# Revisiting Dynamic Capabilities in the Digital Era: Toward a Framework of Adaptive Strategic Resilience

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**ABSTRACT.** The purpose of this conceptual paper is to revisit and extend the dynamic capabilities theory by integrating it with digital transformation and organisational resilience. Building on Teece's (2007) foundational framework, this study synthesises recent literature (2018–2024) to conceptualise how sensing, seizing, and reconfiguring capabilities evolve within digitally enabled contexts. The analysis reveals that digital transformation accelerates capability renewal and enhances organisational resilience by fostering continuous learning, data-driven foresight, and adaptive reconfiguration. The paper advances the theoretical understanding that resilience is not a separate construct but an emergent outcome of dynamic processes embedded in digital ecosystems. From a managerial perspective, it highlights that digital infrastructures, leadership cognition, and ambidextrous culture are key enablers of adaptive advantage in volatile environments. This integration contributes to the redefinition of dynamic capabilities as predictive and generative mechanisms rather than reactive routines. The study concludes by proposing directions for future empirical validation, including the operationalisation of digital dynamic capabilities and resilience measures across industries.

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## INTRODUCTION

The concept of dynamic capabilities has emerged as a pivotal theoretical framework for understanding how organisations adapt, shape, and renew their resource base to respond to rapidly changing environments (Teece, Pisano, & Shuen, 1997). Although the foundational work of Teece et al. (1997) is now more than two decades old, more recent scholarship has extended this notion significantly, demonstrating that dynamic capabilities (DC) – typically conceptualised as sensing, seizing, and reconfiguring – enable firms to maintain competitive advantage in volatile contexts (Teece, 2007). In the last decade, there has been a proliferation of empirical and conceptual work exploring the micro-foundations of DC and their applicability across industries facing digital disruption and global crises (Abbad & Rowe, 2024; Kähkönen et al., 2023). The evolution of dynamic capabilities scholarship thus constitutes a fertile ground to revisit and refine theory in light of new contextual demands.

In parallel, organisations today face an environment characterised by volatility, uncertainty, complexity and ambiguity (VUCA), increasingly accelerated by technological change, global pandemics, supply-chain disruptions and regulatory upheavals (Lengnick-Hall, Beck, & Lengnick-Hall, 2011; Kump, Engelmann, Kessler, & Schweiger, 2018). In such an environment, simply possessing valuable, rare, inimitable, and non-substitutable (VRIN) resources is no longer sufficient; organisations must develop the ability to reconfigure and redeploy their capabilities dynamically (Li, Tong, Wei, & Yang, 2022). Recent studies confirm that dynamic capabilities are significantly associated with organisational resilience and adaptation under crisis conditions (García-Valenzuela, Jacobo-Hernández, & Flores-López, 2023; Akpan, Johnny, & Sylva, 2022). As such, the intersection of DC theory with resilience theory underscores a key theoretical frontier.

The rise of digital technologies and platform-based business models has added further impetus for revisiting dynamic capabilities theory. Digital transformation (DT) demands new managerial routines, organisational structures, and innovation processes, and recent scholarship posits that DCs are necessary – but not sufficient – for successful digital transformation (Jin, Xu, & Su, 2024; Vial, 2019). In this vein, research has identified digital-specific micro-foundations of DC – such as digital sensing, digital seizing, and digital reconfiguring – which differ from traditional DC routines (Abbad & Rowe, 2024; Understanding Dynamic Capabilities for Digital Transformation, 2023). Hence, the theoretical boundary and operationalisation of DC must be reconsidered in the digital era.

Closely linked to the discussion of DC and DT is the concept of organisational resilience (OR) – defined as the ability of an organisation to anticipate, respond to, adapt and thrive in the face of disruption (Lengnick-Hall et al., 2011; Hillmann, 2021). Resilience has been conceptualised as a capability in its own right, intertwined with DC: resilient organisations actively sense changes, seize opportunities and reconfigure resources, thereby reflecting the same core logic of DC theory (Duchek, 2019). Empirical work has found positive linkages between dynamic capabilities and organisational resilience, particularly in SMEs and crisis-prone industries (García-Valenzuela et al., 2023; Akpan et al., 2022). This convergence suggests that DC theory and resilience thinking are ripe for integration.

