

**CRISIS AND DISASTER GOVERNANCE IN THE POST-COVID ERA:
MAPPING THE INTELLECTUAL STRUCTURE AND EMERGING
THEMES (2020–2025)**

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ABSTRACT

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The COVID-19 pandemic has profoundly reshaped crisis and disaster governance, yet it remains unclear whether post-2020 scholarship reflects thematic expansion or paradigmatic restructuring within public administration. This study investigates the intellectual architecture of crisis governance research published between 2020 and 2025 through a bibliometric science-mapping approach. Drawing on Scopus and Web of Science data, the analysis integrates co-occurrence mapping, temporal overlay visualization, and density analysis to detect structural clustering, thematic intensification, and conceptual consolidation. The findings reveal strong interconnectivity across resilience governance, collaborative coordination, digital infrastructures, equity, and legitimacy, indicating epistemic consolidation rather than fragmentation. Resilience functions as the organizing logic of the field, while digital governance—particularly AI and data-driven tools—emerges as enabling architecture for adaptive coordination. Equity, trust, and communication operate as normative anchors linking institutional and technological domains. Rather than signaling theoretical rupture, the post-COVID period reflects paradigm layering and structural integration. The study advances public administration theory by demonstrating that crisis governance has shifted from an episodic management domain to a constitutive framework for governing under systemic uncertainty.

INTRODUCTION

The COVID-19 pandemic has profoundly reshaped contemporary governance, exposing structural vulnerabilities across public health systems, administrative coordination, digital infrastructures, and social protection regimes. Unlike localized disasters or sector-specific crises, the pandemic constituted a systemic and transboundary disruption that simultaneously challenged state capacity, intergovernmental relations, institutional legitimacy, and public trust (Boin et al., 2020; Christensen & Læg Reid, 2023). Governments were compelled not only to respond rapidly but also to adapt continuously under conditions of uncertainty, information volatility, and intense political scrutiny. In this context, crisis governance has shifted from being a specialized domain within emergency management toward becoming a central concern of public administration theory. The pandemic has intensified debates on resilience, adaptive capacity, collaborative coordination, digital transformation, equity, and legitimacy, raising fundamental questions about how governance paradigms evolve under systemic stress.

Prior to the pandemic, crisis and disaster governance scholarship had developed along several semi-autonomous theoretical trajectories. Resilience and adaptive governance emphasized institutional robustness and learning in the face of shocks (Afandi & Afandi, 2025; Duit, 2016; Folke et al., 2005). Collaborative and network governance literature highlighted horizontal coordination, multi-level integration, and stakeholder engagement as mechanisms for managing complexity (Ansell & Gash, 2008; Emerson & Nabatchi, 2015). Digital governance research, meanwhile, focused on modernization, efficiency, and innovation in public service delivery. Although these paradigms shared conceptual affinities, they often evolved in parallel rather than as a cohesive theoretical configuration. Crisis management studies frequently concentrated on response and recovery mechanisms (Boin et al., 2017), while digital government scholarship rarely positioned technological infrastructures as central to systemic resilience.

The post-2020 literature reflects a rapid intensification of these streams. Recent empirical studies examine how crisis governance capacity is shaped by institutional design, preparedness, and legitimacy dynamics (Christensen & Læg Reid, 2023). Research on *polycrisis* governance underscores how multiple and overlapping crises require rethinking traditional hierarchical control models and embracing more adaptive institutional arrangements (Kuhlmann et al., 2024). Simultaneously, digital transformation has been reconceptualized as an organizational response to turbulence rather than a gradual modernization trajectory, with data infrastructures and artificial intelligence increasingly positioned as enabling architectures for crisis coordination (Eom & Lee, 2022; Haug et al., 2024; Moser-Plautz & Schmidhuber, 2023). In parallel, a growing body of scholarship emphasizes the behavioral and normative dimensions of crisis governance, demonstrating how trust, risk perception, and political alignment shape policy compliance and legitimacy (Wang et al., 2024). Equity and vulnerability have likewise gained prominence, with systematic reviews

highlighting how data-driven public services may either mitigate or exacerbate distributive inequalities (Ruijter et al., 2023).

Taken together, this expanding body of research suggests that the pandemic has acted as a catalytic event, intensifying scholarly engagement with governance capacity, digital infrastructures, and legitimacy. Yet, despite this proliferation of studies, the literature remains largely segmented. Most contributions focus on specific thematic domains—digital governance, trust and compliance, federal coordination, or equity—without systematically examining how these domains interrelate within a broader intellectual architecture. While the claim that COVID-19 has transformed governance is frequently invoked, the structural configuration of that transformation remains underexplored. Existing reviews often catalog themes or assess performance outcomes, but rarely interrogate whether post-pandemic scholarship represents thematic fragmentation, incremental expansion, or paradigmatic consolidation within public administration theory.

