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Organizing for the Unexpected: Environmental Dynamism, Strategic Capabilities, and the Path to Resilience

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ABSTRACT

As technologies evolve at an unprecedented pace presenting the turbulent and unpredictable environments, organizations face mounting challenges in maintaining adaptability, strategic clarity, and resilience. This study investigates how firms can build organizational resilience (OR) in response to Environmental Dynamism (ED) by cultivating three key dynamic capabilities: Ambidexterity (AD), Agility (AG), and Resource Orchestration Capability (ROC). Drawing on the dynamic capabilities view and resource orchestration theory, we develop and empirically test a conceptual model using survey data from 311 managers across a range of industries in India. Using Partial Least Squares Structural Equation Modeling (PLS-SEM), our findings reveal that ambidexterity enhances agility, which in turn drives effective resource orchestration and strengthens organizational resilience. Moreover, resource orchestration emerges as a crucial link that transforms agility into resilience. The study also finds that the influence of ambidexterity on agility becomes more pronounced under higher levels of environmental turbulence, highlighting the importance of contextual responsiveness. By integrating theoretical perspectives and empirical insights, this research contributes to a deeper understanding of how organizations can proactively navigate uncertainty. The findings hold practical relevance for managers and policymakers aiming to foster resilient, future-ready organizations in an increasingly volatile and uncertain environment.

KEYWORDS

Organizational Resilience, Agility, Ambidexterity, Resource Orchestration Capability, Technological Turbulence, Environmental Dynamism

1. Introduction

In today's fast-evolving and volatile business environment, organizations face mounting pressures to adapt, innovate, and stay resilient amidst continuous technological disruption, global competition, and unpredictable market shifts (Teece, Peteraf, & Leih, 2016). The digital era, in particular, has introduced an unprecedented pace of change, fundamentally transforming industries such as technology, healthcare, and retail (Bharadwaj et al., 2013). Innovations in artificial intelligence, automation, and data analytics are reshaping market structures and having a cascading impact on consumer behavior, preferences, and expectations, while external shocks like pandemics, economic crises, and geopolitical tensions further complicate the competitive landscape (Chen, Preston, & Swink, 2015; Reeves et al., 2020). To survive and thrive in such an environment, organizations must cultivate a robust set of dynamic capabilities—such as resource orchestration, ambidexterity, agility, and resilience—that allow them to respond proactively to turbulence and seize new opportunities for growth (Teece, 2007; O'Reilly & Tushman, 2013). One illustrative example is Apple Inc., which exemplifies dynamic capability development. Apple's success lies not just in its superior technological resources but also in its ability to orchestrate these resources efficiently. By integrating hardware, software, and services through its ecosystem (e.g., the iPhone, App Store, and Apple Pay), Apple leverages resource orchestration to create value and sustain innovation (Simon, Hitt, & Ireland, 2007). Additionally, Apple demonstrates organizational ambidexterity by maintaining a strong focus on both exploration (e.g., developing new products like augmented reality devices) and exploitation (e.g., refining existing product lines such as the iPhone) (O'Reilly & Tushman, 2004). The company's agility is evident in its rapid adaptation to market changes, such as shifting its focus toward services revenue in response to slowing hardware sales (Teece et al., 2016). Similarly, Netflix is another organization that showcases dynamic capabilities. Initially a DVD rental service, Netflix sensed emerging trends in digital streaming and rapidly seized the opportunity to transform its business model (Wade & Hulland, 2004). Through resource orchestration, the company reallocated investments toward content creation and technology infrastructure (Simon et al., 2011). It balanced exploration and exploitation by continuously innovating with new content formats (e.g., interactive series) while optimizing its streaming algorithms to enhance the user experience (Li, 2020). Netflix's agility allowed it to maintain market leadership in the face of competition from newer entrants like Disney+ and Amazon Prime Video. Furthermore, its resilience was demonstrated during the COVID-19 pandemic, when it quickly adjusted production schedules and content distribution to meet heightened consumer demand (Gong, Greenwood, & Han, 2022). In contrast, organizations that lacked dynamic capabilities struggled to survive. For instance, traditional retailers such as J.C. Penney and Sears were slow to adapt to the e-commerce revolution led by Amazon. These companies failed to orchestrate resources to develop digital platforms and streamline supply chains, resulting in declining market relevance (Svahn, Mathiassen, & Lindgren, 2017). Their inability to demonstrate agility and

resilience ultimately led to financial distress and bankruptcy. These contrasting examples underline the importance of developing an integrated set of dynamic capabilities that reinforce one another (Teece, 2014).

One of the most significant sources of disruption today is volatile markets, socio-economic uncertainties, and technological disruptions together, known as Environmental Dynamism (ENVD) (Miller, 1987). It refers to the rapid and unpredictable changes driven by the integration of technologies, which not only alter operational processes but also reshape how consumers interact with brands and make purchasing decisions. In this dynamic context, firms must re-evaluate traditional strategic approaches, as past models often fail to account for the speed and complexity of technological disruption. Organizations must therefore develop capabilities that allow them to sense emerging trends, align with consumer expectations, and adapt internal structures accordingly. A theoretical lens that offers insight into such adaptive behavior is the contingency perspective, which posits that organizational performance is dependent on the alignment or "fit" between internal strategies and external conditions (Ginsberg & Venkatraman, 1985). In rapidly changing environments, this alignment requires firms to tailor strategies to market volatility and technological innovation. An essential dynamic capability in this regard is Ambidexterity (AD), which involves simultaneously exploring new technological innovations while exploiting existing capabilities (Tushman & O'Reilly, 1996; He & Wong, 2004). Ambidextrous firms are better equipped to remain both innovative and operationally efficient. For example, a retail company might explore artificial intelligence based product recommendations while improving supply chain optimization using data analytics. This balance is essential for navigating uncertainty without compromising current performance.

However, Ambidexterity alone is not sufficient for long-term success. Organizations should also exhibit agile characteristics to quickly sense the turbulence and changes in the economic landscape. Agility (AG) - an organization's ability to sense and respond rapidly to digital opportunities and threats (Salmela et al., 2022). It enables real-time adaptation of strategies, processes, and offerings to consumer needs, allowing for timely, relevant, and effective engagement across different markets. Organizations must also develop Supporting both agility and ambidexterity is the capability of resource orchestration (ROC) - the process of structuring, bundling, and leveraging organizational resources to align with strategic goals (Sirmon et al., 2007; Sirmon et al., 2011). In the technological turbulent environment, this includes integrating IT platforms, consumer data systems, and digital talent to create seamless and personalized consumer experiences. Effective resource orchestration acts as a multiplier, amplifying the effects of AD and AG and converting them into competitive advantage. Together, these capabilities contribute to Organizational Resilience (OR) - a firm's ability to absorb unanticipated shocks, adapt to new conditions, and maintain performance amidst disruption. Although the concept of organizational resilience has been widely studied, its sub-dimensions remains underexplored, particularly in consumer-facing industries. In a world increasingly defined by technological ecosystems, cultivating OR is vital for sustaining relevance, trust, and competitive advantage. For example, firms that can restore services quickly after a cyber-attacks, adapt product recommendations to changing consumer trends, or introduce new engagement channels during crises are more likely to retain customers and drive loyalty. In this sense, organizational resilience becomes a core driver of sustainable consumer relationships.

This study builds upon the dynamic capabilities framework (Teece, 2007), which emphasizes the ability of firms to adapt resource configurations in response to changing environments. It also draws on resource orchestration capability theory (Sirmon et al., 2007, 2011) and organizational ambidexterity theory (O'Reilly & Tushman, 2013), offering a unified conceptual model that links ENVD, AD, AG, and ROC to OR. The model highlights how these capabilities are interdependent and collectively contribute to organizational flexibility and adaptability, leading to sustained competitive advantage. To summarize, this study positions ENVD as a catalyst for organizational change and consumer behavior evolution. It argues that to remain relevant and competitive, firms must cultivate organizational agility, balance innovation with operational discipline through organizational ambidexterity, and coordinate their available resources strategically. These capabilities, when integrated, give rise to organizational resilience—an essential and must have attribute in today's volatile, uncertain, complex, and ambiguous (VUCA) business environment (Johansen, 2013). Accordingly, this paper seeks to address the following questions: (1) To what extent does environmental dynamism influence agility? (2) How does this influence impact the building of organizational resilience? (3) In what manner does turbulence moderate the relationship between ambidexterity and agility? (4) By what factors does agility lead to resource orchestration capability in building organizational resilience? To address the above ontological queries, this paper delves on to the following research questions.

