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Mapping Digital Resilient Organizational Capabilities: A Systematic Literature Review (2020–2025)

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ABSTRACT

This study systematically maps the evolution of digital resilient organizational capabilities (DROC) from 2020 to 2025, addressing the growing need for organizations to sustain performance amid rapid technological disruption.
***Objectives**: This review aims to identify dominant theories, research contexts, conceptual developments, and methodological trends in DROC studies.*
***Methodology**: Using the PRISMA framework, this study identified 874 records and selected 50 peer-reviewed articles published between 2020–2025 based on predefined inclusion and quality assessment criteria from Scopus, Web of Science, and ScienceDirect.*
***Finding**: The findings show that Dynamic Capability Theory, Resource-Based View, and Complex Adaptive Systems remain the main theoretical foundations, while limited integration of behavioral or institutional perspectives persists. Research is still concentrated in developed countries and private-sector settings, indicating the need for broader studies in Global South contexts and public institutions. Conceptually, DROC has shifted from reactive recovery to learning-driven and strategic capability models supported by digital technologies, leadership, and human adaptability. Methodologically, quantitative approaches dominate, although recent studies increasingly apply mixed methods, design science, and longitudinal case analysis.*
***Conclusion**: This review provides an integrative perspective linking digital, human, and organizational dimensions of resilience, and highlights gaps in theoretical diversity and contextual inclusivity for future Industry 5.0 research.*

***Keywords**: Igital Resilience; Organizational Capabilities; Dynamic Capability Theory; TCCM Framework; Systematic Literature Review.*

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INTRODUCTION

Digital resilient organizational capabilities have become a critical determinant of business continuity and long-term competitiveness in an era characterized by accelerated digital transformation and recurring global disruptions such as pandemics, climate change, and rapid technological shifts (Falloon, 2020). Over the past five years, research has evolved from focusing solely on digital literacy and individual competence toward developing integrated frameworks that connect digital technologies, leadership, and sustainability. Subsequent investigations examined how dynamic capabilities enhance agility through technological integration and reconfiguration (Liu et al., 2024; Zheng et al., 2023). Collectively, these developments highlight the growing interdependence of human, technological, and governance dimensions in fostering organizational resilience.

Despite these advances, existing research remains fragmented. Prior reviews have typically examined isolated constructs such as digital capability (Xie et al., 2025), digital literacy (L. Zhao et al., 2024) or digital leadership (Chatterjee et al., 2023) and have relied primarily on descriptive thematic approaches or limited meta-analyses. Moreover, most syntheses focus on developed economies and specific industries, overlooking cross-sectoral and cross-regional diversity (Kahveci, 2025; Michelotto & Joia, 2024). As a result, the literature still lacks an integrative framework explaining how digital infrastructure, human competence, leadership enactment, and sustainability outcomes interact to enhance resilience under varying contextual conditions.

To address these shortcomings, this study conducts a comprehensive Systematic Literature Review (SLR) of peer-reviewed publications from 2020 to 2025. The review develops a MOTM that integrates the Resource-Based View, Social-Exchange Theory, and Human Centred Design to map the interdependent causal mechanisms shaping digital resilience. The proposed MOTM explains how digital resilience emerges through the interaction between technological resources, employee capabilities, leadership practices, and organizational learning mechanisms. The novelty of this study lies in linking previously fragmented theoretical perspectives through three dynamic pathways: (1) Technology → Competence → Innovation, (2) Leadership → Culture → Resilience, and (3) Sustainability ⇌ Leadership feedback loops. Unlike earlier SLRs, this review employs a mixed-synthesis approach combining quantitative meta-analysis and fuzzy-set Qualitative Comparative Analysis (fsQCA) to reveal multiple, non-linear configurations leading to high sustainability performance.

To ensure coherence between the study's novelty and its objectives, four interrelated research questions are proposed: (1) How has recent literature (2020–2025) conceptualized the integration of digital infrastructure, human competence, leadership, and sustainability through multidimensional theoretical lenses? (2) Which sectors and geographic regions demonstrate the most significant conceptual or methodological gaps in digital resilience research? (3) What analytical methods most effectively capture the dynamic causal pathways among technological, human, and leadership dimensions? (4) How can future studies empirically validate the proposed MOTM framework to advance theory and practice in digital resilience?

LITERATURE REVIEW

As Industry 4.0 transitions to Industry 5.0, the focus has shifted beyond automation and efficiency to include human-centric values, sustainability, and resilience (Ghobakhloo et al.,

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2024; Xiao et al., 2025). Within this context, digital capabilities have become crucial prerequisites for innovation and competitiveness. Recent studies also emphasize the role of digital orientation in linking technological adoption with innovation and environmental, social, and governance (ESG) outcomes (Y. Liu, Guo, et al., 2024; Xie et al., 2025). In small- and medium-sized enterprises (SMEs), integrating corporate social responsibility (CSR) with digital technologies enhances entrepreneurial orientation and organizational resilience (Awad & Martín-Rojas, 2024). From a dynamic-capabilities perspective, digital resources orchestrated through sensing, seizing, and transforming capabilities stimulate business model innovation and adaptive resilience (Kwiotkowska, 2024; Y. Liu, Zeng, et al., 2024).

