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Digital Transformation as a Driver of Supply Chain Resilience and Sustainable Performance: A Systematic Literature Review

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ABSTRACT: This study provides an in-depth analysis of how digital transformation skills enable supply chain resilience and sustainable performance under conditions of environmental uncertainty. The existing research is still fragmented in terms of theoretical perspectives, methodological approaches and industry contexts, which limits understanding of the interactions among digital technologies, organizational capacities and resilience. The current systematic literature review follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) guidelines and includes 29 empirical journal papers indexed in Scopus, published between 2020 and 2025. Eligible studies were peer-reviewed English-language articles on digital transformation capabilities, supply chain resilience, environmental uncertainty and sustainable performance. The findings suggest that digital technologies provide infrastructure that, together with dynamic capabilities such as sensing, seizing, and reconfiguring, helps translate technology investments into resilience and sustainable outcomes. The review presents a multilevel capability-building framework which integrates digital technology, organizational capacities and environmental uncertainties. The findings provide practical advice for supply chain managers in the form of the need to align digital investments with worker development and organizational learning to enhance resilience in an uncertain environment.

Keywords: Digital transformation, Supply chain resilience, Organizational capabilities, Environmental uncertainty, Sustainable performance.

I. INTRODUCTION

Supply chain resilience has become a strategic need for organisations in today's volatile and interconnected global marketplace, which is now confronting unprecedented environmental instability [1, 2]. The rapid adoption of Industry 4.0 technologies, such as artificial intelligence (AI), big data analytics (BDA), and the Internet of Things (IoT) has caused a shift from conventional supply chain management toward proactive, data-driven ecosystems [3, 4]. However, companies must use these digital tools to develop dynamic skills, workforce adaptability, and strong organizational cultures; merely adopting technology is not enough [5, 6]. Organizations may successfully anticipate disturbances, reorganize resources, and preserve operational continuity by integrating digital transformation with human capital and agile response mechanisms [7, 8]. Ultimately, this combination of socio-technical skills acts as an important driver of long-term sustainable business performance in addition to strengthening supply chains against market volatility [9]. Concurrently, major vulnerabilities in global supply chains have been shown by recent global

disruptions, such as the COVID-19 pandemic, geopolitical conflicts, climate-related catastrophes, and economic instability. As a result, scholars and practitioners now consider supply chain resilience to be a crucial strategic objective. To maintain long-term sustainability and a competitive edge, organizations must progressively build adaptive skills in addition to being able to absorb disturbances.

Existing research remains fragmented, despite the rising significance of supply chain resilience and digital transformation. Many facets of digital technologies, organizational capacities, resilience mechanisms, and sustainability outcomes have been studied in the past; nevertheless, these study streams have frequently developed separately. Because of this, little is known about how digital technology, organizational resources, dynamic capacities, environmental uncertainties, and sustainability goals all work together to create resilient supply chain ecosystems. A varied and dispersed body of knowledge with a variety of theoretical stances, methodological techniques, and contextual applications has also been produced by the quick expansion of publications in this field. Finding prevailing research topics, theoretical advancements, and future research objectives becomes more challenging as a result of this dispersion.

The existing literature contains several important gaps. First, previous studies have mostly focused on certain sectors, technologies or features of supply chain resilience, thereby providing a limited integrated view of the overall linkages between organisational capabilities, sustainability outcomes and digital transformation. Second, the Resource-Based View (RBV) and Dynamic Capabilities Theory (DCT) are dominant in the literature. However, little attention has been paid to the integration of these organizational-level perspectives with micro-level behavioural and learning-oriented theories. Third, the current research tends to see digital transformation, resilience and sustainability as separate ideas rather than as integrated and mutually reinforcing processes. Fourth, the literature on public-sector organisations, humanitarian supply chains and small and medium-sized enterprises (SMEs) in developing countries is still scant, and research continues to be concentrated on large private-sector industrial contexts. Therefore, this study aims to address:

- To assess trends in scholarly activity and publication in the area of research on supply chain resilience and digital transformation.
- To identify the main theoretical frameworks, methodological approaches and research settings in the field.
- Identify the main themes that define what is currently known.
- Develop a full understanding of the relationships among digital technologies, organisational capabilities, environmental uncertainty, resilience, and sustainable performance.
- Identify opportunities for further study to enhance theory and practice.

This study adds to the current literature by offering a comprehensive synthesis of digital transformation, dynamic capabilities, supply chain resilience, and sustainable performance. This study proposes a multilevel integrated framework that, compared to existing studies examining these factors in isolation, integrates digital technologies, organisational capacity, environmental uncertainties and sustainability results under a single analytical structure. By providing a more comprehensive approach that tackles the organizational, technical, and environmental aspects of resilience, the research advances theory by going beyond the conventional application of RBV and DCT. Finally, the study creates a sequential conceptual logic model that links digital transformation, sustainability, and resilience. This model serves as a foundation for more empirical validation and theoretical advancement in supply chain research. The rest of the paper is arranged as follows. The conceptual foundation of the research and the related literature are discussed in Section 2. Section 3 details the review technique. The findings and the theme analysis are presented in Section 4. Section 5 discusses the theoretical, practical and policy consequences. Section 6 concludes the paper.