RQ1: What is the association between ambidexterity and agility?.

RQ2: How do agility and resource orchestration capabilities associated with organizational resilience?.

This article offers significant contributions to both theory and practice. Theoretically, it extends the literature on resilience by integrating insights from strategic management, information systems, and consumer behavior. It also bridges gaps in existing research by examining how firms can orchestrate different resources to deliver meaningful consumer experiences in volatile conditions. From a practical perspective, the study provides actionable insights for business leaders and policymakers. It suggests that firms should invest not only in technology up-gradation but also in developing organizational cultures that support agility, experimentation, and coordinated resource use. Moreover, it emphasizes the need for continuous learning and adaptation, particularly in consumer-facing functions such as marketing, service delivery, and customer experience management. In addressing these themes, this study draws on empirical data collected from diverse industry sectors. This cross-sectorial approach allows for broader generalization and offers insights that are relevant to a wide range of firms, from technology start-ups to established manufacturing giants. By examining how different types of organizations respond to ENVD and build organizational resilience, the research identifies best practices and common pitfalls, informing both academic debates and practical strategies.

The findings of this paper are particularly salient for marketing professionals and consumer behavior scholars and society at large. As consumer

journeys become increasingly digital, understanding how firms can adapt their capabilities to meet changing expectations is vital. Agile firms are better equipped to deliver personalized experiences, respond to feedback in real time, and foster lasting relationships. At the same time, ambidextrous organizations are more likely to innovate in ways that resonate with consumers while maintaining operational excellence. Resource orchestration further ensures that these capabilities are deployed effectively, enabling firms to act strategically rather than reactively. Furthermore, this research contributes to policy discussions around environmental dynamism and organizational preparedness. In an age where technological disruption can undermine entire industries, fostering resilience is a matter of public and economic interest. Policymakers can use insights from this study to support programs that build dynamic capabilities in small and medium-sized enterprises (SMEs), promote workforce up-skilling, and encourage innovation ecosystems that enhance national and regional resilience.

The structure of this paper is organized as follows: Introduction is followed by reviews of existing literature on ENVD, AG, AD, ROC, and OR. Next section outlines the research methodology, including data collection and analytical procedures followed by the result section presents the empirical findings. Next section discusses theoretical, practical, and policy implications. Finally, the article concludes with reflections on limitations and future research directions.

2. Literature Review and Theoretical Underpinning

2.1 Theoretical Background

The theoretical framework for this study is primarily based on the theory of dynamic capability and the theory of resource orchestration capability.

Dynamic Capability View

The Dynamic Capabilities View (DCV) has emerged as a prominent theoretical framework within strategic management for explaining how firms navigate and adapt to rapidly changing technological and market environments (Teece et al., 1997; Eisenhardt & Martin, 2000). According to DCV, organizations must continuously develop, integrate, and reconfigure internal competencies to sustain competitive advantage in turbulent conditions (Teece, 2007). Central to this perspective are higher-order dynamic capabilities—sensing, seizing, and reconfiguring—which enable firms to detect environmental changes, capitalize on emerging opportunities, and reconfigure resources accordingly to respond effectively to disruption and change (Teece, 2007, 2018).

The relevance of DCV has been well-documented in the context of organizational resilience, where its principles align with the need to adapt swiftly and recover from adverse events (O'Reilly & Tushman, 2013; Bag et al., 2019; Irfan et al., 2022; Ali et al., 2022). Dynamic capabilities influence both the speed and degree of an organization's response to uncertainty, suggesting a strong theoretical linkage between DCV and resilience-building (Teece et al., 2016). Furthermore, scholars have applied DCV to investigate related constructs such as organizational agility, ambidexterity, and resource orchestration (O'Reilly & Tushman, 2008; Warner & Wäger, 2019; Russell, 2015; Blome et al., 2013b; Gligor et al., 2015), reinforcing its applicability to a broad range of strategic challenges.

In alignment with this perspective, the present study employs DCV as a theoretical foundation to explore the interrelationships between ambidexterity, agility, organizational resilience, and resource orchestration capability. Specifically, it is theorized that agility positively influences resilience, with resource orchestration serving as a mediating mechanism. These capabilities collectively enhance organizational resilience and provide a foundation for sustained competitive advantage in dynamic contexts (Teece, 2007, 2018; Teece et al., 2016; Bahrani & Shokouhyar, 2021; Dovbischuk, 2022; Kähkönen et al., 2023; Yu et al., 2019).

Resource Orchestration Capability

Resource Orchestration Theory (ROT), developed as an extension of Resource-Based Theory (RBT), provides a more nuanced understanding of how firms create value through strategic management of their internal resources (Simon et al., 2011). One of the key criticisms of RBT is its limited focus on the managerial role in converting resources into organizational capabilities that deliver consumer value (Hitt, 2011; Simon et al., 2011). ROT addresses this gap by highlighting how managers structure, bundle, and leverage resources not only to enhance firm performance but also to better meet changing consumer needs and expectations, thereby contributing to long-term competitiveness and brand resilience.

In alignment with Kristoffersen et al. (2021), this study adopts the firm as the unit of analysis, emphasizing how consumer-facing capabilities—such as responsiveness, customization, and experiential delivery—can be developed through effective resource orchestration. Within the consumer research context, ROT's three processes are essential for transforming firm resources (e.g., frontline employees, digital platforms, service systems) into market-oriented capabilities such as consumer alertness and agile adaptation. These capabilities allow firms to anticipate and respond to shifts in consumer behavior during market disruptions. As noted by Ambulkar et al. (2015), the mere possession of resources is inadequate for achieving consumer-centric resilience. Thus, this study proposes that resource orchestration capability fully mediates the relationship between agility and organizational resilience, enabling firms to sustain consumer trust and loyalty in dynamic market environments.

2.2 Environmental Dynamism and Organisational Resilience

In today's intensely competitive and technologically dynamic environment, organizational resilience to environmental dynamism (ENVD) comprising

of technological disruptions has become a critical strategic imperative. According to the contingency theory of organizational strategy, firms must align their internal capabilities and strategic responses with prevailing external conditions to remain effective and competitive (Donaldson, 2001; Lawrence & Lorsch, 1967). In this context, the emergence of ENVD - characterized by rapid, unpredictable, and often disruptive technological changes - has become a focal point in understanding the complex and volatile digital ecosystem (Sambamurthy, Bharadwaj, & Grover, 2003; Li et al., 2018). ENVD exerts significant pressure on firms by continuously altering competitive dynamics, consumer expectations, and operational paradigms.

To sustain performance under such conditions, organizations increasingly depend on technologies, data analytics, and automation tools to enhance decision-making, innovate service delivery, and achieve operational excellence (Bharadwaj et al., 2013; Kane et al., 2015). However, the chaotic nature of technological turbulence may also provoke organizational anxiety and diminish strategic clarity, potentially impairing performance (Li et al., 2022). As a result, building resilience has become essential for navigating environmental volatility and uncertainty. Organizational Resilience (OR) refers to an organization's capacity to anticipate, absorb, and adapt to disruptions while maintaining core functions and competitive positioning (Lengnick-Hall, Beck, & Lengnick-Hall, 2011; Gregory et al., 2020). Achieving such resilience necessitates the continuous refinement of operational capabilities, optimization of production systems, enhancement of organizational agility, and the strategic orchestration of resources to ensure alignment with dynamic technological trajectories.

2.3 Ambidexterity (AD)

Organizational ambidexterity has gained significant attention in the literature as a critical capability that enables firms to adapt and thrive in volatile and rapidly evolving environments (March, 1991; Tushman & O'Reilly, 1996). Defined as the ability to simultaneously pursue both exploratory and exploitative strategies, ambidexterity allows organizations to innovate while efficiently leveraging existing resources and competencies (Rialti et al., 2018). Within the domain of information technology and information systems (IT/IS), exploration refers to the pursuit of novel digital technologies and solutions, while exploitation involves the refinement and efficient utilization of current technological infrastructures to meet ongoing business needs (Teubner & Stockinger, 2020). This dual capability is particularly relevant in the digital era, where firms must continuously sense and respond to changing consumer preferences and technological advancements. Ambidexterity thus entails a dynamic balance between the optimization of established technology tools and the proactive experimentation with emerging technologies, fostering both operational efficiency and consumer-centric innovation (Dixon et al., 2017; Salmela et al., 2022). From a consumer research perspective, this capability enhances firms' responsiveness to shifting market demands, thereby improving customer satisfaction and long-term competitiveness (Verhoef et al., 2021; Bharadwaj et al., 2013).

