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TRIANGULAR LEADERSHIP: A MULTIDIRECTIONAL MODEL FOR INFLUENCE AND ADAPTATION IN COMPLEX SYSTEMS

ABSTRACT

Leadership remains a timeless organizational challenge, yet contemporary threats demand renewed attention as they expose vulnerabilities in traditional models of authority and influence. This article introduces the Triangular Leadership Model, a theoretical framework that conceptualizes leadership as the interplay of top-down, bottom-up, and horizontal dynamics. Through illustrative cases from aviation and military practice, the model highlights how directional balance—not authority alone—shapes leadership effectiveness in complex, high-pressure environments.

Keywords: *Leadership directionality; multidirectional leadership; horizontal leadership; triangular leadership model; cognitive resilience; hybrid threat environment*

1. Introduction

On March 27, 1977, two Boeing 747s collided on the runway of Los Rodeos Airport in Tenerife, killing 583 people in what remains the deadliest accident in aviation history. The investigations later revealed an unexpected detail: the captain of the KLM flight, a highly respected and experienced pilot, initiated take-off without due clearance. The co-pilot and flight engineer expressed their concern, yet no one stood up to stop him. The absence of upward feedback and lateral coordination in a moment where safety demanded absolute clarity highlighted the perils of leadership constructs that made decision directives go, structurally and unilaterally, from the top down.

Hence, leadership failures of that degree are not just relegated to flight operations. Operating under a leadership structure built around singular authority flows sets up the operation to fragilize under pressure-military operations, crisis response teams, or even in the corporate boardroom. Contemporary security environments compound these risks: hybrid warfare and cognitive operations increasingly target leadership processes themselves, exploiting vulnerabilities in information flows and decision-making structures across military, civilian, and interagency domains. The earliest and traditional leadership theories highlight, with proved efficacy, hierarchical top-down authority, while later models explore the importance of bottom-up support (for example, voice and followership) and the importance of horizontal collaboration (such as shared or distributed leadership). These lines of thought regarding leadership, however, have largely remained separate and distant from one another over time. The interaction between these directions has been virtually under-theorized, maintaining a gap in our understanding and practice in how we can describe and understand influence and coordination within complex environments.

This paper addresses this gap by proposing the Triangular Leadership Model: a triadic framework of leadership that integrates top-down, bottom-up, and horizontal flows of collaboration. Rather than viewing leadership as a static position or a role-bound authority, this model conceptualizes it as a dynamic system of evolving collaborations. It advances the position that effective leadership in complex, high-stakes environments, depends not on the dominance of one direction but on the adaptive activation of all three.

Our contribution develops in two parts:

- 1) It introduces the notion of leadership complementarity and directionality as a dual concept: a structural feature embedded in organizational design, and a behavioural pattern enacted through influence across hierarchical and peer relationships;
- 2) It proposes a Triangular Leadership Model that integrates top-down, bottom-up, and horizontal coordination into a unified framework.

This proposal is particularly relevant to contexts where speed, uncertainty, and interdependence dominate, such as military units, aviation crews, emergency response teams, and complex organizations undergoing transformation. By shifting the interest of the analysis from leadership roles to leadership flows, the Triangular Leadership Model provides a different lens for both theory and practice. Methodologically, this theoretical paper synthesizes literature across three paradigms to formalize a triadic framework, using illustrative cases to demonstrate plausibility and formal propositions to enable empirical testing.

The paper proceeds as follows. Section 2 reviews the literature on leadership directionality, identifying conceptual blind spots across top-down, bottom-up, and horizontal paradigms. Section 3 presents the Triangular Leadership Model and its core assumptions, including illustrative examples that reveal the model's real-world resonance. Section 4 discusses implications for leadership theory, organizational design, and high-stakes training environments. Section 5 concludes with a research agenda for empirical testing and theoretical refinement.

2. Rethinking Leadership Directionality

Leadership has long been conceptualized as a vertical process, flowing from formal authority figures to subordinates through command¹, control, and coordination mechanisms². This top-down model is deeply embedded in organizational, military, and institutional traditions, emphasizing clarity, decisiveness, and accountability. Over time, however, scholars have increasingly recognized that leadership also emerges from below³, through followership, employee voice, and initiative⁴, and laterally, through peer coordination, shared roles, and distributed influence⁵⁻⁶.