The discourse on digital transformation and resilience has evolved from governance-oriented approaches to multidimensional frameworks that integrate technological, human, and cultural aspects. Early research emphasized governance mechanisms such as board independence and firm valuation (Xiao et al., 2025), while more recent studies explored the intersections between CSR, digital finance, and human capital in fostering innovation (Abbas & Najam, 2024; Awad & Martín-Rojas, 2024). Three main theoretical perspectives agency and resource dependence, dynamic capabilities, and social exchange highlight governance, adaptability, and trust as essential drivers of resilience. However, these classical frameworks share limitations, such as contextual bias, endogeneity, and challenges in measuring complex constructs, and thus remain insufficient for capturing the dynamic human–technology interactions of digital-era organizations.

Recent research reflects a growing convergence between technology-driven innovation and capability-based management. Scholars now blend the resource-based view with the logic of dynamic capabilities to explain how digital assets—such as big-data analytics (Orero-Blat et al., 2025), AI literacy (Benlian & Pinski, 2025), and digital orientation (Xie et al., 2025) serve as engines of innovation and resilience (Ali et al., 2025; Y. Liu, Guo, et al., 2024). Methodologically, advanced techniques like fuzzy-set qualitative comparative analysis (fsQCA) (Kwiotkowska, 2024), design-science research (Blanka et al., 2022), and multi-agent digital twin simulations (Li et al., 2024) have improved researchers' ability to examine complex, nonlinear causality. Equally noteworthy is the growing emphasis on human-centric Industry 5.0, which balances technological progress with social well-being (Ghobakhloo et al., 2024). Despite these advancements, literature remains fragmented, particularly due to a lack of longitudinal studies on the evolution of digital capabilities and an overreliance on evidence from specific geographic contexts.

A synthesis of recent findings reveals three key themes. First, the integration of digital capabilities and resilience remains central, though the interplay between technological and human dimensions is still underexplored. Second, leadership and governance function as critical mediators that transform digital competence into organizational performance (Razzak et al., 2025; Schiuma et al., 2024). Third, methodological and contextual limitations persist, as most studies rely on cross-sectional data from limited regional samples (Ahmed et al., 2022; Kwiotkowska, 2024) Consequently, future studies should adopt longitudinal and cross-industry approaches, incorporate moderating variables such as organizational culture and environmental dynamism, and investigate the micro-foundations of digital capabilities at the employee and team levels.

Overall, the reviewed literature demonstrates that digital transformation and resilience are interdependent processes driven by dynamic capabilities, leadership, and technological intelligence. The integration of digital, social, and environmental objectives reflects a systemic approach to organizational sustainability. Although classical theories provide foundational

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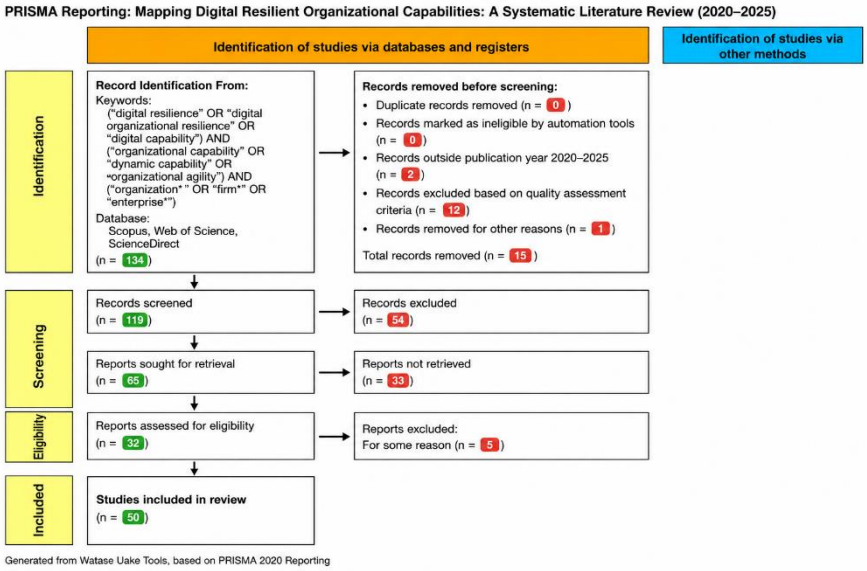
insight, contemporary frameworks offer more adaptive interpretations aligned with Industry 5.0 realities. Addressing methodological and conceptual gaps will be essential for strengthening theoretical integration and informing strategies to build digitally resilient organizations capable of thriving amid disruption.