II. LITERATURE REVIEW

Industry 4.0 has increased connectivity, visibility, and information sharing across organisational networks, fundamentally transforming supply chain management. Digital technologies such as cloud computing, Enterprise Resource Planning (ERP), AI, IoT, and BDA have transformed from operational support systems into strategic facilitators of organisational resilience and competitive advantage. ERP and cloud-based solutions provide the digital infrastructure for information integration and cross-functional

coordination. IoT technologies provide real-time monitoring and communication among geographically dispersed supply chain actors. These technologies are incorporated to increase information quality, end-to-end visibility and decision-making capabilities in response to the increasing complexity of supply chain ecosystems [5, 10].

BDA and AI are major drivers of supply chain transformation. BDA enables organisations to increase forecasting accuracy, risk assessment, and operational efficiency to derive actionable insights from enormous volumes of structured and unstructured data [4, 11]. AI strengthens these analytical capabilities through automated decision-making, predictive maintenance, and scenario modelling. The integration of AI and BDA allows organisations to shift from reactive operational models to predictive and prescriptive decision-making systems that are capable of anticipating problems before they occur [1, 3]. Therefore, digital technologies must be understood as strategic instruments for increasing organisational agility, resilience and sustainability in the face of environmental instability, and not only as technological artefacts. Technological resources by themselves, however, do not ensure better organizational results. According to the RBV, an organization's entrenched valuable, uncommon, unique, and non-replaceable resources provide a lasting competitive advantage. Human capital, workforce adaptability, data governance skills, organizational learning mechanisms, and data-driven cultures are increasingly important resources in digitally transformed supply chains [10, 11]. Organizations may efficiently exploit technology investments and transform digital information into strategic value through these intangible resources. However, the constantly changing nature of the current business environment reveals a major flaw of the RBV, which is its inability to explain how businesses reconfigure and adapt their resources to external threats.

DCT addresses this limitation of RBV by concentrating on the capacity of an organization to sense opportunities and threats, to seize new opportunities and to reconfigure existing resources so as to retain competitiveness in an ever-changing external environment. With sensing capabilities, firms may continuously monitor the environment and evaluate data to spot new risks, market movements and technical trends. Enterprises may mobilise and deploy resources to seize opportunities, generally via strategic investments, digital transformation initiatives and innovation via capabilities. Reconfiguring capabilities may reshape organisational structures, processes and skills to correspond with long-term changes in the environment [12, 13]. Organisational resilience is not only about having the resources, but about the dynamic capacity to successfully manage and replenish those resources on an ongoing basis in a changing environment. The concept of dynamic capacity has received more attention because of the interruptions in the supply chain. The COVID-19 pandemic, geopolitical instability, climate-related calamities and market volatility have shown major flaws in global supply chain networks and the need for resilience-oriented capabilities. Thus, agility, adaptability, flexibility and recovery capacity have become important topics in today's supply chain analysis and they are regarded as the basic components of organisational resilience. Supply chain agility allows us to react rapidly to changes in consumer wants and market circumstances. Adaptation enables us to reconfigure supply networks in response to persistent changes in the environment. Flexibility may improve the operational responsiveness of companies by enabling changes in production processes, logistical methods and resource allocation approaches in response to disruptions [14, 15].

These resilience capabilities are incorporated into a competency framework that allows the shift from reactive disruption management to proactive resilience building. Resilient organisations have internal learning mechanisms, create awareness of the environment and utilise a disruption-oriented strategy to enable continual adaptation and improvement, rather than just recovery after disturbance [16]. This is consistent with the dynamic capability's perspective, where resilience is seen as a continuing organisational skill, not a momentary reaction to a crisis. Environmental unpredictability should be considered both as a source of operational risk and as a trigger for strategy renewal, innovation and capacity building. Recent research suggests that resilience and digital transformation have an impact on aspects beyond the standard measures of operational and financial performance. There is a growing emphasis on integrating resilience and sustainability goals, along with the broader trend in sustainable supply chain management. From this point of view, resilience is increasingly considered as a condition for the successful discharge of social and

environmental duties in times of crisis. Thus, companies are required to balance economic success with commitment to the environment and social responsibility consistent with the triple bottom line perspective.

The combination of digital transformation, resilience and sustainability has led to increased interest in circular economy activities such as recycling, remanufacturing, resource efficiency and waste reduction. These strategies enhance environmental performance and resilience by curtailing dependence on insecure supply marketplaces and finite resources [9]. In addition, the use of digital technologies has the potential to monitor, coordinate and optimise the functioning of circular supply chains [17], thereby allowing the fulfilment of larger sustainability objectives such as the United Nations Sustainable Development Goals (SDGs). Recent research on supply chain resilience more and more includes an ecosystem view, understanding that the success of the business relies on the general health, transparency and collaborative ability of interdependent stakeholders within the supply chain network [18]. The capabilities development literature presents a sequence of steps: organisational resources underpin capabilities development, digital technologies are an enabling infrastructure, dynamic capabilities promote adaptation and resilience, and sustainable performance is the ultimate strategic goal. This thorough strategy provides a precise framework for understanding how digital transformation may improve sustainability, competitiveness and resilience at the same time in an increasingly uncertain business environment.

III. METHODOLOGY

This study conducted a systematic literature review (SLR) to synthesise empirical information on the association between digital transformation, dynamic capacities, supply chain resilience, environmental uncertainty and sustainable performance. The review was conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) standards to ensure transparency, reproducibility, and methodological rigour. As the aim was to synthesise findings from empirical investigations and construct a conceptual framework from the literature rather than statistically synthesise impact sizes, a qualitative thematic synthesis was used [13]. The Population–Concept–Context (PCC) framework was used solely to define the review scope and formulate the research question. The PCC elements in Table 1 guided the following research question: How do digital transformation capabilities contribute to supply chain resilience and sustainable performance under environmental uncertainty? The review phenomenon is the role of digital transformation capabilities in enabling supply chain resilience and sustainable performance under environmental uncertainty. The unit of analysis consists of individual empirical studies included in the systematic literature review, with each study serving as a single analytical unit for theory, methodology, context, and findings synthesis.