Despite the growing attention to both dynamic capabilities and organisational resilience, there remains a notable conceptual gap: many empirical studies examine DC or resilience in isolation, rather than exploring the mechanisms by which DC enable resilience under digital disruption or crises (Hillmann, 2021; Kähkönen et al., 2023). Moreover, while digital transformation is

increasingly studied, the role of DC as enabler of both DT and resilience simultaneously remains underdeveloped (Jin et ., 2024; Abbad & Rowe, 2024). This theoretical lacuna presents an opportunity for a conceptual paper that synthesises these literatures, clarifies constructs, and proposes an integrative framework.

In addition, much of the empirical research on DC and OR comes from mature economies or large firms, leaving less developed economies, SMEs and non-traditional sectors under-explored (Biswakarma & Bohora, 2025; García-Valenzuela et al., 2023). The digital disruption in emerging markets often combines unique institutional, resource, and technological challenges; thus, theory developed in one context may not easily transfer (Shrestha & L'Espoir Decosta, 2023). A conceptual exploration of DC-OR in digital transformation contexts therefore holds relevance for expanding theory across geographies and organisational types.

The need for resilience and adaptability has been rendered more acute by global shocks such as the COVID-19 pandemic, supply chain breakdowns, and energy crises (Kähkönen et al., 2023; Wang & Zhao, 2024). Dynamic capabilities have been shown to help organisations navigate these shocks by enabling rapid sensing of threats and opportunities, reconfiguring resources, and seizing emergent business models (García-Valenzuela et al., 2023; Lengnick-Hall et al., 2011). However, the extant literature often focuses on outcome variables such as performance or survival, and less on the conceptual linkages that explain how DC build resilience in digital contexts. This constitutes a vital theoretical gap.

Further, digital transformation not only represents a technological shift but also a strategic renewal process; organisations must build new strategic capabilities, rethink business models, and embed continuous change routines (Vial, 2019; Abbad & Rowe, 2024). In this renewal process, dynamic capabilities may play a dual role – facilitating digital transformation, and simultaneously fostering organisational resilience – yet existing frameworks seldom treat DC as facilitating both. Therefore, a conceptual elaboration of this dual role is timely.

Given the above, the urgency of developing an integrative theoretical framework that links dynamic capabilities, digital transformation and organisational resilience becomes evident. Such a framework can guide both future empirical research and managerial practice, by clarifying what capabilities matter, how they operate, and under what conditions they enhance resilience and transformation. It can also illuminate boundary conditions and specify the micro-foundations of DC in digital resilience contexts. Without this, scholarship risks fragmentation and managerial practice remains under-theorised.

In sum, this paper proposes to revisit and extend dynamic capabilities theory by situating it in the digital era and linking it with organisational resilience. The goal is to propose a conceptual model that integrates sensing, seizing and reconfiguring in digital settings, identifies how they build organisational resilience, and outlines research propositions and agenda. In doing so, the paper contributes to theory by clarifying construct definitions, delineating mechanisms, and offering future research directions. The ensuing sections review the relevant literature, develop the conceptual model, discuss implications, and conclude with research limitations and directions for future work.

## LITERATURE REVIEW

**Dynamic Capabilities Theory**

Dynamic Capabilities (DC) represent the organisation's ability to purposefully integrate, build and reconfigure internal and external competences to address rapidly changing environments (Teece et al., 1997). The original DC framework evolved as a refinement of the Resource-Based View (RBV), highlighting how firms sustain competitiveness through change rather than through static resources (Peteraf, Di Stefano, & Verona, 2013). In contemporary research, DC is regarded not only as a high-level strategic capability but as a multi-level construct consisting of sensing, seizing and reconfiguring processes that operate through specific organisational routines (Teece, 2007; Shams, Vrontis, & Bresciani, 2021). Recent works extend this logic to dynamic managerial capabilities and learning mechanisms that support continuous innovation (Kump et al., 2018; Pavlou & El Sawy, 2011).

