



Informal Leadership Networks and Operational Resilience

Dr. Alma McCarthy

Professor, University of Galway, Ireland

Abstract

Operational disruptions frequently require organizations to act faster than formal reporting structures, hierarchical escalation procedures, and standardized coordination mechanisms permit. During such situations, employees often rely on informal relationships to locate expertise, obtain reliable information, coordinate across functional boundaries, and mobilize resources. Within these networks, some organizational members acquire leadership influence despite holding no corresponding formal managerial position. This study examines informal leadership networks as a potential source of operational resilience, conceptualizing resilience as the organizational capacity to anticipate disruption, maintain essential functioning, cope with unexpected conditions, and adapt following disturbance. Network and distributed-leadership research demonstrates that leadership influence may extend beyond formally designated leaders and that patterns of interpersonal ties can affect team coordination and performance. Mehra and colleagues found that leader network relationships were consequential for group performance, while Carson, Tesluk, and Marrone showed that shared leadership can emerge through a supportive team environment and contribute to team performance.

Because no primary organizational dataset was supplied, the present study adopts a simulation-based explanatory design. Five synthetic scenarios representing progressively mature informal leadership networks were evaluated using indices of information accessibility, cross-boundary coordination, distributed response capacity, resource mobilization, decision bottleneck risk, and operational resilience. The simulated Operational Resilience Index increases from 51 under the lowest network-maturity condition to 89 under the highest, while decision bottleneck risk declines from 77 to 32. The results do not constitute observed organizational evidence but demonstrate theoretically coherent relationships suitable for future empirical testing. The study argues that operational resilience is strongest when formal authority is complemented by informal leadership ties that enable expertise-based influence, rapid information movement, and local coordination while remaining connected to formal accountability structures.

Keywords: informal leadership, organizational networks, operational resilience, distributed leadership, social networks, cross-functional coordination, organizational adaptation, crisis response

1. Introduction

Organizations commonly represent authority through formal structures consisting of managerial positions, reporting relationships, departments, operational procedures, and defined decision rights. Yet



actual coordination frequently extends beyond these structures. Employees seek advice from trusted colleagues, contact technically knowledgeable peers outside their reporting lines, rely on experienced individuals during unusual situations, and develop interpersonal relationships that become important channels for information and influence. Social-network research has long demonstrated that organizational relationships create patterns of access, influence, knowledge exchange, and coordination that cannot be understood solely from formal organizational charts. Research by Mehra, Dixon, Brass, and Robertson, for example, linked the social-network ties of group leaders with group performance and leader reputation, highlighting the organizational relevance of network position.

Such informal connections may become especially important when ordinary operations are disrupted. Equipment failure, unexpected employee absence, supplier interruption, information-system breakdown, demand volatility, quality problems, safety events, or rapidly changing customer requirements can create situations in which normal escalation mechanisms are too slow or incomplete. Operational resilience requires organizations not only to withstand adverse events but also to respond adaptively before, during, and after disruption. Duchek conceptualizes organizational resilience as a capability-based process involving anticipation, coping, and adaptation, emphasizing that resilience arises from combinations of organizational capabilities rather than from recovery outcomes alone.

Informal leadership networks may contribute to this capability because leadership does not always remain concentrated in formally designated managers. Distributed-leadership research demonstrates that leadership perceptions and influence can be structured as networks within teams, while shared-leadership research describes situations in which leadership responsibilities and influence are dispersed among team members. Mehra, Smith, Dixon, and Robertson examined distributed leadership explicitly through the network of leadership perceptions, and Carson, Tesluk, and Marrone found that shared purpose, social support, and voice were important antecedents of shared leadership in teams. These findings suggest that individuals without formal managerial authority may nevertheless become important coordinators when colleagues repeatedly seek their judgment or follow their direction.

