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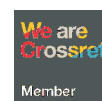
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Ambidextrous leadership strategy in facing the VUCA era: a systematic literature review and its implications for state-owned telecommunications enterprises

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ABSTRACT

The telecommunications industry is currently facing dual challenges in the VUCA era (Volatility, Uncertainty, Complexity, Ambiguity). Incumbent companies, particularly state-owned enterprises such as PT Telkom, are required to balance the exploitation of their core business for short-term profitability with the exploration of digital innovations for long-term sustainability. Objective: This study aims to analyze the concept of Ambidextrous Leadership as a key capability for senior leaders in navigating this innovation paradox and to formulate a conceptual framework for its application within state-owned enterprises. Method: The research employs a Systematic Literature Review (SLR) approach guided by the PRISMA protocol. Articles were collected from reputable databases (Scopus, Google Scholar) over the past ten years using keywords related to ambidextrous leadership and digital transformation. Results: The findings indicate that Ambidextrous Leadership consists of two dynamic behaviors: opening behavior (encouraging risk-taking and variance) and closing behavior (emphasizing efficiency and target achievement). In the bureaucratic context of state-owned enterprises, leaders require high cognitive flexibility to switch between these two modes. Conclusion: The implementation of Ambidextrous Leadership in the telecommunications sector necessitates an organizational culture that tolerates failure during the exploration phase while maintaining discipline during the exploitation phase.

Keywords:

Ambidextrous leadership
Exploration vs. exploitation
Telecommunications industry
State-owned enterprises
Systematic literature review

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Introduction

The landscape of the global telecommunications industry has transformed dramatically. Network connectivity is not the only battleground for telecom companies anymore. Companies need to become digital telcos to thrive in the future. This change has led to a VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) business environment (Amaral, Rivera-González, and Holguín-Veras 2025).

The challenge is more complicated for state owned enterprises (SOEs) like PT Telkom Indonesia (Persero) Tbk. Telkom is unique as it is a hybrid company serving as a public listed and government owned entity (GOVCoEntity) thus having to balance the competing expectations of two different stakeholder groups at the same time (i.e. exploitative behavior vs. explorative behavior). The leaders capacity to balancing on these conflicting demands is termed as Organizational Ambidexterity (Buckley, Craig, and Mudambi 2025).

Although this is not yet organizational ambidexterity as such, without the appropriate leadership, this cannot be achieved. developed the term, not surprisingly Ambidextrous Leadership, for the flexibility of a leader to use behavior patterns that are generative of innovation when necessary and action patterns that are leading towards a disciplined execution when the situation requires this (Boemelburg, Zimmermann, and Palmié 2023).

While this is a key concept, literature on its application in state-owned telecommunications enterprises in developing country context is limited. The majority of studies analyse firms that are technological pure in developed markets. As a way to combine global findings and develop a conceptual framework that may be useful to senior leaders working in the telecommunications industry in Indonesia, this study utilises a Systematic Literature Review (SLR) approach (Abourobah, Bajaba, and Yaqub 2024).

Methods

This study follows a qualitative methodological approach using a Systematic Literature Review (SLR) design. A systematic review was chosen for a comprehensive and objective identification, evaluation, and synthetic process of relevant studies (Ansari 2025).

Data Search Protocol

This research is conducted according to PRISMA (Preferred reporting items for systematic reviews and meta-analysis) protocol. Using Google Scholar, Scopus and ScienceDirect as major academic databases, literature searches for academic publications between 2015 and 2025 were carried out (De Barros, Resende, and Pontes 2025).

Keywords and Selection Criteria

The search string included Boolean operators: ("Ambidextrous Leadership" OR "Dual Leadership") AND ("Telecommunication" OR "Digital Transformation" OR "State Owned Enterprise"). The inclusion criteria were: (1) journal articles; (2) full-text in English or Indonesian; and (3) articles discussing the relation among leadership, innovation or performance organization (He et al. 2025).

Data Analysis

Data were analyzed using thematic analysis, and the results were organized within the themes of leadership behaviors, facilitating factors, and barriers to implementation (Dinibutun 2024).

Results and Discussion

From literature review results, Ambidextrous Leadership implementation, especially for high-tech industries, has characteristics that are different from the ambidextrous organization (Dong and Tang 2023).