The evolution of DC theory reflects an increasing interest in its micro-foundations. Scholars argue that sensing relates to identifying opportunities and threats through information gathering and interpretation, while seizing involves resource commitment, and reconfiguring focuses on asset realignment (Ambrosini & Bowman, 2009; Bitencourt, Santini, Zanandrea, & Ladeira, 2020). Studies have emphasised the role of leadership cognition, learning and cross-functional collaboration in sustaining these capabilities (Kump et al., 2018; Wilden, Devinney, & Dowling, 2016). Despite wide application across domains such as innovation, supply chain, and sustainability, critics note conceptual ambiguities in operationalising DC, leading to calls for more integrative and context-sensitive theorisation (Barrales-Molina, Martínez-López, & Gázquez-Abad, 2014; Wójcik-Karpacz & Karpacz, 2022).

**Digital Transformation as a Strategic Context**

Digital transformation (DT) constitutes a paradigm shift where organisations leverage digital technologies to fundamentally change business processes, value creation, and stakeholder engagement (Vial, 2019). The phenomenon extends beyond IT adoption to include organisational change, new governance mechanisms, and cultural shifts (Warner & Wäger, 2019; Li et al., 2022). As digitalisation accelerates, the literature suggests that DC provide the necessary organisational flexibility to sense digital opportunities and reconfigure assets for innovation (Raimo, Vitolla, Marrone, & Rubino, 2023; Verhoef et al., 2021). Consequently, firms with strong DC are better equipped to integrate emerging technologies and derive sustained performance advantages (Abbad & Rowe, 2024; Li, Su, & Xu, 2023).

Furthermore, digital transformation alters the very structure of competition and collaboration. The emergence of digital ecosystems requires organisations to co-evolve capabilities with partners, suppliers and customers (Sklyar, Kowalkowski, Tronvoll, & Sörhammar, 2019; Pagani & Pardo, 2017). This relational dimension implies that DC extend beyond firm boundaries, encompassing the orchestration of networks and shared knowledge bases (Kohtamäki, Parida, Patel, & Gebauer, 2020; Del Giudice & Maglio, 2022). Research increasingly views DT as both a driver and outcome of dynamic capability development, forming a recursive loop where digital adoption strengthens DC, and DC accelerates digital transformation (Jin et al., 2024; Vial, 2019).

Nevertheless, while DT research has grown exponentially, scholars caution against treating digitalisation as purely technological. The literature now stresses socio-technical integration, highlighting that organisational culture, leadership, and absorptive capacity determine the success of digital transformation (Susanti et al., 2023; Warner & Wäger, 2019). This reinforces the argument that DC serve as the connective tissue between technology and strategy, enabling adaptive and

sustainable transformation. Hence, understanding DC in digital contexts requires integrating behavioural, structural, and technological perspectives.

**Organisational Resilience**

Organisational Resilience (OR) has evolved from the risk management domain into a strategic capability that allows firms to absorb shocks, learn from adversity, and adapt for long-term survival (Hillmann & Guenther, 2021; Duchek, 2019). Unlike crisis management, which focuses on response, resilience encompasses anticipation, adaptation, and transformation (Lengnick-Hall et al., 2011). Recent empirical evidence suggests that OR positively correlates with innovation, agility and firm performance (Chowdhury, Prayag, Orchiston, & Sisto, 2019; García-Valenzuela et al., 2023). In this sense, resilience represents a dynamic outcome that can be built through routines analogous to DC processes.

Scholars increasingly argue that DC underpin organisational resilience, since sensing capabilities enable early detection of disruption, seizing capabilities foster swift decision-making, and reconfiguring capabilities allow resource realignment (Kähkönen et al., 2023; Akpan et al., 2022). Integrating both literatures offers a promising path to understanding how firms achieve adaptive stability amid constant change (Hillmann, 2021; Duchek, 2019). However, theoretical development remains fragmented: some models treat resilience as an antecedent to DC, while others view it as a consequence or an emergent property (Wójcik-Karpacz & Karpacz, 2022; Biswakarma & Bohora, 2025). This ambiguity underscores the need for a unifying conceptual framework.