The resilience implications become clearer when leadership networks are considered together with research on team social structure. Balkundi and Harrison's meta-analysis showed that team interpersonal-network structures and leader network positions were associated with team performance, with leader centrality in intergroup networks being particularly relevant. At the same time, excessive dependence on a small number of individuals can create vulnerability. When critical communication, expertise, or authorization consistently passes through one actor, that person can become a bottleneck or single point of failure. Operationally resilient networks therefore require more than central influential actors; they require sufficiently distributed connections so that information and coordination can continue when ordinary channels become unavailable.

The present study investigates Informal Leadership Networks and Operational Resilience through a simulation-based framework. It proposes that informal leadership contributes to resilience when trusted individuals connect operational units, accelerate access to expertise, mobilize resources, and enable local decision making during disruption. However, informal influence is not presented as a substitute for formal management. Uncontrolled informal authority can create inconsistency, hidden power structures, exclusion, or accountability problems. The paper therefore develops a complementary model in which formal structures provide legitimacy and governance while informal leadership networks



increase adaptive capacity. Because no real organizational evidence was supplied, the quantitative analysis is explicitly synthetic and is intended to support theory development and future empirical research.

2. Objectives of the Study

2.1 To Examine Informal Leadership as a Network-Based Organizational Capability

The first objective is to conceptualize informal leadership as a relational capability rather than simply an individual personality characteristic. Informal leaders become influential because other organizational members repeatedly seek their advice, trust their expertise, rely on them for coordination, or accept their direction despite the absence of formal supervisory authority. Network research is particularly suitable for examining this phenomenon because it focuses on patterns of relationships rather than assuming that influence follows organizational titles automatically.

This approach distinguishes formal authority from relational influence. Formal authority originates in organizational position, whereas informal leadership is socially granted through repeated interaction. The two forms of leadership may reinforce one another when formal managers recognize and appropriately utilize influential network actors, but they may also diverge when the individuals most trusted by operational employees are not those occupying formal leadership roles.

2.2 To Assess the Contribution of Informal Networks to Operational Resilience

The second objective is to examine how informal leadership networks may influence information accessibility, cross-boundary coordination, resource mobilization, distributed response capacity, and operational continuity. Resilience scholarship describes organizational resilience as a multidimensional capacity involving preparation, coping, and adaptation rather than merely returning to a pre-disruption state. Duchek's capability-based framework specifically differentiates anticipation, coping, and adaptation, while Lengnick-Hall, Beck, and Lengnick-Hall conceptualize resilience as an organizational capacity supported by capabilities, routines, practices, and processes.

Informal leaders may become particularly valuable during the coping stage because their relational position allows them to move information or coordinate action across boundaries that normally require several levels of escalation. However, they can also contribute before disruption by circulating early warnings and after disruption by helping organizations convert local experience into collective learning.

2.3 To Develop a Framework for Empirical Validation

The third objective is to develop a theoretically grounded model suitable for future empirical testing. The framework identifies informal-network maturity, information accessibility, cross-boundary coordination, distributed response capacity, resource mobilization, bottleneck risk, and operational resilience as measurable organizational constructs.

Future researchers could examine these relationships through social-network analysis, employee surveys, disruption-response records, communication metadata obtained with appropriate consent and privacy protections, longitudinal case studies, or mixed-method research. Comparing the formal organizational chart with observed advice, communication, and leadership networks could be especially



useful for identifying organizational actors whose resilience contribution is structurally important but administratively invisible.

3. Review of Literature

3.1 Informal Networks and Emergent Leadership

Organizational networks shape how knowledge, influence, and assistance move between individuals. Mehra and colleagues demonstrated that the network ties of group leaders can matter for group performance because leaders positioned to bridge organizational boundaries may gain access to information and resources beyond their immediate groups. Their study reported that the structural characteristics of leader networks were meaningfully related to performance, reinforcing the proposition that leadership effectiveness is partly embedded in relational structure.