This absence of structural mapping constitutes both a theoretical and methodological gap. Theoretically, without examining relational patterns among concepts, it is difficult to determine whether resilience, network governance, digital transformation, and legitimacy concerns are coalescing into an integrated framework or merely coexisting as parallel strands. Methodologically, few studies employ science-mapping approaches to detect clustering dynamics, temporal layering, and conceptual concentration across the post-2020 corpus. As a result, assertions about governance transformation often remain narrative rather than empirically grounded in the structure of the scholarly field itself.

This study addresses this gap by conducting a bibliometric science-mapping analysis of crisis and disaster governance research published between 2020 and 2025. Rather than enumerating themes, the analysis examines how key concepts cluster, intensify, and concentrate within the scholarly network. By integrating co-occurrence analysis, temporal overlay mapping, and density visualization, the study seeks to identify whether post-COVID scholarship reflects fragmentation, replacement, or consolidation of governance paradigms. The central proposition advanced here is that the post-pandemic period does not signal the emergence of entirely new paradigms; instead, it reveals a structural reconfiguration in which resilience governance functions as the organizing logic, network coordination operates as relational infrastructure, digital governance serves as enabling architecture, and equity and legitimacy emerge as normative anchors.

The novelty of this study lies in its focus on paradigmatic restructuring rather than thematic proliferation. Substantively, it integrates resilience, collaborative coordination, digital infrastructures, equity, and legitimacy within a single structural analysis, thereby revealing relational configurations that remain obscured in single-theme studies. Methodologically, it combines structural, temporal, and density-based bibliometric techniques to capture the multidimensional evolution of crisis governance scholarship. Theoretically, it contributes to public administration by demonstrating that crisis governance has shifted from an episodic response framework toward an institutionalized adaptive configuration embedded within digital and normative infrastructures.

By empirically mapping this restructuring, the study advances public administration scholarship in three interrelated ways. First, it moves beyond thematic review to provide structural evidence of paradigmatic consolidation, demonstrating how resilience, network coordination, digital infrastructures, equity, and legitimacy are increasingly configured within a unified governance architecture. Second, it reframes crisis governance not as an episodic management domain but as a constitutive dimension of contemporary public administration, thereby repositioning crisis governance at the core of governance theory rather than its periphery. Third, methodologically, it introduces a multi-layered science-mapping approach capable of detecting paradigm layering and conceptual concentration, offering a replicable framework for analyzing theoretical reconfiguration in turbulent contexts. In doing so, the study provides a theoretically grounded and empirically substantiated account of how post-COVID scholarship signals the consolidation of an adaptive-networked-digital governance paradigm in public administration.

RESEARCH METHODS

This study employs a bibliometric science-mapping design to examine the structural reconfiguration of crisis and disaster governance scholarship in the post-COVID era (2020–2025). Bibliometric analysis has increasingly been adopted in public administration and policy research as a systematic approach to uncover intellectual structures, research fronts, and paradigm evolution within complex and interdisciplinary fields (Donthu et al., 2021; Zupic & Čater, 2015). Unlike traditional narrative or systematic reviews, bibliometric mapping does not merely summarize thematic content; rather, it identifies relational patterns among concepts, authors, and research streams. In periods of accelerated scholarly production—such as the post-pandemic context—paradigm shifts often manifest through changing patterns of co-occurrence, citation density, and thematic clustering rather than explicit theoretical declarations (Callon et al., 1991; Small, 1973). Accordingly, this study treats bibliometric mapping not simply as a descriptive technique but as an epistemological instrument for detecting structural consolidation and paradigm layering within governance theory.

The empirical corpus was constructed from two internationally recognized citation databases: Scopus and the Web of Science Core Collection. The integration of multiple databases enhances coverage and reduces database-specific bias, thereby improving robustness and representativeness (Mongeon & Paul-Hus, 2016). The time frame was restricted to publications between January 2020 and December 2025 in order to capture the post-COVID scholarly landscape. This temporal delimitation reflects the study's theoretical objective of identifying structural transformations emerging after the onset of the global pandemic.