These expansions have generated valuable insights, yet the field remains fragmented. Top-down, bottom-up, and horizontal leadership are typically studied as discrete paradigms, with limited integration or structural theorization of how leadership flows across roles and directions. In this section, we review these three foundational streams of leadership literature — not to summarize them comprehensively, but to surface the conceptual tensions and structural blind spots that call for a triadic, directional model.

2.1. Top-Down Leadership: The Dominant Paradigm

Top-down leadership is anchored in classical bureaucratic and transformational leadership theory. It is rooted in early trait theories⁷, behavioural models⁸, contingency theories⁹, and later transformational and transactional leadership frameworks, where hierarchical authority is legitimized by formal position and reinforced through vision, charisma, or contextual control

¹ YOUNG, M., & DULEWICZ, V., *A model of command, leadership and management competency as a predictor of the performance, potential and rate of advancement of Royal Navy senior officers* in «Military Psychology», 2025, pp. 1–17. <https://doi.org/10.1080/08995605.2025.2493392>.

² BARNARD C.I., *The Functions of the Executive*, New York 1938, pp. 161-184.

³ KELLEY R.E., *The Power of Followership: How to Create Leaders People Want to Follow and Followers Who Lead Themselves*, New York 1992, pp. 49-77.

⁴ DETERT, J. R., & BURRIS, E. R., *Leadership behavior and employee voice: Is the door really open?* In «Academy of Management Journal», 50(4) (2007), pp. 869–884, <https://doi.org/10.5465/amj.2007.26279183>

⁵ PEARCE C.L. – CONGER J.A. (eds), *Shared Leadership: Reframing the Hows and Whys of Leadership*, Thousand Oaks (CA) 2003, pp. 1-18.

⁶ SPILLANE, J. P., *Distributed Leadership*, Jossey-Bass Publishers, San Francisco 2006, pp.87-104.

⁷ STOGDRILL, RALPH M., *Personal Factors Associated with Leadership: A Survey of the Literature*, in «The Journal of Psychology», 25 (1) (1948), pp. 35–71, doi:10.1080/00223980.1948.9917362.

⁸ FLEISHMAN, E. A., & HARRIS, E. F., *Patterns of leadership behavior related to employee grievances and turnover*, in «Personnel Psychology», 15(1) (1962), pp. 43–56, <https://doi.org/10.1111/j.1744-6570.1962.tb01845.x>.

⁹ FIEDLER, F.E., *A Theory of Leadership Effectiveness*, McGraw-Hill, New York 1967, pp. 154-180.

mechanisms¹⁰. Across these traditions, leadership is conceptualized as an activity emanating from formal authority figures, with influence flowing vertically downward through commands, expectations, inspiration, or conditional rewards.

These models emphasize the role of a central authority who sets direction, motivates subordinates, and maintains order through vertical command structures. Top-down leadership is particularly valorised in hierarchical institutions such as the military, aviation, and emergency services, where speed, decisiveness, and role clarity are essential. In such environments, it enables rapid decision-making and efficient coordination, especially under time pressure or during execution of predefined procedures.

However, the limitations of this model become evident in dynamic, ambiguous, or cognitively complex environments. Over-centralization may lead to bottlenecks, blind spots, or the suppression of critical input from lower levels of the organization. As situational complexity increases, the cognitive and informational bandwidth of the designated leader may be exceeded, compromising decision quality¹¹. In parallel, when hierarchical structures discourage upward feedback or lateral correction, psychological safety can be eroded¹², increasing the likelihood of unchallenged errors¹³.

The 1977 Tenerife airport disaster exemplifies this risk. Although both the flight engineer and co-pilot detected potential hazards, they failed to override the captain's premature take-off decision — a consequence of rigid hierarchy, authority deference, and the absence of effective feedback channels. The incident exemplifies how excessive reliance on top-down influence, in the absence of bottom-up or horizontal checks, can become a point of failure rather than control.