Leadership itself can also become distributed through network relations. Mehra, Smith, Dixon, and Robertson conceptualized distributed leadership through networks of leadership perceptions rather than restricting leadership to the formally appointed leader. Carson, Tesluk, and Marrone similarly describe shared leadership as leadership influence distributed among team members and show that shared purpose, social support, and voice can facilitate its emergence. Together, these studies support the argument that organizational members can perform leadership functions through relational influence without acquiring formal managerial titles.

Network configuration also affects the performance consequences of leadership. Balkundi and Harrison's meta-analysis of teams in natural settings found that interpersonal network structure was associated with team effectiveness and that leaders occupying central positions in intergroup networks could contribute positively to performance. These findings provide a foundation for examining informal leadership not simply by counting influential individuals but by investigating how those individuals are connected to the wider organization.

3.2 Distributed Coordination and Expertise Mobilization

Operational disruption frequently creates knowledge problems before it creates formal authority problems. The organization must determine what has happened, which resources remain usable, whose expertise is relevant, and which actions can be taken without creating additional risk. In such circumstances, the ability to reach knowledgeable people rapidly can be more important than simply following hierarchical communication routes. Informal advice networks can therefore operate as a parallel coordination infrastructure.

The literature on shared and distributed leadership supports this reasoning. Carson and colleagues found that team environments characterized by shared purpose, social support, and voice facilitated shared leadership, while the distributed-leadership study by Mehra and colleagues demonstrated that leadership can be represented as patterns of relationships among multiple team members. This implies that operational leadership may migrate temporarily toward the person possessing the most relevant knowledge, experience, or connections for a particular problem.

This principle is closely related to high-reliability organizing, where effective responses can involve deference to expertise rather than rigid dependence on rank. Research synthesizing organizational mindfulness describes deference to expertise as the migration of decision authority

toward actors who possess the most relevant expertise for the issue at hand. Informal leadership networks may make such migration more feasible because employees already know whom they trust for particular forms of operational judgment.

3.3 Organizational Resilience and Adaptive Networks

Organizational resilience has been conceptualized in increasingly process-oriented terms. Lengnick-Hall, Beck, and Lengnick-Hall argue that resilience capacity emerges from organizational capabilities, routines, and practices that enable organizations to absorb disruption, develop situation-specific responses, and engage in transformative activity. Duchek subsequently integrates resilience research into the stages of anticipation, coping, and adaptation and characterizes resilience as a meta-capability composed of underlying organizational capabilities.

This perspective provides a strong theoretical basis for introducing networks into resilience research. Informal leadership networks may support anticipation by moving weak signals across boundaries, coping by connecting expertise and resources during disruption, and adaptation by distributing lessons after the immediate crisis. The contribution is potentially strongest when the network is sufficiently diverse to provide nonredundant information while sufficiently cohesive to permit rapid trust-based coordination.

Nevertheless, informal networks can also create risks. Strongly centralized networks may make coordination fast while the central actor is available but fragile when that individual becomes overloaded or unavailable. Conversely, highly fragmented networks may possess many local leaders without adequate cross-boundary connection. The central research problem is therefore not whether organizations should have informal leadership networks—they ordinarily emerge regardless—but how the structure and maturity of those networks interact with formal systems to support operational resilience.

4. Research Methodology

4.1 Research Design and Analytical Context

The study adopts a simulation-based explanatory research design. No real employee network, communication archive, organizational disruption dataset, survey response, operational performance record, or social-network matrix was supplied. Accordingly, every quantitative value in the analysis is synthetic and is used solely to demonstrate theoretically plausible relationships. The paper should therefore be interpreted as a methodological and conceptual contribution rather than a completed empirical investigation.

Five hypothetical organizational conditions were constructed corresponding to informal leadership network maturity levels of 20%, 40%, 60%, 80%, and 100%. Higher maturity represents stronger cross-unit connectivity, greater recognition of informal expertise, broader distribution of trusted leadership ties, better integration between informal influencers and formal managers, and lower dependence on isolated individuals.