The search strategy was designed to retrieve governance-oriented crisis and disaster scholarship while minimizing purely clinical, biomedical, or epidemiological studies. Search expressions included combinations of the following terms: “crisis governance,” “disaster governance,” “crisis management” AND governance, “disaster management” AND governance, “adaptive

governance,” “resilience governance,” and governance-related terms within public administration contexts. The search was conducted within titles, abstracts, and author keywords. Only peer-reviewed journal articles and review articles were included to ensure theoretical comparability and conceptual rigor. Conference proceedings, book chapters, editorials, notes, and non-English publications were excluded to maintain analytical consistency.

Following data extraction, records from Scopus and Web of Science were merged into a unified dataset. Duplicate entries were removed through DOI matching and manual title verification. The final dataset consisted of fewer than 500 publications. This size allows sufficient conceptual diversity while ensuring interpretive clarity and manageable network visualization. The decision to retain a moderate-sized dataset aligns with recommendations in bibliometric research to balance coverage with cluster interpretability (Donthu et al., 2021).

Data cleaning and preprocessing were conducted prior to network construction. Author keywords were standardized using a thesaurus protocol to merge synonymous expressions, orthographic variants, and hyphenation inconsistencies (e.g., “COVID 19” and “COVID-19”; “e government” and “e-government”). Singular and plural forms were consolidated to reduce semantic fragmentation. Such harmonization is essential in co-word analysis to prevent artificial cluster dispersion (Callon et al., 1991). Fractional counting was applied to co-occurrence networks to mitigate inflationary bias associated with multi-author and multi-keyword publications. Fractional counting distributes relational weight proportionally among linked items and is considered more accurate for constructing bibliometric networks (Perianes-Rodriguez et al., 2016). Threshold levels for keyword inclusion were calibrated relative to dataset size, typically requiring a minimum occurrence between five and ten appearances. This threshold ensures that infrequent or idiosyncratic keywords do not distort cluster formation while preserving conceptual diversity.

The analytical framework integrates three complementary bibliometric techniques in order to capture structural, temporal, and intensity-based dimensions of the field. First, keyword co-occurrence analysis was conducted to identify thematic clusters and reveal the relational architecture of post-COVID crisis governance scholarship. Co-occurrence mapping groups frequently co-appearing keywords into clusters, enabling identification of conceptual domains such as resilience governance, network coordination, digital governance, equity, and communication. This method has been widely used to uncover intellectual structures and research fronts within management and policy research (Zupic & Čater, 2015).

Second, overlay visualization was employed to introduce temporal differentiation into the network. By calculating the average publication year associated with each keyword, overlay mapping distinguishes between stabilized foundational concepts and recently intensifying themes. This technique allows the detection of paradigm layering—where established theoretical cores persist while new dimensions gain prominence—rather than assuming linear thematic replacement. In this study, overlay analysis is used to examine whether digital

governance, equity, and behavioral governance themes represent emerging intensifications within the resilience-network configuration.

Third, density visualization was applied to identify gravitational centers within the conceptual network. Density mapping highlights zones where co-occurrence strength is most concentrated, indicating areas of high conceptual consolidation. Whereas cluster visualization reveals structural groupings and overlay visualization reveals temporal dynamics, density visualization uncovers intensity gradients that signal theoretical centrality. The triangulation of these three techniques enables a multi-dimensional interpretation of paradigm restructuring.

All network analyses were conducted using VOSviewer, employing association strength normalization to ensure comparability of link weights and optimize cluster detection (van Eck & Waltman, 2010). Association strength normalization corrects for differences in keyword frequency and reduces bias toward highly frequent terms. Network metrics—including total link strength, cluster formation, and node centrality—were examined to support interpretive claims about consolidation and integration. The methodological objective was not to evaluate the normative validity of individual theories but to detect relational configurations that reflect structural reordering within crisis governance scholarship.

Several limitations must be acknowledged. Bibliometric mapping captures patterns of conceptual association but does not directly assess theoretical coherence, methodological quality, or normative orientation within individual publications (Donthu et al., 2021). Database coverage may underrepresent regional journals and Global South scholarship (Mongeon & Paul-Hus, 2016). Moreover, keyword-based analysis depends on author-provided terminology, which may vary across disciplinary traditions. Despite these limitations, the triangulation of structural clustering, temporal layering, and density concentration provides a robust and replicable analytical framework for identifying paradigm consolidation within post-COVID crisis governance research. In sum, this methodological design enables the detection of structural reconfiguration without presupposing theoretical rupture. By examining how resilience, network governance, digital infrastructures, equity, and legitimacy themes cluster, intensify, and concentrate, the study provides empirical grounding for the argument that post-COVID crisis governance represents a paradigmatic consolidation rather than a proliferation of fragmented streams.