**The Integrative Nexus of DC, DT, and OR**

Recent conceptual advances call for linking DC, DT, and OR within a unified theoretical model. The rationale lies in the complementarity of these constructs: dynamic capabilities enable digital transformation, which in turn enhances resilience, while resilience feedback loops sustain long-term dynamic renewal (García-Valenzuela et al., 2023; Vial, 2019). This triadic relationship reflects the notion of adaptive strategic resilience – a firm's ability to dynamically adapt its strategies through digital capabilities while maintaining robustness against uncertainty (Shams et al., 2021; Hillmann, 2021).

Empirical studies indirectly support this connection, showing that digitally mature firms with strong DC exhibit greater resilience during crises such as the COVID-19 pandemic (Kähkönen et al., 2023; Akpan et al., 2022). Yet, conceptual clarity is limited on how exactly sensing, seizing and reconfiguring translate into adaptive resilience. Scholars thus advocate a processual view of capability evolution, where dynamic capabilities continually evolve through digital experimentation, organisational learning and resilience feedback (Kohtamäki et al., 2020; Jin et al., 2024). The present paper builds upon these insights to propose an integrative conceptual framework that bridges these theoretical streams.

## METHODS

This paper adopts a conceptual research design rather than an empirical one. Conceptual research aims to advance theoretical understanding by integrating existing knowledge and developing new frameworks that explain emerging organisational phenomena (Jaakkola, 2020; MacInnis, 2011). Unlike quantitative or qualitative studies that rely on empirical data collection, conceptual research derives insights through systematic synthesis and logical reasoning. In this study, the objective is to extend the dynamic capabilities (DC) framework by incorporating digital transformation (DT)

and organisational resilience (OR) as interrelated constructs. This methodological approach enables the articulation of theoretical linkages, boundary conditions, and future research propositions without relying on field data (Snyder, 2019; Torraco, 2016). By combining theoretical integration and conceptual modelling, this study contributes to the refinement and contextual expansion of DC theory in the digital era.

The methodological process began with a systematic conceptual synthesis of prior literature on DC, DT, and OR. Following established recommendations for conceptual research, relevant sources were identified through a comprehensive review of academic databases such as Scopus, Web of Science, Emerald Insight, and ScienceDirect, focusing on peer-reviewed journal articles published between 2017 and 2025 (Snyder, 2019; Jaakkola, 2020). Selection criteria included theoretical relevance, recency, and conceptual depth rather than sample size or empirical generalisability. This approach allowed the identification of key theoretical gaps, contradictions, and under-explored relationships among the constructs. As conceptual studies depend heavily on analytical coherence and theoretical integration, emphasis was placed on aligning definitions, dimensions, and relationships derived from the most influential and recent literature (Torraco, 2016; Li et al., 2022).

The study employed a theoretical integration method, which involves merging overlapping constructs and identifying synergies among established theories (MacInnis, 2011; Gilson & Goldman, 2021). This process entailed three analytical stages: conceptual decomposition, relational mapping, and model synthesis. First, DC, DT, and OR constructs were decomposed into their theoretical subcomponents (e.g., sensing, seizing, reconfiguring; digital agility; adaptive learning). Second, the relationships among these constructs were mapped to identify patterns of causality, complementarity, and feedback. Finally, a conceptual model was synthesised that proposes adaptive strategic resilience as an integrative outcome of dynamic capabilities within digital contexts. This method aligns with prior conceptual work in strategic management and organisational theory, where analytical abstraction is used to propose new frameworks (Jaakkola, 2020; Gilson & Goldman, 2021).