2.4 Environmental Dynamism (ENVD)

The accelerating pace of technological advancement is fundamentally reshaping the competitive landscape, compelling organizations to continuously adapt in order to sustain their market relevance (Evans, 2017). These frequent and unpredictable technological disruptions contribute to a broader phenomenon known as environmental dynamism, which encompasses dynamic and uncertain changes in external conditions—such as evolving customer preferences, the emergence of novel technologies, and heightened competitive pressures (Dale Stoel & Muhanna, 2009). Although such external forces remain largely beyond an organization's direct control, strategic foresight and adaptive planning can mitigate their impact and enable firms to respond more effectively (Arici & Gok, 2023). Within this context, environmental dynamism is commonly divided into two dimensions: market turbulence and technological turbulence (Jaworski & Kohli, 1993;). Technological turbulence, in particular, is defined as the rate and unpredictability of technological change within an industry, and has become increasingly salient in the digital era (Jaworski & Kohli, 1993). The current wave of technological turbulence is characterized by rapid innovation cycles, declining costs of technology adoption, evolving functionalities, and the emergence of disruptive digital platforms—each of which significantly alters consumer behavior and expectations (Day & Schoemaker, 2019). Understanding and navigating such turbulence is therefore essential for organizations aiming to foster consumer-centric innovation, sustain agility, and build long-term competitive advantage in an increasingly volatile digital environment.

2.5 Agility (AG)

Agility has emerged as a critical dynamic capability that enables organizations to detect shifts in their external environment and respond swiftly, strategically, and cost-effectively (Seo & La Paz, 2008; Sambamurthy et al., 2003). In volatile and uncertain contexts, agility supports organizational resilience by allowing firms to continuously reconfigure capabilities, align resources, and adapt business processes to evolving conditions (Yusuf et al., 1999). Conceptually, agility comprises two interrelated components: sensing and responding (Pavlou & El Sawy, 2011; Roberts & Grover, 2012). Sensing involves identifying and interpreting weak signals from the environment, assessing their implications, and anticipating change, while responding entails timely decision-making, resource mobilization, and execution of innovative actions (Seo & La Paz, 2008). This dual capability enhances an organization's ability to capitalize on emerging opportunities and mitigate external threats, especially in disruptive and turbulent environments.

Building on this foundation, scholars in management have reconceptualised agility as a dynamic capability—referred to as organizational agility—which emphasizes the strategic use of technologies and resources to enhance sensing and responding capabilities (Salmela et al., 2022). Agility is increasingly viewed as essential in today's hyper-connected markets, where consumer expectations and technological advancements evolve

rapidly. Effective agility requires not only leveraging digital platforms and data infrastructure but also fostering a digital mindset and culture across all levels of the organization (Duvivier & Gupta, 2023). Furthermore, IT infrastructure plays a foundational role by facilitating market sensing, enabling knowledge creation, and supporting real-time decision-making essential for innovation and competitive responsiveness (Roberts & Grover, 2012). As such, agility has become a strategic imperative for organizations striving to maintain relevance and achieve customer-centric innovation in fast-changing environments.

2.6 Resource Orchestration Capability (ROC)

The dynamic capabilities framework builds upon the resource-based view (RBV), which posits that firms achieve sustained competitive advantage by possessing resources that are valuable, rare, inimitable, and non-substitutable (Barney, 1991). However, the mere possession of such strategic resources is insufficient; effective management and deployment of these resources are essential to realizing their full potential. Resource orchestration theory (ROT), as an extension of RBV, emphasizes that firms must deliberately structure, bundle, and leverage their resources to align with strategic objectives and achieve superior performance (Simon et al., 2007; Pan et al., 2020). Structuring involves the acquisition, accumulation, and divestment of resources to build an optimal resource portfolio. Bundling refers to the integration and refinement of these resources to enhance or develop new capabilities. Leveraging focuses on the strategic deployment of capabilities to exploit market opportunities and create value (Simon et al., 2007).

These orchestration actions can be further analyzed along three dimensions: the scope of resource application across functional domains (breadth), the levels of managerial involvement across the organizational hierarchy (depth), and the timing of resource orchestration based on the firm's developmental stage (life cycle) (Simon et al., 2011). In the context of digital transformation and business environment, this framework gives rise to the deeper concept of resource orchestration, which addresses how firms structure, integrate, and deploy different resources to foster innovation, create consumer value, and build resilience (Zhou et al., 2024). Specifically, technological structuring entails the acquisition or internal development of high-value digital assets, while simultaneously phasing out obsolete technologies. Bundling involves integrating these assets to extend current capabilities or pioneer entirely new ones. Leveraging focuses on the mobilization and coordination of resources and capabilities to respond to market dynamics, enable real-time consumer insights, and capitalize on emerging opportunities (Kristoffersen et al., 2021; Simon et al., 2007). Thus, resource orchestration serves as a critical enabler of strategic agility and consumer-centric innovation in an increasingly digital and turbulent business environment.

2.7 Organizational Resilience (OR)

Organizational resilience refers to the capacity of an organization to adapt positively and sustain its core functions before, during, and after experiencing adverse events, by effectively leveraging its internal capabilities (Williams et al., 2017). Scholarly discourse on resilience presents two dominant perspectives: one that emphasizes an organization's ability to absorb and cope with external shocks, and another that focuses on its capacity to "bounce forward" - growing and evolving in response to adversity (Gittell et al., 2006; Zhou et al., 2024). A resilient organization cultivates a proactive stance toward uncertainty, developing risk tolerance and preparing for high-impact, low-probability disruptions. Resilience is not confined to a single domain; rather, it is embedded across individuals, systems, structures, infrastructures, routines, and organizational culture (Burnard & Bhamra, 2011).

From a systems perspective, resilience is fostered through dynamic capabilities and the strategic deployment of resources that are robust, redundant, or easily accessible—thus enhancing the system's adaptive capacity in the face of environmental volatility (Norris et al., 2008). This process involves the continual recombination and reconfiguration of resources, enabling the organization to respond creatively to unforeseen challenges (Sutcliffe & Vogus, 2003). In the context of digital transformation, the concept of digital resilience has also emerged as increasingly salient. It is defined as an organization's capability to absorb, respond to, and recover from disruptions through the effective use of digital technologies (Zhou et al., 2024). It involves the orchestration of information systems to support rapid recovery and adaptation, leveraging pooled digital competencies and infrastructures to stabilize operations and create long-term strategic value (Lee et al., 2024). As technological turbulence continues to intensify, identifying and implementing robust strategies to build organizational resilience has become a critical imperative for organizations seeking to maintain competitiveness and meet evolving consumer expectations (Zhou et al., 2024).

3. Hypotheses Development

Based on the above arguments, we analyse the relationships between ambidexterity, environmental dynamism, agility, resource orchestration capability and organizational resilience considering environmental dynamism as the moderator between links. We propose a conceptual model as presented in Figure 1.

Figure 1: Proposed Research Model.

3.0.1 Role of Ambidexterity

The ability of an organization to promptly and effectively respond to environmental changes is a critical determinant of its overall agility, particularly in technologically turbulent environment (Rialti et al., 2018). Prior research highlights the pivotal role of technical capabilities in enhancing

organizational agility through operational ambidexterity. Specifically, Lee et al. (2024) demonstrate that both exploration and exploitation capabilities contribute positively to agility by facilitating the dual processes of innovation and efficiency. Technological exploration enables firms to detect, analyze, and anticipate technological trends, thereby fostering proactive responses to emerging external changes. In parallel, exploitation capabilities support the identification, selection, and reconfiguration of existing technologies to ensure alignment with organizational goals and future growth trajectories (Zhen et al., 2021).

Expanding upon the foundational research on technological ambidexterity, recent studies have also introduced the concept of digital ambidexterity—the simultaneous pursuit of digital exploration and exploitation—as a strategic approach for optimizing digital decision-making (Liang et al., 2022). This capability enables firms to systematically evaluate the advantages and limitations of various technological alternatives and to choose the most suitable digital solutions that offer both operational efficiency and strategic alignment. In doing so, digital ambidexterity serves as a crucial enabler of agility, equipping organizations with the ability to adapt rapidly to change, satisfy evolving consumer expectations, and maintain a competitive edge in an increasingly volatile and technology-driven environment. Thus, we hypothesize the following,

H1: Ambidexterity (AD) positively influences Agility .