2.2. Bottom-Up Leadership: Voice and Emergence

Bottom-up leadership highlights the influence that can flow from subordinates to formal leaders or into the system-as-a-whole. Bottom-up leadership focuses on the capacity of individuals at lower levels of the hierarchy to influence decisions, shape direction, or respond autonomously to emerging threats. Early studies of followership¹⁴ challenged the leader-centric bias of the field by emphasizing the role of active engagement from below¹⁵. The growing literature on employee voice¹⁶ ¹⁷ further explored how workers contribute to leadership processes by expressing concerns, proposing ideas, or questioning assumptions.

Emergent leadership in self-managing teams¹⁸ adds another bottom-up layer, showing how individuals without formal authority may take initiative and shape collective direction. However, structural and cultural barriers often constrain upward influence.

High power-distance and strongly hierarchical environments often make it risky to speak up¹⁹ and, bottom-up signals may go disregarded²⁰. While bottom-up forms of leadership can

¹⁰ BASS, B. M., & AVOLIO, B. J., *Improving organizational effectiveness through transformational leadership*, Sage Publications, 1994, pp. 26-76.

¹¹ KLEIN, G. A., *Sources of Power: How People Make Decisions*, MIT Press, Cambridge MA (1998), pp. 147-176.

¹² EDMONDSON, A., *Psychological Safety and Learning Behavior in Work Teams*, in «Administrative Science Quarterly», 44(2) (1999), pp. 350-383, <https://doi.org/10.2307/2666999>

¹³ JANIS, I. L., *Victims of groupthink: A psychological study of foreign-policy decisions and fiascos*. Houghton Mifflin, (1972), pp.1-96.

¹⁴ KELLEY R.E., *The Power of Followership ...*, *op. cit.*, pp. 49-77.

¹⁵ CHALEFF I., *The Courageous Follower: Standing Up to and for Our Leaders*, 3rd ed., San Francisco (CA) 2009, pp. 85-111.

¹⁶ DETERT, J. R., & BURRIS, E. R., *Leadership behavior and employee voice ...*, *op. cit.*, pp. 869-884.

¹⁷ MORRISON, E. W., *Employee voice behavior: Integration and directions for future research*, in «Academy of Management Annals», 5(1) (2011), pp. 373-412, <https://doi.org/10.5465/19416520.2011.574506>.

¹⁸ CARSON, J. B., TESLUK, P. E., & MARRONE, J. A., *Shared leadership in teams: An investigation of antecedent conditions and performance*, in «Academy of Management Journal», 50(5) (2007), pp. 1217-1234, <https://doi.org/10.2307/20159921>.

¹⁹ EDMONDSON, A., *Psychological Safety and Learning Behavior in Work Teams ...*, *op. cit.*, pp. 350-383

²⁰ ASHFORD S.J., ROTHBARD N.P., PIDERIT S.K., DUTTON J.E., *Out on a Limb: The Role of Context and Impression Management in Selling Issues to Top Management*, in «Administrative Science Quarterly», 43 (1998), pp. 23-57.

support learning and adaptation, yet it usually has no structural legitimacy or protection to support these systems.

These streams emphasize that an upward force has the mean to correct errors, foster innovations, and increase levels of psychological safety. On the other hand, bottom-up leadership usually undergoes a lack of structural support and remains culturally constrained, especially in high-power-distance or command-oriented systems.

2.3. Horizontal Leadership: Peer Coordination and Distributed Influence

The latest trend of research dealing with horizontal leadership, explores how leadership emerges and operates among peers.

Horizontal leadership refers to the use of leadership across peers, neither up nor down, but laterally. This domain includes shared leadership²¹, distributed leadership²², and newer approaches such as *Team of Teams*²³. These models recognize that in VUCA (Volatility, Uncertainty, Complexity, Ambiguity) or knowledge-intensive situations, leadership emerges as a collective spiral that moves among team members based on expertise, initiative, or context.

