



AI-Enabled Ambidextrous Leadership for Future-Ready Organizations: A Conceptual Framework for Human-AI Decision Support

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Abstract

Organizations operating in fast-changing digital environments must pursue operational efficiency and innovation simultaneously. This dual demand places ambidextrous leadership at the center of organizational transformation, while recent advances in artificial intelligence (AI) create new possibilities for how leaders sense, interpret, and decide. This paper proposes a conceptual framework explaining how AI-enabled decision support may help ambidextrous leaders balance exploitation and exploration to strengthen organizational future readiness. The framework is developed through a conceptual exploratory design that synthesizes literature on organizational ambidexterity, ambidextrous leadership, AI-enabled decision-making, digital transformation, organizational agility, and organizational resilience. It positions AI as a cognitive and analytical support mechanism rather than a replacement for human leadership. It organizes the proposed process into three connected components: internal strategic input, an AI intelligence core, and strategic output. The paper is conceptual in nature. The framework has not been empirically tested, statistically validated, or shown to improve decision accuracy or organizational performance, and it should not be read as a proven leadership mechanism. Instead, it integrates existing theoretical insights into a structured model that may guide future empirical research and practical experimentation. The paper concludes with theoretical and proposed practical implications, together with directions for the empirical testing that the framework still requires.

Keywords: *Ambidextrous Leadership, Artificial Intelligence, Conceptual Framework, AI-Enabled Decision Support, Human-AI Collaboration, Future-Ready Organizations*

INTRODUCTION

Organizations operating in increasingly volatile digital environments are under mounting pressure to achieve two strategic objectives at the same time: preserving short-term operational efficiency and pursuing long-term innovation, renewal, and strategic adaptability. This dual demand has become more urgent as firms face intensified competition, rapid technological disruption, shorter innovation cycles, and greater uncertainty in customer expectations and market structures.

In such conditions, organizational success is no longer determined by efficiency alone or innovation alone, but by the ability to combine both coherently and sustainably. Recent studies therefore position organizational ambidexterity as a critical dynamic capability through which firms manage the tension between exploitation and exploration while sustaining performance and innovation outcomes (AlKhamees & Durugbo, 2024; Leitão et al., 2024).

Within this stream of research, ambidextrous leadership has emerged as a particularly important mechanism, because the balance between exploitation and exploration is rarely achieved through structure or process alone. Instead, it must be enacted through leadership behaviors that enable organizations, teams, and individuals to switch between discipline and flexibility, efficiency and experimentation, and control and autonomy.

Prior studies indicate that ambidextrous leadership is associated with innovation, creativity,

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project success, and employee adaptability, as leaders combine opening behaviors that stimulate exploration with closing behaviors that reinforce coordination and execution ([Mascareño et al., 2021](#); [Gerlach et al., 2020](#); [Qadeer et al., 2025](#); [Khan et al., 2025](#)). At the same time, recent evidence suggests that this balancing act is increasingly complex and cognitively demanding for leaders, especially in environments marked by technological change and uncertainty ([Jia et al., 2024](#)).

In parallel, artificial intelligence (AI) is reshaping how organizations generate insights, allocate resources, manage operations, and support decisions. AI is no longer confined to automation or analytics; it is increasingly used to strengthen organizational sensing, pattern recognition, forecasting, experimentation, and adaptive response. In leadership contexts, AI may support managerial work by extending cognitive capacity, reducing information overload, and improving the speed and consistency of analysis that informs decision-making.

Employees also appear more willing to accept AI when it serves as a cognitive assistant rather than a managerial replacement, which suggests that AI is most useful when combined with human leadership rather than substituted for it ([Petrat et al., 2022](#)). Related research further indicates that, in data-intensive contexts, ambidextrous leadership plays an important moderating role in sustaining employees' innovative behavior under cognitive uncertainty ([Bernards, 2025](#)).

Despite these developments, the literature remains underdeveloped at the intersection of AI and ambidextrous leadership. Existing studies have examined organizational ambidexterity, digital transformation, innovation, and AI adoption in depth. However, few provide an integrated explanation of how AI may strengthen leaders' ability to balance exploitation and exploration in a systematic, strategic way.

This paper addresses a specific conceptual gap: no clearly articulated framework connects ambidextrous leadership behaviors with AI-enabled decision support to support organizational future readiness. This gap is particularly relevant for organizations in emerging markets and state-owned enterprises, where digital transformation often unfolds under institutional constraints, legacy systems, and competing strategic priorities. This paper uses these settings only to illustrate the framework's relevance; they are not the empirical object of study, and the paper does not collect or analyze organization-specific data.

Recent literature reinforces the importance of this integration. Studies on digital transformation show that leadership is central not only to technology adoption, but also to strategic alignment, agility, and sustainable transformation outcomes. Leadership has been linked to sustainable digital transformation through its influence on innovation, organizational resilience, and the long-term alignment of technology initiatives with business priorities ([Hariyani et al., 2025](#)).

Similarly, research indicates that leaders with stronger digital orientation and strategic capability better connect leadership, organizational agility, and digital strategy across operational and strategic levels ([AlNuaimi et al., 2022](#)). The broader digitalization literature also emphasizes that effective digital leaders tend to be visionary, customer-centered, and open to change, which helps organizations embed digital initiatives into internal and external processes ([Tagscherer & Carbon, 2023](#)).

Complementary studies show that leadership shapes innovative work behavior, organizational change, and reform-oriented transformation ([Rahmatika & Saragih, 2023](#); [Musa & Bello, 2023](#); [Setiorini, 2025](#)), as well as organizational culture and strategic alignment, both of which support system effectiveness and organizational performance ([Rapina et al., 2025](#)). Taken together, these studies suggest that future-ready organizations require leaders who do not simply adopt AI and digital technologies, but who can use them to coordinate the dual logic of exploitation and exploration.

Research Objective

Accordingly, this paper aims to develop a conceptual framework explaining how AI-enabled decision support may help ambidextrous leaders balance exploitation and exploration to strengthen organizational future readiness. The paper does not aim to test causal relationships, measure variables, or evaluate the framework's effectiveness.

Rather than treating AI as a stand-alone technical solution, it conceptualizes AI as a cognitive and analytical support mechanism that may help leaders sense environmental change, evaluate internal and external information, compare strategic options, and arrive at more structured balances between short-term exploitation and long-term exploration. Human judgment, ethical interpretation, and accountability remain central to the framework.

Contribution

The paper contributes in three ways. First, it advances the theoretical conversation on ambidextrous leadership by incorporating AI as a proposed enabling mechanism rather than a peripheral technological tool. Second, it adds to the digital transformation literature by arguing, at a conceptual level, that AI's value depends on leadership's ability to convert data and analysis into coordinated organizational action.