Table 1. Bibliometric Research Design and Analytical Framework

Stage	Procedure	Description	Output
Data Collection	Database Selection	Data retrieved from Scopus and Web of Science Core Collection (January 2020–December 2025)	Initial corpus
Search Strategy	Keyword Formulation	Governance-oriented keywords applied to titles, abstracts, and author keywords	Relevant publications
Screening	Inclusion Criteria	Peer-reviewed journal articles and review articles (English); exclusion of conference papers and non-indexed sources	Refined dataset (<500 articles)
Data Processing	Cleaning & Harmonization	Deduplication (DOI matching), keyword standardization (thesaurus), and removal of inconsistencies	Cleaned dataset
Network Construction	Co-occurrence Analysis	Keyword co-occurrence network constructed using fractional counting and association strength normalization (VOSviewer)	Structured bibliometric network
Analysis 1	Cluster Mapping	Identification of thematic clusters based on co-occurrence relationships	Structural configuration of governance themes
Analysis 2	Overlay Visualization	Temporal analysis using average publication year to detect emerging and stabilizing themes	Temporal layering of research development
Analysis 3	Density Visualization	Mapping of co-occurrence intensity to identify high-concentration conceptual areas	Conceptual centrality and consolidation patterns

Source: Author's data processing 2026

RESULTS AND DISCUSSIO

Structural Configuration of Crisis Governance

The co-occurrence network analysis of post-2020 crisis and disaster governance scholarship reveals not merely thematic diversification, but a

structural reconfiguration of governance paradigms. The network demonstrates high interconnectivity across seven major thematic clusters, with limited fragmentation and strong bridging nodes. This dense architecture suggests epistemic consolidation rather than proliferation of disconnected research streams. In other words, post-COVID scholarship does not introduce entirely new paradigms; rather, it restructures and recombines existing governance theories into a more integrated configuration.

A dominant cluster centers on resilience-oriented governance, encompassing adaptive governance, institutional capacity, preparedness, and policy learning. The structural centrality of these concepts indicates that resilience has become the organizing logic of post-pandemic crisis governance. While resilience and adaptive governance were already established in environmental and disaster scholarship (Duit, 2016; Folke et al., 2005), their prominence in the post-COVID network suggests a paradigmatic elevation. Resilience is no longer confined to environmental governance or infrastructure protection; it now functions as a meta-framework for public administration under uncertainty. The embedding of policy learning within this cluster reinforces the idea that crisis governance is increasingly conceptualized as iterative institutional adaptation (Dunlop & Radaelli, 2013; Moynihan, 2009).

Closely linked to this resilience core is a robust cluster around collaborative and multi-level governance. Concepts such as intergovernmental coordination and policy integration appear structurally dependent on adaptive capacity. This pattern confirms longstanding arguments that complex crises require networked governance arrangements (Ansell & Gash, 2008; Emerson & Nabatchi, 2015). However, the network structure indicates a deeper shift: collaborative governance is no longer treated as a distinct reform paradigm but as a necessary mechanism within resilience-oriented governance. In this sense, post-COVID scholarship recombines resilience and network governance into a unified configuration of adaptive-networked governance.

A third prominent cluster highlights digital governance, big data, AI in public administration, and smart governance. Unlike earlier digital government literature, which often focused on efficiency and modernization, post-pandemic research embeds digitalization within crisis governance logics. The integration of digital governance with resilience and coordination clusters suggests that digital infrastructures are increasingly conceptualized as enabling conditions for adaptive capacity (Meijer & Grimmelikhuisen, 2021). Thus, digital governance appears structurally repositioned from a modernization agenda to a resilience infrastructure.

The health and pandemic cluster, while substantively distinct, is deeply integrated with the broader governance configuration. COVID-19 functions as a catalytic event that exposes vulnerabilities across institutional, technological, and communicative systems. This aligns with crisis management literature describing transboundary crises that disrupt established governance routines (Ansell et al., 2010; Boin et al., 2017). The network suggests that pandemic governance is not merely a case study but a transformative lens reshaping governance theory.

Perhaps the most significant structural finding is the central positioning of equity, social vulnerability, and recovery policy. These concepts act as bridging nodes across resilience, digital, and coordination clusters. Disaster scholarship has long emphasized unequal impacts (Tierney, 2019), yet the network indicates that equity considerations now occupy a mainstream position in crisis governance research. This signals a normative reorientation: resilience is increasingly interpreted not only as systemic stability but as inclusive and distributive capacity. Governance legitimacy, therefore, becomes intertwined with adaptive effectiveness (Bouckaert & de Walle, 2003; Siegrist & Zingg, 2014).