To ensure theoretical validity, the study adopted criteria for evaluating conceptual research such as coherence, comprehensiveness, and originality (Suddaby, 2010; Gilson & Goldman, 2021). Coherence was maintained through logical consistency across propositions and conceptual linkages. Comprehensiveness was ensured by including diverse disciplinary perspectives, spanning strategic management, information systems, and organisational behaviour. Originality was achieved by proposing new integrative relationships among DC, DT, and OR. Additionally, triangulation of conceptual sources was performed by comparing classical theoretical works (e.g., Teece et al., 1997) with contemporary studies published in top-tier journals between 2017 and 2025 (Hillmann, 2021; Abbad & Rowe, 2024). This validation approach reinforces the theoretical robustness of the proposed framework.

Finally, the output of this methodological process is a conceptual framework that connects dynamic capabilities, digital transformation, and organisational resilience to explain adaptive strategic resilience in the digital era. The framework serves as a basis for generating theoretical propositions and a research agenda for future empirical studies. These propositions aim to guide scholars in operationalising key constructs and examining causal pathways empirically in diverse contexts, such as SMEs, digital platforms, and public organisations (Biswakarma & Bohora, 2025; Kähkönen et al., 2023). Consequently, the methodology supports both theory refinement and practical relevance by translating conceptual insights into testable and actionable propositions.

Thus, this study adheres to the highest standards of conceptual scholarship by producing theoretically grounded, contextually relevant, and logically coherent contributions to strategic management literature.

## RESULT AND DISCUSSION

### RESULT

The synthesis of contemporary literature reveals that dynamic capabilities have increasingly been interpreted as a multidimensional construct that bridges sensing, seizing, and reconfiguring activities within digital transformation contexts (Teece, 2007; Warner & Wäger, 2019). Over the past decade, the theory has evolved from its original focus on competitive advantage toward organisational resilience and digital adaptability (Martelo et al., 2021; Karimi & Walter, 2023). This shift demonstrates that dynamic capabilities are no longer static routines but continuously renewing capacities that shape firms' responses to environmental turbulence.

Recent empirical evidence supports the notion that digital transformation reinforces the microfoundations of dynamic capabilities by enhancing data-driven sensing and agile decision-making (Jonathan & Kuika Watat, 2020; Li et al., 2021). Firms equipped with advanced analytics and artificial intelligence (AI) tools have demonstrated superior capability to detect weak market signals and reconfigure resources faster than competitors (Raimo et al., 2023). Consequently, digital technologies act as an enabler rather than a substitute for human judgment in capability development.

Furthermore, findings indicate that the interplay between digitalisation and organisational learning fosters higher resilience and adaptability (Mikalef et al., 2022; Kraus et al., 2021). Continuous learning mechanisms and digital experimentation improve absorptive capacity, enabling firms to integrate new knowledge into existing routines effectively. Such integration enhances not only operational efficiency but also long-term strategic flexibility, particularly during crises such as the COVID-19 pandemic.

The literature also reveals a growing consensus that dynamic capabilities mediate the relationship between digital transformation and organisational performance (Ferreira et al., 2021; Wamba et al., 2023). This mediating role clarifies how investments in digital technologies yield sustainable competitive advantage through capability reconfiguration. Therefore, resilience emerges as a natural outcome of well-developed dynamic capabilities that are digitally augmented.

Table 1. Integration of Dynamic Capabilities, Digital Transformation, and Organisational Resilience

| Dimension | Dynamic Capabilities Perspective | Digital Transformation Contribution | Organisational Resilience Outcome |
|---|---|---|---|
| **Sensing** | Market scanning and foresight | Big data analytics, AI-driven insight | Early detection of disruption |
| **Seizing** | Resource mobilisation and decision-making | Platform-based business models | Strategic responsiveness |
| **Reconfiguring** | Continuous renewal of assets | Cloud integration and digital agility | Rapid recovery and adaptation |

Source: Developed by the authors based on Teece (2007), Warner & Wäger (2019), and Mikalef et al. (2022).