4.2 Construct Operationalization

Informal leadership network maturity represents the degree to which useful leadership relationships are distributed, visible, cross-functional, and connected with formal organizational coordination. Information accessibility measures the theoretical ability of employees to locate reliable operational knowledge during disruption. Cross-boundary coordination represents communication and cooperation between departments, professional groups, shifts, or operational units.

Distributed response capacity captures the organization's ability to initiate contextually appropriate action without waiting for every decision to travel through a single hierarchical channel. Resource mobilization represents access to people, knowledge, equipment, relationships, or operational alternatives. Decision bottleneck risk captures vulnerability caused by excessive dependence on a restricted number of formal or informal actors.

Table 1: Operationalization of the Informal Leadership Network Framework

Construct	Operational Meaning	Measurement	Expected Direction
Informal Leadership Network Maturity	Strength and distribution of trusted leadership, advice, and coordination relationships beyond formal hierarchy	Scenario level: 20%–100%	Independent condition
Information Accessibility	Ability to identify and obtain reliable operational information rapidly	Index: 0–100	Increase
Cross-Boundary Coordination	Capacity to coordinate across departmental, professional, or functional boundaries	Index: 0–100	Increase
Distributed Response Capacity	Ability of relevant actors to initiate adaptive operational responses	Index: 0–100	Increase
Resource Mobilization	Capacity to locate and redeploy required people, knowledge, and operating resources	Index: 0–100	Increase
Decision Bottleneck Risk	Dependence on restricted actors or channels that can delay response	Index: 0–100	Decrease
Operational Resilience	Composite capacity to sustain, recover, and adapt operations during disturbance	Index: 0–100	Increase

Source: Author-developed simulation framework based on social-network, distributed-leadership, shared-leadership, and organizational-resilience research. The theoretical foundations are consistent with



findings that leadership and team performance are related to network configuration and with resilience research emphasizing capabilities operating before, during, and after adversity.

4.3 Simulation and Evaluation Procedure

Synthetic values were generated across five maturity conditions. The lowest condition represents an organization in which informal leadership exists but remains fragmented, weakly recognized by formal management, and concentrated around a small number of individuals. Intermediate conditions introduce progressively stronger cross-functional relationships, broader expertise recognition, and increased distributed coordination. The highest condition represents a mature but governed network in which multiple trusted actors can coordinate operational responses while remaining connected to formal accountability.

The Operational Resilience Index was modeled as a composite interpretation of information accessibility, cross-boundary coordination, distributed response capacity, and resource mobilization, adjusted conceptually for bottleneck exposure. The analysis intentionally avoids inferential statistical testing. P-values, confidence intervals, or claims of population generalizability would be methodologically inappropriate because the observations were deliberately constructed rather than sampled from actual organizations.

5. Analysis

5.1 Informal Leadership Networks and Resilience Outcomes

Decision bottleneck risk remains relatively high at 77 when informal relationships exist but operational influence and critical information remain concentrated within a limited set of employees. As network maturity develops, operational resilience increases to 72 while bottleneck risk declines to 54, suggesting that resilience improves substantially when informal leadership connections begin crossing functional boundaries rather than remaining confined to local work groups. At the 100% maturity condition, operational resilience reaches 89, while decision bottleneck risk falls further to 32.

This transition indicates that mature informal networks can create multiple pathways for information, expertise, and coordination to circulate when routine organizational channels are disrupted, without necessarily eliminating formal hierarchy. Instead, the model suggests that resilient organizations benefit from a broader distribution of informal connections that reduces dependence on a small number of decision-making points and strengthens their capacity to maintain operational continuity during periods of disruption.