Table 1. PCC element.

PCC Element	Justification
Population/Context	Supply chains, logistics organizations, manufacturing, SMEs, service organizations
Concept	Digital transformation, dynamic capabilities, supply chain resilience
Outcome	Sustainable performance

1. IDENTIFICATION

Finding pertinent papers on supply chain resilience, digital transformation, sustainable performance, and dynamic capacities was the goal of the identification stage. Scopus was selected for its broad coverage of peer-reviewed research in business, management, operations, and information systems and was systematically searched. A combination of keywords and operators pertaining to digital transformation, Industry 4.0 technologies, supply chain resilience, sustainability, and dynamic capabilities were used in the search strategy. The initial search identified 933 records, which proceeded to screening.

Table 2. Words search.

TITLE-ABS-KEY	Justification
("dynamic capabilit*") AND	To find literature study of dynamic capability and technologies
("supply chain resilience" OR "resilient supply chain") AND	To find literature study of supply chain management and sustainability
("structural equation modeling" OR SEM OR "PLS-SEM" OR "CB-SEM")	To find literature study of supply chain management and structural equation modelling

2. SCREENING

In the screening step, the acquired data were assessed for relevance using predetermined inclusion and exclusion criteria. Records were first sorted for document type, language, source of publication and relevance to study aims. The screening process retained 889 records for further evaluation and 44 records that did not meet the language and document-type criteria. The titles and abstracts of the remaining publications were checked to determine the relevance of the study to the research subject. In this phase, 378 publications were excluded because they did not focus directly on the links between digital transformation, organisational skills, supply chain resilience or sustainability outcomes. The selected studies were assessed using an eight-point evaluation checklist to ensure the methodological quality and reliability. All full-text articles were evaluated using the following eight criteria: (1) a clear statement of research objectives, (2) an appropriate research design, (3) a clearly defined study context, (4) the use of an established theoretical framework, (5) adequate data collection procedures, (6) appropriate data analysis methods, (7) a clear presentation and interpretation of findings, and (8) direct relevance to the review objectives. Each criterion was scored as binary (1 = Yes, 0 = No) with a maximum score of eight possible for each study. The studies that passed the pre-set quality threshold were incorporated into the final synthesis. Articles were excluded if they did not meet the minimum quality score, lacked methodological rigour, did not offer adequate empirical evidence, or were not directly aligned with the review's focus on digital transformation capabilities, supply chain resilience, environmental uncertainty, and sustainable performance. This quality assessment process improved the credibility, transparency and robustness of the systematic literature review. The remaining papers were brought forward to full text review.

3. INCLUSION

The full-text article was assessed during the inclusion stage to verify the article is in accordance with the conceptual scope and the research questions of this review. A full-text assessment was conducted to determine the eligibility of 479 articles. A total of 29 articles met the inclusion criteria and were retained for synthesis. Subsequently, the theoretical bases, methodological approaches, locations of the research, progress of themes, and opportunities for future research in digital transformation and supply chain resilience were all assessed. These criteria are presented in Table 3.

Table 3. Inclusion.

Criteria	Inclusion
Context	Supply chains, logistics, manufacturing, SMEs, and service sectors.
Concepts	Digital transformation, dynamic capabilities
Outcomes	Operational resilience, environmental/economic/social sustainability.
Study Designs	Empirical studies (quantitative, qualitative, mixed-methods).
Exclusions	Non-English papers, editorials, non-peer-reviewed notes, and studies unrelated to supply chain resilience/capabilities.

4. INCLUDED

After excluding irrelevant records, 29 studies were included in the final analysis (Figure 1).

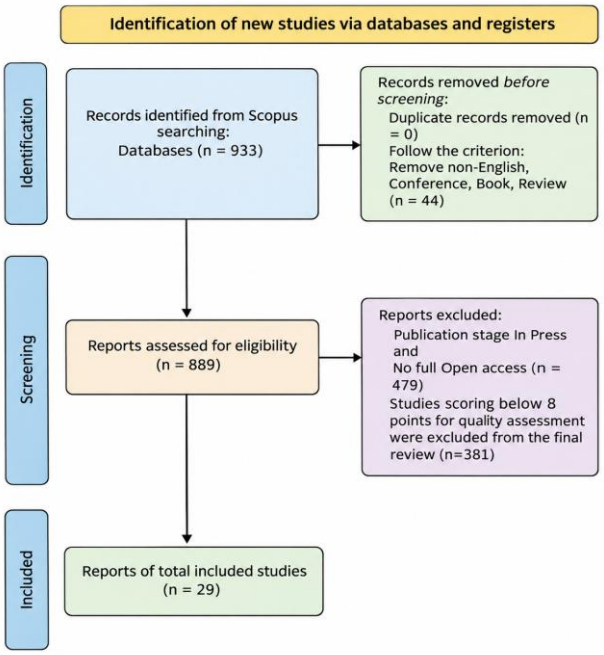


FIGURE 1. PRISMA flow diagram.