The table above conceptualises the alignment between dynamic capabilities dimensions, digital transformation enablers, and resilience outcomes. This synthesis indicates that resilience is not a separate construct but an emergent property of dynamic processes embedded in digital contexts (Santoro et al., 2023; Chen et al., 2022). Thus, the integration between these domains creates a coherent theoretical model that extends the traditional dynamic capabilities framework.

Cross-sectoral comparisons highlight that firms in manufacturing, services, and technology sectors adopt distinct digital pathways to reinforce dynamic capabilities (Raimo et al., 2023; Barreto et al., 2020). For instance, manufacturing firms emphasise process automation, while service-based organisations prioritise digital customer engagement. These strategic differences underline the contextual nature of capability evolution.

In terms of organisational resilience, dynamic capabilities contribute to both anticipatory and adaptive resilience (Linnenluecke, 2017; Lengnick-Hall et al., 2020). Anticipatory resilience refers to proactive risk sensing and scenario planning, while adaptive resilience denotes reactive flexibility under uncertainty. Both forms rely heavily on continuous reconfiguration processes supported by digital infrastructures.

The findings also suggest that firms with high digital maturity display stronger sensing and reconfiguring capabilities, allowing them to adjust strategies swiftly in response to market turbulence (Kraus et al., 2021; Prasad et al., 2023). Conversely, firms lagging in digital capability often face rigidity, delayed responses, and strategic inertia during disruptions.

Another emerging insight is the human dimension of dynamic capabilities. Leadership cognition, digital mindset, and collaborative culture significantly influence the speed and quality of capability reconfiguration (Mikalef et al., 2023; Li et al., 2022). Digital technologies act as tools, but human interpretation determines their strategic utilisation, reinforcing the socio-technical nature of dynamic capabilities.

Empirical syntheses further confirm that resilience outcomes are amplified when dynamic capabilities are institutionalised across organisational levels (Raimo et al., 2023; Guo et al., 2021). This institutionalisation ensures alignment between top-management vision, middle-management coordination, and operational execution, forming a layered adaptive system that sustains performance during crises.

The results emphasise that the post-crisis environment has accelerated theoretical integration between dynamic capabilities and resilience (Chen et al., 2022; Giustiniano et al., 2023). The digital era demands continuous transformation, pushing firms to convert crisis response mechanisms into learning opportunities. This dynamic aligns with evolutionary economics, where capability renewal is a perpetual cycle.

The conceptual synthesis suggests that digital transformation does not merely digitise operations but redefines the essence of dynamic capabilities themselves (Warner & Wäger, 2019; Mikalef et al., 2022). The focus shifts from static resource orchestration to continuous digital learning and renewal. Hence, the dynamic capabilities framework evolves from being reactive to predictive and generative.

Finally, this review underscores the theoretical contribution of integrating digital transformation and resilience into dynamic capabilities theory. Such integration not only modernises the theory but also offers practical insights for managers navigating volatility, uncertainty, complexity, and ambiguity (VUCA) environments (Ferreira et al., 2021; Santoro et al., 2023). Therefore, this conceptual evolution sets the stage for a comprehensive discussion in the subsequent section.

## DISCUSSION

The findings reaffirm that dynamic capabilities are central to explaining how organisations survive and thrive under digital disruption. Historically, Teece (2007) proposed that sensing, seizing, and reconfiguring are the core routines that enable sustained competitive advantage. The integration of digital transformation and resilience literature, however, indicates that these routines now operate within an accelerated feedback loop driven by data analytics and algorithmic intelligence (Warner & Wäger, 2019; Mikalef et al., 2022). This evolution suggests that dynamic capabilities are no longer episodic responses but continuous, technology-enhanced processes.

Digital transformation enhances the speed and precision of sensing activities by leveraging real-time data from multiple touchpoints (Jonathan & Kuika Watat, 2020; Li et al., 2021). In contrast to the traditional emphasis on managerial intuition, digital tools provide firms with evidence-based foresight that improves strategic agility. The combination of predictive analytics and machine learning empowers firms to anticipate disruptions, thus strengthening the anticipatory component of resilience (Kraus et al., 2021). Hence, sensing becomes both digitalised and decentralised.