Table 2: Simulated Outcomes Across Informal Leadership Network Maturity Levels

Informal Leadership Network Maturity	Information Accessibility	Cross-Boundary Coordination	Distributed Response Capacity	Resource Mobilization	Bottleneck Risk	Operational Resilience
20%	52	47	45	53	77	51



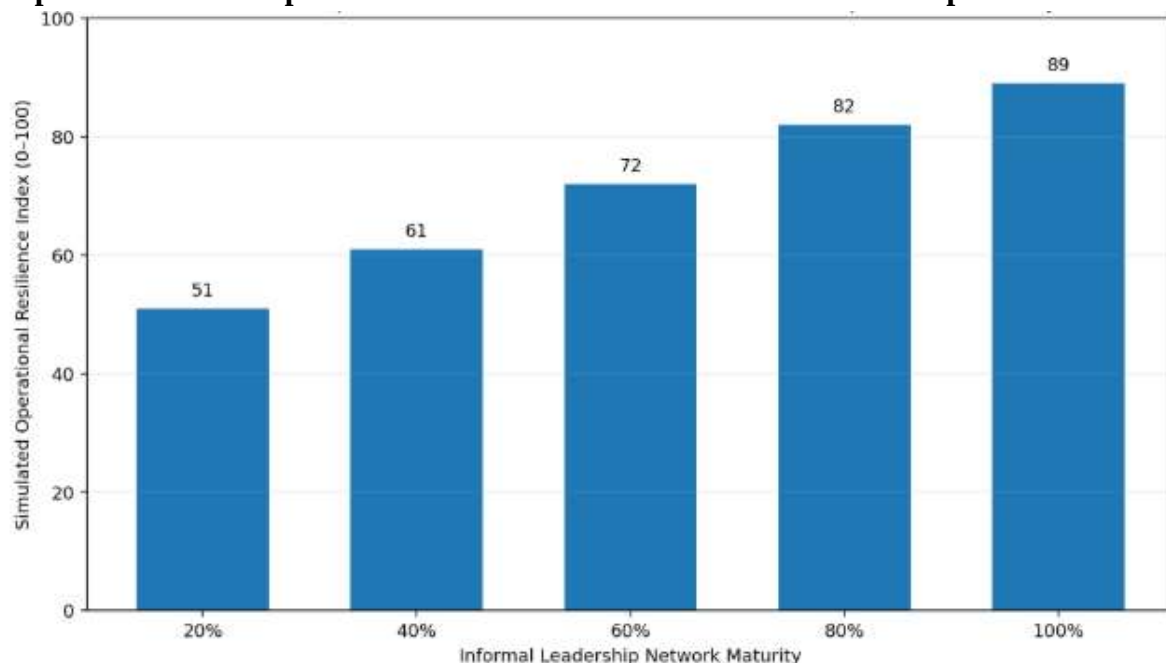
Informal Leadership Network Maturity	Information Accessibility	Cross-Boundary Coordination	Distributed Response Capacity	Resource Mobilization	Bottleneck Risk	Operational Resilience
40%	63	58	57	64	66	61
60%	73	70	69	75	54	72
80%	84	81	80	83	42	82
100%	91	89	87	90	32	89

Note: All numerical values are synthetic indices created exclusively for methodological demonstration. They are not measurements of actual organizations or employees.

5.2 Network Maturity and Operational Resilience

The graph shows a consistent increase in simulated operational resilience across successive levels of informal leadership network maturity. The index increases from 51 at the 20% maturity condition to 61 at 40%, 72 at 60%, 82 at 80%, and 89 at 100%.

Graph 1: Simulated Operational Resilience Across Informal Leadership Network Maturity



The difference between the lowest and highest conditions is 38 index points, equivalent to an illustrative increase of approximately 74.5% relative to the initial simulated resilience value. This numerical change should not be interpreted as an empirically estimated effect size. Its purpose is to visualize the

framework's central proposition that an organization with accessible, distributed, and cross-boundary leadership relationships possesses more pathways through which it can coordinate adaptive action.