Empirical studies show that horizontal leadership can enhance performance²⁴ through shared purpose²⁵, trust, and dynamic role switching and advance the evidence that lateral influence and mutual adjustment can significantly enhance agility and coordination. It is particularly valuable in domains requiring high coordination under uncertainty, such as aviation, special operations, and disaster response. However, lateral leadership often suffers from role ambiguity, unclear authority boundaries, and its effectiveness depends critically on how it emerges and is legitimised within specific organizational contexts²⁶. Moreover, many shared leadership models fail to distinguish directionality from distribution, conflating influence *presence* with *flow*.

Yet another critical challenge lies in the emergence of *unhealthy peer competition*. When lateral collaboration becomes a site of rivalry rather than mutual support, trust and information sharing can erode, undermining team cohesion and coordination. Research on team dynamics has shown that excessive intra-team competition can disrupt cooperation and reduce collective performance²⁷. In horizontal leadership systems, sustaining psychological safety and a shared purpose is therefore essential to prevent these competitive dynamics from compromising collaborative trust.

2.4. The Missing Link: Directionality as Structure

Despite the progress made across top-down, bottom-up, and horizontal leadership theories, a key insight remains underdeveloped: leadership directionality as a core structural and behavioural construct. Existing models focus on who leads (formal vs informal), how they lead (style), or how many lead (distributed/shared), but rarely on the direction in which influence flows, how influence flows across levels and roles in real time — and what happens when those flows are blocked, imbalanced, or misaligned. The result is a fragmented understanding of leadership dynamics in complex systems — especially those that demand adaptability, multi-role responsiveness, and rapid reconfiguration.

We argue that what's missing is an integrative model that structures leadership influence as a dynamic, multidirectional process, where top-down, bottom-up, and horizontal flows are all essential and potentially compensatory

²¹ PEARCE C.L. – CONGER J.A. (eds), *Shared Leadership...*, *op. cit.*, 2003, pp. 19-21.

²² SPILLANE, J. P., *Distributed Leadership...*, *cit. op.*, pp.87-104.

²³ MCCHRYSTAK, G. S. A., SILVERMAN, D., COLLINS, T., & FUSSELL, C., *Team of teams*, Portfolio Penguin, (2015), pp.115-134.

²⁴ ENSLEY M.D., HMIEIESKI K.M., PEARCE C.L., *The importance of vertical and shared leadership within new venture top management teams: Implications for the performance of startups*, in «The Leadership Quarterly», 17, 3 (2006), pp. 217–231, <https://doi.org/10.1016/j.leaqua.2006.02.002>.

²⁵ CARSON J.B., TESLUK P.E., MARRONE J.A., *Shared leadership in teams*, *op. cit.*, pp. 1217–1234, <https://doi.org/10.1080/19416520.2012.667612>.

²⁶ CARSON J.B., TESLUK P.E., MARRONE J.A., *Shared leadership in teams*, *op. cit.*, pp. 1217–1234, <https://doi.org/10.1080/19416520.2012.667612>.

²⁷ OLANETAN W., WONG A., NG E., *Does shared leadership always work? A state-of-the-art review and future prospects*, in «Journal of Work-Applied Management», 15, 3 (2022), pp. 273–290, <https://doi.org/10.1108/JWAM-09-2022-0063>.

We define leadership directionality as the patterned movement of influence across three fundamental axes: top-down, bottom-up, and horizontal. Each of these directions carries unique affordances and risks. In isolation, they provide partial solutions. In integration, they offer adaptive resilience.

The absence of a model that formally treats leadership as a triadic directional system has two consequences. First, it limits theoretical explanations for leadership effectiveness in fluid and interdependent environments. Second, it hinders practical design of leadership structures capable of withstanding volatility, ambiguity, and speed. We contend that a shift from *leadership roles* to *leadership flows* is both necessary and overdue. The Triangular Leadership Model introduced in the next section addresses this conceptual blind spot by reframing leadership not only as a relational or role-based phenomenon, but as a network of directional flows embedded in organizational structures and activated by situational demands.