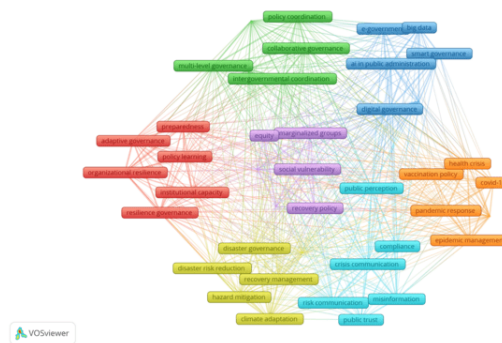
The communication and trust cluster further reinforces this legitimacy dimension. Risk communication, misinformation, and compliance are tightly connected to pandemic and equity themes. This pattern suggests that crisis governance is conceptualized not only as institutional coordination but also as a communicative and relational process. Public trust operates as a precondition for effective adaptation, aligning with crisis leadership scholarship emphasizing meaning-making and legitimacy (Boin et al., 2017).

Taken together, the network structure points toward a paradigmatic restructuring in post-COVID crisis governance scholarship. Rather than generating entirely new theoretical streams, the pandemic appears to have consolidated and reassembled three previously semi-autonomous paradigms—resilience governance, network governance, and digital governance—into a more integrated adaptive configuration. This restructuring is further anchored by a stronger normative emphasis on equity and legitimacy.

Theoretically, this suggests a shift from crisis management as episodic response toward crisis governance as continuous adaptive coordination embedded within digital infrastructures and legitimacy frameworks. The field thus moves from a fragmented landscape of reform paradigms toward an integrated model of adaptive-networked-digital governance. This restructuring does not displace earlier theories but reorganizes their relative positions within the governance architecture.

For public administration theory, this reconfiguration has two major implications. First, governance capacity must be reconceptualized as multidimensional, combining institutional adaptability, relational coordination, technological infrastructure, and social legitimacy. Second, crisis governance can no longer be treated as an exceptional domain; it becomes a constitutive condition of contemporary public administration. In this sense, the post-COVID era represents not a thematic expansion but a structural consolidation of governance theory around adaptive, networked, and digitally mediated resilience, underpinned by normative commitments to equity and trust.

Figure 1. Keyword co-occurrence network illustrating the structural configuration of post-COVID crisis governance research (2020–2025), including clustered thematic domains and their interconnections.



Source: Author's data processing 2026

Temporal Dynamics of Crisis Governance Research

The overlay visualization reveals not only the structural configuration of post-COVID crisis governance scholarship but also its temporal differentiation. By mapping average publication trends across keywords, the analysis uncovers which thematic domains represent established foundations and which constitute emerging research frontiers. Rather than exhibiting a linear thematic expansion, the field demonstrates selective intensification around digital, equity-centered, and behavioral governance dimensions.

The temporal gradient suggests that resilience-oriented governance concepts—including *resilience governance*, *adaptive governance*, *institutional capacity*, and *organizational resilience*—are comparatively earlier consolidations within the post-2020 period. These concepts appear structurally mature and theoretically stabilized. This pattern indicates that resilience has already transitioned from a peripheral environmental governance concept into a central organizing logic of crisis governance (Duit, 2016; Folke et al., 2005). However, the overlay suggests that resilience itself is no longer the most rapidly expanding frontier; rather, it functions as a foundational paradigm upon which newer dimensions are being layered.

In contrast, digital governance-related keywords—*AI in public administration*, *big data*, *e-government*, and *digital governance*—display more recent intensity. The color gradient indicates acceleration particularly in AI and data-driven governance topics. This suggests a second-order restructuring of governance paradigms: digitalization is increasingly embedded within resilience frameworks, transforming adaptive governance from a primarily institutional concept into a technologically mediated one. Whereas earlier digital government literature emphasized efficiency and service modernization, post-pandemic scholarship situates digital tools as infrastructures of crisis coordination and predictive governance (Meijer & Grimmelikhuijsen, 2021). The overlay thus reveals not thematic novelty alone, but technological intensification within an existing resilience-network configuration.