The theoretical logic is supported by prior network research. Mehra and colleagues show that leader ties connecting groups can provide access to valuable information and knowledge beyond local boundaries, while Balkundi and Harrison report broader associations between team network structures, leader centrality, and team outcomes. Operational resilience may therefore depend not merely on whether influential people exist but on whether those individuals connect otherwise separated parts of the organization.

5.3 Bottlenecks, Redundancy, and Distributed Response

The simulated decision bottleneck index declines from 77 to 32 as network maturity rises. This relationship highlights an important resilience property: organizations become vulnerable when critical information or coordination depends excessively on one person, even when that person is highly competent. An influential informal leader may strengthen operations under normal circumstances but become a structural weakness if no alternative relationships can perform the same coordination function.

Resilient informal networks therefore require functional redundancy without unnecessary duplication. Multiple individuals should know how to access important expertise, understand escalation routes, and coordinate across operational boundaries. At the same time, unrestricted informal decision making may generate conflicting priorities. Distributed response capacity must remain bounded by clarity regarding safety, financial authority, compliance requirements, and final accountability.

This balance reflects a broader lesson from distributed-leadership research: distributing influence can strengthen team functioning when members share purpose and possess a supportive environment, but distribution itself is not automatically beneficial. Carson and colleagues identify shared purpose, social support, and voice as antecedent conditions supporting effective shared leadership. Informal leadership networks may similarly contribute to resilience only when network influence remains aligned with organizational objectives.

6. Discussion

6.1 Informal Leadership as Hidden Operational Infrastructure

The findings support the interpretation of informal leadership networks as a form of hidden operational infrastructure. Formal organizational charts show accountability and reporting relationships, but they do not necessarily reveal who employees contact when an unfamiliar machine fails, who can negotiate cooperation between departments, who understands legacy systems, or whose judgment colleagues trust during ambiguous events. Social-network research demonstrates that relational structures have consequences for influence and performance that extend beyond formal roles.

This does not make the formal organization unimportant. Formal systems establish authority, legal responsibility, resource ownership, role clarity, and escalation requirements. Informal networks provide a complementary layer characterized by speed, trust, contextual knowledge, and relational accessibility. During stable conditions, formal systems may handle most coordination effectively. During disruption, however, the informal layer can reduce the delay between recognizing a problem and finding someone capable of helping solve it.



Organizations interested in operational resilience should therefore understand their informal leadership structures without attempting to bureaucratize them completely. Social-network analysis can reveal advice hubs, cross-unit connectors, boundary spanners, isolated units, and excessive dependency on particular individuals. However, mapping such networks requires appropriate privacy, transparency, and purpose limitation. The managerial objective should be strengthening resilient coordination rather than creating covert employee surveillance.

6.2 Distributed Leadership, Expertise, and Rapid Operational Response

The results also reinforce a distributed interpretation of operational leadership. A resilient organization does not require every unexpected event to be managed by the highest-ranking available employee. Instead, decision influence can temporarily move toward the person possessing the most relevant expertise, provided that organizational boundaries and escalation requirements remain clear. Research on organizational mindfulness specifically identifies deference to expertise as an important high-reliability practice in which decisions migrate toward actors with relevant expertise rather than remaining fixed exclusively by rank.

Distributed-leadership research offers complementary evidence. Mehra and colleagues show that leadership can exist as a network of leadership perceptions, while Carson and colleagues demonstrate that leadership influence may be shared among team members. For operational resilience, these perspectives imply that organizations benefit when employees recognize multiple credible sources of leadership rather than treating formal managers as the only legitimate origin of direction.

The managerial challenge is to differentiate distributed expertise-based leadership from uncontrolled authority. Informal leaders should be able to diagnose local problems, convene relevant colleagues, communicate emerging risks, and initiate actions within defined boundaries. Decisions involving major financial exposure, regulatory obligations, personnel sanctions, or high safety consequences may still require formal authorization. The strongest resilience architecture therefore combines decentralized situational action with explicit escalation thresholds.