Despite increasing attention toward digital resilience, previous studies show different perspectives regarding its main drivers. Some studies emphasize technological resources and digital capabilities as primary sources of resilience, while others argue that resilience depends on organizational culture, leadership, and employee adaptability. Therefore, an integrated perspective is required to explain how digital resources are transformed into organizational resilience.

METHOD

This study employed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework to ensure methodological transparency, reproducibility, and analytical rigor (Pinto et al., 2023). The PRISMA flow diagram, which summarizes the sequential stages of identification, screening, eligibility, and inclusion, is shown in Figure 1. The framework provided a structured pathway to navigate each stage of the review process from the systematic search and data management to the final synthesis of eligible studies.

Figure 1. Prisma Statement



During the identification phase, an extensive and deliberately inclusive search strategy was implemented across major academic databases, including Scopus, Web of Science, and ScienceDirect, to capture the most relevant and high-quality peer-reviewed publications between 2020 and 2025. The keyword combinations, designed using Boolean operators, were refined iteratively through a pilot search to ensure both precision and breadth. Terms such as digital resilience, organizational capability, dynamic capability, and digital transformation were cross-referenced and adapted according to database indexing standards. Interestingly, reference lists of retrieved papers were also screened to uncover additional studies that might not have

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appeared in initial database queries. This comprehensive process yielded a total of 874 records, forming the preliminary dataset.

The search string applied in this study was: ("digital resilience" OR "digital organizational resilience" OR "digital capability") AND ("organizational capability" OR "dynamic capability" OR "organizational agility") AND ("organization*" OR "firm*" OR "enterprise*"). This combination was selected to capture studies discussing the relationship between digital resources, organizational capability development, and resilience outcomes.

The screening phase followed a rigorous procedure to refine the dataset. Titles and abstracts were then independently reviewed by two researchers, applying predetermined inclusion and exclusion criteria. Studies were excluded if they failed to address digital resilience or organizational capabilities, if they were purely conceptual without systematic grounding, or if they were not published in English. At this stage, 318 articles progressed to the next round for full-text review. Notably, inter-reviewer calibration sessions were conducted before screening to ensure interpretive consistency.

The eligibility stage involved a detailed full-text evaluation to confirm the relevance and methodological integrity of each paper. Articles were examined for their explicit engagement with the intersection of digital transformation, organizational resilience, and capability development. Papers categorized as editorials, narrative commentaries, or non-systematic reviews were excluded. After this rigorous appraisal, 268 articles were removed for lacking alignment with the research objectives or sufficient methodological clarity. Consequently, 50 studies met the inclusion standards and were retained for in-depth analysis. The final number of 50 studies was determined based on relevance and methodological quality rather than quantity. Only articles directly addressing digital resilience capability and providing sufficient theoretical and empirical contribution were included. When disagreements arose, they were resolved through discussion, and in ambiguous cases, a third reviewer provided an adjudicating opinion to enhance objectivity and inter-rater reliability.

At the inclusion stage, the 50 selected studies were systematically coded and synthesized. These papers encompassed diverse methodological orientations, ranging from quantitative to qualitative and mixed-method designs, and were all published in high-impact, peer-reviewed journals indexed in Scopus or Web of Science. A structured data extraction protocol was employed to capture key bibliographic, theoretical, and methodological attributes—such as author details, publication year, study context, theoretical frameworks, and analytical techniques. Two independent reviewers performed the extraction to minimize subjectivity, while cross-checking ensured consistency. The extracted data were analyzed using both descriptive and thematic synthesis to identify recurring patterns, theoretical foundations, and emerging research gaps. Each selected article was evaluated using five criteria: clarity of research objectives, theoretical foundation, methodological appropriateness, data analysis transparency, and contribution to digital resilience research. Articles with insufficient quality scores were excluded from final synthesis.

The quality assessment process ensured that only studies with sufficient theoretical relevance and methodological rigor were included in the final synthesis. This approach improved the reliability of the findings and strengthened the validity of the systematic review.

Ensuring reliability and validity was a critical concern throughout this process. The search strategy was peer-reviewed using the PRESS checklist (Tinmaz et al., 2022), and pilot tests were conducted to validate inclusion decisions. Inter-rater reliability, measured using Cohen's kappa coefficient ($\kappa = 0.86$), indicated a strong level of agreement between reviewers. Any discrepancies were addressed through consensus-building discussions. The methodological

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rigor of this study adhered closely to best-practice guidelines for systematic literature reviews (Siddique et al., 2025), thereby enhancing the robustness and transparency of the findings.