Seizing capabilities, according to recent scholarship, benefit most from digital platformisation. Platforms create ecosystems that facilitate collaborative innovation and resource reallocation (Ferreira et al., 2021; Wamba et al., 2023). Through digital platforms, firms gain the ability to co-create value with partners and customers, enabling a collective response to environmental shocks. This transition from firm-centric to network-centric seizing marks a structural shift in how opportunities are pursued and captured in volatile markets.

Reconfiguring, the most critical yet complex capability, now involves digital dexterity and cloud-enabled flexibility (Santoro et al., 2023; Chen et al., 2022). Firms with advanced IT infrastructures can redeploy resources swiftly, manage virtual operations, and restructure business models in real time. This finding aligns with the growing understanding that digital infrastructures constitute the foundation for organisational resilience (Raimo et al., 2023). Thus, technology acts as both a catalyst and a container for organisational adaptation.

The integration of resilience theory into dynamic capabilities reflects a paradigm shift from performance optimisation to survival sustainability (Linnenluecke, 2017; Lengnick-Hall et al., 2020). Resilience is not simply the ability to bounce back but to bounce forward—transforming crises into opportunities for renewal. Dynamic capabilities, when intertwined with digital transformation, provide the mechanisms for such renewal by embedding learning and flexibility into organisational DNA.

Leadership and culture emerge as critical enablers of this integration. Studies indicate that digital leadership mindset and psychological safety are prerequisites for the effective deployment of dynamic capabilities (Mikalef et al., 2023; Li et al., 2022). Leaders who foster experimentation and tolerate failure cultivate organisational conditions that promote rapid learning. This human-centric dimension ensures that digital tools are aligned with collective sensemaking and adaptive behaviour.

The discussion also highlights that dynamic capabilities manifest differently across sectors. In manufacturing, digital transformation strengthens operational sensing and process automation, while in services, it enhances customer-centric agility (Barreto et al., 2020; Kraus et al., 2021). These differences suggest that the microfoundations of capabilities are industry-contingent. Therefore,

any unified model of digital dynamic capabilities must remain context-sensitive and empirically adaptive.

A significant theoretical contribution of this paper lies in positioning resilience as an emergent outcome of dynamic capabilities rather than an independent construct. This perspective is consistent with systems thinking, where resilience is seen as a systemic property arising from the interaction of sensing, seizing, and reconfiguring routines (Giustiniano et al., 2023; Chen et al., 2022). In this sense, resilience represents the higher-order effect of capability orchestration in digital contexts.

The post-crisis era has intensified the need for organisations to develop predictive rather than reactive dynamic capabilities (Mikalef et al., 2022; Kraus et al., 2021). Predictive capabilities rely on digital foresight and scenario-based analytics that enable firms to simulate potential disruptions. Consequently, firms that invest in AI, big data, and digital ecosystems gain a temporal advantage, converting uncertainty into strategic opportunity (Raimo et al., 2023).

Another theoretical advancement concerns the temporal dynamics of capability evolution. Earlier studies viewed dynamic capabilities as path-dependent, evolving through cumulative learning (Teece, 2007). However, current evidence suggests that digital transformation introduces non-linear capability renewal, where feedback cycles are accelerated through automation and digital learning loops (Wamba et al., 2023; Ferreira et al., 2021). Thus, digitalisation modifies the evolutionary logic of capability development.

From a practical standpoint, the findings imply that resilience should be deliberately engineered into organisational systems rather than treated as an accidental by-product (Kraus et al., 2021; Prasad et al., 2023). Firms must institutionalise digital routines, cross-functional collaboration, and knowledge-sharing platforms to ensure collective learning. This approach transforms resilience from a reactive stance to an operational competency that can be measured, trained, and improved.

The synthesis of digital transformation and dynamic capabilities also challenges traditional notions of firm boundaries. Platform ecosystems blur organisational limits, creating hybrid forms of governance where resilience extends across supply chains (Raimo et al., 2023; Santoro et al., 2023). Such interorganisational resilience emphasises shared sensing and joint reconfiguration, illustrating that survival in a networked economy is a collective, not individual, endeavour.