Behavioral Dimensions: Opening and Closing Behaviors

Rosing et al. were consistently cited in the literature. Leaders who do not do this are less able to succeed as relayed who identified two aspects leading to leader behavior in a complementary but conflicting double-dimension model (Leadership) (Flori, Raulea, and Raulea 2025).

Opening Behavior: It refers to encouraging teams to create new digital products and is relevant within the context of Telkom.

Chen et al. found that a leader's positive affective presence significantly increases employee work engagement. Its relationship with Opening Behavior: Opening behavior (such as experimenting and seeking new ideas) requires significant mental energy and intrinsic motivation. Employees who lack engagement tend to be passive and only perform routine tasks (exploitation). Therefore, Chen's findings explain that a leader's Opening Behavior will only be welcomed if the leader has built engagement through the presence of positive emotions. This study highlights that a leader's positive

emotions create a supportive work climate, which in turn increases safety behaviors and compliance (Hojeij 2024).

Its relationship with Opening Behavior: In the context of innovation, this "sense of safety" parallels psychological safety. To engage in Opening Behavior (trying new approaches that risk failure), subordinates must feel emotionally safe. If a leader has a "Negative Affective Presence" (making subordinates feel tense/fearful), subordinates will avoid risks and reject the leader's Opening Initiative (Jaboob, Awain, and Al-Ansi 2023).

Although Opening Behavior requires employees to step out of their comfort zone, its successful implementation depends heavily on the emotional state established by the leader. A recent study showed that a positive Leader Trait Affective Presence is a key prerequisite for building Work Engagement. Without strong work engagement driven by the leader's emotional stability, the leader's instruction to explore (Opening Behavior) has the potential to fail because employees lack the psychological motivation to take more initiative. Journal is used not to define what Opening Behavior is, but rather to explain the supporting mechanisms (antecedents/enablers) so that Opening Behavior can be accepted and implemented by subordinates (Jiang, Zhang, and Arshad 2025).

This study positions Opening Behavior in this way for the following reasons: (1) Reflecting on the Exploration Side of the Learning Paradox: This research specifically examines the tension between exploration and exploitation (learning tensions). Opening Behavior is needed to represent the exploration side, while Closing Behavior represents the exploitation side. Without Opening Behavior, no paradox is formed, only routine management (Lehtimäki et al. 2026); (2) Triggering the "Learning by Doing" Mechanism: (a) The main hypothesis of this research is that leaders shape the mindset of subordinates not only through words (cognitive), but through real actions or behavior (behavioral); (b) *Opening Behavior* necessary so that leaders can give permission and encouragement to subordinates to carry out risky and innovative tasks; (c) When subordinates respond to this Opening Behavior by exploring (and also exploiting the Closing Behavior), they directly experience the paradoxical tension. This direct experience then shapes their Paradox Mindset; (3) Consistency with Ambidexterity Theory: This theory asserts that effective leaders in the context of innovation must be able to flexibly engage in both opening and closing behaviors. If leaders only engage in Opening Behavior, the organization will be chaotic (too many ideas, minimal execution). Therefore, Opening Behavior was multiplied by Closing Behavior in the data analysis to ensure that the leaders studied truly possess the ability to balance both poles.

In the journal (Lehtimäki et al. 2026), Opening Behavior is a fundamental element responsible for creating variability and innovation. This behavior "forces" subordinates to break out of routines, which is a crucial first step for subordinates in learning to manage paradoxical tensions and developing a Paradox Mindset.

Closing Behavior

This is particularly critical when an organization shifts its focus toward monetizing innovative products or maintaining rigorous network quality standards, such as Service Level Agreements (SLAs). This managerial phase is characterized by the establishment of strict performance targets (KPIs), consistent operational monitoring, and the imposition of clear sanctions or corrections for procedural deviations. A synthesis of current leadership literature suggests that the most effective senior leaders possess "temporal flexibility" the distinct ability to discern when to foster an "open" environment for ideation and, crucially, when to transition into a "closed" phase to drive execution (Qi et al. 2025).