IV. RESULTS

1. REVIEW ARTICLE CLASSIFICATION

The analyzed publications show that there is an increasing interest among academics in comprehending how supply chain resilience, agility, sustainability, and organizational performance are influenced by digital technology, strategic resources, and dynamic organizational capacities. The studies may be divided into five main topic groups based on their main area of study: supply chain management, technologies, human and organizational, environmental, and sustainable & strategic performance. Studies looking at technology and capacities as predictors of supply chain and organizational performance make up the largest category. AI, BDA, digital integration, ERP assimilation, Industry 4.0 technologies, and supply chain digitalization are a few examples [3, 4, 8, 10, 14]. All of these studies point to digital technology as strategic enablers that improve organizational resilience and adaptation.

Supply chain management is the topic of another prominent stream. This category of research examines how organizations' capacity to respond to disruptions and uncertainty is enhanced by dynamic capabilities, learning mechanisms, operational transparency, forecasting capabilities, and innovation culture [2, 7, 17]. Results repeatedly show that resilience is a capability-driven process backed by organizational and digital resources rather than just an operational result. It develops capacity to explore competitive advantage, and organisational and human performance. This research investigated entrepreneurial orientation, adaptable ability, absorptive capacity, and business model innovation as processes mediating the relationship between strategic resources and company performance [12, 19, 20]. Finally, a minor category that is currently undergoing the process of evolving is around environmental, sustainable and strategic performance objectives. This encompasses climate change mitigation, sustainable corporate performance, circular economy strategies, and SDGs [9, 21, 22]. This tendency reflects the increasing incorporation of environmental goals in the study of supply chain and organisational capabilities.

2. THEORY

The review of the research assessed indicates a strong theoretical focus on capabilities orientated approaches. More than 70% of the reviewed studies drew on DCT or RBV. The most common theory that is found is the DCT and its versions. It is used as a theoretical lens in most of the research, either alone or in combination with other theories. DCT is widely used, which means it is a good way to show how firms go about seeking opportunities, acquiring resources, and modifying how they work in a changing environment. The second most common theoretical approach is the RBV. Some studies combine RBV and DCT to explain the transformation of important organisational resources into strategic capabilities that provide competitive advantage, resilience and increased performance [10, 13, 23]. According to this theoretical integration, companies need to have dynamic skills in addition to resources in order to deploy and reconfigure such resources in an unpredictable environment.

Several supplementary hypotheses that go beyond these prevailing viewpoints may be found in the literature. The Technology Organization Environment (TOE) framework, Information Processing Theory (IPT), Knowledge-Based View (KBV), Service-Dominant Logic (S-D Logic), Systems Theory, Grounded Theory, Institutional Theory, and Resource Orchestration Perspective are some of these. The interdisciplinary character of current supply chain and digital transformation research is demonstrated by this theoretical variety. There are still a number of gaps despite the diversity of theoretical viewpoints. First, there is little theoretical diversity because the majority of studies primarily depend on capability-based theories. Second, few studies combine organizational-level capacity frameworks with micro-level behavioral theories. Third, there has not been much focus on creating cohesive theoretical models that describe how digital technologies, organizational learning, resilience, and sustainability outcomes interact. Therefore, multi-theoretical techniques that can capture the intricate and dynamic character of digitally enabled supply chains should be investigated in future study.

3. METHODOLOGY

Quantitative research designs are strongly preferred, according to the methodological analysis. Survey-based methods predominate among the examined papers, making up the bulk of empirical investigations. Researchers frequently use web-based surveys, postal surveys, purposive sampling, convenience sampling, snowball sampling, and online platforms to deliver structured questionnaires. The most often used analytical method is Partial Least Squares Structural Equation Modeling (PLS-SEM). PLS-SEM, frequently implemented in SmartPLS, was used to examine mediation, moderation, and higher-order constructs. The reported proportion requires verification against the study matrix. The popularity of PLS-SEM is due to its application to complicated models with latent variables, predictive research and theory development. Conversely, covariance-based SEM approaches including AMOS are not as common.

4. CONTEXT

The contextual analysis shows that the studies assessed are mostly focused on technology, human and organisational aspects, supply chain management, environmental considerations and sustainable and strategic performance. In most studies, sustainability, innovation, resilience and agility have become crucial strategic issues in organisations working in extremely uncertain and dynamic situations. In such cases, the use of sophisticated digital technologies such as AI, BDA, Industry 4.0, ERP systems, digital platforms, and supply chain digitalisation initiatives is prevalent. The rising environmental instability, market unpredictability, disruptive risks and technology advancement has prompted numerous studies on supply chain management [2, 7, 17]. Other studies go beyond conventional supply chains into specific settings, such as port management, electric vehicle ecosystems, wellness tourism, construction management, healthcare pharmacy operations, and climate change mitigation programs. This contextual diversity shows how dynamic capabilities are increasingly important in a variety of sectors.

Nevertheless, a number of limitations are highlighted by the contextual distribution. While public sector organizations, humanitarian supply chains, non-profit organizations, and small developing-economy businesses receive relatively little attention, the majority of research focuses on organizational and industrial contexts. Furthermore, rather than looking at more comprehensive interactions among stakeholders at the

ecosystem level, many studies concentrate on particular technology implementations. Integrating sustainability goals with resilience and digital transformation projects is a new trend. The contribution of digital capabilities to climate resilience, circular economy practices, sustainable business model innovation, and SDGs has been the subject of an increasing number of recent studies. This change implies that future studies will probably adopt a more comprehensive viewpoint that concurrently takes organizational resilience, environmental sustainability, and economic success into account. This kind of integration is a promising direction for advancing organizational capacity and supply chain research theory and practice. (Table 4). The review makes it abundantly evident that supply chain resilience made possible by digital transformation serves as the main study backdrop, PLS-SEM is the predominant methodological technique, and DCT and RBV provide the dominating theoretical foundations. These results offer a solid foundation for determining future research gaps concerning theoretical integration, methodological variety, and resilience frameworks focused on sustainability.