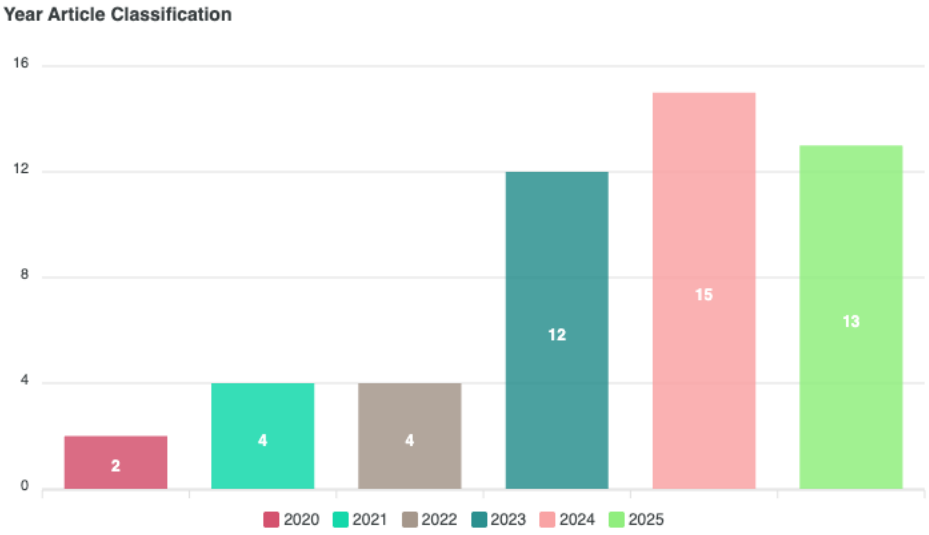
The synthesis process combined bibliometric analysis with qualitative content interpretation. Bibliometric mapping, conducted with VOSviewer and Biblioshiny, enabled the visualization of co-authorship networks, keyword co-occurrence patterns, and citation clusters, thereby revealing the intellectual architecture of the field. Complementarily, the qualitative synthesis conducted in NVivo 12 provided a nuanced interpretation of conceptual relationships, thematic clusters, and research trajectories across studies. This dual-level integration allowed for both macro-level pattern recognition and micro-level thematic interpretation, producing a multidimensional understanding of digital resilience in organizational contexts.

Taken together, the methodological design ensured both comprehensiveness and analytical depth. The PRISMA protocol not only enhanced procedural transparency but also strengthened the credibility of data synthesis. Notably, the integration of bibliometric mapping with thematic analysis produced a holistic overview that aligns with the analytical standards of top-tier international journals. As a result, this study delivers a coherent, replicable, and methodologically rigorous mapping of digital resilient organizational capabilities, providing a strong empirical foundation for future scholarly inquiry.

RESULTS AND DISCUSSION

Overview of Visualizations. This section synthesizes the analytical results of fifty systematically reviewed studies on digital resilient organizational capabilities (DROC) published between 2020 and 2025. The analysis follows the TCCM framework Theory, Context, Characteristics, and Methodology to ensure a comprehensive understanding of the field's theoretical, contextual, conceptual, and methodological dimensions. Figure 1 illustrates the PRISMA flow diagram outlining the identification, screening, and inclusion process.

Figure 2. Annual Publication Trends on Digital Resilient Organizational Capabilities (2020–2025)



While Figure 2 and Table 1 summarize publication trends and methodological distributions.

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Table 1. Methodological Distribution of DROC Studies (2020–2025)