(AG)

3.0.2 Role of Agility

In environments characterized by rapid and relentless technological change, organizational resilience is increasingly dependent on the capacity to absorb, endure, and recover from disruptive events. While resilience pertains to an organization's ability to respond to sudden and unexpected shocks, agility enables adaptation to ongoing, continuous change—making both capabilities essential yet distinct in navigating disruptive and competitive environment (Mangalaraj et al., 2023). Organizational agility, in particular, plays a formative role in enhancing resilience by fostering a proactive orientation toward transformation and innovation of the business models, thereby enabling firms to respond swiftly to technological disturbances emerging from external environments (Duvivier & Gupta, 2023). As a dynamic capability, agility forms the backbone of organizational resilience, supporting long-term adaptability, competitiveness, and sustained performance in volatile contexts (Andersson et al., 2019; Scala & Lindsay, 2021; Teece et al., 2016).

Agility facilitates the rapid reallocation of resources and the orchestration of interdependent technical ecosystems to accommodate disruptive innovations, complementing the scalability afforded by different platforms and infrastructure (Bughin, 2024). Introducing modularity—both organizational and technical—has been shown to further strengthen resilience, enabling flexible system architectures and adaptive responses (Tim et al., 2023). In this regard, innovation-oriented firms possess a comparative advantage, as their predisposition toward experimentation and continuous improvement enables them to generate creative responses to disruption (Sabahi & Parast, 2020).

Moreover, agility extends to the supply chain domain, where it serves as a crucial enabler of resilience. Studies indicate that supply chain agility—through the development of responsive infrastructure and flexible management systems—significantly enhances a firm's ability to withstand and recover from market and operational disruptions (Aslam et al., 2020; Lotfi & Saghiri, 2018; Mandal & Dubey, 2020; Nguyen Thi et al., 2023). Disruptive forces often introduce vulnerabilities across the supply chain, yet capabilities such as agility, adaptability, and alignment serve to mitigate these effects and foster resilient supply networks (Pettit et al., 2010). Emerging digital technologies, particularly artificial intelligence (AI), further elevate the role of agility by enabling greater visibility, transparency, and real-time responsiveness across supply chains (Dey et al., 2023). The proliferation of such technologies has created competitive pressures, prompting firms to adopt or emulate digital innovations in order to remain relevant.

In this context, resilience becomes a strategic priority for firms operating in volatile and uncertain markets, especially those offering time-sensitive or technologically embedded products and services. Capabilities in research and development (R&D) and information technology (IT) play a foundational role in sensing technological change, while strategic and operational capabilities determine a firm's ability to seize and exploit these opportunities effectively (Overby et al., 2006). Together, these interconnected capabilities underpin an organization's resilience and its ability to evolve with the demands of a constantly shifting technological frontier. Thus, we hypothesize that,

H2: Agility (AG) positively influences Organizational Resilience .

(OR)

The conceptualization of agility as the dual capability to sense and respond to environmental stimuli has gained widespread recognition in contemporary literature (Roberts & Grover, 2012). In dynamic digital environments, environmental sensing refers not only to the detection of potentially valuable signals but also to the interpretation and prioritization of these signals amidst uncertainty. However, a paradox often arises: individuals at lower organizational levels may detect weak signals but lack the broader contextual understanding, while senior decision-makers may grasp the strategic picture but remain disconnected from granular-level signals (Pinsonneault & Choi, 2022). This sensing-response gap challenges organizations in effectively translating early warnings into strategic action.

Traditional approaches to managing environmental turbulence have centered on developing IT-enabled capabilities, whereby digital technology investments are integrated with organizational processes and human expertise to generate emergent and adaptive capabilities (Melville et al., 2004; Kohli & Grover, 2008). Agility—defined by the ability to rapidly and effectively respond to technological and market changes—enables firms to better utilize and orchestrate firm resources by leveraging their existing infrastructure (Grover, 2022). Within the supply chain context, agility is supported by *alertness capability*, a cognitive dimension that enhances environmental sensing and contributes to responsive action (Feizabadi et

al., 2019). Techniques such as big data analytics and predictive monitoring have been shown to strengthen organizational alertness, enabling proactive decision-making and fostering resilience in digital environment (Queiroz et al., 2022).

Digital resources encompass a wide array of assets, including data, software, digital platforms, digital talent, infrastructure, and intellectual property. The orchestration of these resources involves the strategic integration of internal and external assets to expand the firm's value proposition. For instance, firms can integrate third-party digital tools through their own digital interfaces to create enhanced, complementary service offerings. In digital product portfolios, resource orchestration also entails dynamic reallocation based on complementarity and mutual dependencies among offerings—allocating more resources to strongly interdependent components where integration delivers greater consumer value (Lee et al., 2010). Strategic agility thus enables organizations to continuously reconfigure resources and competencies to align with evolving environmental conditions. Agile firms are capable of sensing opportunities and rapidly mobilizing internal capabilities to introduce new products and services (Bustinza et al., 2018). This responsiveness is fundamentally underpinned by the firm's ability to structure, bundle, and leverage its own resources—core processes described in the resource orchestration theory. With these theoretical underpinnings, we hypothesize that

H3: Agility (AG) positively impacts Resource Orchestration Capability .

(ROC)

3.1.4 Role of Resource Orchestration Capability

In the face of dynamic and turbulent external environments, organizations must continuously acquire, integrate, and reconfigure their resources and capabilities to remain competitive and resilient (Zhang et al., 2023). These evolving challenges emphasize the need for creative and strategic resource orchestration—where firms do not merely possess resources but actively utilize them to capitalize on opportunities, particularly those that emerge during periods of crisis (Park & Seo, 2024). Extending the foundational work of Simon et al. (2007), this study adopts the concept of Resource Orchestration Capability (ROC), which refers to a firm's ability to structure, bundle, and leverage its resources in a manner that supports the development of Organizational Resilience (OR).

Effective integration of firm's technical resources—such as data, platforms, digital infrastructure, talent, and intellectual property—forms the basis for higher-order capabilities. These capabilities are built when resources are not only acquired but also strategically bundled and deployed to achieve specific organizational objectives (Lu et al., 2023). ROC can be cultivated through the targeted acquisition of assets, recruitment of skilled talent, and the development of complementary managerial competencies (Jiang et al., 2024). Empirical research underscores that firms investing in technical knowledge, IT skills, and human capital are more likely to possess superior business capabilities, thereby enhancing their agility and resilience in volatile environments (Wielgos et al., 2021).

Bundling of complementary resources enhances operational scalability and increases a firm's robustness against future shocks (Neboh et al., 2023). As environmental conditions shift, organizations that actively reconfigure and realign their resource base are better equipped to sustain performance and ensure continuity (Park et al., 2024). Moreover, the reconfiguration of resources can serve as a pathway to innovation by facilitating their integration into new products, services, or business models (Gao et al., 2022). Resilience, particularly in digital contexts, requires that resources be activated and recombined in novel ways to meet emergent challenges (Sutcliffe & Vogus, 2003).

Leveraging digital technologies enables firms to enhance resilience by increasing the speed, accuracy, and responsiveness of decision-making during disruptions (Lee et al., 2024). In the domain of supply chain management, ROC contributes to supply chain resilience by structuring, bundling, and leveraging digital tools and analytics capabilities (Lin et al., 2023). Empirical studies demonstrate that digitalization and data analytics play a significant role in building adaptive supply chains capable of withstanding and responding to environmental shocks (Queiroz et al., 2022; Yin & Ran, 2022). Firms that strategically deploy digital technologies for sensing and responding are better positioned to foster organizational resilience and maintain performance in times of uncertainty (Lin et al., 2024).

In this context, digital capabilities amplify the effectiveness of resilience strategies by facilitating timely access to actionable information and enabling real-time resource reconfiguration (Gao et al., 2022). Furthermore, resource reconfiguration has been identified as a key mediator that links environmental alertness to resilience outcomes, reinforcing its strategic importance in dynamic environments (Queiroz et al., 2022). Thus, ROC emerges as a fundamental enabler of organizational resilience, empowering organizations to survive, adapt, and thrive amidst continuous disruption. Based on the above argument, we hypothesize that,

H4: *Resource Orchestration Capability (ROC) positively affects organizational resilience .*

(OR)

3.1.5 Role of Environmental Disruptions and Turbulence

In today's rapidly evolving digital landscape, organizations are increasingly confronted with continuous technological turbulence, driven by unpredictable shifts in innovation and market demands. This phenomenon, often referred to as technological turbulence, is marked by high velocity, uncertainty, and the frequent emergence of disruptive technologies—necessitating a more strategic and adaptive organizational response (Day & Schoemaker, 2019). The degree of environmental dynamism significantly influences how firms design and implement their business strategies. As Prange (2021) notes, in highly turbulent environments, agility becomes a critical strategic enabler, allowing firms to remain responsive and

competitive. Conversely, in stable conditions, the incentive to invest in change-oriented capabilities diminishes, as the costs of transformation may outweigh perceived benefits.