From a strategic perspective, research titled *Time and MNE strategy: Managing temporal misalignments in global value chains* frames Closing Behavior as a vital mechanism to achieve "Temporal Coupling." In this context, it serves as a managerial lever designed to synchronize the duration of internal firm activities with the velocity of industry change, also known as Industry

Clock Speed. This synchronization is essential because temporal misalignment often leads to a competitive disadvantage. Consequently, leaders must employ Closing Behavior manifested as setting tight deadlines and cutting through process red tape to accelerate internal activity durations and prevent the organization from falling behind the market. Furthermore, managing global value chains requires these rigid controls to ensure that disparate units across various countries operate at a unified pace through robust, routine monitoring practices (Sharma et al. 2025).

On a technical and operational level, the concept is further elucidated in studies regarding port logistics and the impact of truck traffic patterns on emissions. Here, Closing Behavior is interpreted through the lens of Operational Compliance and Scheduling. It involves the implementation of strict operational rules, such as 24/7 scheduling or off-peak delivery mandates, alongside rigorous data-based compliance monitoring. For instance, the use of GPS data from 50,000 vehicles represents an intensive form of Closing Behavior where every movement is tracked to ensure maximum efficiency. To achieve specific targets, such as a documented 19% reduction in CO2 emissions, operational leaders eliminate the possibility of variance; they cannot allow drivers to "open" the process by experimenting with routes. Instead, success depends on strict adherence to optimized schedules (Sribundit et al. 2025).

While classical literature traditionally defined Closing Behavior as a simple effort to reduce variance, contemporary scholarship expands its scope into distinct strategic and operational dimensions. Strategically, Position this behavior as a temporal coupling mechanism that aligns a company's internal pace with market demands. Operationally, Amaral et al. (2025) demonstrate that data-driven monitoring and schedule adherence are fundamental to achieving environmental and cost efficiency. For leaders of state-owned enterprises, this evolution emphasizes that the Closing phase is not merely an exercise in authority, but a sophisticated practice of precision synchronization and execution (Sun, Samad, and Murtaza 2025).

Challenges in the Context of State-Owned Enterprises (BUMN)

Several studies highlight the unique challenges of implementing this concept in state-owned enterprises. The hierarchical culture and high risk aversion in the public sector often hinder Opening Behavior. Findings: State-owned enterprise leaders often fall into the Competency Trap, where they become too comfortable with past successes (exploitation) and are reluctant to invest in radical innovation. Implications: Senior Leaders at PT Telkom must act as a buffer, protecting their innovation teams from excessive corporate bureaucracy, while still assuring shareholders of profitability (Tseng et al. 2024).

Conceptual Framework for Senior Leaders

Based on the literature synthesis, this study proposes an implementation flow for leaders: (1) Situation Diagnosis: Leaders must be able to read whether the team is in the ideation phase (needs Opening) or the commercialization phase (needs Closing); (2) Behavioral Interventions: Switching leadership styles. Avoid using a commanding style on creative teams and a laissez-faire style on critical operational teams; (3) Context Creation: Building a psychologically safe work environment (psychological safety) so that subordinates dare to express ideas without fear of being blamed, but remain responsible for targets.

The following is an analysis of the application of the Behavioral Dimensions (Opening & Closing Behaviors) mapped to each stage of the Implementation Flow (Framework). This analysis integrates theoretical findings from key journals to provide operational guidance for Senior Leaders in SOEs (Wang and Wu 2024).

Analysis of the Implementation of Ambidextrous Leadership Based on Implementation Flow

The implementation of ambidextrous leadership begins with Situation Diagnosis, a phase dedicated to determining "when" to act. The primary objective here is for leaders to accurately interpret external and internal signals to decide whether an "Opening" or "Closing" mode is required. For

Opening Behavior, the critical signals include the stagnation of ideas or instances where the speed of industrial change the Industry Clock Speed surpasses the organization's internal adaptation capabilities. Literature suggests that effective diagnosis extends beyond market analysis to assessing the team's mental readiness. Leaders must evaluate whether subordinates possess a "Paradox Mindset." If teams are overly comfortable with routine, leaders must identify the necessity for Opening Behaviors to trigger constructive "learning tensions." Conversely, the signal for Closing Behavior arises from cost inefficiency, missed targets, or execution time misalignments. Drawing from Buckley et al. (2025), the diagnosis here focuses on Temporal Misalignment. Leaders must determine if Firm Activity Duration is lagging behind competitors; if so, immediate Closing Behavior is required to implement Temporal Coupling, ensuring timely product releases and cost control (Weatherly 2025).