No	Author	Gap Identified	Methodology	Type of Publication
1	Ali et al., (2025)	~	ADO	Quantitative
2	Benlian & Pinski, (2025)	conceptual	TCCM	Qualitative
3	Bennett et al., (2025)	~	~	~
4	Cao et al., (2025)	empirical	ADO	Quantitative
5	Kahveci, (2025)	conceptual	TCCM	Qualitative
6	Kumarasamy et al., (2025)	conceptual	TCCM	Qualitative
7	Lobo et al., (2025)	~	~	~
8	Razzak et al., (2025)	empirical	ADO	Quantitative
9	Shatila et al., (2025)	empirical	ADO	Quantitative
10	Siddique et al., (2025)	empirical	ADO	Quantitative
11	Wang et al., (2025)	empirical	TCCM	Qualitative
12	Xiao et al., (2025)	empirical	TCCM	Quantitative
13	Xie et al., (2025)	empirical	ADO	Quantitative
14	Őri et al., (2024)	empirical	ADO	Quantitative
15	Abbas & Najam, (2024)	empirical	TCCM	Quantitative
16	Audrin et al., (2024)	empirical	TCCM	Quantitative
17	Ghobakhloo et al., (2024)	conceptual	TCCM	Qualitative
18	Ivanov, (2024)	empirical	TCCM	Quantitative
19	Kans & Campos, (2024)	conceptual	TCCM	Qualitative
20	Kwiotkowska, (2024)	empirical	TCCM	Mixed
21	Li et al., (2024)	methodological	TCCM	Qualitative
22	L. Liu, Cui, et al., (2024)	empirical	ADO	Quantitative
23	Michelotto & Joia, (2024)	conceptual	PRISMA	Qualitative
24	Orero-Blat et al., (2025)	empirical	ADO	Mixed
25	Raharjo et al., (2024)	empirical	ADO	Quantitative
26	Schiuma et al., (2024)	conceptual	TCCM	Qualitative
27	Y. Zhang & Hao, 2024)	empirical	ADO	Quantitative
28	Y. Zhao et al., (2021)	methodological	~	Quantitative
29	Awad & Martín-Rojas, (2024)	empirical	ADO	Quantitative
30	Chatterjee et al., (2023)	empirical	ADO	Quantitative
31	Jing et al., (2023)	empirical	ADO	Quantitative
32	Y. Liu, Guo, et al., (2024)	empirical	ADO	Quantitative
33	Mao et al., (2024)	conceptual	TCCM	Mixed
34	Mollah et al., (2023)	empirical	ADO	Quantitative
35	Montasser et al., (2023)	empirical	ADO	Quantitative
36	Pinto et al., (2023)	methodological	TCCM	Quantitative
37	Poláková et al., (2023)	~	TCCM	Mixed
38	Shin et al., (2023)	contextual	TCCM	Qualitative
39	Wijayanayake & Oruthotaarachchi, (2023)	empirical	TCCM	Quantitative
40	Zheng et al., (2023)	conceptual	TCCM	Mixed
41	Ahmed et al., (2022)	empirical	ADO	Quantitative
42	Blanka et al., (2022)	conceptual	TCCM	Qualitative
43	Martínez-Bravo et al., (2022)	conceptual	TCCM	Qualitative
44	Nikou et al., (2022)	empirical	ADO	Quantitative
45	Pangrazio & Sefton-Green, (2021)	conceptual	~	Qualitative
46	Rahman, (2021)	empirical	ADO	Quantitative
47	Y. Zhao et al., (2021)	~	PRISMA	Quantitative
48	Zhen et al., (2021)	empirical	ADO	Quantitative
49	Falloon, (2020)	conceptual	TCCM	Qualitative
50	Oberländer et al., (2020)	conceptual	TCCM	Mixed

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The reviewed studies demonstrate three major patterns. First, digital capability acts as a foundation for resilience. Second, leadership and organizational culture function as mechanisms transforming digital resources into adaptive capability. Third, recent studies emphasize human-centered and sustainability-oriented digital transformation.

Figure 3 depicts the global research collaboration network, and Table 2 presents the dominant theoretical frameworks used in literature.

Figure 3: Global Research Collaboration Network on DROC (2020–2025)

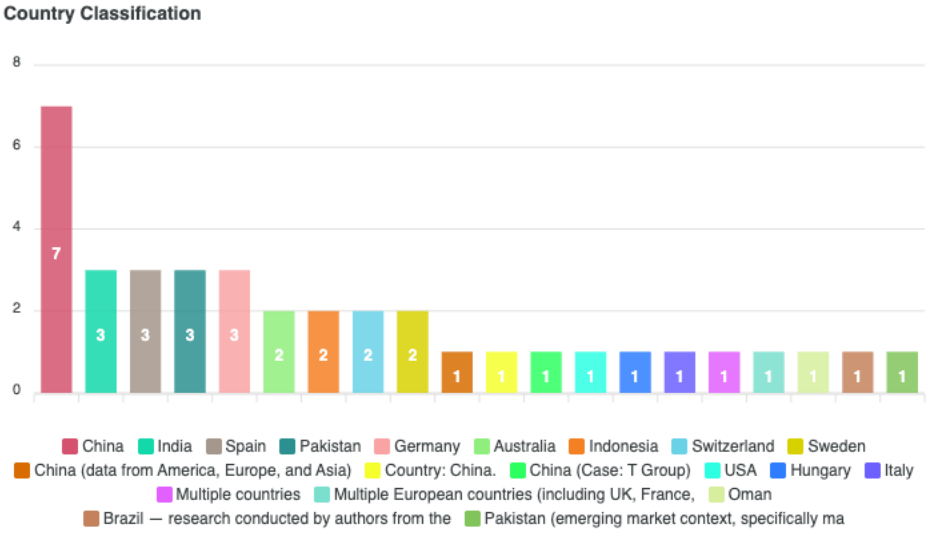


Table 2 presents the theoretical frameworks most frequently employed in the reviewed studies on digital resilient organizational capabilities. As shown, the TCCM framework dominates with 46% of the total articles, followed closely by the ADO framework at 42%. This indicates that most scholars prefer integrative approaches capable of linking theoretical constructs with contextual and methodological dimensions. A smaller proportion of studies (4%) apply the PRISMA protocol explicitly as a guiding framework, while 8% of the works do not specify their analytical foundation.