Table 4. Matrix review of articles.

Articles	Theories	Methods	Context	Term used
[24]	Dynamic Capabilities Theory (DCT), Information Processing Theory (IPT)	Cross-sectional survey, Purposive sampling, PLS-SEM	Cognitive SCM significantly influences SC Forecasting and Transparency, which positively impact SC Risk Management.	CSCM, SCF, SCS, SCT, SCRM
[3]	Knowledge-Based View (KBV), Strategic Management	Purposive sampling, Survey, PLS-SEM	Artificial Intelligence and Big Data integration enhances firm resilience, supply chain agility, and the generation of accurate knowledge.	AI, BDAI, Firm Resilience, Supply Chain Agility
[25]	Resource-Based View (RBV), Dynamic Capabilities Theory	Non-probability convenience sampling, Survey, PLS-SEM	Entrepreneurial orientation positively impacts SME performance via sequential mediation by market and learning orientations.	EO (IN, RT, PR), LO, MO, SP
[5]	Socio-technical View, Dynamic Capabilities	Online survey, PLS-SEM	Industry 4.0 mediates human capital and operations planning to positively affect firm resilience.	HC, I4.0, NI, OP, RES
[26]	Systems Theory	Survey via Google Forms/face-to-face, SEM (SPSS/AMOS)	External uncertainty positively affects LSF. Logistics Information Systems mediate the impact of uncertainties on LSF.	LSF, LIS, CBEC, Uncertainties
[10]	Resource-Based View (RBV), Dynamic Capabilities, TOE Framework	Survey, PLS-SEM (SmartPLS)	IT investments positively and significantly impact supply chain visibility, resilience, and performance.	ERP, IoT, RFID, SCV, SCR, SCP
[27]	Positivist Paradigm	Cross-sectional quantitative, Survey, SEM	Digital performance measurement strongly drives SC agility, whereas digital manufacturing	DC, DIT, DLI, DM, SCA, IP

			exhibited a counterintuitive negative effect.	
[4]	SC Operations Reference (SCOR) model, Dynamic Capabilities Theory (DCT)	Virtual snowball sampling, Questionnaire, PLS-SEM	BDA-AI positively impacts SC reliability; Organizational Culture (OC) significantly moderates this impact.	BDA-AI, SCSP, SCRE, OC
[7]	Dynamic Capabilities (DC) framework	Structured survey, Purposive sampling, PLS-SEM	AI tools significantly affect components of innovation culture, which in turn mediate the impact on SC resilience (flexibility, efficiency, velocity).	AI-powered tools, Innovation Culture, Communication, Creativity
[28]	Dynamic Capabilities View (DCV)	Single-respondent survey, PLS-SEM	DT and SCDM significantly improve SCR; Strategic Fit positively moderates the effect of DT on SCR, but not SCDM on SCR.	DT technologies, SCDM strategies, SF, SCR
[12]	Dynamic Capabilities (DCs), Business Model Innovation (BMI)	Questionnaire survey, PLS-SEM, Bootstrapping	Sensing, seizing, and transforming capabilities positively impact performance, partially mediated by Business Model Innovation.	SE, SZ, TR, VP, VC, VCP
[29]	Service-Dominant Logic (S-D logic), Resource-Based View (RBV)	Self-reported survey, PLS-SEM	Digital integration and digital customer engagement capabilities foster sustainable business model innovation and customer value creation.	DSCI, DCEC, SBMI, CVC, CXO
[19]	Resource-Based View (RBV), Entrepreneurial Orientation Framework	SEM, Bootstrapping	Evaluated the effect of entrepreneurial orientation on financial capability, utilizing adaptive capacity as a mediator and social networks as a moderator.	Entrepreneurial orientation, Adaptive capacity, Social networks
[30]	Dynamic Capability View (DCV)	Purposive sampling, Survey, Disjoint two-stage approach, PLS-SEM	Dynamic capabilities directly and indirectly improve port performance via sustainability practices and competitive advantage (serial mediation).	DC, OT, SDTs, DWC, RI, RCP
[8]	Burns & Scapens institutional framework, Dynamic Capabilities	Qualitative, Case study, Gioia methodology	ERP assimilation reshapes management accounting routines. Situated rationalities and agency drive the institutionalization of practices.	ERP, Management accounting, Rules, Routines