Third, it offers practical relevance by presenting a framework that may inform leadership development, digital strategy, and organizational renewal, while clearly noting that these implications are proposed and still require empirical examination. The remainder of the paper reviews the relevant literature, describes the conceptual method, presents the proposed framework, and discusses its implications and limitations.

LITERATURE REVIEW

This section synthesizes the literature that informs the proposed framework. Rather than summarizing studies one by one, it organizes the discussion around the conceptual relationships among the main constructs: organizational ambidexterity, ambidextrous leadership, AI-enabled decision support, human judgment, digital transformation, and organizational future readiness. The aim is to show where studies converge, where they diverge, and how each strand supports a specific component of the framework developed in this paper.

Organizational Ambidexterity and the Centrality of Leadership

Organizational ambidexterity has become one of the most influential concepts for explaining how firms survive and grow under technological turbulence, competitive volatility, and accelerating innovation cycles. At its core, ambidexterity refers to an organization's ability to pursue exploitation and exploration simultaneously.

Exploitation emphasizes efficiency, control, refinement, and optimization of existing capabilities, whereas exploration emphasizes experimentation, discovery, flexibility, and the creation of new knowledge. Reviews of this literature converge on the finding that firms that balance both dimensions tend to sustain innovation, adaptability, and long-term performance more effectively than firms that overemphasize one side of the tension ([AlKhamees & Durugbo, 2024](#); [Leitão et al., 2024](#)).

A recurring point of convergence is that ambidexterity is not only a structural or procedural matter. While earlier work emphasized the structural separation of exploitative and exploratory units, more recent studies argue that leadership is central to creating, coordinating, and sustaining ambidextrous behavior across organizational levels. [Gerlach et al. \(2020\)](#), for example, report a longitudinal relationship between ambidextrous leadership and innovation performance, while [Mascareño et al. \(2021\)](#) show that opening and closing leader behaviors support different stages of

idea generation, promotion, and realization.

Systematic reviews reach a similar conclusion, noting that ambidextrous leadership is consistently linked to innovation and performance across contexts, even as measurement and boundary conditions vary (Zain, 2024; Shalahuddin et al., 2025). Read together, these studies suggest that ambidexterity is enacted behaviorally through leaders who can switch between enabling creativity and enforcing execution discipline. This behavioral, multi-level reading of ambidextrous leadership provides the foundation for the framework developed later in the paper.

From Behavioral Capability to Multi-Level and Configurational Forms

Ambidextrous leadership can be understood as developing at the individual, team, and organizational levels. At the individual level, leaders model both exploration and exploitation by framing goals, allocating attention, and responding to uncertainty. At the team level, ambidextrous leadership supports knowledge integration, cross-functional collaboration, conflict management, and collective agility (Zhang & Suntrayuth, 2024).

At the organizational level, it contributes to dynamic capabilities such as sense-making, resource orchestration, strategic responsiveness, and scalable innovation. This multi-level logic underpins Figure 1, which is developed later in this section. The literature also describes several configurational forms through which ambidexterity may emerge: structural, contextual, sequential, and managerial. Structural ambidexterity separates exploratory and exploitative activities into distinct units. Contextual ambidexterity embeds both logics into shared norms so that individuals and teams decide when to explore and when to exploit.

Sequential ambidexterity involves temporal shifts between the two emphases as strategic conditions change. Managerial ambidexterity is most relevant to the present paper because it positions leaders as integrators of paradoxical demands; here, leadership is the mechanism through which ambidexterity becomes actionable in real time. These four forms are not competing claims but complementary configurations, and their divergence largely depends on where the integrating work is located—in structure, context, time, or the leader.

AI as a Proposed Support for Managerial Ambidexterity

The importance of ambidextrous leadership increases in digital settings, where the volume, speed, and complexity of information rise substantially. AI may help address this challenge by expanding managerial sensing and analytical capacity, yet it also introduces new uncertainty regarding data quality, algorithmic recommendations, and accountability. This is why several authors argue that leadership remains central: AI may augment analysis, but it does not remove the need for leaders to interpret context, manage paradox, and align actions with strategy and values.

Bernards (2025) shows that ambidextrous leadership moderates the relationship between cognitive uncertainty and daily innovative work behavior, while El-Gazar et al. (2025) find that resilience mediates the relationship between ambidextrous leadership and positive attitudes toward AI. These studies converge on the view that ambidextrous leadership functions as a socio-cognitive bridge between technological change and organizational adaptation.

The literature is less certain about how AI connects to the exploration–exploitation balance. Several studies suggest, conceptually, that AI may strengthen managerial ambidexterity by serving as an analytical partner in insight generation, strategic decision-making, and organizational learning across exploratory and exploitative domains (Zhu & Li, 2023; Yan et al., 2026). The proposed value of AI in these accounts lies in combining internal organizational data with broader strategic intelligence, which may help leaders identify opportunities more systematically and shift from intuition-dominant to more evidence-informed reasoning (Zhu & Li, 2023).

Complementary work indicates that AI may support individual ambidexterity when paired

with human judgment and contextual decision-making (Dragičević Rogge et al., 2025), and that AI is reshaping the skills senior managers need (Bevilacqua et al., 2026). A key divergence is that these studies stop short of an integrated leadership framework; they establish plausibility and association rather than a tested mechanism. The present paper builds on this convergence while treating the proposed AI role as conceptual and not yet validated.

Digital Transformation, Leadership, and Future Readiness

The argument that digital leadership and AI capability support broader organizational readiness aligns with digital transformation research. Leadership has been linked to digital capability, culture, innovation, agility, resilience, and sustainable transformation outcomes (AlNuaimi et al., 2022; Hariyani et al., 2025; Tagscherer & Carbon, 2023). A consistent theme across these studies is that technology adoption alone does not produce future readiness; it emerges from leadership systems that align technology use with strategic direction, culture, and adaptive learning.

Related research reinforces this by showing how leadership shapes innovative work behavior (Rahmatika & Saragih, 2023), how organizational change affects employee performance and requires managerial guidance (Musa & Bello, 2023), how reform orientation contributes to institutional transformation (Setiorini, 2025), and how leadership influences organizational culture and strategic alignment (Rapina et al., 2025). Synthesizing these strands, future readiness can be treated as an organizational condition produced by aligning leadership, culture, technology, and strategic intent, rather than as a direct outcome of digital tools.

Taken together, the literature points to a conceptual need to integrate ambidextrous leadership, AI-enabled decision support, and future readiness into a single explanatory framework. Existing studies provide strong foundations on ambidexterity, digital transformation, innovation, and AI adoption, but fewer explain how AI might be embedded within leadership practice to help organizations balance operational optimization and long-term renewal.