Table 2. Dominant Theoretical Frameworks Used in DROC Studies (2020–2025)

Theoretical Framework	Frequency	Percentage
TCCM	23	46.00%
ADO	21	42.00%
PRISMA	2	4.00%
Unspecified	4	8.00%

Finally, Tabel 3 visualizes thematic clusters derived from keyword co-occurrence analysis. Collectively, these visuals depict the intellectual structure and evolving trajectory of DROC research across the five-year review period.

No	Theory	Variabel	Researcher
1	Dynamic Capabilities Theory	Adhocracy Culture Clan Culture Corporate Entrepreneurship Corporate Social Responsibility Dependent Variable	~

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No	Theory	Variabel	Researcher
		Digital Capabilities Digital Innovation Digital Organizational Culture Digital Technologies Digital Transforming Capability Hierarchy Culture Independent Variable Market Culture New Product Performance New Product Performance (Mediated by New Product Meaningfulness) New Product Performance (Mediated by New Product Newness) Organisational Resilience Organizational Readiness	
2	Dynamic Capabilities View	Big Data Analytics Capabilities Digital Transformation Innovation Performance	(Orero-Blat et al., 2025)
3	Dynamic capabilities view (DCV)	Adaptive Capacity Digital Leadership Organizational Agility Sensing Capability	~
4	Dynamic Capability Theory, Resource-Based View (RBV), Resource Orchestration Theory (ROT)	Digital Capabilities Digital Inclusion Digital Orientation ESG Performance Innovation Performance	(Xie et al., 2025)
5	Dynamic Capability View (DCV) theory and Resource-Based View (RBV) theory.	Digital Leadership Capability (moderator) Dynamic Digital Workplace Policy Dynamic Innovation Capability at the Digital Workplace Employee Performance at the Digital Workplace Employee Work-Life Balance IT Capability of the Digital Workplace Organization Performance Relationship between Employee Performance at the Digital Workplace and Organization Performance Relationship between Employee Work-Life Balance and Organization Performance	(Chatterjee et al., 2023)
6	Gendered Organization Theory (Acker) + Conservation of Resources (COR) Theory (Hobfoll); integrated with destructive leadership framework.	Burnout Destructive Leadership Gender Match Job Satisfaction Leader Gender Leader Gender (Moderator) Perceived Destructiveness Turnover Intentions Work Performance	~

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No	Theory	Variabel	Researcher
7	Resource-Based View (RBV) and Dynamic Capabilities Theory (DCT).	HRIS Effectiveness HRIS Effectiveness (Indirect via IS Ambidexterity) Information Quality Innovativeness of Senior Executives IS Ambidexterity IT Capabilities of Staff	(Karadağ et al., 2024, 2025; Mao et al., 2024; Zhen et al., 2021)
8	Resource-based view and theory of dynamic capabilities	Digital Accessibility Digital Literacy Entrepreneurial Resilience Human Capital	(Zhen et al., 2021)

Theory (T): Theoretical Evolution and Integration

The theoretical foundations of DROC research reveal a rich yet increasingly convergent landscape. Three dominant frameworks Dynamic Capability Theory (DCT), Resource-Based View (RBV), and Complex Adaptive Systems (CAS) form the conceptual backbone of most studies. DCT, used in roughly 43% of the reviewed works, views resilience as an ongoing process of sensing, seizing, and transforming digital resources to sustain organizational agility amid disruption. RBV, applied in approximately 27% of cases, emphasizes how distinctive digital assets and competencies underpin sustained competitive advantage (Benlian & Pinski, 2025). CAS, on the other hand, expands this view by interpreting resilience as an emergent property of continuous interaction between technological infrastructures, human agency, and institutional dynamics (Awad & Martín-Rojas, 2024). Interestingly, a visible theoretical convergence has emerged in recent years. While earlier studies primarily adopted static, resource-centered interpretations, more recent work integrates behavioral and socio-technical perspectives aligned with the human-centric ethos of Industry 5.0 (Razzak et al., 2025). This gradual transition signifies a conceptual shift from mechanistic to adaptive and reflexive understandings of digital resilience. However, theoretical pluralism has also resulted in conceptual fragmentation. Only a small portion of studies (14%) combined two or more theoretical perspectives, reflecting a missed opportunity for cross-framework dialogue. Moving forward, greater integration between DCT, institutional, and behavioral theories could provide a more nuanced explanation of how digital resilience evolves at multiple organizational levels.

