From the electronic summer of 1970 to winter 1973

Campbell, D. J. (2012). Leadership in dangerous contexts: A team-focused, replenishment-of-resources approach. In J. H. Laurence & M. D. Matthews (Eds.), *The Oxford handbook of military psychology* (pp. 158–175) Oxford University Press. https://doi.org/10.1093/oxfordhb/9780195399325.013.0062

Dan, A. (2024). The need for attack helicopters: Characteristics and challenges in the modern era. *Aerospace & Defense,* 1(1).

Dostri, O. (2023). Hamas's October 2023 attack on Israel: The end of the deterrence Strategy in Gaza. *Military Review*, *103*(1), 1–13. https://www.armyupress.army.mil/Portals/7/military-review/Archives/English/Online-Exclusive/2023/Dostri/Hamas's-October-2023-Attack-on-Israel-UA.pdf

Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review*, *14*(4), 532–550. https://doi.org/10.5465/amr.1989.4308385

Eyeland, G. (2023). The Chief of Staff and senior ranks in the Yom Kippur War. *Between the Poles*, *40*, 139–167.

Finkel, M. (2022). *Air Force headquarters: Force building processes and development of operational plans*. Modan Publishing, Ministry of Defense Publications. [Hebrew]

Finkel, M. (2024a). The military dimension of Israel's national security concept in light of the Iron Swords War. *Between the Poles*, *41*, 117–128. [Hebrew] https://www.idf.il/media/grdckq4f/09-%D7%94%D7%A8%D7%95%D7%91%D7%93-%D7%94%D7%A6%D7%91%D7%90%D7%99.pdf

Finkel, M. (2024b). The sense of control in reality as a saboteur in the IDF's organizational culture. *Between the Poles*, *41*, 61–76. [Hebrew] https://www.idf.il/media/nggavlav/06-%D7%AA%D7%97%D7%95%D7%A9%D7%AA-%D7%94%D7%A9%D7%9C%D7%99%D7%98%D7%94.pdf

Finkel, M. (2024c). Not a "War of Its Own": Offensive Air Support for the Maneuvering Forces in the Iron Swords War in Gaza: Factors of Success and Looking Ahead. *Aerospace & Defense*, 1(1), 25–44. https://socsci4.tau.ac.il/mu2/elrommagazine-eng/wp-content/uploads/sites/14/2025/03/Meir-Finkel-Not-a-War-of-its-Own.pdf?lang=ena

Ganor, R. (2025). Change during war: Participation and Border Protection Group. [Hebrew] https://www.iaf.org.il/9781-62303-he/IAF.aspx

Gibson, C. B., & Birkinshaw, J. (2004). The antecedents, consequences, and mediating role of organizational ambidexterity. *Academy of Management Journal*, 47(2), 209–226. https://doi.org/10.5465/20159573

Goldstein, Y. (2008). *Leadership in times of war*. Tel Aviv: Ma'arachot Publishers. [Hebrew]

Gordon, A. (2008). *The Yom Kippur War: Israel and the struggle for survival*. Cambridge: Cambridge University Press.

Gordon, S. (1998). *The last order of knights: Modern air strategy*. Tel Aviv: Tel Aviv University Press. [Hebrew]

Gordon, S. (2008). 30 hours in October – Fateful decisions on Air Force deployment at the beginning of the Yom Kippur War. Tel Aviv: Maariv Books. [Hebrew]

Guo, Z., Yan, J., Wang, X., & Zhen, J. (2020). Ambidextrous leadership and employee work outcomes: A paradox theory perspective. *Frontiers in Psychology*, 11, 1661. https://doi.org/10.3389/FPSYG.2020.01661

Haber, A., Schiff, Z., Rothstein, R., & Tamari, D. (2013). *The war: The Yom Kippur War, 1973 (Revised and updated ed.)*. Tel Aviv: Kinneret, Zmora-Bitan, Dvir Publishers. [Hebrew]