The following subsections develop this integration through three conceptual lenses—multi-level development, configurational forms with and without AI, and a leadership profile for the age of AI—each illustrated by an author-developed figure.

Ambidextrous Leadership across Individuals, Teams, and Organizations

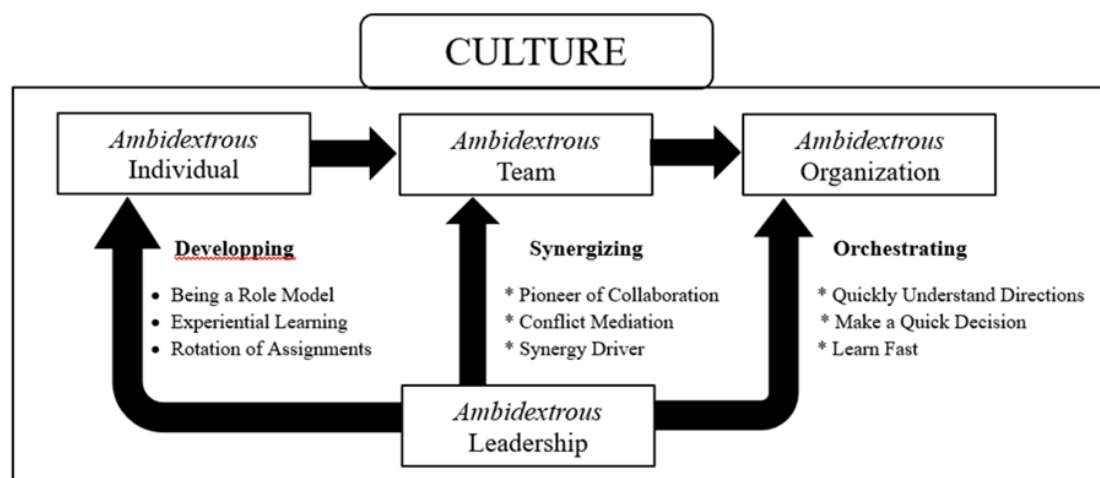


Figure 1. Developing an ambidextrous leadership culture: from individuals to organizations.

Source: Author-developed

Figure 1 illustrates a multi-level developmental pathway in which ambidextrous leadership emerges at the individual level and expands toward team and organizational capabilities. At the individual level, leaders model both exploratory and exploitative behaviors, encouraging creativity while maintaining task discipline; mechanisms such as experiential learning, role modeling, and assignment rotation help individuals internalize ambidextrous thinking (Gerlach et al., 2020).

At the team level, ambidextrous leadership supports cross-functional collaboration, conflict mediation, and integrative problem-solving, which are associated with higher agility and stronger knowledge sharing (Zhang & Suntrayuth, 2024). At the organizational level, ambidextrous leadership contributes to dynamic capabilities such as rapid sense-making, strategic responsiveness, and innovation scalability. Organizational culture functions as the infrastructure that sustains these behaviors as they move from individuals to teams and, ultimately, to the organization.

Configurational Forms of Ambidexterity, With and Without AI Support

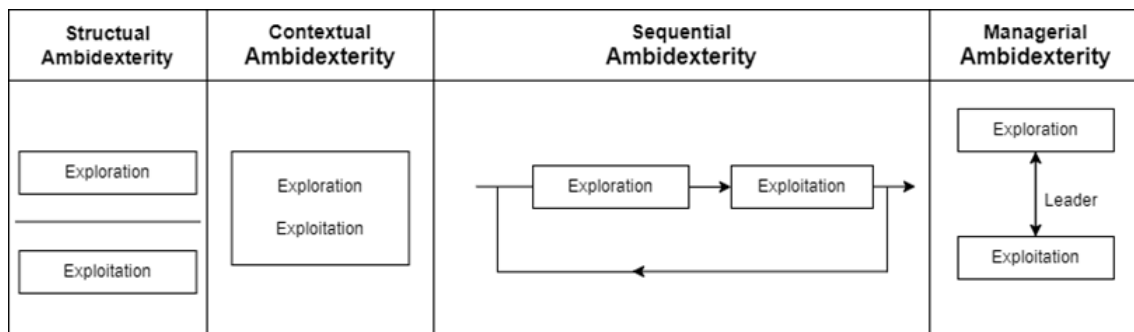


Figure 2. Stages of organizational ambidexterity with the leader's role (current configuration).

Source: Author-developed

Figure 2 depicts the evolution of organizational ambidexterity across structural, contextual, sequential, and managerial forms. Structural ambidexterity separates exploration and exploitation into distinct units, but structural separation alone is often insufficient in dynamic environments, which is why leadership coordination across units becomes important (Zhang & Suntrayuth, 2024).

Contextual ambidexterity embeds both logics within individuals and teams through shared norms, relying heavily on the leader's capacity to empower autonomy while maintaining accountability. Sequential ambidexterity enables organizations to alternate between exploration and exploitation over time, guided by leaders who monitor external signals and initiate transitions. Managerial ambidexterity is the most integrative form, in which leaders balance exploration and exploitation in real time by alternating between opening and closing behaviors.

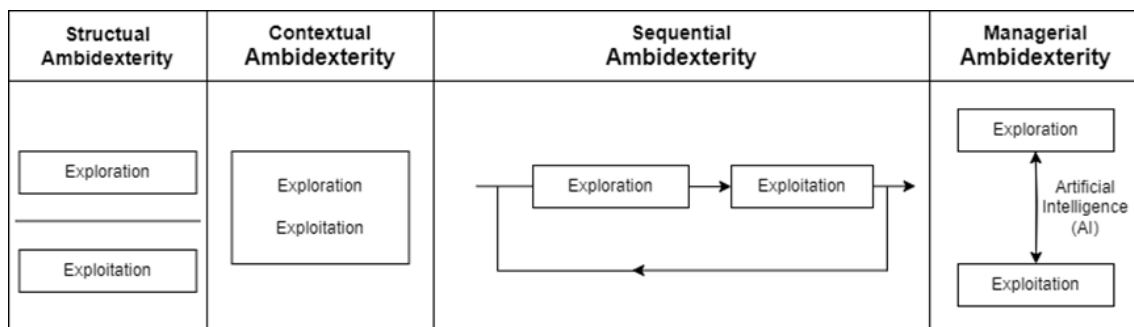


Figure 3. Stages of organizational ambidexterity with AI support (proposed configuration).