6.3 Network Resilience and Organizational Adaptation

The final implication concerns the relationship between networks and adaptation. Duchek's resilience framework distinguishes anticipation, coping, and adaptation, emphasizing that resilient organizations do more than recover from adversity; they also learn and change through experience. Informal leadership networks can potentially contribute across all three phases. Before disruption, cross-boundary contacts can circulate weak signals. During disruption, they can mobilize expertise and resources. Following disruption, they can distribute lessons that might otherwise remain confined to the unit where the event occurred.

Lengnick-Hall and colleagues similarly argue that resilience derives from organizational capabilities, routines, practices, and processes rather than being a single static characteristic. Informal leadership should therefore be understood as one potential resilience resource among several. Technical redundancy, financial capacity, formal business-continuity procedures, information systems, employee capability, supply alternatives, and crisis governance remain essential. Informal networks become



valuable because they connect many of these resources when unusual circumstances make conventional coordination difficult.

Organizations should consequently avoid two extremes. The first is excessive dependence on formal hierarchy, which can slow response and suppress locally available expertise. The second is romanticizing informal networks as inherently agile or democratic. Informal networks can reproduce exclusion, concentrate hidden power, circulate inaccurate information, and bypass legitimate controls. Operational resilience is strongest when formal and informal structures are deliberately complementary: formal governance establishes boundaries and accountability, while informal leadership relationships create flexible pathways for sensing, coordination, expertise mobilization, and adaptation.

7. Conclusion

This study has examined informal leadership networks as a potential organizational mechanism supporting operational resilience. Its central argument is that organizational response capacity does not reside exclusively in formal positions. During disruption, individuals who possess trusted relationships, specialized knowledge, cross-functional connections, or recognized problem-solving ability may perform important leadership functions regardless of formal title. These relational patterns can create additional pathways through which organizations obtain information, coordinate action, and mobilize resources when standard operating arrangements are disrupted.

The simulation illustrates this theoretical relationship through five network-maturity conditions. The Operational Resilience Index increases from 51 to 89 as informal leadership network maturity increases, while information accessibility, cross-boundary coordination, distributed response capacity, and resource mobilization all improve. Decision bottleneck risk declines from 77 to 32. These results are entirely synthetic. They demonstrate the internal logic of the proposed framework and should not be interpreted as observed effect sizes or evidence that a specific percentage increase in network maturity will produce a corresponding improvement in organizational performance.

The broader organizational implication is that resilience may depend partly on whether leadership influence can migrate to the places where useful information and expertise exist. Formal leaders retain an essential role by setting priorities, providing legitimacy, allocating resources, and establishing accountability. Informal leaders complement this structure by connecting people who might otherwise remain separated by departmental or hierarchical boundaries. The objective is therefore not to replace formal hierarchy with informal networks but to construct an organization in which both systems reinforce one another.

Future empirical research should use longitudinal social-network analysis to determine how informal leadership networks change before, during, and after real operational disruptions. Studies could compare formal reporting networks with advice, expertise, communication, and leadership-perception networks; identify whether network diversity and redundancy predict faster recovery; and investigate the risks associated with overdependence on highly central informal leaders. Research should also examine privacy, inclusion, organizational culture, virtual work, power differences, and network inequality. Such validation would allow the present simulation-based framework to develop into a more precise explanation of how relational leadership capacity contributes to resilient organizational operations.