HaCohen, G. (2024). The last war in comparative perspective to the Yom Kippur War. *Between the Poles*, 43, 1–9. [Hebrew] https://www.idf.il/media/jjhdoaeu/03-%D7%94%D7%9E%D7%9C%D7%97%D7%9E%D7%94-%D7%94%D7%90%D7%97%D7%A8%D7%95%D7%A0%D7%94.pdf

Hannah, S. T., Uhl-Bien, M., Avolio, B. J., & Cavarretta, F. L. (2009). A framework for examining leadership in extreme contexts. *The Leadership Quarterly*, 20(6), 897–919. https://doi.org/10.1016/j.leaqua.2009.09.006

Heifetz, R., Grashow, A., & Linsky, M. (2009). *The practice of adaptive leadership: Tools and tactics for changing your organization and the world*. Boston, MA: Harvard Business Press.

Heller, A. (2024). The role of air power in combat: Initial insights from the fighting in Gaza in Iron Swords. *Aerospace & Defense*, 1, 9–23. https://socsci4.tau.ac.il/mu2/elrommagazine-eng/wp-content/uploads/sites/14/2025/03/Assaf-Heller-The-Role-of-Airpower.pdf?lang=ena

Kahneman, D. (2011). *Thinking, fast and slow*. New York: Farrar, Straus and Giroux.

Kassotaki, O. (2017). *Ambidexterity and leadership: A multilevel analysis of the aerospace and defense organizations* [Doctoral dissertation]. University of Warwick. https://wrap.warwick.ac.uk/id/eprint/95904/1/WRAP_Theses_Gianzina-Kassotaki_2017.pdf

Klein, G. (1998). *Sources of power: How people make decisions*. Cambridge, MA: MIT Press.

Kolditz, T. A. (2007). In extremis leadership: Leading as if your life depended on it. San Francisco, CA: Jossey-Bass.

Kousina, E., & Voudouris, I. (2023). The ambidextrous leadership – innovative work behaviour relationship in the public sector: The mediating role of psychological ownership. *Public Administration Review*, 83(4), 891–907. https://doi.org/10.1111/puar.13650

Lawrence, E., Tworoger, L., Ruppel, C. P., & Yurova, Y. V. (2021). TMT leadership ambidexterity: Balancing exploration and exploitation behaviors for innovation. *European Journal of Innovation Management*, 24(3), 781–800. https://doi.org/10.1108/EJIM-07-2020-0275

Lt. Col. Y. (2024). Card game or checkers? Irrationality in military decision-making processes and ways to reduce it. *Ma'arachot*, 502, 56–61. [Hebrew] https://online.fliphtml5.com/gcjnv/nerl/#p=56

March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization Science*, 2(1), 71-87. https://doi.org/10.1287/orsc.2.1.71

Marcheli, A. (2023). Special: Yom Kippur War documents unveiled – *IAF website*. https://www.iaf.org.il/9701-61365-HE/IAF.aspx

Marcus, R. D. (2014). Military Innovation and Tactical Adaptation in the Israel–Hizballah Conflict: The Institutionalization of Lesson-Learning in the IDF. *Journal of Strategic Studies*, 38(4), 500–528. https://doi.org/10.1080/01402390.2014.923767

Mintzberg, H. (1979). *The structuring of organizations*. Englewood Cliffs, NJ: Prentice Hall.

O'Reilly, C. A., & Tushman, M. L. (2013). Organizational ambidexterity: Past, present, and future. *Academy of Management Perspectives*, 27(4), 324–338. https://doi.org/10.5465/amp.2013.0025

Ortal, E. (2025). Not a border, a front. *Begin-Sadat Center for Strategic Studies*. https://besacenter.org/he/%D7%9C%D7%90-%D7%92%D7%91%D7%95%D7%9C-%D7%97%D7%96%D7%99%D7%AA/

Perrow, C. (1984). Normal accidents: Living with high-risk technologies. New York: Basic Books.