Source: Author-developed

Figure 3 presents a proposed configuration in which AI functions as an analytical partner that may support managerial ambidexterity. Rather than relying solely on the leader's behavioral flexibility, this configuration suggests that AI could support the exploration–exploitation balance through real-time data analysis, predictive modeling, scenario simulation, and pattern recognition.

This proposal is conceptually consistent with studies indicating that a strong digital mindset supports AI use in decision-making and change management (Pietsch & Mah, 2025), that AI adoption tends to be more successful under leaders who foster resilience and openness (El-Gazar et al., 2025), and that organizations benefit when leaders use AI tools to support both exploratory innovation and exploitative efficiency (Zhang & Suntrayuth, 2024). The figure represents a conceptual proposition: AI is positioned as a support that may reduce cognitive load and accelerate learning loops, not as a demonstrated improvement in leadership outcomes.

A Typology of Organizations by Exploration and Exploitation Capability

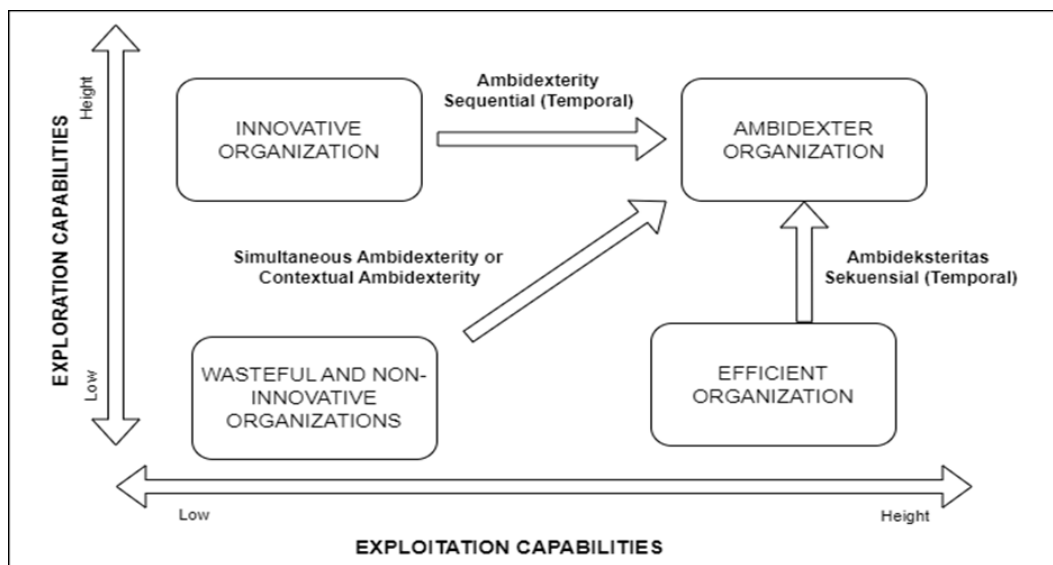


Figure 4. Types of organizations based on exploration and exploitation capabilities.

Source: Author-developed

Figure 4 presents a typology that distinguishes organizations by the relative strength of two capabilities: exploration and exploitation. Exploration-oriented organizations emphasize experimentation, innovation, and knowledge creation, whereas exploitation-oriented organizations emphasize efficiency, refinement, and optimization (AlKhamees & Durugbo, 2024).

Organizations positioned heavily toward only one capability tend to experience strategic imbalance: firms strong in exploration but weak in exploitation may generate ideas yet struggle with scalability and operational discipline, while firms strong in exploitation but weak in exploration may achieve stability yet become vulnerable to disruption.

The lower-left quadrant represents organizations weak in both capabilities, while the upper-right quadrant represents the ambidextrous organization that performs well on both. This typology clarifies what the proposed framework is intended to support, namely deliberate movement toward the ambidextrous quadrant through leadership behavior, cultural support, and—potentially—AI-enabled decision support.

A Leadership Profile for the Age of AI

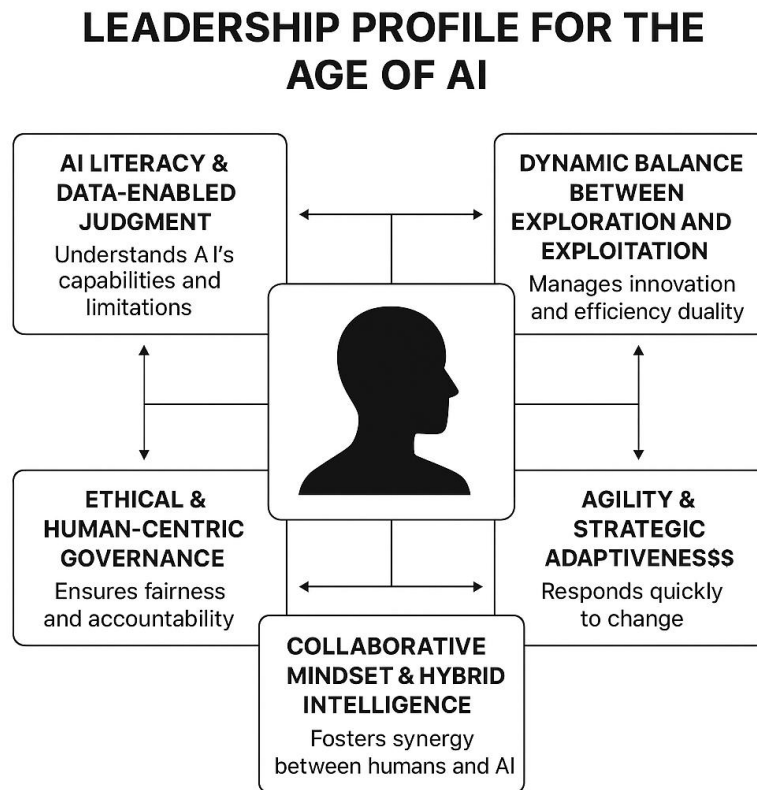


Figure 5. Leadership profile for the age of AI.
Source: Author-developed

Figure 5 outlines a leadership profile suited to AI-intensive environments. The profile combines AI literacy and data-enabled judgment, the capacity to manage the dynamic balance between exploration and exploitation, ethical and human-centric governance, agility and strategic adaptiveness, and a collaborative mindset oriented toward hybrid human–AI intelligence. AI literacy here refers to the ability to evaluate data quality, interpret AI outputs, and judge when to rely on machine recommendations versus human reasoning (Pietsch & Mah, 2025; Zhang & Suntrayuth, 2024).

Ethical and human-centric governance refers to ensuring transparency, fairness, and accountability in AI-supported workflows, which research links to employees' willingness to adopt AI (El-Gazar et al., 2025). Together, these elements describe the leadership capabilities that the proposed framework assumes, and they reinforce that AI is treated as a support to be interpreted by leaders rather than an autonomous decision-maker.