[31]	Capability-based conceptualization (DCT)	Purposive sampling, PLS-SEM, Bootstrapping	Cross-training and managerial support positively affect organizational resilience; AI technology readiness moderates this effect.	HR-SCM, Transformative resilience, Organizational resilience
[32]	Dynamic Capabilities Theory	Postal and web-based survey, PLS-SEM	Big Data Analytics Capabilities (BDACs) have a significant impact on innovation and organizational performance in wellness tourism.	BDACs, Organizational Performance
[21]	Resource-Based View (RBV)	Multi-stage stratified sampling, Web-based survey, SEM, PROCESS macro	Agentic AI deployment significantly affects climate change mitigation, with relationships varying across ASEAN sectors.	DSCI, DCEC, SBMI, CVC, CXO
[9]	Dynamic Capabilities, Resource-Based View	Online survey, EFA, CFA, SEM (AMOS)	Data-driven digital transformation and the allocation of big data capabilities have a positive impact on SC resilience.	DDT, BDC, PA, SCI, SCR
[16]	Structural Dynamics	Balanced Panel data regression, Mediation analysis	Digitalisation leads to Circularity, which improves Resilience and ultimately enhances macro-level Sustainability.	Digitalisation, Circularity, Resilience, Sustainability
[11]	Grounded Theory	Grounded Theory (Open, axial, selective coding), SEM	Preventive capability has a direct positive impact on both supply chain resilience and resistant capability.	PC, RC, Resilience
[20]	Resource-Based View (RBV), Dynamic Capability View (DCV)	E-questionnaires, PLS-SEM	Data Governance and Culture are critical antecedents for Big Data Analytics, leading to Data-Driven Innovation and Competitive Advantage.	DG, DDC, BDA, DDI, CA
[14]	Absorptive Capacity Theory, Resource-Based View	Questionnaire, PLS-SEM (SmartPLS), PLS predict	Digital Organizational Culture (DOC) positively impacts Absorptive Capacity, SC Resilience, and Sustainable Performance.	DOC, AC, SCR, SP, ACQ, ASS
[22]	Positivist Paradigm, Dynamic	Convenience sampling, Questionnaire, PLS-SEM	Supply Chain Digitalization has a strong positive effect on Agility, which is mediated by Firm Innovative Capability and DSC Integration	DSC, ED, FIC, SCA, SCD
[6]	Dynamic Capability View (DCV)	Cross-sectional survey, Semi-	Digital Capabilities significantly impact	DC, OT, SDTs, DWC, RI, RCP

		structured interviews, PLS-SEM	Operational Transparency, which partially mediates the pathways to Sustainable Development Goals.	
[23]	Dynamic Capabilities	Convenience sampling, Two-phase survey, PLS-SEM	Resistance to Change (RC) mediates the relationship between Workforce Agility (WA) and Digital Transformation (DT).	WA, RC, DT
[15]	Resource-Based View (RBV), Dynamic Capabilities Theory (DCT)	Non-probability snowball sampling, PLS-SEM	Adaptability and Response Strategy (ARS) fully mediates the relationship between Construction Coordination and Decision-Making/Planning.	SLM, CC, ARS, DMPS
[33]	Dynamic Capabilities Theory (DC), Resource-Based View (RBV), Triple-A Supply Chain	Fuzzy linguistic-based evaluation, MCDM	Identified and prioritized TASC criteria (Agility, Adaptability, Alignment) to enhance hospital pharmacy performance under uncertainty.	TASC, FRNs, MCDM, TFNs
[2]	Dynamic Capabilities Perspective	Random sampling, Questionnaire, SEM, Bootstrapping	Supply chain dynamism positively affects Disruption Orientation and Resilience, which mediates the effect on financial performance.	SCD, SCDO, SCR, FP

5. THEMES

The thematic analysis identified five dominant themes, presented in Tables 5 and 6, within the reviewed literature: (1) Technologies, (2) Human and Organizational Factors, (3) Supply Chain Management Capabilities, (4) Environmental Uncertainty, and (5) Sustainable and Strategic Performance. Collectively, these themes illustrate a capability-driven pathway through which organizations leverage digital technologies and organizational resources to enhance resilience and achieve sustainable performance outcomes.

5.1 Technologies

Technology is a fundamental enabler of digital supply chain transformation. The reviewed studies consistently emphasise the strategic importance of advanced digital technologies, including AI, BDA, IoT, ERP, radio-frequency identification (RFID), cloud computing, and digital integration platforms in strengthening the resilience and capabilities of the supply chain. These technologies enable real-time information flow, predictive analytics, process automation and data-driven decision-making in networked supply chain networks [10]. The digital capabilities most often studied in these technologies are BDA and AI. BDA may be used by businesses to handle and analyse large volumes of structured and unstructured data, increasing strategic responsiveness, forecasting accuracy and situational awareness [4]. These skills are enhanced by AI by means of autonomous decision-making, predictive maintenance, demand forecasting and risk assessment. This way businesses may apply proactive and predictive supply chain management methods, instead of reactive operational approaches [3]. The results highlight digital technologies as strategic resources and operational tools enabling organisational flexibility, resilience and competitiveness in increasingly complex organisational environments.

5.2 Human and Organizational

Organizational and human resources, which are made feasible by the technological foundation of digital technologies, are crucial to the transformation's success. Human capital, workforce flexibility, innovative culture, managerial support, organizational learning, and data governance were shown to be important factors in the success of digital transformation. Workforce agility and adaptability are critical in rapidly evolving technological environments. Employees who possess a high level of digital competency are more likely to embrace new innovations, adjust to challenges, and participate in organizational transformation initiatives [6]. Additionally, organizational policies and practices like cross-training, flexible scheduling, and continuing education programs help employees become more resilient and better equipped to handle challenges during uncertain times [31]. Furthermore, organizational culture and governance frameworks are equally as important as human competencies in converting technology investments into strategic successes. Conversely, strong data governance frameworks safeguard data security, quality, and accessibility, and a data-driven culture encourages evidence-based decision-making [11]. Overall, the study's conclusions indicate that in order for organizations to fully reap the benefits of digital transformation, they must simultaneously build complementary organizational and human skills. "Having technological resources alone does not result in improved performance."