Similarly, the health-centered cluster—*pandemic response*, *epidemic management*, and *vaccination policy*—shows temporal concentration around the mid-2020 to 2022 period, reflecting the immediate scholarly response to COVID-19 as a transboundary crisis (Ansell et al., 2010; Boin et al., 2020). However, the relative diffusion of these keywords in later years suggests normalization: pandemic governance is increasingly absorbed into broader crisis governance frameworks rather than remaining a standalone research focus.

A particularly noteworthy temporal shift concerns equity- and vulnerability-related keywords. Terms such as *equity*, *marginalized groups*, and *social vulnerability* exhibit sustained and increasing prominence over time. Their temporal persistence indicates that the “social turn” in crisis governance is not episodic but structurally embedded. Disaster research has long recognized distributive inequalities (Tierney, 2019), yet the overlay demonstrates that equity concerns are intensifying within mainstream governance debates rather than remaining confined to sociological subfields. This signals a normative deepening of resilience theory, where adaptive capacity is increasingly evaluated in distributive terms.

The overlay further highlights the emergence of behavioral governance themes, including *misinformation*, *risk communication*, *public trust*, and *compliance*. These terms appear among the more recent intensifications, particularly misinformation and compliance. This pattern suggests that crisis governance is evolving beyond institutional coordination toward legitimacy management. Public administration scholarship has long emphasized trust as a determinant of policy compliance (Bouckaert & de Walle, 2003; Siegrist & Zingg, 2014), but the temporal gradient indicates that trust and information ecosystems are now integrated into crisis governance theory as structural components rather than contextual variables.

The temporal positioning of *policy coordination* and *intergovernmental coordination* indicates relative stability rather than rapid emergence. Coordination remains central but not newly intensifying. This suggests that network governance functions as an established structural mechanism rather than a frontier. In theoretical terms, collaborative governance appears institutionalized within crisis governance discourse (Ansell & Gash, 2008; Emerson & Nabatchi, 2015), while innovation is occurring at the intersection of digitalization and legitimacy.

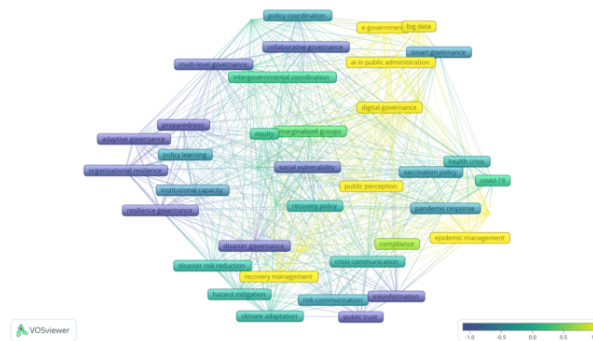
Taken together, the overlay visualization supports the argument that post-COVID crisis governance research is undergoing paradigm layering rather than paradigm replacement. Resilience governance remains the foundational core; network governance continues as the relational infrastructure; digital governance is intensifying as an enabling architecture; and equity and legitimacy dimensions are expanding as normative anchors. The restructuring thus reflects vertical deepening and horizontal integration of existing paradigms rather than the birth of entirely new ones.

From a public administration perspective, this pattern implies a redefinition of governance capacity. Capacity is no longer conceptualized solely as administrative robustness or coordination effectiveness. Instead, it encompasses technological mediation, distributive fairness, and communicative legitimacy.

Crisis governance in the post-pandemic era therefore appears as an integrated adaptive-networked-digital governance configuration grounded in social legitimacy.

This temporal layering indicates that the field has moved beyond reactive pandemic scholarship toward structural recalibration of governance theory. Rather than fragmenting into health-specific or technology-specific streams, crisis governance research appears to be consolidating around a multidimensional adaptive paradigm. The overlay evidence therefore reinforces the interpretation that COVID-19 catalyzed not a temporary thematic surge, but a durable reorganization of governance theory.

Figure 2. Overlay visualization of keyword co-occurrence network showing temporal evolution of crisis governance research (2020–2025).



Source: Author's data processing 2026

Conceptual Centrality and Consolidation

The density visualization provides additional evidence of thematic consolidation in post-COVID crisis and disaster governance research. Unlike the cluster map, which identifies structural groupings, and the overlay map, which highlights temporal intensification, the density map reveals the gravitational centers of the field—areas where conceptual concentration and co-occurrence intensity are highest. The heat gradient indicates that crisis governance scholarship in the post-2020 period is organized around several high-density cores rather than dispersed thematic islands.

The most intense density zones appear around four interconnected domains: (1) digital governance and AI, (2) pandemic and health crisis governance, (3) resilience and adaptive capacity, and (4) coordination and collaborative governance. These zones overlap significantly, suggesting that the field’s intellectual energy is concentrated at their intersections rather than within isolated clusters.