RESEARCH METHOD

This study uses a conceptual exploratory research design to develop an AI-enabled ambidextrous leadership framework for future-ready organizations. This design is appropriate because the study does not aim to test hypotheses, measure variables, or statistically generalize findings. Instead, it aims to build a theoretical explanation of how AI may help leaders balance exploitation and exploration during digital transformation. Conceptual research of this kind is commonly used when scholars seek to clarify concepts, integrate existing theories, and propose new theoretical relationships for future empirical testing (Jaakkola, 2020; Whetten, 1989).

The study adopts a qualitative conceptual approach based on reviewing, comparing, and

integrating literature on organizational ambidexterity, ambidextrous leadership, AI-enabled decision-making, digital transformation, organizational agility, organizational resilience, and future-ready organizations. These areas provide the theoretical basis for understanding how leaders manage the tension between operational efficiency and long-term innovation in a fast-changing digital environment.

Consistent with a conceptual design, the study does not involve respondents, sampling, interviews, surveys, or statistical analysis, and it does not draw on organization-specific empirical data. Its output is a conceptual framework that positions AI as a cognitive and analytical support mechanism for ambidextrous leadership.

Scope and Role of Organizational Context

This paper is purely conceptual. It does not use a case-study method, nor does it develop the framework from primary data collected at any single organization. Where state-owned enterprises, emerging markets, or Telkom Indonesia are mentioned, they serve only as illustrative context to show the framework's practical relevance. They are not the study's empirical basis, and no claims are made about any specific organization's performance.

The conceptual development proceeded in four analytical stages, described below.

Ambidextrous Leadership Abstraction

The first stage identified the main leadership behaviors associated with organizational ambidexterity by examining literature on ambidextrous leadership, organizational ambidexterity, innovation, and digital transformation. The analysis focused on two orientations: exploration-oriented leadership (behaviors that support experimentation, creativity, learning, opportunity seeking, and innovation) and exploitation-oriented leadership (behaviors that emphasize efficiency, control, coordination, discipline, refinement, and operational optimization).

In this study, ambidextrous leadership is the leader's ability to balance and shift between these orientations based on organizational needs and environmental conditions across individual, team, and organizational levels. This abstraction became the behavioral foundation for the proposed framework.

AI-Enabled Leadership Integration

The second stage integrated AI into the logic of ambidextrous leadership by reviewing literature on AI-enabled decision-making, digital leadership, data-driven transformation, human-AI collaboration, and organizational agility. The aim was to understand how AI might support leadership functions while preserving human judgment. In this study, AI is not positioned as a replacement for leaders.

It is treated as a cognitive and analytical support mechanism that may help leaders sense environmental change, interpret complex information, recognize patterns, conduct benchmarking, generate strategic alternatives, and support decisions. This distinction matters because ambidextrous leadership still requires ethical judgment, contextual understanding, strategic interpretation, and organizational legitimacy.

The stage identified leadership activities that AI may strengthen, including environmental scanning, internal capability analysis, predictive analysis, scenario simulation, resource prioritization, and adaptive decision support, across both exploitation and exploration.

Conceptual Framework Development

The third stage developed the framework using conceptual theory building, in which existing concepts are reconstructed and connected into a new theoretical explanation (Jaakkola, 2020; Whetten, 1989). The study first mapped the basic tension between exploitation and exploration;

second, identified the leadership roles needed to manage this tension across levels; third, positioned AI as a support mechanism for sensing, analysis, benchmarking, prioritization, and decision support; and fourth, organized these elements into a framework with three components: internal strategic input, an AI intelligence core, and strategic output. Section 4 describes these components in detail.

Future-Ready Organization Synthesis

The fourth stage connected the framework to future-ready organizations through conceptual synthesis, integrating insights from the literature on digital transformation, organizational resilience, organizational agility, innovation, and strategic management. In this study, a future-ready organization is understood as one that maintains operational stability while continuously adapting to technological change, market uncertainty, and new opportunities.

Future readiness is treated as the result of alignment among leadership capability, digital intelligence, organizational culture, strategic agility, and human–AI collaboration, rather than as a direct result of technology adoption. Through this synthesis, AI-enabled ambidextrous leadership is proposed to support future readiness conceptually by strengthening sensing, supporting data-informed and scenario-based judgment, helping identify and prioritize exploration opportunities, and assisting in monitoring and resource alignment.

Conceptual Evaluation of the Model

Because this study is conceptual, the authors evaluate the framework through conceptual rigor rather than statistical testing; this evaluation reflects the authors' internal assessment during framework construction, not external validation. The authors applied theoretical triangulation by integrating insights from three domains—ambidextrous leadership theory, AI and digital transformation literature, and strategic management literature—and assessed the framework against four criteria.

Coherence concerns the logical consistency among constructs; *theoretical grounding* concerns the extent to which existing literature supports each component; analytical generalization concerns the framework's potential applicability to organizations facing the dual pressure of efficiency and innovation; and *practical applicability* concerns its potential usefulness for leadership development and transformation planning.

These criteria guided the framework's construction and the selection of supporting literature. They do not constitute empirical validation. The framework should not be treated as an empirically validated causal model, and future studies can test and refine it through case studies, interviews, longitudinal research, surveys, experiments, or structural equation modeling.

FINDINGS AND DISCUSSION

The Proposed AI-Enabled Ambidextrous Leadership Framework

This paper's main conceptual contribution is a proposed AI-enabled ambidextrous leadership framework for future-ready organizations. The framework conceptually explains how AI may help leaders balance two demands that often exist in tension. Exploitation refers to improving efficiency, strengthening existing capabilities, optimizing current products and services, and maintaining operational stability.

Exploration refers to pursuing innovation, identifying future opportunities, experimenting with new business models, and preparing for long-term renewal. The framework draws on the literature synthesized in Section 2: the behavioral and multi-level view of ambidextrous leadership (Figures 1 and 2), the proposed AI-supported configuration (Figure 3), the capability typology (Figure 4), and the leadership profile for the age of AI (Figure 5).

The framework positions AI as a cognitive and analytical support mechanism rather than a

technical instrument or an autonomous decision-maker. Where AI is often discussed as a tool for automation or productivity, this paper offers a broader conceptual reading in which AI may support leadership work—particularly sensing environmental change, interpreting complex information, comparing strategic options, and informing decisions.

In this reading, AI may help ambidextrous leaders manage short-term operational needs while preparing for long-term innovation. The framework consists of three connected components: internal strategic input, an AI intelligence core, and strategic output.