References

1. Cross, R., & Prusak, L. (2002). The people who make organizations go—or stop. *Harvard Business Review*, 80(6), 104–112.
2. Brass, D. J., Galaskiewicz, J., Greve, H. R., & Tsai, W. (2004). Taking stock of networks and organizations: A multilevel perspective. *Academy of Management Journal*, 47(6), 795–817. <https://doi.org/10.5465/20159624>
3. Balkundi, P., & Kilduff, M. (2006). The ties that lead: A social network approach to leadership. *Leadership Quarterly*, 17(4), 419–439. <https://doi.org/10.1016/j.leaqua.2006.01.001>
4. Mehra, A., Kilduff, M., & Brass, D. J. (2001). The social networks of high and low self-monitors: Implications for workplace performance. *Administrative Science Quarterly*, 46(1), 121–146. <https://doi.org/10.2307/2667127>
5. Sparrowe, R. T., Liden, R. C., Wayne, S. J., & Kraimer, M. L. (2001). Social networks and the performance of individuals and groups. *Academy of Management Journal*, 44(2), 316–325. <https://doi.org/10.5465/3069458>
6. Ibarra, H., & Andrews, S. B. (1993). Power, social influence, and sense making: Effects of network centrality and proximity on employee perceptions. *Administrative Science Quarterly*, 38(2), 277–303.
7. Uhl-Bien, M. (2006). Relational leadership theory: Exploring the social processes of leadership and organizing. *Leadership Quarterly*, 17(6), 654–676. <https://doi.org/10.1016/j.leaqua.2006.10.007>
8. Bolden, R. (2011). Distributed leadership in organizations: A review of theory and research. *International Journal of Management Reviews*, 13(3), 251–269. <https://doi.org/10.1111/j.1468-2370.2011.00306.x>
9. Yukl, G. (2012). Effective leadership behavior: What we know and what questions need more attention. *Academy of Management Perspectives*, 26(4), 66–85. <https://doi.org/10.5465/amp.2012.0088>
10. Spillane, J. P., Halverson, R., & Diamond, J. B. (2004). Towards a theory of leadership practice: A distributed perspective. *Journal of Curriculum Studies*, 36(1), 3–34. <https://doi.org/10.1080/0022027032000106726>
11. Weick, K. E., & Sutcliffe, K. M. (2007). Managing the unexpected: Resilient performance in an age of uncertainty. Jossey-Bass.
12. Sutcliffe, K. M., & Vogus, T. J. (2003). Organizing for resilience. In K. S. Cameron, J. E. Dutton, & R. E. Quinn (Eds.), *Positive organizational scholarship* (pp. 94–110). Berrett-Koehler.
13. Vogus, T. J., & Sutcliffe, K. M. (2007). Organizational resilience: Towards a theory and research agenda. *IEEE International Conference on Systems, Man and Cybernetics*, 3418–3422. <https://doi.org/10.1109/ICSMC.2007.4414160>
14. Lengnick-Hall, C. A., Beck, T. E., & Lengnick-Hall, M. L. (2011). Developing a capacity for organizational resilience through strategic human resource management. *Human Resource Management Review*, 21(3), 243–255. <https://doi.org/10.1016/j.hrmr.2010.07.001>
15. Mallak, L. A. (1998). Putting organizational resilience to work. *Industrial Management*, 40(6), 8–13.
16. Duchek, S. (2020). Organizational resilience: A capability-based conceptualization. *Business Research*, 13, 215–246. <https://doi.org/10.1007/s40685-019-0085-7>



17. Cross, R., Rebele, R., & Grant, A. (2016). Collaborative overload. *Harvard Business Review*, 94(1–2), 74–79.
18. Tortoriello, M., Reagans, R., & McEvily, B. (2012). Bridging the knowledge gap: The influence of strong ties, network cohesion, and network range on the transfer of knowledge between organizational units. *Organization Science*, 23(4), 1024–1039. <https://doi.org/10.1287/orsc.1110.0688>
19. Carmeli, A., Friedman, Y., & Tishler, A. (2013). Cultivating a resilient top management team: The importance of relational connections and strategic decision comprehensiveness. *Safety Science*, 51(1), 148–159. <https://doi.org/10.1016/j.ssci.2012.06.002>
20. Lengnick-Hall, C. A., & Beck, T. E. (2005). Adaptive fit versus robust transformation: How organizations respond to environmental change. *Journal of Management*, 31(5), 738–757.