The density around digital governance—particularly *digital governance*, *AI in public administration*, *big data*, and *smart governance*—indicates that technological mediation has become a structural core of crisis governance discourse. The concentration of these terms signals that digitalization is no longer peripheral modernization rhetoric but central to adaptive governance capacity. In this configuration, digital infrastructures operate as enabling mechanisms for coordination, monitoring, and decision-making under uncertainty. This supports

the interpretation that digital governance has shifted from efficiency-driven reform to resilience-enabling architecture (Meijer & Grimmelikhuijsen, 2021).

Similarly, the pandemic governance domain—encompassing *COVID-19*, *health crisis*, *pandemic response*, *vaccination policy*, and *epidemic management*—remains a dense epicenter. However, the density map reveals that this domain is not structurally isolated; rather, it is tightly embedded within digital, coordination, and communication zones. This suggests that pandemic governance functions as a catalytic field that consolidates broader crisis governance paradigms rather than existing as a standalone thematic surge. In theoretical terms, COVID-19 appears to have acted as a stress event that intensified pre-existing governance debates (Ansell et al., 2010; Boin et al., 2017).

A third high-density region emerges around resilience-oriented governance concepts, including *resilience governance*, *adaptive governance*, *organizational resilience*, *policy learning*, and *institutional capacity*. The intensity of this region confirms that resilience operates as the organizing paradigm within which other themes are embedded. Importantly, this density zone overlaps with coordination and digital clusters, indicating paradigm integration rather than substitution. Resilience in post-COVID governance is not conceptualized solely as institutional robustness; it is increasingly framed as network-enabled and technologically supported adaptation.

The coordination domain—marked by *collaborative governance*, *multi-level governance*, *intergovernmental coordination*, and *policy coordination*—also exhibits strong density. This suggests that networked governance is not a peripheral mechanism but a central structural pillar of crisis governance theory. The high overlap between coordination and resilience areas supports the interpretation that adaptive capacity is relationally constituted. Rather than hierarchical control, governance in crises is framed as negotiated and multi-actor coordination (Ansell & Gash, 2008; Emerson & Nabatchi, 2015).

Another striking density hotspot appears around *equity*, *social vulnerability*, and *recovery policy*. The positioning of these terms near the center of the heat map indicates that distributive and normative concerns are deeply embedded in contemporary crisis governance discourse. Equity is not confined to social policy literature but intersects with resilience, recovery management, and communication. This density configuration signals a normative deepening of governance theory: adaptive capacity is increasingly evaluated through distributive outcomes and vulnerability reduction (Tierney, 2019).

The communication and trust domain—*risk communication*, *crisis communication*, *misinformation*, *public trust*, and *compliance*—forms another dense node overlapping with pandemic and equity themes. The intensity of this region underscores the legitimacy dimension of governance. Crisis governance is not conceptualized solely in institutional or technological terms; it also depends on meaning-making, trust, and compliance dynamics. The density overlap indicates that behavioral governance and institutional resilience are structurally intertwined.

Overall, the density structure reinforces the argument of paradigmatic restructuring. Rather than demonstrating a proliferation of loosely connected

From a public administration perspective, these findings imply that governance capacity is increasingly understood as multidimensional, encompassing not only institutional robustness and coordination, but also digital capability and social legitimacy. Future research should further investigate how these dimensions operate across different governance contexts and policy domains. Methodologically, this study demonstrates the value of bibliometric science mapping in identifying structural patterns and paradigm layering within rapidly evolving research fields. This study contributes to ongoing debates on governance under uncertainty by providing empirical evidence of structural integration in post-COVID crisis governance scholarship.