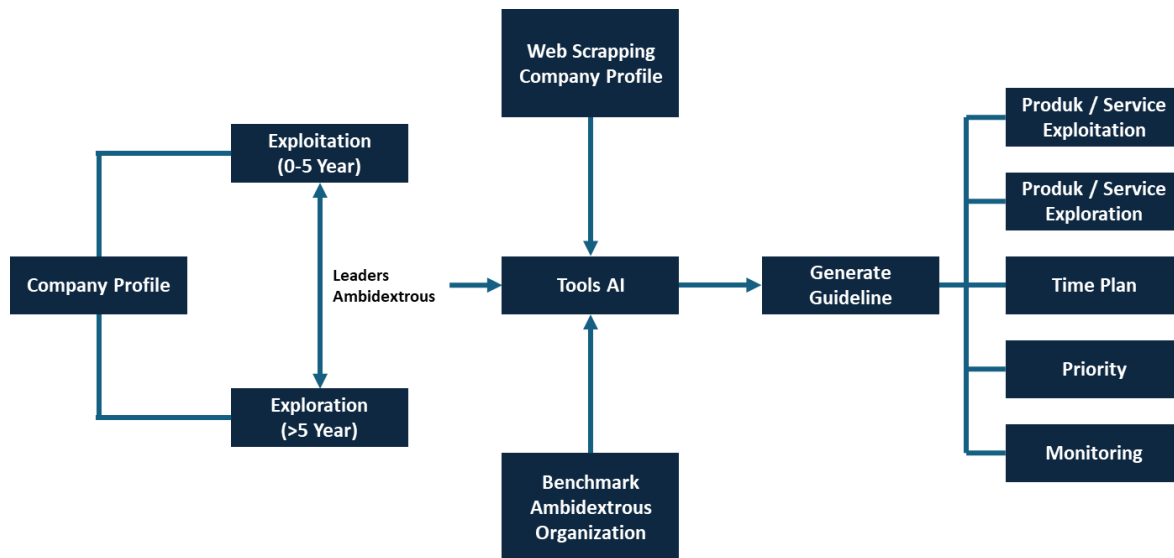


Figure 6. Proposed AI-enabled ambidextrous leadership framework.

Source: Author-developed

As shown in Figure 6, the framework does not suggest that AI replaces leaders. AI is positioned as a support that may extend leadership capacity while keeping human judgment, ethical consideration, and contextual understanding at the center of decision-making. This distinction matters because ambidextrous leadership still requires leaders to interpret organizational meaning, manage paradox, build trust, and align decisions with values and strategy.

Component One: Internal Strategic Input

The first component is internal strategic input, which refers to organizational information that forms the basis for AI-supported ambidexterity analysis. This may include company profile, business structure, product and service portfolio, existing capabilities, operational performance, organizational resources, and strategic direction. Such inputs help leaders understand the organization's current position before deciding which areas to optimize and which to renew.

In the framework, internal strategic input is organized into two horizons: an exploitation horizon focused on short- to medium-term priorities (operational strengthening, process efficiency, service improvement, cost optimization, and refinement of existing business models) and an exploration horizon focused on long-term renewal (innovation, new capability development, emerging technologies, and new sources of value).

Illustrative Artifacts

Figures 7 and 8 are illustrative artifacts from a prototype AI agent showing how the input stage might be operationalized. They make the conceptual process concrete and are not empirical evidence of the framework's effectiveness. To support transparency, the prototype used a conversational AI agent built on a general-purpose large language model.

The input interface (Figure 7) collected an optional company profile, company name, company details, and product list, and the instruction prompt (Figure 8) directed the agent to map activities into exploitation (0–5 years) and exploration (>5 years), to compare against reference organizations, and to produce a structured guideline. The authors make no claim that the prototype's outputs are accurate, generalizable, or superior to human analysis.

Figure 7. AI agent input interface for company profile initialization.

Source: Author-developed (illustrative prototype artifact)

Figure 8. Instruction prompt used by the prototype AI-ambidextrous leadership agent.

Source: Author-developed (illustrative prototype artifact)

These two horizons connect through the ambidextrous leader, who interprets internal conditions and aligns exploitation and exploration with broader strategic priorities. Internal strategic input therefore functions as the foundation of the framework. Without a clear understanding of internal conditions, AI-supported analysis may produce recommendations that appear sophisticated but are strategically weak. For this reason, the framework assumes leaders ensure the input reflects the organization's real condition, including its strengths, constraints, and transformation challenges.

Component Two: AI Intelligence Core

The second component is the AI intelligence core, which represents the analytical process in which AI may process internal information and connect it with external intelligence such as industry trends, competitor movement, market signals, customer needs, regulatory changes, and emerging technologies. By combining internal and external information, AI can help leaders develop a broader, more current understanding of the strategic environment.

Conceptually, this component includes several analytical functions: environmental scanning to identify relevant trends, benchmarking against organizations with strong ambidextrous capability, predictive analysis to estimate possible developments, and scenario simulation to compare strategic options before deciding.

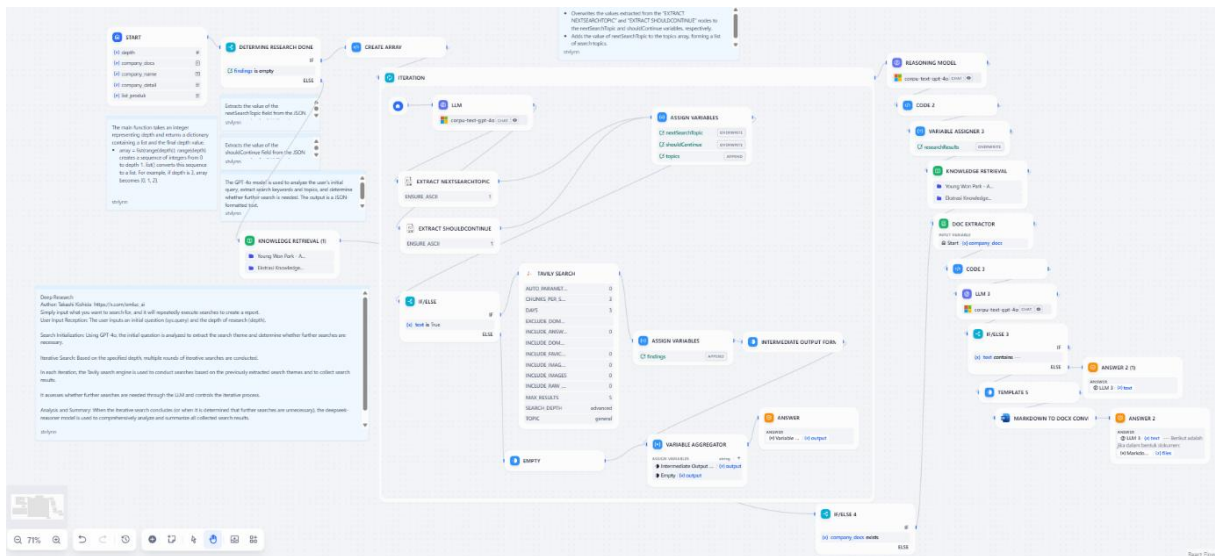


Figure 9. Internal processing architecture of the prototype AI-ambidextrous leadership agent.