3. The Triangular Leadership Model

3.1. Model Overview

“Leadership is an ageless topic” as Kotter writes in *A Force for Change: How Leadership Differs from Management*²⁸. The Triangular Leadership Model does not claim novelty in the identification of top-down, bottom-up, or horizontal influence, respectively. The flows have already been identified in prior well-studied leadership and organizational theory. The distinctiveness, then, lies in formalizing their structural integration as an interdependent triadic system, the basic architecture for leadership in complex, high-stakes and evolving environments, enabling predictions about leadership effectiveness based on the balance of directions rather than the predominance of one flow. Within formal organizations, especially in military and hierarchical institutions, each of these directional flows tends to be considered separately. By way of an interdependent triad, the model aims to put leadership in perspective of the balanced activation of all three.

This balance becomes even more important in time-sensitive situations: good leaders need to have a thorough understanding of their team members and their competences in order to determine who can step in as temporary leader when quick delegation is needed. Such agile rebalance of the authority strengthens responsiveness and trust while prevents the system from being framed into a rigid command or uncoordinated process.

The Triangular Leadership Model (*fig. 1*) conceptualizes leadership as the dynamic interplay of three flows: topdown, bottomup, and horizontal. Each represents a distinct yet interdependent essential way influence is shared within teams and organizations.

- **Topdown leadership** refers to rigid structural point of view of leadership. Its directive influence originating from formal authority structures. It is expressed via hierarchical decisionmaking, the use of commands to subordinates, and formal mechanisms of accountability that ensure compliance with established goals and procedures.
- **Bottomup leadership** reverts the influence upwards. It expresses the subordinates’ voice, initiative, and feedback²⁹. This flow opens channels through which critical information, emergent issues and doubts, and insights from a different point of view, that can support formal leaders, thereby reinforcing collective sensemaking and aligning the team’s goals, and intellectually stimulating both leaders and employees³⁰.
- **Horizontal leadership** reveals lateral influence among peers so that they can better coordinate the activities between functional or positional roles. It is based on task-interdependency, responsibility, distributed expertise, mutual adjustment, and peerlevel collaboration in order to integrate perspectives and better manage interdependencies³¹.

²⁸ KOTTER J.P., *A force for change: How leadership differs from management*, New York, NY, Free Press, 1990.

²⁹ EDMONDSON, A., *Psychological Safety and Learning Behavior in Work Teams* ..., op. cit., pp. 350-383.

³⁰ BASS, B. M., & AVOLIO, B. J., *Improving organizational effectiveness...*, op.cit., pp.26-76.

³¹ PEARCE C.L. – CONGER J.A. (eds), *Shared Leadership*..., op. cit., 2003.

The Triangular Leadership Model

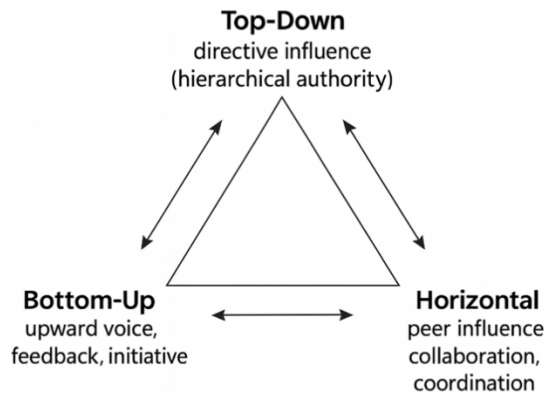


Figure 1

Figure 1 illustrates the model, representing leadership as an equilateral triangular framework where all three sides - top-down authority, bottom-up voice, and horizontal coordination -are equally essential. The arrows illustrate how information flows bidirectionally within communication channels, enabling correction, coordination, and sensemaking. Balanced activation of these flows enhances adaptability, while imbalance or blockage in any one direction increases vulnerability to error, stagnation, or coordination failure.

Each directional flow operates through the coupling of information (content) and communication (channels). Top-down flows convey strategic information (commands, objectives) via formal communication channels (reporting hierarchies, briefing protocols). Bottom-up flows convey operational information (concerns, ground-truth observations) via upward communication mechanisms (feedback systems, voice protection, psychological safety). Horizontal flows convey distributed information (peer expertise, coordination needs) via lateral communication channels (peer networks, liaison roles, collaborative protocols). Effective leadership, therefore, is a combination of both dimensions (information availability and communication permeability) working at the same time in all three directions.