In dynamic contexts, organizations must be capable of sensing emerging technological opportunities and responding swiftly to fast-changing consumer and market demands (Lee et al., 2015). This requires a shift from linear, incremental strategies to more flexible and iterative approaches. Organizational agility, in such cases, hinges on the effective balance between exploration—the pursuit of novel technological solutions—and exploitation—the optimization and refinement of existing capabilities (Stei et al., 2024). Together, these capabilities support the development of ambidexterity, enabling organizations not only to navigate volatility but also to transform uncertainty into strategic advantage. As environmental turbulence intensifies, cultivating such adaptive capabilities becomes imperative for sustaining consumer relevance and long-term competitive positioning. Thus, we hypothesize the following

H5: The positive effect of Ambidexterity (AD) is stronger on agility (AG) under higher degrees of Environmental Dynamism.

(ENVVD)

1. Research Method

4.1 Sample and Data Collection

This study employed a cross-sectional research design, with data collected via an online survey administered through the Qualtrics platform between April and May 2025. Given the study's focus on environmental dynamism and resilience with two different dynamic capabilities, it was deemed important to include organizations across a wide range of industry sectors, rather than limiting the sample to a single domain. Accordingly, the sampling frame comprised firms operating within the Indian business environment across diverse sectors. Table 1 provides a summary of the organizational profile of the participating firms. The unit of analysis for this study was the organization, as perceived by individuals occupying managerial roles. Respondents were selected based on their professional positions and familiarity with organizational practices and strategic initiatives within their firms. Participants were selected using a convenient sampling approach through professional networks and personal contacts from different companies, ensuring a wide and representative distribution across industries. A total of 650 invitations were distributed to prospective respondents whose profiles aligned with the study's inclusion criteria. To ensure data quality, two attention-check items were embedded in the survey, and incomplete responses were removed during the data cleaning process. After applying these quality control measures, 311 complete and valid responses were retained for analysis, resulting in a response rate of approximately 47.85%. Table 2 presents the demographic and professional characteristics of the respondents.

Table 1. Organization representation in the sample

Table 2. Respondent description

4.2 Measures

The study uses established scales in the literature to measure the variables of concern. The items of the questionnaire were measured using a Likert five-point scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree. The basis for the questionnaire items adopted in this study was derived from established research and validated scales which are widely used in the fields of environmental dynamism, ambidexterity, agility, resource orchestration capability, and organizational resilience. We measure ENVVD based on the scale proposed by (Miller, 1987), which records quick, unpredictable changes in the business environment caused when many technologies mature at once, introducing new features with heightened uncertainty. We measure Ambidexterity (AD) based on a eight-item multidimensional scale of organizational ambidexterity adopted in digital context (Benner, 2003; Jansen et al., 2008; Lubatkin et al., 2006). The study adopts the agility (AG) scale from (Kő, et al., 2023). This seven-item scale records the changing ability and risk taking in different organizational processes. The ROC scale has been adopted from (Kristoffersen et al., 2021) which measures the sub-dimensions of ROC as structuring, leveraging and bundling in the organizational processes. The organizational resilience (OR) scale is a five-item scale adopted from (Shao & An, 2024). The study ensures the face validity of all questionnaire items through a team of academicians and industry experts. They were asked to validate the items based on their representativeness of the construct, redundancy and clarity of the language used. The operationalization of the scales of all the above variables is demonstrated in Appendix A.

To account for potential confounding effects and enhance the robustness of the model, this study incorporates two control variables: organizational size and organizational age. Organizational size is controlled for due to its potential impact on a firm's responsiveness to disruption. Smaller organizations typically have flatter hierarchies and shorter decision-making chains, which may enable them to respond more swiftly and flexibly to external shocks compared to larger firms (d'Amboise & Muldowney, 1988). Therefore, organizational size is included as a control to isolate the effects of agility and resilience from structural responsiveness.

The second control variable, organizational age, is introduced based on the premise that firms with longer market experience are more likely to have encountered various disruptions in the past. This historical exposure may contribute to accumulated knowledge and more developed capabilities for managing adversity (Thornhill & Amit, 2003). Thus, controlling for organizational age helps to account for variance in resilience-related outcomes due to experiential learning and institutional memory.

4.3 Systematic Measurement Error and Bias

In survey-based research, common method bias (CMB) can artificially inflate the observed relationships between constructs due to the use of a single data source (Podsakoff et al., 2003). To mitigate the influence of CMB, this study employed several procedural remedies during the survey design and administration phase. Specifically, we selected knowledgeable respondents (i.e., domain experts), randomized the order of survey items, ensured conceptual separation between independent and dependent variables, and included attention-check questions to enhance response validity (Jordan & Troth, 2020). Beyond procedural safeguards, we applied two statistical techniques to assess the presence of CMB. First, we conducted Harman's one-factor test, a widely used diagnostic method. The results showed that a single factor accounted for only 45.06% of the total variance, which is below the recommended threshold of 50%, indicating that common method variance is unlikely to be a significant issue. Second, we employed full collinearity testing using SmartPLS, following the guidance of Kock (2015). The Variance Inflation Factor (VIF) values for all indicators were found to be well below the conservative cut-off of 3.0, further confirming the absence of multicollinearity and CMB in the model. In addition to CMB, survey-based studies are also susceptible to non-response bias, which arises when the characteristics of respondents differ systematically from non-respondents. To assess this, we conducted a paired samples t-test comparing early (first 155) and late (last 156) respondents across all key constructs. The results indicated no statistically significant differences between the two groups, suggesting that non-response bias is not a concern in this study. Furthermore, causality assessment is critical in empirical modeling to avoid erroneous interpretation of the directional relationships among constructs (Guide & Ketokivi, 2015). Following Kock (2019), we evaluated the Nonlinear Bivariate Causality Direction Ratio (NLBCDR), which exceeded the critical threshold of 0.90. This result indicates a strong likelihood of correct directional relationships and a minimal risk of reversed causality. To further support the robustness of our model, we assessed its predictive relevance and overall fit. The average R^2 value of 0.352 across endogenous constructs suggests moderate explanatory power. Additionally, the Tenenhaus Goodness of Fit (GoF) index of 0.511 supports the adequacy of model fit and validates the structural integrity of the hypothesized framework.

5. Data analysis and results

5.1 Descriptive statistics

The descriptive statistics of the study variables are summarized in Table 3. The mean values of the constructs provide insights into the extent of their implementation within organizational settings. Among the constructs, Environmental Dynamism (ENVD) exhibits the highest level of adoption, with a mean score of 4.18 on a 5-point Likert scale, suggesting its widespread integration across firms. Overall, the mean values for all constructs range between 3.66 and 4.18, indicating that the constructs measured in this study are moderately to highly adopted in organizational practice. The standard deviations reflect the degree of variability in implementation across organizations. Notably, Agility (AG) displays the greatest variability, with a standard deviation of 0.91, implying substantial differences in how organizations approach and develop agility in digital contexts. These variations suggest that while certain capabilities like ambidexterity are consistently emphasized, others such as AG may be more context-specific and dependent on organizational maturity, size, or strategic orientation.

Table 3. Assessment of discriminant validity

5.2 Statistical Analysis

This study examines the structural relationships among environmental dynamism (ENVD), ambidexterity (AD), agility (DA), resource orchestration capability (ROC), and Organizational Resilience (OR). To analyze these relationships, we employed a two-stage analytical approach using IBM SPSS Version 23 for preliminary analysis and SmartPLS 4.0 for structural equation modeling based on the Partial Least Squares (PLS) method. The PLS-SEM technique was selected due to its robustness in handling complex models with latent constructs and its suitability for exploratory and predictive research (Sarstedt et al., 2020). PLS is particularly advantageous when working with smaller sample sizes, which aligns with the context of this study where data was collected from a specific managerial population, thereby limiting the sample size. As such, PLS's ability to generate stable parameter estimates with relatively small samples (Hair et al., 2019) made it an appropriate analytical choice.

Moreover, the predictive and variance-based nature of PLS is particularly well-suited for this study's objective of exploring the interplay between digital capabilities and resilience in organizations. Unlike covariance-based SEM, PLS emphasizes maximizing the explained variance (R^2) of endogenous constructs, offering more flexibility in modeling complex theoretical frameworks and enabling richer managerial implications (Hair et al., 2019). The statistical analysis was conducted in two sequential stages. In the first stage, we evaluated the measurement model to assess the reliability and validity of the constructs, including tests for internal consistency, convergent validity, and discriminant validity. In the second stage, we examined the structural model to test the hypothesized relationships among the study variables, focusing on path coefficients, significance levels, and the explanatory power of the model.