Source: Author-developed (illustrative prototype artifact)

Figure 9 is an illustrative artifact showing the prototype agent's internal processing logic, including how it reads inputs, organizes iterative retrieval, and assembles outputs. It is included to make the conceptual process transparent and reproducible at the design level, not to demonstrate effectiveness.

Through these functions, the framework suggests that AI may support both exploitation (for example, by identifying inefficiencies, monitoring performance, and indicating areas for process improvement) and exploration (for example, by identifying innovation opportunities, analyzing emerging technologies, and supporting experimentation).

Importantly, the AI intelligence core is not conceived as a fully autonomous decision-making system. AI may generate patterns, alternatives, and recommendations, but leaders remain responsible for judging whether those outputs are relevant, ethical, realistic, and aligned with organizational values. In this framework, AI supports leadership cognition; it does not remove the need for leadership judgment.

Component Three: Strategic Output

The third component is strategic output, which refers to the decision-support results generated from the AI-enabled analysis. These outputs are intended to help leaders translate complex information into practical strategic direction. They may include exploitation priorities, exploration opportunities, strategic guidelines, implementation timelines, resource allocation priorities, risk considerations, and monitoring mechanisms. For exploitation, outputs may point to products, services, processes, or capabilities to optimize; for exploration, they may point to new initiatives, innovation areas, emerging technologies, or transformation pathways.

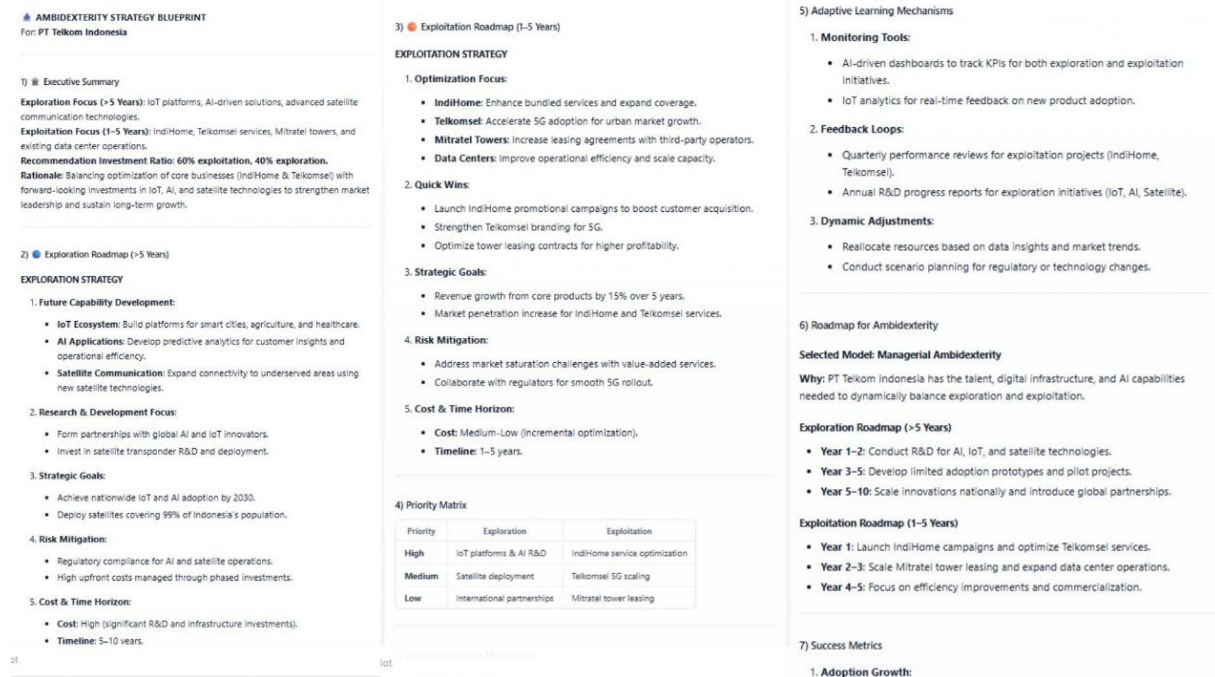


Figure 10. Illustrative example of AI-generated strategic output for ambidextrous leadership decision support.

Source: Author-developed (illustrative prototype artifact). The organizational example shown is used only to illustrate the output format and does not represent a validated analysis of any organization.

Figure 10 presents an illustrative example of the strategic output produced by the prototype agent. It shows the output format—how AI-supported analysis might be organized into structured decision guidance such as roadmaps, a priority matrix, time horizons, and monitoring mechanisms—rather than providing evidence of effectiveness. The organizational details in the example are illustrative and should not be read as a validated assessment of any specific firm.

A key function of strategic output is prioritization: because organizations face more possible initiatives than they can pursue at once, AI-supported prioritization may help leaders weigh urgency, impact, feasibility, capability readiness, and strategic relevance. Strategic output also includes monitoring mechanisms that may help track progress and adjust direction, reflecting that ambidextrous leadership is an ongoing balancing process rather than a one-time decision.

Taken together, the three components describe how AI may support ambidextrous leadership as a structured strategic process: internal strategic input provides the foundation, the AI intelligence core provides analytical support, and strategic output provides decision guidance.

AI as a Proposed Leadership-Enabling Mechanism

The framework repositions AI, at a conceptual level, as a leadership-enabling mechanism rather than only an automation or analytics tool. In the context of ambidextrous leadership, this suggests that AI may support both opening behaviors related to exploration (encouraging creativity, experimentation, and opportunity seeking) and closing behaviors related to exploitation (creating discipline, coordination, efficiency, and execution focus).

Prior studies emphasize that ambidextrous leadership requires balancing these behaviors to support innovation and performance (Gerlach et al., 2020; Mascareño et al., 2021). This paper extends that discussion conceptually by proposing that AI may improve the scale, speed, and evidence base of ambidextrous leadership practice, potentially helping leaders move from reactive toward more anticipatory balancing. This is offered as a conceptual proposition that requires

empirical validation, not as a demonstrated effect.