The Triangular Leadership Model raises several research questions for future theoretical and empirical testing. These propositions treat leadership as a structural property of teams and organizations, as the model above presented, proposing to increase performance outcomes under varying conditions of directional balance.

Firstly, the model assumes that leadership effectiveness increases when topdown, bottomup, and horizontal flows are simultaneously active and structurally reinforced, ensuring a balanced equilibrium of information, authority, and coordination within the team structure.

Secondly, the absence or suppression of bottomup leadership can increase the likelihood of uncorrected error in highpressure or timecritical situations, since individual local knowledge and alternative perspectives do not reach decision-makers.

Thirdly, overcentralization of topdown leadership inhibits team adaptability by restricting information flow, creating bottlenecks, and discouraging lateral problem-solving among team members.

Lastly, horizontal leadership serves as moderator regarding the negative effects of vertical overload, by enabling teams to redistribute cognitive and operational loads during crises, therefore distributing sensemaking and operational agility through peer-to-peer coordination.

These propositions provide a conceptual foundation for future research and can be operationalized through a range of empirical strategies, including social network analysis to map formal and informal leadership, experimental simulations manipulating flow configurations, and field-based investigations in complex organizational or military settings.

3.2. Embedded Illustrative Examples

The relevance of the Triangular Leadership Model becomes evident in high-stakes operational contexts where leadership imbalances lead to success or failure. The following examples are over simplified but are used with the aim to provide an illustration of possible failures if the

triangular leadership model is not applied, the lesson-learnt outcome through training improvements and how it can be successfully implemented.

Tenerife Disaster (1977)

The collision of two Boeing 747s on the runway of Los Rodeos Airport in Tenerife remains the deadliest accident in civil aviation history. A key factor identified in subsequent investigations was the overcentralization of authority. Although both the copilot and the flight engineer expressed their hesitations, their bottomup signals failed to reach the captain's decision-making factors, a dynamic shaped by cockpit hierarchy³² and cultural deference³³ to authoritarian mechanisms. In addition, horizontal coordination—between the cockpit and the air traffic control tower—was marked by ambiguity and redundancy, exacerbated by environmental conditions (dense fog) and unclear radio protocols.

This tragedy illustrates the dangers of leadership imbalance: an overreliance on topdown leadership, combined with ineffective horizontal and bottomup mechanisms, produced a structural vulnerability. The team lacked distributed sensemaking and corrective pathways, resulting in a single point of failure. The case supports the second and third proposition, demonstrating that the absence of bottomup influence and the dominance of unchecked authority's command might increase operational risk in highpressure contexts.

MultiCrew Cooperation (MCC) Training

Institutional responses to events such as Tenerife's incident have taken the form of aviation training protocols such as Multi-Crew Cooperation (MCC). These programs are designed to systematically trigger double checks, teams' coordination and horizontal flows, encouraging co-pilots and crew members to confirm decisions taken, engage in mutual monitoring, and coordinate during routine and emergency operations³⁴. MCC protocols redistribute leadership and responsibility, and foster shared awareness, creating the structural conditions necessary for multidirectional leadership.

This lesson operationalized into practice thanks to training protocols, demonstrates how leadership directionality can be intentionally designed. MCC training reflects an organizational recognition of the limitations of unique topdown leadership and a shift toward codifying structural enablers of decision-making and coordination. It offers a practical example of how the Triangular Leadership Model can be applied into leadership development programs and organizational design procedures. Thereby, it further supports the last proposition above exposed, showing how horizontal and bottom-up leadership mechanisms can mitigate the risks of vertical overload.

Hudson River Emergency Landing (2009)

Lastly, the successful emergency landing of US Airways Flight 1549 on the Hudson River, often referred to as the "Miracle on the Hudson", provides a model example of effective multidirectional leadership. Captain Chesley Sullenberger exercised assertive topdown command in assessing engine failure and opting for an emergency landing, while also engaging in rapid horizontal team coordination with the first officer and air traffic control, exchanging critical information in real time. Fraher (2011)³⁵ provides a psycho-social analysis of Flight 1549, highlighting how the crew's collective coordination across hierarchical and lateral lines allowed the success of the landing.