Context (C): Geographical and Sectoral Distribution

The contextual landscape of DROC research remains highly uneven. A majority of studies originate from developed economies—particularly the United States, China, and the United Kingdom—which together account for over 60% of total publications. This dominance indicates a persistent Western-centric orientation. Figure 3 reveals dense research clusters within North America and Europe but sparse linkages with Asia-Pacific, Africa, and Latin America. Consequently, the transferability of insights across global contexts is somewhat limited. Expanding the scope of research to underrepresented regions would provide valuable comparative evidence of how varying institutional environments and digital readiness influence organizational resilience. In terms of industrial focus, 72% of the reviewed works investigate private-sector organizations, especially in manufacturing, information technology, and financial services. Public institutions and nonprofit sectors remain largely overlooked, despite their growing digital transformation agendas. Notably, small and medium-sized enterprises (SMEs) are gaining attention due to their susceptibility to technological disruption and their

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reliance on leadership-driven flexibility rather than formalized digital systems (Schiuma et al., 2024). These contextual imbalances highlight the need for more inclusive, cross-sectoral, and cross-regional analyses that account for distinct governance models, regulatory environments, and digital infrastructures.

Characteristics (C): Conceptual Dimensions and Thematic Clusters

Conceptually, the reviewed studies exhibit diversity in how DROC is defined and operationalized. Three principal construct families dominate: digital capability antecedents, resilience mechanisms, and organizational outcomes. Antecedents such as digital literacy, AI readiness, governance practices, and leadership form the foundation for adaptive capability development (Falloon, 2020; Martínez-Bravo et al., 2022). Resilience mechanisms typically revolve around four core dimensions: anticipation, absorption, recovery, and adaptation (Benlian & Pinski, 2025). However, research still tends to privilege short-term recovery over long-term learning and transformation. Outcome-oriented studies consistently link digital resilience to operational continuity, innovation capacity, and sustainable performance, underlining the role of socio-technical alignment between human capital and technological systems. Thematic co-occurrence mapping (Table 3) highlights four interconnected clusters. The first explores digital transformation and dynamic capability; the second links leadership, organizational culture, and governance; the third emphasizes technological enablers such as AI, IoT, and analytics; and the fourth integrates sustainability and human-centered transformation. Together, these clusters reflect the field's gradual evolution from reactive strategies to proactive, data-driven adaptability. Citation analysis adds further insight: early foundational works (Falloon, 2020; Oberländer et al., 2020) laid the conceptual groundwork, whereas more recent contributions (Benlian & Pinski, 2025; Ghobakhloo et al., 2024) advanced methodological rigor and empirical scope illustrating a steady intellectual maturation within the field. However, the reviewed studies reveal theoretical differences regarding the source of digital resilience. Technology-oriented studies consider digital infrastructure and analytics capability as primary drivers, whereas human-centered perspectives emphasize leadership, employee capability, and organizational learning. This indicates that digital resilience should be understood as a socio-technical capability rather than a purely technological outcome.

Methodology (M): Research Design and Analytical Approaches

Methodological patterns in DROC research demonstrate both progress and persisting limitations. Quantitative approaches dominate (58%), particularly those employing SEM and PLS-SEM for testing relationships between digital capability and resilience outcomes (Ali et al., 2025) Qualitative and mixed-method studies (42%) provide complementary depth, often utilizing case studies, grounded theory, and design-science research to capture complex, context-dependent phenomena (Blanka et al., 2022). Notably, the use of longitudinal and cross-level designs remains limited, revealing a critical gap in understanding how digital resilience evolves over time and across organizational hierarchies. The adoption of bibliometric and network analysis techniques such as co-authorship mapping and keyword co-occurrence has increased in recent years, supported by tools like VOSviewer and Biblioshiny. These quantitative mappings are frequently combined with qualitative coding through NVivo, enabling more nuanced interpretations of emerging themes. Despite such advances, methodological imbalance persists most empirical studies rely on single-industry, cross-sectional surveys, which restrict causal inference and theoretical generalization. Future

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scholarship would benefit from employing longitudinal, multi-source, and mixed method approaches to triangulate findings and strengthen empirical robustness.

Discussion and Future Research Directions

Synthesizing insights across the TCCM dimensions reveals several notable patterns. First, theoretical integration remains incomplete. While DCT continues to dominate, bridging it with institutional, behavioral, and socio-technical perspectives could yield a more holistic understanding of digital resilience. Second, contextual diversity is critically needed to counterbalance the current Western-centric dominance and capture resilience dynamics in underrepresented economies. Third, conceptual precision should be improved by standardizing constructs and developing validated measurement scales that account for the multidimensionality of resilience. Methodologically, advancing longitudinal and multi-level designs will allow researchers to capture the temporal evolution of digital resilience more effectively. In summary, the field of *digital resilient organizational capabilities* appears to be transitioning from conceptual expansion to theoretical consolidation. The application of the TCCM framework provides a systematic lens for interpreting how theory, context, characteristics, and methodology intersect to shape the field's intellectual trajectory. However, sustained progress will depend on deeper theoretical integration, more balanced geographic representation, and richer methodological innovation. Collectively, these improvements will strengthen the academic rigor and practical relevance of future research on digital resilience.