5.2.1 Measurement Model

The reliability and validity of the measurement model were assessed through a series of established criteria to ensure the robustness of the constructs used in this study. Reliability was evaluated using both Cronbach's alpha (CA) and composite reliability (CR) values. As shown in Table 3 and Table 4, all constructs demonstrated acceptable internal consistency, with both CA and CR values exceeding the recommended threshold of

0.70, thereby confirming the reliability of the scales (Hair et al., 2019). Convergent validity was assessed using the Average Variance Extracted (AVE). An AVE value above 0.50 indicates that the construct explains more than half of the variance in its observed indicators. As reported in Table 4, all constructs met this criterion, establishing satisfactory convergent validity (Fornell & Larcker, 1981). Discriminant validity was examined using two complementary methods: Fornell and Larcker's criterion and the Heterotrait–Monotrait (HTMT) ratio. Table 3 presents the Fornell–Larcker matrix, where the square root of the AVE for each construct (diagonal elements) exceeds the corresponding inter-construct correlations in the same row and column. This confirms that each construct is distinct from the others, thereby satisfying the Fornell–Larcker criterion. Additionally, Table 4 reports HTMT values for all construct pairs, which were found to be below the conservative threshold of 0.80, further supporting discriminant validity (Henseler et al., 2015). Regarding indicator reliability, outer loadings were examined, and items with loadings below 0.60 were excluded from the final model as per the recommendations of (Hair et al., 2019; Sarstedt et al., 2020). The retention of items with strong loadings further strengthened the construct validity and ensured that only reliable indicators contributed to the latent variable estimation. Taken together, these results establish that the measurement model meets the necessary criteria for internal consistency, convergent validity, and discriminant validity, thereby supporting the adequacy of the measurement properties for subsequent structural analysis.

Table 4. Exploratory and Confirmatory Factor Analysis

5.2.2 Structural Model Assessment

Figure 2: Analysis results of research model.

The coefficient of determination (R^2) serves as a critical indicator for assessing the explanatory power of ambidexterity (AD) in predicting other capabilities such as AG, ROC, and OR. According to Henseler et al. (2016), R^2 values are interpreted as follows: values above 0.75 denote substantial predictive power, values around 0.50 indicate moderate predictive power, and values near 0.25 suggest weak predictive power. As illustrated in Table 5, the R^2 values for OR (0.485) and AG (0.404) indicate moderate predictive relevance, whereas the value for ROC (0.349) reflects a relatively weak yet acceptable level of model fit in the context of consumer-oriented digital strategies. To further evaluate the individual impact of predictor constructs, Cohen's f^2 is used to assess effect sizes, with benchmarks of 0.35 (large), 0.15 (medium), and 0.02 (small) as suggested by Cohen (1988). Results presented in Table 6 reveal that AG significantly influences ROC ($f^2 > 0.35$), and ROC exerts a strong effect on OR. Conversely, other paths - such as AG to OR and ENVD*AD to AG - fall within the small effect size range, albeit approaching the threshold for medium effects, highlighting their emerging but still meaningful roles in consumer-centric organizational strategy (Hair et al., 2019).

Table 5: Coefficient of Determination

Table 6: Results

Table 7. Model Fit (All Factors)

Table 8. Model Fit

Predictive relevance was assessed using the Stone–Geisser's Q^2 statistic. All Q^2 values reported in Table 4 are substantially greater than zero, indicating adequate out-of-sample predictive power for the endogenous constructs (Peng & Lai, 2012). This reinforces the model's capacity to anticipate consumer behavior and organizational adaptation within turbulent environments. The structural relationships were further examined through path analysis using SmartPLS 4 with 5,000 bootstrap samples. The path coefficients (β) denote the magnitude of influence of one construct on another, while the associated p-values indicate statistical significance. As depicted in Figure 2 and Table 6, AG significantly influences ROC ($\beta = 0.591, p < 0.001$), and OR ($\beta = 0.180, p = 0.004$). Likewise, ROC demonstrates significant positive effects on OR ($\beta = 0.575, p < 0.001$). AD also positively impacts AG ($\beta = 0.473, p < 0.001$). These findings support the proposed hypotheses and suggest a robust interconnection between digital initiatives, agile business models, and organizational resilience from a strategic consumer engagement perspective (Mikalef et al., 2020; Teece, 2018). Thus In light of the findings and results, all hypotheses have been validated as mentioned in Table 6.

6. Discussion

6.1 Theoretical and Practical Implications

This study offers several key theoretical contributions to the literature on strategic management and consumer research. First, it introduces a theoretical lens grounded in the dynamic capabilities framework to examine the relationship between agility and organizational resilience. In an environment increasingly shaped by the pervasive integration of digital technologies across products, services, operations, and marketing, agility emerges as a vital capability (Teece, 2007; Bharadwaj et al., 2013). While prior research has predominantly examined agility as a dynamic capability within the context of supply chain resilience (Pettit, Fiksel, & Croxton, 2010), limited scholarly attention has been directed toward understanding the role of agility in enhancing organizational resilience from a consumer research perspective. Given the growing volatility and complexity of digital ecosystems, this study addresses the gap by proposing a nuanced framework that underscores how agility supported by ambidexterity and the effective orchestration of resources contribute to the development of organizational resilience (Wamba et al., 2017; Mikalef

et al., 2020). Second, this research extends the resource orchestration theory by illustrating the critical role of managing, integrating, and deploying resources in ways that complement agility to absorb environmental shocks and maintain or regain operational stability (Simon, Hitt, & Ireland, 2007). The integration of dynamic capabilities theory and resource orchestration theory presents a novel conceptual foundation that explicates how organizations can adapt and thrive amid environmental dynamism—a phenomenon characterized by rapid, unpredictable technological and socio-economical disruptions (Karimi & Walter, 2015). The findings empirically validate the mediating role of resource orchestration in enhancing organizational resilience, reinforcing the theoretical robustness of the proposed framework. Third, this study contributes to the ambidexterity literature by exploring how the dual capacity to explore novel technologies and exploit existing capabilities enhances agility under conditions of environmental turbulence (Raisch & Birkinshaw, 2008; Vial, 2019). The results indicate that the ability to sense exogenous disruptions and respond strategically through agility significantly influences resilience outcomes, particularly in fast-evolving dynamic markets. This underscores the need for organizations to develop capabilities that balance innovation with operational continuity in order to maintain consumer trust and competitive advantage.

The practical implications of these findings are multifaceted. First, the significant relationship between agility and organizational resilience suggests that firms should invest in developing agile infrastructures and capabilities that facilitate rapid sensing and response to external disruptions (Overby, Bharadwaj, & Sambamurthy, 2006). Second, effective management of internal resources—including acquisition, decommissioning, integration, and leveraging—can substantially enhance resilience by enabling firms to capitalize on emerging opportunities while mitigating risks (Dmevich & Kriauciumas, 2011). This necessitates a strategic focus on resource orchestration practices that align digital assets with evolving organizational goals. Furthermore, cross-functional collaboration is essential to ensure seamless integration of resources across various business units, thus enhancing organizational responsiveness and continuity during crises (Li et al., 2018). Managers should continuously evaluate and reconfigure assets to align with shifting consumer needs and market dynamics. Lastly, fostering ambidexterity through a balanced emphasis on exploration and exploitation is crucial. By dedicating resources to both innovation and operational optimization, organizations can cultivate a resilient and adaptive culture capable of navigating turbulence (O'Reilly & Tushman, 2013). This duality enables firms to maintain strategic flexibility and ensure long-term consumer relevance in increasingly VUCA business environment.

6.2. Limitations and Future Research Directions

Despite the significant contributions of this study, several limitations present opportunities for future research. First, the heterogeneous nature and typologies of environmental turbulence—such as technological, institutional, and market disruptions—may uniquely influence the development and configuration of organizational resilience. The pace, locus, and degree of uncertainty inherent in these disruptions significantly shape the mechanisms through which dynamic capabilities are configured (Lavie, 2006). For instance, platform-based disruptions (Cennamo, Ozalp, & Kretschmer, 2022), as seen in digital ecosystems, or institutional disruptions such as the transition from traditional retail to e-commerce and from classroom-based education to online learning (Pokhrel & Chhetri, 2021), may demand context-specific strategies to foster resilience. Future research could thus benefit from a more granular exploration of these distinct forms of turbulence and their differentiated impacts on capability deployment and resilience-building.