This case illustrates not only the technical competence but also the balance in leadership structure, as proposed in the model. The synchronized activation of all three dimension — directive authority, upward feedback, and lateral coordination — supported a fast and adaptive decision-making in a rapidly deteriorating circumstance. It supports the first proposition above

³² WEICK K.E., *The vulnerable system: An analysis of the Tenerife air disaster*, in «Journal of Management», 16, 3 (1990), pp. 571–593.

³³ HELMREICH R.L., MERRITT A.C., *Culture at work in aviation and medicine: National, organizational, and professional influences*, Aldershot, Ashgate, 1998, pp. 107–132.

³⁴ KANKI B.G., HELMREICH R.L., ANCA J. (eds.), *Crew resource management* (2nd ed.), San Diego, CA, Academic Press, 2010, pp. 3-58.

³⁵ FRAHER A.L., *Hero-making as a defence against the anxiety of responsibility and risk: A case study of US Airways Flight 1549*, in «Organisational & Social Dynamics», 11, 1 (2011), pp. 59–78.

mentioned, reinforcing the claim that structurally enabling all three leadership directions enhances team adaptability and performance under pressure.

4. Practical Implications and Future Research Directions

The Triangular Leadership Model advances a theoretical framework to provide actionable insights for leadership development and organizational design while opening different prospective avenues for empirical inquiry. Its emphasis is on the integration of pre-existing models to provide, not only as behavioural construct, but also as a structural configuration of directional leadership flows—topdown, bottomup, and horizontal.

4.1. Practical and Strategic Implications

In military and aviation settings, operational effectiveness relies on the constant exchange of information across level of hierarchy. Training frameworks such as Crew Resource Management (CRM) and MultiCrew Cooperation (MCC) incorporate elements of ascending voice and lateral coordination; however, these practices are often left at a procedural level rather than integrated as structural requirements of leadership. The Triangular Leadership Model thus reframes these elements as parts of a multidirectional system. Accordingly, command structures can therefore be evaluated and redesigned to ensure that downward directives are systematically accompanied by upward feedback and lateral synchronization.

Within crisis and emergency response teams, the model underscores the necessity of institutionalizing bidirectional and peertopeer communication channels. Leadership imbalances—such as suppressed bottomup input during timecritical operations—can lead to unchallenged errors. Incorporating formal routines that activate horizontal problemsolving and upward escalation of concerns may enhance resilience and decision quality in unpredictable environments.

More broadly, organizational design efforts benefit from treating leadership as a network of directional ties. Structures that embed multidirectional influence, such as crossfunctional teams, lateral liaison roles, and structured feedback protocols, create adaptive capacity. The model provides senior leaders with a diagnostic framework to detect bottlenecks in influence flows and implement targeted interventions to strengthen them.

In today's hybrid and cognitive warfare environments, where adversaries specifically target decision-making processes across military, informational, and psychological domains, multidirectional leadership structures are more than ever relevant. Cognitive warfare operations—designed to influence, disrupt, or manipulate cognition and sensemaking³⁶—directly exploit vulnerabilities in leadership directionality. While influence operations aim to undermine trust between allied units, interagency partners, or coalition members, disinformation campaigns have the potential to contaminate bottom-up information channels, preventing commanders from receiving accurate ground truth. Organisations that institutionalise multiple, overlapping channels for information verification—combining top-down directives with bottom-up ground truth and horizontal peer validation—create cognitive defences against adversarial influence, according to the Triangular Leadership Model, which suggests that resilience against such manipulation necessitates structural redundancy in directional flows.

4.2. Future Research Directions

The propositions derived from the Triangular Leadership Model invite empirical testing across multiple methodological domains. Social network analysis offers a direct means of operationalizing the model by mapping perceived and enacted flows of influence within teams and comparing them to formal hierarchical structures. Such analyses would reveal where structural or cultural barriers constrain directional balance. By treating leadership as a network of directional ties, the model directly interfaces with concepts from social network analysis

³⁶ CLAVERIE B., DU CLUZEL F., “Cognitive warfare”: *The advent of the concept of “cognitics” in the field of warfare*, in CLAVERIE B., PRÉBOT B., BUCHLER N., DU CLUZEL F. (Eds.), *Cognitive Warfare: The Future of Cognitive Dominance. First NATO Scientific Meeting on Cognitive Warfare (France, 21 June 2021)*, Brussels 2022, pp. 2.1-2.8.

such as centrality, brokerage, and structural holes³⁷⁻³⁸. This integration creates a diagnostic toolkit: leadership breakdowns can be analysed as disruptions or imbalances in these directional networks rather than solely as individual failures.