The framework does not reduce the importance of leadership. If anything, it suggests that as AI becomes more involved in analysis and decision support, leaders must interpret AI outputs, question assumptions, manage ethical risks, and translate recommendations into meaningful action. The leader's role shifts from making decisions on limited information toward orchestrating human judgment alongside AI-supported analysis.

Multi-Level Relevance of the Framework

The framework also has a multi-level reading. At the individual level, AI may support leader cognition by helping process information, recognize patterns, and compare options, reducing information overload. At the team level, AI may support collaboration and coordination by helping organize information, monitor progress, and connect innovation activities with operational goals.

At the organizational level, AI may strengthen strategic sensing, benchmarking, resource allocation, and adaptive monitoring. Read this way, AI-enabled ambidextrous leadership is not only a leadership style but a broader capability architecture connecting leadership practice, digital intelligence, organizational culture, and strategic adaptation. This multi-level view matters because leaders alone cannot achieve ambidexterity; it must be embedded in individual behavior, team processes, organizational systems, and culture.

Future Readiness and Contextual Relevance

Within the framework, future readiness is understood as an organizational condition produced through the alignment of leadership, culture, technology, and strategic intent, consistent with digital transformation research showing that leadership shapes digital capability, agility, resilience, and sustainable outcomes ([AlNuaimi et al., 2022](#); [Hariyani et al., 2025](#)).

The framework may be especially relevant for state-owned enterprises and organizations in emerging economies, where transformation often unfolds under institutional legacy, hierarchical structures, regulatory complexity, and uneven capability maturity. In such settings, organizations may struggle to pursue innovation without disrupting stability, or improve efficiency without becoming rigid.

The framework offers a conceptual logic for sequencing, prioritizing, and coordinating exploitation and exploration through AI-supported leadership judgment. For a large operator such as Telkom Indonesia, this relevance is illustrative: strategic transformation typically must proceed while maintaining large-scale operational continuity. This example is used only to convey relevance; it is not an empirical case, and no claims are made about the organization's actual outcomes.

Ethical and Managerial Considerations

Using AI to support resource allocation, prioritization, and future-oriented decisions raises ethical and managerial considerations. AI-supported processes should remain transparent, accountable, and interpretable, and leaders need to understand both the benefits and the limitations of AI. AI systems may produce recommendations based on incomplete data, biased patterns, or limited contextual understanding, so leaders should question, interpret, and contextualize AI outputs rather than accept them passively.

This implies that leaders need AI literacy, ethical judgment, data awareness, and the ability to connect AI outputs with organizational realities. Leadership development for future-ready organizations should therefore include digital cognition, data governance, ethical decision-making, and human-AI collaboration alongside innovation and change-management capabilities. These considerations reinforce the framework's central position that human-centered governance remains essential.

Theoretical and Proposed Practical Contributions

Theoretically, the framework contributes to ambidexterity research by proposing that AI may become part of the mechanism organizations use to manage paradox. Traditional ambidexterity literature has emphasized organizational design, resource allocation, and behavioral switching.

This paper adds a digital intelligence layer by positioning AI as a proposed operational support embedded within ambidextrous leadership practice, connecting leadership behavior, AI-enabled decision support, and strategic adaptation in a single conceptual framework. The extension is therefore precise: it does not propose a new theory of leadership, but extends ambidextrous leadership theory by articulating how an AI support layer could interface with opening and closing behaviors across levels.

In practical terms, the framework may inform the design of leadership development programs, digital transformation initiatives, and structured decision-making processes. It may help leaders consider which areas to optimize, which to explore, and how AI could support that judgment.

These practical implications are proposed rather than tested; they describe how the framework might be applied and experimented with, and they await empirical examination. Overall, the paper suggests that future-ready organizations require more than digital tools and conventional leadership; they may benefit from leaders who can use AI to support sensing, prioritization, experimentation, and resource orchestration while preserving human judgment, organizational values, and strategic coherence.

CONCLUSIONS

Conceptual Contribution

This paper proposes an AI-enabled ambidextrous leadership framework that explains how AI-enabled decision support may help leaders balance exploitation and exploration to strengthen organizational future readiness. The framework integrates internal strategic input, an AI intelligence core, and strategic output, and positions AI as a cognitive and analytical support mechanism rather than a co-leader or a replacement for human leadership. Its theoretical contribution extends ambidextrous leadership into AI-enabled decision support by specifying how an AI support layer could interface with opening and closing leadership behaviors across individual, team, and organizational levels.

Proposed Practical Implications

The framework may guide leadership development, digital strategy, and organizational renewal. It may be particularly relevant as illustrative context for state-owned enterprises and firms in emerging markets that must transform while maintaining operational continuity. These implications are proposed and illustrative; they have not been tested, and the framework should not be read as a validated or proven model.

Limitations and Future Empirical Testing

Because the paper is conceptual, the framework has not been empirically validated, and it does not establish that AI improves decision accuracy, leadership effectiveness, or organizational performance. The prototype artifacts included in the paper are illustrative demonstrations, not evidence of effectiveness.

Future research may empirically examine the framework across industries and organizational types, assess whether and how its components relate to outcomes, and further explore the dynamics of human–AI collaboration in leadership and innovation. Suitable methods

include case studies, interviews with organizational leaders, longitudinal designs, surveys, experiments, and structural equation modeling. In this sense, the framework is best understood as a starting point for future empirical work rather than a concluded result.

LIMITATION & FURTHER RESEARCH

This paper has several limitations that follow from its conceptual design. First, the framework is developed through literature synthesis rather than empirical investigation, so its relationships are proposed and not tested; the framework has not been validated, and no causal or performance claims are made. Second, the paper does not collect or analyze data from any organization.

References to state-owned enterprises, emerging markets, or Telkom Indonesia are illustrative context to convey relevance, not an empirical case; consequently, the paper does not claim generalizability to any specific industry or institutional setting. Third, the prototype AI agent and its outputs are illustrative artifacts. They demonstrate how the conceptual process might be operationalized. However, they may reflect limitations inherent in large language models, such as bias, incomplete external data, and sensitivity to prompt design, and they should not be interpreted as evidence of effectiveness.

Future research may address these limitations by empirically testing the framework across multiple organizations using methods such as longitudinal case studies, surveys, experiments, dynamic capability assessment, or structural equation modeling, and by examining human-AI collaboration in real decision-making settings.

Scholars may also study the behavioral effects of AI-augmented leadership on employees, the ethical implications of AI-supported strategic recommendations, and the evolution of hybrid human-AI leadership roles. Such work would help establish whether the conceptual relationships proposed here hold in practice and under what conditions.

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