5.3 Supply Chain Management

Supply chain management encompasses the dynamic abilities that allow businesses to anticipate, absorb, adapt and recover from disturbances. Operational continuity and uncertainty management are widely mentioned in the literature as fundamental techniques of supply chain resilience, agility, flexibility, disruption orientation, capacity to predict, and operational transparency. Studies [10, 16] define resilience as a multifaceted quality that allows businesses to continue their operation in the face of unexpected disturbances. Resilience is inherently tied to agility and flexibility, which are both key components of the Triple-A Supply Chain framework. The ability to adjust processes, structures and strategies as a consequence of changes in the environment is termed adaptability; agility is the ability of a company to react quickly to changes in supply and demand conditions [33]. The studies analysed emphasise the relevance of operational transparency and direction of disruption. Organisations that are proactive in risk assessment and systematic in learning from prior disruptions are more likely to establish successful resilience strategies [2]. Similarly, openness promotes cooperation, trust, and rapid decision-making amongst stakeholders via increased visibility in supply chain networks [22]. The results in general show that resilience is a product of connected dynamic abilities which together add to organisational continuity and responsiveness, rather than an autonomous ability.

5.4 Environmental

The environment is one important contextual factor that influences the strategic flexibility and resilience of an organization. The research reviewed has identified a number of sources of uncertainty, such as market volatility, technological disruption, geopolitical instability, natural catastrophes, international crises such as the COVID-19 pandemic [5, 17]. The present-day business environment is one in which companies face more complex and uncertain operational conditions. The ever-changing market dynamics are related to the rapid advancement of technology, the shortening of product life cycles, the changing of consumers' expectations and the increasing worldwide competition [2, 18]. Such external influences challenge traditional management approaches and need businesses to be more flexible and nimbler. The findings show that environmental uncertainty is both a hazard and a motivator of organisational development. However, disruptions may also drive firms to adopt digital technologies, enhance their dynamic capabilities, and develop resilience-oriented strategies, even if they may negatively impair operational performance [26]. Environmental unpredictability is thus a crucial prerequisite which supports the development of organisational resilience and long-term competitiveness.

5.5 Sustainable and Strategic Performance

The final subject is the most recent results from digital transformation and resilience building projects. Traditional performance measurements have been centred on financial indicators, operational efficiency and

market competitiveness [2, 25]. However, the examined studies indicate a new trend towards more holistic performance methodologies, including sustainability, ecological health and social value creation. The synergy of digital technology with resilience features is the basis not just for commercial success but also for social and environmental sustainability objectives. Numerous studies underlined the importance of digital capabilities to the achievement of the SDGs, reduction of their negative environmental impacts, enhancement of resource efficiency and promotion of ethical business practices [13, 22]. Similarly, ecosystem-oriented perspectives highlight the need of good relationships among interdependent supply chain actors to ensure the long-term resilience and sustainability of the network [18]. The results also suggest that the ability of a corporation to absorb technological innovation, dynamic skills and sustainability-oriented initiatives is more vital to acquire sustained competitive advantages. Firms that are able to effectively mix these factors will be more likely to provide customer value, enhance resilience and achieve long term organisational success in changing business circumstances [11, 29].

A sequential link between the identified topics is shown by the thematic analysis. Environmental uncertainty serves as the external trigger, supply chain management capabilities convert resources into resilience, human and organizational factors enable capability development, digital technologies provide the enabling infrastructure, and sustainable and strategic performance is the final result. This full grasp of how businesses use digital transformation and dynamic capacities to achieve resilience and sustainability in modern supply chains is provided by this integrated theme framework.

Table 5. Group Themes.

Themes	Justification	Group Codes (Initial/Extracted Codes)
Technologies	Encompasses the adoption and integration of all digital tools, big data analytics, and artificial intelligence to drive digital supply chain networks.	ERP, IoT, RFID, BDC, DDT, PA, I4.0, BDA, AI, DSC, SCD, DT, BDACs, LIS, SMU, Agentic AI
Human and Organizational	Focuses on internal human resources, workforce agility, innovation culture, data governance, and the organizational capacity to learn and adapt.	ACQ, EXP, ASS, HC, OP, SLM, ERIC, TC, DC, CT, TR, AC, EO, MO, LO, SCL, WA, RC, DG, DDC, SF, SBMI, OC
Supply Chain Management	Represents the strategic mechanisms and intermediate outcomes of handling disruptions. Includes adaptability, rapid response strategies, disruption orientation, and operational transparency.	SCR, RES, ARS, SCA, SCRE, OR, PBSCR, PC, CC, SCDO, CSCM, SCV, OT
Environmental	Contextual factors that trigger the need for resilience, including market turbulence, environmental uncertainty, and global emergencies (like pandemics).	Emergencies, NC, TT, MT, Uncertainty, Risk Management (SCRM)
Sustainable & Strategic Performance	Goals of the supply chain strategies, including financial performance, competitive advantage, ecosystem health, sustainable development goals (SDGs), and customer value creation.	SP, DMPS, SCSP, ED, SDTs, FP, SBP, SDGs, FPerf, CXO, CVC, CA, SCE

Table 6. Themes active with articles.