Second, this study adopts a cross-sectional research design, which limits the ability to capture the temporal dynamics of capability development and resilience formation. Given that organizational resilience is inherently a long-term and evolving process, longitudinal research could offer deeper insights into the causal relationships and developmental trajectories involved (Simon et al., 2011). Although procedural remedies were applied to mitigate nonresponse and common method biases, employing longitudinal and multimethod research—such as panel data analysis, qualitative case studies, and secondary data triangulation—could enhance the robustness and validity of future findings (Podsakoff et al., 2003; Edmondson & McManus, 2007).

Third, the current study operationalized resource orchestration capability as a composite construct. However, resource orchestration theory posits three distinct sub-dimensions: structuring, bundling, and leveraging (Simon, Hitt, & Ireland, 2007). Each of these may exert differential effects on organizational resilience. Future research could disaggregate this construct to examine how each sub-dimension uniquely contributes to resilience, thereby offering a more nuanced understanding of resource orchestration processes.

Fourth, the empirical setting of this study is restricted to firms operating in an emerging economy—India. As technological infrastructures, digital maturity, and institutional environments vary widely across regions, the findings may not be fully generalizable to advanced economies such as the United States, Germany, South Korea, or Japan. Future comparative studies could investigate how national contexts and digital readiness influence the interplay among agility, orchestration capabilities, and resilience outcomes (Henisz, Zenger, & Guillén, 2005; Kraus et al., 2021).

Fifth, while industry was statistically controlled in the analysis, sectoral heterogeneity—such as between high-tech firms, manufacturing, healthcare, finance, and other industries—may yield divergent resilience dynamics. Moreover, small and medium-sized enterprises (SMEs), which often face resource constraints, may exhibit different resilience-building pathways compared to larger firms (Battisti & Deakins, 2017). Future studies could explore these sector-specific and firm-size-related variations to enhance the contextual validity of the framework.

Lastly, although this study focuses on the antecedents of organizational resilience, the implications of resilience on various performance dimensions remain underexplored. Future research could examine how organizational resilience translates into improved strategic outcomes such as operational efficiency, customer satisfaction, market responsiveness, and financial performance, thereby providing a more comprehensive view of its

7. Conclusion

In an increasingly volatile and digitally turbulent environment, organizational resilience is no longer optional but imperative. This study contributes to the evolving discourse on dynamic capabilities by conceptualizing and empirically validating a model that integrates ambidexterity, agility, and resource orchestration as foundational enablers of organizational resilience (OR). Anchored in the dynamic capabilities and resource orchestration perspectives, the research confirms that agility significantly enhances resilience both directly and indirectly through effective orchestration of firm resources. Moreover, ambidexterity—when moderated by the intensity of environmental dynamism—emerges as a critical antecedent of agility, suggesting that firms must balance exploration and exploitation more skillfully in dynamic environments. The findings underscore the importance of cultivating a synchronized and adaptive business strategy. Organizations that can structure, bundle, and leverage their digital assets to align with emerging opportunities are better positioned to recover from disruptions and sustain performance. Agility acts as a bridge between technological awareness and responsive action, while ambidexterity fuels the dual capacity for innovation and operational excellence. Resource orchestration ensures that these capabilities are not only present but also activated in ways that generate strategic value.

Practically, the study offers actionable insights for managers seeking to future-proof their organizations. Investments in technical infrastructure, skills development, and cross-functional collaboration must be coupled with a culture of adaptability and learning. Ultimately, this research highlights that resilience in this fast changing environment is a dynamic outcome—a function of how well organizations sense, seize, and transform in response to disruption. Building such resilience requires more than technology—it demands a strategic interplay of capabilities, culture, and leadership attuned to perpetual change.

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- #####OUTSET_BIBHEAD_REGION_END#####
- #####OUTSET_APPENDIX_REGION_START#####

Appendix - Questionnaire used in the survey

Constructs	Source
Environmental Dynamism (ENV D) In our industry... ENV D1. Growth opportunities in the industry environment has increased dramatically. ENV D2. Production/service technology in our principal industry has changed	(Miller, 1987)

<p>very much.</p> <p>ENVD3. Market activities of our key competitors now affect the firm in many more areas (pricing, marketing, delivery, service, production, quality)</p> <p>-</p> <p>ENVD5. Legal, political, and economic constraints (e.g. government regulations) have proliferated greatly over the past years.</p>	
<p>Ambidexterity (AD)</p> <p>In our organization, we</p> <p>AD1. constantly acquire new skills to be able to develop new products and services.</p> <p>AD2. frequently learn new skills to position ourselves in new markets.</p> <p>AD3. regularly look for new technologies for our production processes.</p> <p>AD4. develop new and creative ways to satisfy current and potential clients.</p> <p>AD5. regularly apply our current knowledge to adapt our products and services.</p> <p>AD6. regularly use continuous improvement methodologies to improve quality and reduce costs.</p> <p>AD7. continuously learn to improve the efficiency of our processes.</p> <p>AD8. tries to find out more about our clients to introduce small improvements in what we offer them.</p>	<p>Benner and Tushman (2003), Jansen et al. (2006) and Lubatkin et al. (2006).</p>
<p>Agility (AG)</p> <p>-</p> <p>-</p> <p>-</p> <p>AG4. Our organization is willing to take risks to try new technologies.</p> <p>AG5. Our organization is willing to embrace innovation, even at the expense of financial risk.</p> <p>AG6. Our organization encourages experimentation with new technological technologies.</p> <p>AG7. Our organization is bolder than our competitors when introducing new technologies in process and operations.</p>	<p>Kö, A. et al. (2023)</p>
<p>Resource Orchestration Capability</p> <p>Our firm has the capability to</p> <p>-</p> <p>ROC2. develop valuable resources/assets internally.</p> <p>-</p> <p>ROC4. integrate resources/ assets to build technological capabilities.</p> <p>ROC5. Enrich or extend existing capabilities with new technological resources/assets.</p> <p>ROC6. pioneer or create new technological capabilities.</p> <p>ROC7. mobilize our capabilities to manage resource towards a common vision.</p> <p>ROC8. Coordinate or integrate our technological capabilities.</p> <p>ROC9. deploy our joint technological capabilities to take advantage of specific market opportunities</p>	<p>Kristoffersen, E. et al. (2021)</p>
<p>Organisational Resilience</p> <p>Our Firm can...</p> <p>OR1. cope with the changes brought about by environmental dynamism comprising technological turbulence.</p> <p>OR2. maintain the effective operation of its core functions in the crisis using resource orchestration mechanisms.</p> <p>OR3. quickly respond to technological turbulence and recover to the previous state.</p>	<p>Shao, M. and An, L. (2024)</p>

OR4. adapt to pressure after the crisis and learn to grow by developing agility and ambidexterity.

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* Red Marked/Crossed items were removed from analysis due to no loading/mixed loading.

Figures and Tables

####OUTSET_APPENDIX_REGION_END####



Picture 1

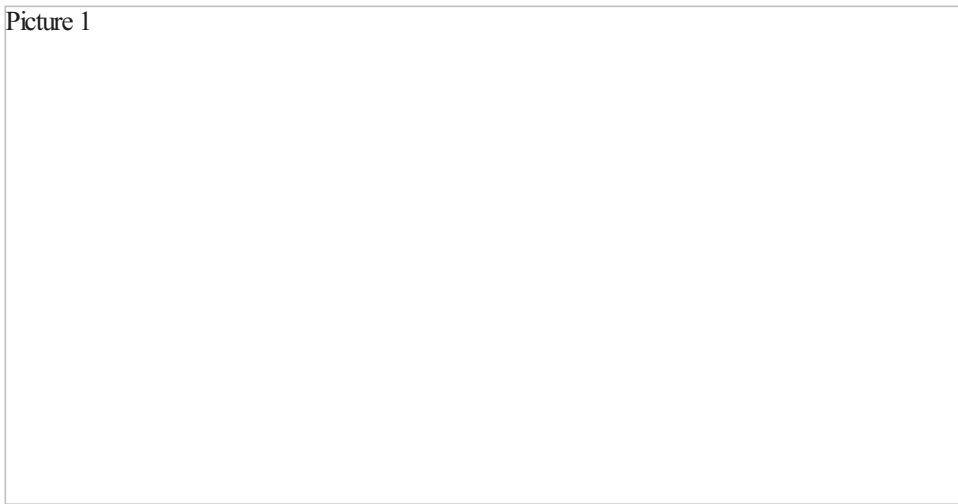


Table 1. Organization representation in the sample

Industry Sector	Frequency	Percentage
Education	15	4.82
Energy Sector	26	8.36
Finance	44	14.15
Food & Beverage	37	11.90
Government	19	6.11
Healthcare	13	4.18
HR and other Services	21	6.75
Manufacturing	43	13.83
Others	10	3.22
Retail & e-commerce	16	5.14
Telecom & IT	52	16.72
Transportation	15	4.82
Organization Type		
Public Sector Firm	79	25.40
Private Firm	168	54.02
Wholly foreign-owned firm	27	8.68
Others	37	11.90
Size of Organisation		
100 people or less	48	15.43
101-500 people	43	13.83