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REFERENCES

- Afandi, S. A., & Afandi, M. (2025). Global Governance and Institutional Responses to Crises. In *Political and Economic Crises in International Political Economy* (hal. 94–122). Liberty Publishing House.
- Ansell, C., Boin, A., & Keller, A. (2010). Managing transboundary crises: Identifying the building blocks of an effective response system. *Journal of Contingencies and Crisis Management*, 18(4), 195–207. <https://doi.org/10.1111/j.1468-5973.2010.00620.x>
- Ansell, C., & Gash, A. (2008). Collaborative governance in theory and practice. *Journal of Public Administration Research and Theory*, 18(4), 543–571. <https://doi.org/10.1093/jopart/mum032>
- Boin, A., Hart, P., Stern, E., & Sundelius, B. (2017). *The politics of crisis management: Public leadership under pressure* (2nd ed.). Cambridge University Press.
- Boin, A., Lodge, M., & Luesink, M. (2020). Learning from the COVID-19 crisis: An initial analysis of national responses. *Policy Design and Practice*, 3(3), 189–204. <https://doi.org/10.1080/25741292.2020.1823670>
- Bouckaert, G., & de Walle, S. (2003). Comparing measures of citizen trust and user satisfaction as indicators of “good governance.” *International Review of Administrative Sciences*, 69(3), 329–343.
- Callon, M., Courtial, J. P., & Laville, F. (1991). Co-word analysis as a tool for describing the network of interactions between basic and technological research. *Scientometrics*, 22(1), 155–205.
- Christensen, T., & Læg Reid, P. (2023). Assessing the crisis management of the COVID-19 pandemic: A study of inquiry commission reports in Norway and Sweden. *Policy and Society*, 42(4), 548–563. <https://doi.org/10.1093/polsoc/puad020>
- Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to Conduct a Bibliometric Analysis: An Overview and Guidelines. *Journal of Business Research*, 133(1), 285–296.
- Duit, A. (2016). Resilience thinking: Lessons for public administration. *Public Administration*, 94(2), 364–380. <https://doi.org/10.1111/padm.12182>

- Dunlop, C. A., & Radaelli, C. M. (2013). Systematising policy learning: From monolith to dimensions. *Political Studies*, 61(3), 599–619.
- Emerson, K., & Nabatchi, T. (2015). *Collaborative governance regimes*. Georgetown University Press.
- Eom, S. J., & Lee, J. (2022). Digital government transformation in turbulent times: Responses, challenges, and future directions. *Government Information Quarterly*, 39(4), 101690. <https://doi.org/10.1016/j.giq.2022.101690>
- Folke, C., Hahn, T., Olsson, P., & Norberg, J. (2005). Adaptive governance of social-ecological systems. *Annual Review of Environment and Resources*, 30, 441–473.
- Haug, N., Dan, S., & Mergel, I. (2024). Digitally induced change in the public sector: A systematic review and research agenda. *Public Management Review*, 26(7), 1963–1987.
- Kuhlmann, S., Franzke, J., Peters, N., & Dumas, B. P. (2024). Institutional designs and dynamics of crisis governance at the local level: European governments facing the polycrisis. *Policy Design and Practice*, 7(4), 409–429.
- Meijer, A., & Grimmelikhuijsen, S. (2021). Responsible and accountable algorithmic governance: A public administration perspective. *Government Information Quarterly*, 38(4), 101576.
- Mongeon, P., & Paul-Hus, A. (2016). The journal coverage of Web of Science and Scopus: A comparative analysis. *Scientometrics*, 106(1), 213–228.
- Moser-Plautz, B., & Schmidhuber, L. (2023). Digital government transformation as an organizational response to the COVID-19 pandemic. *Government Information Quarterly*, 40, 101815.
- Moynihan, D. P. (2009). The network governance of crisis response: Case studies of incident command systems. *Journal of Public Administration Research and Theory*, 19(4), 895–915.
- Perianes-Rodriguez, A., Waltman, L., & van Eck, N. J. (2016). Constructing bibliometric networks: A comparison between full and fractional counting. *Journal of Informetrics*, 10(4), 1178–1195.
- Ruijter, E., Porumbescu, G., Porter, R., & Piotrowski, S. (2023). Social equity in the data era: A systematic literature review of data-driven public service research. *Public Administration Review*, 83(2), 316–332.
- Siegrist, M., & Zingg, A. (2014). The role of public trust during pandemics. *European Psychologist*, 19(1), 23–32.
- Small, H. (1973). Co-citation in the scientific literature: A new measure of the relationship between two documents. *Journal of the American Society for Information Science*, 24(4), 265–269.
- Tierney, K. (2019). *Disasters: A sociological approach*. Polity Press.
- van Eck, N. J., & Waltman, L. (2010). Software Survey: VOSviewer, a Computer Program for Bibliometric Mapping. *Scientometrics*, 84(2), 523–538. <https://doi.org/10.1007/s11192-009-0146-3>
- Wang, C., Kim, Y., & Mossberger, K. (2024). Governor's political affiliation and stringent COVID-19 policy. *Public Administration Review*, 84(1), 40–55.
- Zupic, I., & Čater, T. (2015). Bibliometric methods in management and organization. *Organizational Research Methods*, 18(3), 429–472. <https://doi.org/https://doi.org/10.1177/10944281145626>