Preisler-Swiri, D. (2024). The transition from the MAV to the Iron Swords War. *Between the Poles*, 41, 13–27. [Hebrew] https://www.idf.il/media/22apkc32/03-%D7%94%D7%9E%D7%A2%D7%91%D7%A8-%D7%9E%D7%94%D7%9E%D7%91%D7%9D.pdf

Raisch, S., & Birkinshaw, J. (2008). Organizational ambidexterity: Antecedents, outcomes, and moderators. *Journal of Management*, 34(3), 375–409. https://doi.org/10.1177/0149206308316058

Riyanto, S. (2024). Achieving organizational agility and cultivating entrepreneurial orientation of business leaders through an ambidextrous leadership approach: A new perspective. In A. Ahmad & S. Riyanto (Eds.), *Leadership: Advancing great leadership practices and good leaders* (pp. 1–20). IntechOpen. https://doi.org/10.5772/intechopen.114923

Rosing, K., Frese, M., & Bausch, A. (2011). Explaining the heterogeneity of the leadership-innovation relationship: Ambidextrous leadership. *The Leadership Quarterly*, 22(5), 956–974. https://doi.org/10.1016/j.leaqua.2011.07.014

Sarika J., Shailja B., Sarita V. (2024). Assessing ambidextrous leadership in organizations: review and future scope for research. *International Journal of Organizational Analysis.* https://doi.org/10.1108/IJOA-03-2024-4373

Selján, P. (2024). The October 7 Hamas attack: A preliminary assessment of the Israeli intelligence, military and policy failures. *AARMS-Academic and Applied Research in Military and Public Management Science*, 23(1), 81-98. https://folyoirat.ludovika.hu/index.php/aarms/article/view/7168

Shapira, N. (2025). Where was the Air Force in Hamas's surprise attack? October 7th investigations. *N12*. https://www.mako.co.il/news-military/2025_q1/Article-7d2464667884591026.htm

Shields, P. M., & Travis, D. S. (2017). Achieving organizational flexibility through ambidexterity. *Parameters*, 47(2), 15–28. https://press.armywarcollege.edu/parameters/vol47/iss2/8/

Shields, P. M., & Travis, D. S. (2021). Resolving contradictions in military operations via ambidexterity. In P. M. Shields & D. S. Travis (Eds.), *Resolving the paradox of our age* (pp. 1–25). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-030-52433-3_1

Soeters, J., (2006). Organizational Cultures in the Military. In G. Caforio (Ed.), *Handbook of the sociology of the military* (pp. 237-254). New York: Springer International. https://link.springer.com/chapter/10.1007/978-3-319-71602-2_13

Stei, G., Rossmann, A., & Szász, L. (2024). Leveraging organizational knowledge to develop agility and improve performance: The role of ambidexterity. *International Journal of Operations & Production Management*, 44(4), 721-750. https://doi.org/10.1108/ijopm-04-2023-0274

Steigman, Y. (2023). Must continue to play: The Israeli Air Force in the Yom Kippur War. Tel Aviv: Modan Publishers. [Hebrew]

Tamari, D. (2011). Where is air power heading?. *Ma'arachot*, *437*, 4–13. [Hebrew]

Weick, K. E., & Sutcliffe, K. M. (2007). *Managing the unexpected: Resilient performance in an age of uncertainty* (2nd ed.). San Francisco: Jossey-Bass. https://doi.org/10.1002/9781119175834

Wyss, M. (2024). The October 7 attack: An assessment of the intelligence failings. *International Journal of Intelligence and Counterintelligence*, 37(4), 1245-1268. https://ctc.westpoint.edu/wp-content/uploads/2024/10/CTC-SENTINEL-092024_cover-article-1.pdf

Yammarino, F. J., Mumford, M. D., Connelly, M. S., & Day, E. A. (2010). Leadership and team dynamics for dangerous military contexts. *Military Psychology*, 22(1), 15–41. https://doi.org/10.1080/08995601003644221

Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). Thousand Oaks, CA: Sage Publications.

Zeitoun, Y. (2025). The surprise from the paratroopers, and the dramatic decision at 9:30, October 7th Air Force investigation. *Ynet*. https://www.ynet.co.il/news/article/bkg73zt511

Appendices

Appendix 1: Military vs. Civilian Ambidexterity Context Differences

This comparative analysis highlights the unique demands that military aviation contexts place on ambidextrous leadership, distinguishing them from civilian organizational applications of ambidexterity theory.