501-1000 people	64	20.58
1001 people and above	156	50.16

Table 2. Respondent description

Designation	Frequency	Percentage
Junior Manager	93	29.90
Middle Manager	98	31.51
Senior Manager	120	38.59
Experience		
Less than 1 Year	21	6.75
1 – 2 Years	57	18.33
3 – 5 Years	56	18.01
6 – 10 Years	64	20.58
11 Years and above	113	36.33

Table 3. Assessment of discriminant validity

Variables	Composite Reliability	Mean	SD	ENVD	AD	AG	ROC	OR
ENVD	0.894	4.18	0.83	0.824				
AD	0.951	3.99	0.77	0.501**	0.842			
AG	0.896	3.66	0.91	0.469**	0.583**	0.827		
ROC	0.937	3.95	0.82	0.460**	0.754**	0.591**	0.824	
OR	0.897	3.94	0.76	0.458*	0.631**	0.519**	0.681**	0.827

Notes: ** p < 0.01; * p < 0.05; ENVD – Environmental Dynamism; AD – Ambidexterity; AG – Agility; ROC – Resource Orchestration Capability; OR – Organizational Resilience; SD – Standard Deviation; diagonal (bold, italic) – AVE Square Root

Source: Author's own work.

Table 4. Exploratory and Confirmatory Factor Analysis

Constructs and Factors	Standard Factor Loadings (CFA)	Standardized Factor Loadings (EFA)	Cronbach' Alpha	Bartlett's Test	Explained Variance (%)	HTMT < 0.80
Environmental Dynamism (ENVD)						
ENVD1						
ENVD2	0.832	0.840	0.844	$\chi^2 = 422.183$	68.108	YES
ENVD3	0.766	0.762		df = 6		
ENVD4	0.733	0.712		Sig < 0.001		
ENVD5	-	-				
	0.720	0.762				
Ambidexterity (AD)						
AD1	0.772	0.702	0.941	$\chi^2 = 1563.20$	70.838	YES
AD2	0.769	0.732		df = 28		
AD3	0.718	0.657		Sig < 0.001		
AD4	0.754	0.746				
AD5	0.724	0.757				
AD6	0.753	0.766				
AD7	0.751	0.769				
AD8	0.701	0.661				
Agility (AG)						
AG1	-	-	0.848	$\chi^2 = 409.782$	68.683	YES
AG2	-	-		df = 6		
AG3	-	-		Sig < 0.001		
AG4	0.807	0.744				

AG5	0.828	0.843				
AG6	0.927	0.689				
AG7	0.751	0.678				
Resource Orchestration Capability (ROC)						
ROC1	-	-	0.921	$\chi^2 = 1160.36$	67.973	YES
ROC2	0.801	0.712		df = 21		
ROC3	-	-		Sig < 0.001		
ROC4	0.732	0.765				
ROC5	0.645	0.592				
ROC6	0.921	0.729				
ROC7	0.828	0.682				
ROC8	0.779	0.659				
ROC9	0.792	0.580				
Organisational Resilience (OR)						
OR1	0.560	0.682	0.846	$\chi^2 = 406.975$	68.478	YES
OR2	0.709	0.719		df = 6		
OR3	0.770	0.714		Sig < 0.001		
OR4	0.748	0.739				
OR5	-	-				

* Red Marked/Crossed items were removed from analysis due to no loading/mixed loading.

Table 5: Coefficient of Determination

Variables	R Square	Adj. R Square	Q Square
Agility	0.404	0.397	0.353
Resource Orchestration Capability	0.349	0.347	0.397
Organizational Resilience	0.485	0.481	0.312

Table 6: Results

Hypotheses	Relationship	f ²	β	t-value	p-value	Result
H1	AD-AG	0.306	0.473	5.998	0.000	Accepted
H2	AG-OR	0.047	0.180	2.860	0.004	Accepted
H3	AG-ROC	0.566	0.591	10.758	0.000	Accepted
H4	ROC-OR	0.438	0.575	9.295	0.000	Accepted
H5	ENVD*AD-AG	0.047	0.148	2.031	0.042	Accepted

Notes: *p < 0.05; **p < 0.01; ***p < 0.001

Source: Authors' own work

Table 7. Model Fit (All Factors)

	Model	χ^2	df	χ^2/df	RMSEA	SRMR	CFI	TLI
5 Factors	five factor	621	314	1.978	0.063	0.047	0.935	0.927

All-3 Factors	four factor	932	318	2.931	0.088	0.057	0.870	0.856
All-2 Factors	three factor	1145	321	3.567	0.102	0.066	0.825	0.809
All-1 Factor	two factor	1388	323	4.297	0.115	0.077	0.774	0.754
All	one factor	1524	324	4.704	0.122	0.080	0.745	0.724

Table 8. Model Fit

RMSEA	GFI	CFI	TLI	SRMR	χ^2	df	χ^2/df
0.0628	0.947	0.935	0.927	0.047	621	314	1.98

Review Checklist

Title

☒ Clearly expresses the subject of the manuscript

☒ Highlights the importance of the study

☒ Does not include unnecessary description

Abstract

☒ Summarizes aims, methods, key findings, and conclusions clearly

☒ Can stand alone with enough information

☒ Prioritizes essential information

Introduction

☒ Summarizes current knowledge effectively

☒ Addresses limitations in the field

☒ Explains the need for the study

☒ Defines the aim clearly and consistently

☒ Research question is clear and appropriate

Methods

☒ Study design and methods suit the research question

☒ Sufficient detail for reproducibility

☒ Sample collection or recruitment is clearly described

☒ No evident bias in sampling or recruitment

☒ Appropriate controls or validation included

☒ Confounding factors considered

☒ Randomization, if used, is correct

☒ Study duration is appropriate for outcomes

☒ Statistical power and methods are appropriate

☒ No ethical concerns

Results

☒ Clearly and accurately presented

☒ Consistent with methods

☒ Includes all relevant data

☒ No risk of participant identification

☒ Data in text matches figures/tables

Discussion and Conclusion

☒ Findings logically explained

☒ Compared with existing literature

☒ Implications and applications discussed

☒ Conclusions are supported by data

☒ Study limitations are acknowledged

☒ Contradictory data addressed

Tables and Figures

☒ Data is clear and well presented

☒ Consistent with text

☒ Legends/headings are explanatory

☒ Includes uncertainty measures and sample sizes

☒ No concerns about data manipulation

References

☒ Key references included

☒ Original discoveries cited appropriately

☒ Reviews not cited where primary data should be

☒ Citations reflect current knowledge

Responses to Editor Comments

Editor Comment : " This article has been forwarded for preliminary evaluation. Authors are requested to follow the journal's style and formatting standards."

Reviewer Reply 1 :
this comment is for testing purpose

Review Decision & Feedback

 Accept

Originality of the work	<div><div><div>★</div><div>★</div><div>★</div><div>★</div><div>★</div></div></div> <div>(5.0)</div>
Methodological soundness	<div><div><div>★</div><div>★</div><div>★</div><div>★</div><div>★</div></div></div> <div>(4.0)</div>
Clarity of presentation	<div><div><div>★</div><div>★</div><div>★</div><div>★</div><div>★</div></div></div> <div>(3.0)</div>
Significance of findings	<div><div><div>★</div><div>★</div><div>★</div><div>★</div><div>★</div></div></div> <div>(2.0)</div>
Relevance to journal's scope	<div><div><div>★</div><div>★</div><div>★</div><div>★</div><div>★</div></div></div> <div>(1.0)</div>

Ethical Considerations

Is there evidence of appropriate ethics approval and/or consent?

No

Ethical Considerations NA

Figures and Tables

Are figures/tables clear and necessary?

Yes

figures and tables is selected yes

Would you like to review a revision of this manuscript?

No

Overall Comments