Experimental and simulationbased designs represent another promising avenue. Controlled manipulation of directional configurations (e.g., limiting horizontal interaction or enhancing upward voice) can provide causal evidence regarding their impact on team performance, decision accuracy, and adaptability under varying levels of task complexity and time pressure.

Field studies and survey research further enable examination of boundary conditions. Cultural dimensions such as power distance, organizational size, and technological mediation are likely to influence the permeability of directional flows. Longitudinal designs in military, aviation, and highstakes corporate environments would allow researchers to track how changes in structural directionality affect performance outcomes over time. Additionally, as noted in the practical implications above, the model's application to hybrid and cognitive warfare contexts is also an important area of new research, with a focus on how balanced directional structures might offer resistance to hostile manipulation of information flows and decision-making processes.

Through these combined approaches, the model can be rigorously validated, extended, and adapted to diverse contexts. By conceptualizing leadership as a multidirectional structure rather than a unidirectional act, the Triangular Leadership Model establishes a foundation for both immediate practical intervention and sustained theoretical development.

5. Conclusion

Leadership failures in complex environments are rarely the result of an absence of authority. More often, they emerge from structural imbalances in the flows of influence within teams and organizations. The Triangular Leadership Model introduced in this article reframes leadership as a multidirectional system composed of topdown, bottomup, and horizontal dynamics. Rather than privileging a single perspective, the model conceptualizes leadership as the adaptive integration of these three directional centres.

The model does not reject the importance of hierarchical leadership. On the contrary, it reaffirms that clear command authority remains essential in time-critical, high-stakes settings such as aviation, military operations, and crisis response. What the model challenges is the sufficiency of top-down command alone. It argues that effective leadership depends on structural conditions that enable subordinates to contribute operational insight (bottomup) and peers to engage in distributed coordination (horizontal), thereby supporting — not undermining — the leadership function.

The illustrative cases discussed, from Tenerife to the Hudson River landing, reveal that leadership breakdowns often occur not because of individual incompetence, but because of systemic constraints on directional leadership. When subordinates are unable to share their concerns, or when coordination across silos is absent, the entire leadership system becomes vulnerable. Conversely, when all three flows are active and structurally supported, teams demonstrate greater adaptability, resilience, and decision quality.

The Triangular Leadership Model thus contributes a structural and behavioural lens through which leadership can be analysed, taught, and practiced. It avoids the false binary between formal and informal leadership by emphasizing collaborative support, not challenge, as the foundation of a resilient team structure. In this view, upward and horizontal flows are not intended to create parallel chains of command or “shadow leadership,” but to reinforce the formal leader’s capacity to make sound, informed, and timely decisions. The leader remains the final authority — yet that authority is strengthened when exercised within a context of psychological safety, mutual trust, and distributed responsibility.

The model outlined invites rigorous empirical testing through social network analysis, simulation, and field-based research. Future studies can explore its boundary conditions across cultural and organizational contexts, as well as its practical applications in training, doctrine, and leadership development.

³⁷ BURT R.S., *Structural holes: The social structure of competition*, Cambridge, MA, Harvard University Press, 1992.

³⁸ KRACKHARDT D., *The ties that torture: Simmelian tie analysis in organizations*, in «Research in the Sociology of Organizations», 16 (1999), pp. 183–210.

In a world of accelerating complexity, no single direction of influence can suffice. Leadership must be envisioned as a triangle to be balanced, not a line to be followed. Only by enabling downward, upward, and lateral flows can organizations achieve the responsiveness, cohesion, and foresight required to operate effectively under pressure.
 “Leadership is not a line to follow—it’s a triangle to balance.”

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