Context Dimension	Civilian Organizations	Military Organizations	Air Force Specific Implications	References
Decision Timeframe	Extended periods (months/years)	Compressed (minutes/ seconds)	Split-second tactical decisions at operational speed	Kassotaki, 2017; Shields & Travis, 2017
Stakes	Financial/ competitive	Life-or-death consequences	Mission failure = catastrophic losses	Shields & Travis, 2021; Akinci et al., 2022
Feedback Mechanisms	Market responses, performance indicators	Combat operations, mission outcomes	Real-time intelligence and tactical updates	Lawrence et al., 2021; Sarika et al., 2024
Organizational Structure	Flexible hierarchies	Rigid command structures	Multi-level command with distributed execution	Kassotaki, 2017; Baskarada et al., 2016
Innovation Climate	Encouraged experimentation	Controlled innovation within doctrine	Technology integration with safety constraints	Rashid et al., 2024; Stei et al., 2024

Appendix 2: Facilitating vs. Impeding Factors for Military Ambidextrous Leadership

The organizational characteristics identified in this analysis demonstrate how structural and cultural elements either enable or constrain ambidextrous leadership capabilities in military aviation contexts.

Organizational Characteristics	Facilitating Factors	Impeding Factors	Literature Support
Structural	Strong organizational identity, clear performance metrics	Hierarchical rigidity, standardization requirements	Kassotaki, 2017; Shields & Travis, 2021
Cultural	Rapid feedback cycles, mission focus	Risk aversion, warrior ethos constraints	Shields & Travis, 2017; Rashid et al., 2024
Temporal	Crisis urgency enables rapid decisions	Compressed timeframes limit reflection	Akinci et al., 2022
Leadership	Middle management as ambidexterity conduits	Vertical vs. horizontal penetration limitations	Kassotaki, 2017; Baskarada et al., 2016

Appendix 3: Ambidextrous Leadership Dimensions in Military Crisis Contexts

This theoretical derivation provides a thorough explanation of March's core exploitation-exploration dynamics as they appear within military crisis leadership constraints.

Leadership Dimension	Exploitation Focus	Exploration Focus	Crisis Integration Mechanism	References
Cognitive Flexibility	Pattern recognition from experience	Novel scenario interpretation	Rapid switching between mental models	Šimanauskienė et al., 2021; Akinci et al., 2022; Kousina & Voudouris, 2023
Resource Reallocation Agility	Efficient deployment of proven assets	Experimental allocation to untested solutions	Dynamic portfolio balancing	Stei et al., 2024; Riyanto, 2024; Lawrence et al., 2021
Learning Integration Speed	Application of established doctrine	Incorporation of real-time intelligence	Accelerated synthesis cycles	Sarika et al , 2024; Lawrence et al., 2021; Kassotaki, 2017
Command Authority Balance	Directive control for routine operations	Empowering initiative for novel situations	Calibrated delegation under pressure	Guo et al., 2020; Al-Eida, 2020; Baskarada et al., 2016
Operational Innovation Integration	Maintaining proven tactical procedures	Incorporating novel approaches into operations	Seamless integration of innovation with reliability	Rashid et al., 2024; Akinci et al., 2022; Shields & Travis, 2017

Appendix 4: Comparative Analysis of IAF Crisis Response Patterns by Leadership Dimension

This comparative analysis demonstrates the persistence of ambidextrous leadership challenges across five decades, revealing how similar patterns manifested despite dramatically different technological and operational contexts.

Dimension	1973 Yom Kippur War	2023 October 7th Attack
Cognitive Flexibility	Minimal; persistent reliance on outdated models	Limited; bias toward terrorism frameworks
Resource Reallocation	Slow; assets remained committed to prewar plans	Partial; reallocation delayed by systemic dependencies
Learning Integration	Delayed; innovations localized	Faster but fragmented; technological overload
Command Authority Balance	Centralized, minimal squadron autonomy	Nominal decentralization but frequent micromanagement
Operational Innovation	Integration Rigid; air superiority doctrine incompatible with SAM threat adaptation	Absent; no framework for mass infiltrations requiring area-effect response