Another important implication is the emergence of what can be termed "digital ambidexterity." Firms must balance digital exploitation—maximising current technologies—with digital exploration—experimenting with emerging tools (Mikalef et al., 2023; Ferreira et al., 2021). This dual orientation ensures that dynamic capabilities remain forward-looking while maintaining operational stability, thereby reinforcing resilience in turbulent environments.

From a theoretical integration perspective, this study proposes that digital transformation functions as a moderator that amplifies the effect of dynamic capabilities on resilience. When firms possess high levels of digital maturity, the relationship between sensing, seizing, and reconfiguring becomes more synergistic (Chen et al., 2022; Santoro et al., 2023). This proposition advances the dynamic capabilities framework into the digital-resilience paradigm.

The interplay between digitalisation and human cognition also warrants further reflection. Cognitive dynamic capabilities—defined as the ability of managers to interpret digital signals and translate them into strategic action—represent the bridge between data and decision (Li et al., 2022; Mikalef et al., 2023). As AI becomes more pervasive, human interpretive capacity remains crucial in guiding algorithmic insights toward strategic renewal.

In terms of theoretical maturity, the integration discussed herein strengthens the explanatory power of dynamic capabilities by situating it within digital ecosystems and resilience logic (Warner & Wäger, 2019; Giustiniano et al., 2023). This expansion ensures that the theory remains relevant in contexts characterised by volatility, uncertainty, complexity, and ambiguity (VUCA). The framework thus evolves into a holistic paradigm for adaptive advantage.

Finally, the conceptual model derived from this discussion provides a blueprint for future empirical validation. Researchers may operationalise the constructs of digital dynamic capabilities, measure resilience outcomes, and test causal pathways across industries. Such empirical grounding will bridge the gap between conceptual sophistication and practical application (Mikalef et al., 2022; Wamba et al., 2023).

## CONCLUSION

The present conceptual study concludes that the evolution of dynamic capabilities theory has reached a new intellectual frontier through its integration with digital transformation and organisational resilience. The original framework proposed by Teece (2007) remains foundational, yet it requires adaptation to the realities of digital ecosystems and crisis-driven volatility. The synthesis of recent literature demonstrates that dynamic capabilities now operate through continuous, technology-enabled processes of sensing, seizing, and reconfiguring. These mechanisms allow firms not only to sustain competitive advantage but to regenerate it dynamically under uncertainty.

From a theoretical standpoint, this study extends the dynamic capabilities paradigm by embedding it within the logic of digital resilience. The integration redefines resilience as an emergent property of adaptive routines rather than an external construct. By conceptualising resilience as an outcome of digitally enhanced capabilities, the paper enriches both theories, contributing to a holistic understanding of strategic adaptation. This advancement supports the notion that digitalisation transforms capabilities from being reactive to predictive, thereby shaping a proactive organisational posture.

Practically, the model proposed herein implies that firms should design dynamic capabilities intentionally through digital infrastructures, leadership cognition, and cultural agility. Resilience should be cultivated as a deliberate organisational competency, achieved through digital ambidexterity and cross-functional collaboration. Managers are urged to view technology as a capability amplifier, not merely a set of operational tools. Hence, strategic renewal becomes a continuous process anchored in digital learning and collective intelligence.

The study also recognises several limitations. As a conceptual paper, it synthesises existing theoretical developments without empirical testing. Future research should operationalise constructs such as digital dynamic capabilities, cognitive capability, and systemic resilience using cross-sectoral comparative analysis. Longitudinal designs could further reveal how capability evolution unfolds over time and across digital maturity levels.

For future inquiry, scholars may explore how artificial intelligence, big data governance, and digital ecosystems influence the next phase of dynamic capabilities evolution. Integrating behavioural and cognitive theories may also yield deeper insights into how human interpretation mediates technological change. Ultimately, the integration of digital transformation and resilience provides a fertile avenue for reimagining strategic management in the age of perpetual disruption.

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