Following diagnosis, the process shifts to the Behavioral Intervention Stage, which addresses "how" leaders switch styles through specific managerial actions. When implementing Opening Interventions for exploration mode, the focus is on providing autonomy and challenging the status quo. the mechanism of delivery is crucial; interventions must not be delivered with a "bossy tone" but rather through a Positive Affective Presence. If a leader encourages innovation while displaying negative emotions, work engagement will plummet. Therefore, interventions must be inherently inviting. Furthermore, highlight "Learning by Doing" as a key strategy, where leaders deliberately assign contradictory or novel projects to force subordinates out of their comfort zones, fostering a Paradox Mindset through direct experience (Lim et al. 2023).

In contrast, the implementation of Closing Interventions for exploitation mode relies on strict KPI setting, monitoring, and standardization. emphasize Data-Driven Interventions, such as those used in port logistics where real-time data like GPS tracking enforces operational compliance. These interventions are non-negotiable and aim for precision. As noted, this also involves streamlining bureaucratic processes to accelerate throughput times, with the ultimate goal of value chain synchronization (Adepoju et al. 2022).

The final dimension is the Context Creation Stage, which establishes "where" these behaviors occur by building an ecosystem that supports both modes without destructive conflict. For Opening Behavior, the context relies heavily on Psychological Safety (Sitti and Rosyalita 2025). argue that leaders must create a "safe space" where experimental failure is not punished. In bureaucratic settings like state-owned enterprises, this translates to "Safety Behavior" or political protection, where the leader guarantees career security for those who innovate with good intentions. Without this assurance, subordinates will likely retreat to the safety of routine. Simultaneously, the context for Closing Behavior is built on Discipline and Accountability. define this through Outcome Clarity, designing a transparent work environment where deviations are immediately visible. In this culture, compliance with Standard Operating Procedures (SOPs) is framed not as an administrative burden, but as a vital contribution to environmental sustainability and company profitability (Yang et al. 2025).

Table 1. Synthesis Matrix for Senior Leaders

Implementation Stages	Dimension: Opening Behavior (Exploration/Innovation)	Dimension: Closing Behavior (Exploitation/Efficiency)
1. Situation Diagnosis	Detecting the need for idea variance and team mindset stagnation (Savage et al. 2020).	Detecting temporal misalignment (delays) and operational inefficiencies (Boutcher et al. 2022).
2. Behavioral Interventions	Using Positive Affective Presence to encourage fearless participation (Nadkarni and Prügl 2021).	Using data-based monitoring (GPS/Analytics) and strict schedule enforcement (Amaral et al. 2025)
3. Context Creation	Building Psychological Safety and Work Engagement as a safety net (Ahmed, Philbin, and Cheema 2021).	Building a culture of compliance for specific targets such as emission/cost reductions (Amaral et al. 2025).

This framework demonstrates that ambidextrous leadership is not simply an innate trait, but rather a structured managerial process (Roodbari et al. 2022). The effectiveness of senior leaders at Telkom depends on their accurate diagnosis (stage 1), the appropriate selection of intervention instruments (stage 2: emotion vs. data), and the ability to maintain a balanced work climate (stage 3).

Conclusion

Ambidextrous leadership is a critical competency for senior leaders in the telecommunications industry to survive in the VUCA era. The ability to balance the demands of exploitation (current efficiency/revenue) and exploration (future innovation/growth) is a key predictor of a company's digital transformation success. Failure in either dimension will cause a company to lose market relevance or experience operational inefficiencies.

This study elucidates the critical role of Ambidextrous Leadership as a primary determinant for the successful transformation of State-Owned Enterprises (SOEs) in the telecommunications sector, specifically within the context of the volatile "Digital Telco" landscape. By synthesizing recent global literature, this research advances the understanding of how senior leaders in developing economies, such as Indonesia, can navigate the paradox of sustaining legacy connectivity revenues (exploitation) while pursuing high-risk digital innovations (exploration).

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