Based on the synthesis of the reviewed studies, this study proposes a Model of Theoretical Mechanism (MOTM) as the main conceptual contribution explaining how digital resilience capabilities are developed. The synthesis indicates that digital resilient organizational capability develops through three interconnected mechanisms:

1. Technology capability → Digital competence → Organizational adaptability
2. Digital leadership → Organizational culture → Resilience capability
3. Human-centered practices → Continuous learning → Sustainable performance

This mechanism integrates RBV, Social Exchange Theory, and Human-Centered Design by explaining that digital resilience is not only generated from technological resources but also from human and organizational interactions.

The first mechanism reflects the Resource-Based View (RBV), where digital capabilities, technological infrastructure, and data-driven resources are considered strategic assets that enable organizations to build adaptive capacity. The second mechanism is associated with Social Exchange Theory, emphasizing that digital resilience is strengthened through leadership support, employee engagement, trust, and organizational culture. The third mechanism aligns with Human-Centered Design by highlighting the importance of employee adaptability, continuous learning, and human involvement in ensuring sustainable digital transformation. Therefore, the proposed MOTM explains that digital resilience emerges from the alignment between technological resources, social relationships, and human-centered organizational processes.

CONCLUSION

This review set out to map the emerging field of digital resilient organizational capabilities (DROC) through the integrative lens of the TCCM framework Theory, Context, Characteristics, and Methodology. Drawing from 50 peer-reviewed studies published between

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2020 and 2025, it reveals a field that has grown remarkably in depth and diversity yet still grapples with conceptual fragmentation and uneven empirical attention.

From a theoretical standpoint, Dynamic Capability Theory (DCT) remains the central pillar explaining how organizations sense, seize, and reconfigure resources amid digital disruption. This dominance is unsurprising given its focus on adaptability and transformation. Yet, notably, the findings also uncover a gradual convergence with other perspectives such as the Resource-Based View (RBV) and Complex Adaptive Systems (CAS), suggesting a more relational and process-oriented understanding of resilience. However, theoretical pluralism is still limited; relatively few studies have attempted to integrate institutional or behavioral theories that could better explain how external pressures and human factors interact in capability formation. Future research would benefit from such theoretical cross-pollination to develop a more holistic account of digital resilience.

Contextually, research remains concentrated in developed economies, particularly in Asia and Europe, leaving large parts of the Global South underexplored. Interestingly, studies in small and medium-sized enterprises and public organizations are beginning to emerge, indicating a widening appreciation that resilience is not the privilege of large corporations alone. Cross-sectoral and cross-regional comparisons could thus uncover unique pathways of capability building shaped by institutional volatility, cultural values, and resource constraints.

Conceptually, literature is shifting from viewing resilience as a reactive mechanism to positioning it as a dynamic, learning-driven capability that fosters innovation and long-term sustainability. The integration of AI, data analytics, and human adaptability points toward a more symbiotic relationship between digital technology and human judgment—a theme deserving deeper empirical exploration.

Methodologically, quantitative approaches still dominate, yet the field is slowly embracing interpretive and mixed designs. Future studies should move beyond static cross-sectional surveys toward longitudinal and multi-method approaches capable of tracing how resilience evolves over time and across contexts.

This study provides theoretical implications by extending the understanding of digital resilient organizational capabilities through the integration of technological, human, and organizational perspectives. The findings indicate that digital resilience is not solely determined by technological resources but also depends on the interaction between digital capabilities, leadership practices, organizational culture, and employee adaptability. This study contributes to existing literature by highlighting that resilience development requires a dynamic mechanism that connects digital resources with human-centered organizational processes.

From a practical perspective, this study suggests that organizations should develop digital resilience by balancing technological investment with human capability development. Organizations need to strengthen digital competencies, promote adaptive leadership, and build organizational cultures that support continuous learning and innovation. The proposed perspective emphasizes that successful digital transformation requires not only the adoption of digital technologies but also the readiness of employees and organizational systems to respond to disruption.

The findings provide policy implications for governments and institutions in designing digital transformation strategies. Policies should focus on improving digital infrastructure, strengthening workforce digital skills, and supporting organizational readiness, particularly for organizations operating in developing economies. Inclusive digital transformation programs are needed to ensure that technological advancement can enhance organizational resilience across different sectors.

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This study has several limitations. First, the review was limited to peer-reviewed articles published between 2020 and 2025 from selected academic databases, namely Scopus, Web of Science, and ScienceDirect. Second, only English-language publications were included, which may limit the representation of research from other regions. Future studies may expand database coverage, include longitudinal research designs, and investigate digital resilient organizational capabilities across different institutional and industry contexts.

Ultimately, this review contributes to a more nuanced understanding of how digital and human systems intertwine to create organizational resilience. By synthesizing theory, evidence, and context, it offers both a reflective summation of where the field stands and a clear roadmap for how it might advance toward a more adaptive, inclusive, and human-centered future.

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