Articles	Technologies	Human and Organizational	Supply Chain Management	Environmental	Sustainable & Strategic Performance
[10]	/		/		/
[9]	/		/	/	

[14]		/	/		/
[5]	/	/	/		
[15]			/		
[33]			/	/	/
[4]	/	/	/		/
[22]	/	/	/	/	
[6]		/	/		/
[2]		/	/	/	/
[31]	/	/	/	/	/
[25]		/			/
[19]		/	/		/
[8]	/	/			
[23]	/	/			/
[11]			/		
[12]		/		/	/
[20]	/	/			/
[24]	/		/		
[7]	/	/	/		
[28]	/		/	/	/
[30]		/		/	/
[27]	/		/		/
[21]		/		/	/
[16]	/		/	/	/
[26]	/		/	/	
[32]	/			/	/
[29]	/	/			/
[3]	/		/	/	/

V. DISCUSSION

1. THEORETICAL IMPLICATIONS

The research contributes to the existing knowledge of digital transformation, supply chain resilience and organisational capacity by providing a full comprehension of the theoretical underpinning of the topic. The results confirm the RBV and DCT. These are the two main theoretical frameworks used to describe how organisations might combine strategic resources and adaptive capabilities to achieve sustainable performance, agility and resilience. The survival of these notions sustains the theory that competitive advantage is increasingly determined not just by ownership of resources but also by an organization's capacity to constantly reconfigure, integrate and employ resources in a volatile environment. But the research does uncover a tendency of theoretical convergence, in which a considerable body of literature relies on similar capability-based explanations. However, the theoretical integration is disconnected, despite the advancements achieved by several research paradigms (Technology-Organization-Environment (TOE) framework, Information Processing Theory, Knowledge-Based View and Systems Theory) to DCT and RBV. The existing literature mostly focuses on the organisational level skills and does not provide micro foundations for resilience development such individual behaviours, management cognition, organisational learning and employee adaptation. Thus, in the available literature, there is little guidance on the implementation of digital transformation activities at different levels of the organisation. The study points out that future studies using multi-theoretical and multi-level approaches need to combine organisational, behavioural, technical and ecological factors. The combination of DCT with institutional perspectives, complexity theory, behavioural theories and socio-technical systems approaches may provide a more comprehensive view on how businesses manage uncertainty and generate resilience in digitally connected

supply chain environments. Theoretical integration of various perspectives will enable the development of a holistic model explaining the dynamic interrelationships between digital technologies, organisational learning, sustainability initiatives and long-term performance outcomes.

2. PRACTICAL IMPLICATIONS

The findings have substantial implications for managers seeking to enhance supply chain resilience and remain competitive under increasingly uncertain economic conditions. Based on results from the research, investing in contemporary digital technology gives significantly improved operational responsiveness, predictive decision-making, and insight. These technologies include digital integration platforms, Industry 4.0 technology, BDA, and AI. Businesses that have successfully implemented these technologies are better equipped to foresee disruptions, optimize asset allocation, and react swiftly to emerging threats. However, the findings indicate that overall technology investment is insufficient to provide the best organizational outcomes. Complementary organizational traits including a flexible workforce, leadership support and organizational learning, an inventive culture, and robust data governance frameworks are necessary for successful digital transformation projects. As a result, managers must create a transformation strategy that is equitable and enhances both the staff's competencies and the technical infrastructure. To maximize the advantages of digital technology, these information-sharing platforms, cross-functional training, employee upskilling, and continuous learning activities are crucial. Leaders in the supply chain need to cultivate traits of dynamic resilience, such as agility, flexibility, operational transparency, and disruption orientation. Businesses that can learn from previous disruptions, have real-time visibility into supply chain networks, and closely monitor environmental changes are better equipped to handle uncertainty and bounce back from setbacks. Therefore, resilience should be viewed as a strategic skill that is integrated into the company's operations rather than just a response to crises. Digital skills, organizational learning, and resilience-oriented initiatives may help to achieve long-term sustainable competitive advantage from environmental instability.

3. POLICY IMPLICATIONS

The analysis is of fundamental importance to policymakers and regulators seeking to build resilient, sustainable and digitally connected economies. The findings indicate that supply chain resilience and digital transformation are now strategic priorities at national and regional levels, rather than solely organisational challenges. Government interventions should foster the development of digital infrastructures, innovation ecosystems and resilience-building activities that enable enterprises to adapt to technological and environmental change. The key result of the research is that sustainability objectives and digital transformation are merging more and more. Therefore, policy-makers should encourage the embedding of resilience strategies within companies that are connected with wider societal goals such as the implementation of the UN's SDGs, climate adaptation, circular economy initiatives and carbon reduction programmes. Tools to foster, for example, tax incentives, innovation awards, financial initiatives for digital transformation and sustainability-oriented policies, might facilitate the adoption of technology and behaviours that simultaneously improve environmental performance and resilience. The study shows that most research has been conducted in large private-sector and industrial contexts, with very little attention paid to public sector organisations, humanitarian supply chains and SMEs, particularly in developing nations. Authorities should help financial institutions, online literacy initiatives and targeted capacity-building measures to enhance resilience skills in under-represented sectors. Building resilience in a range of organisational situations will promote the development of stronger and more inclusive supply chain ecosystems that can weather future crises and sustain economic growth.

VI. CONCLUSION

There are some limitations that should be considered when interpreting the results of this study. First, the review solely employed the Scopus database which may lead to a database selection bias as relevant papers indexed in other databases may have been missed. Second, the review was limited to the peer-reviewed literature in English, which may have introduced language and publication bias. Third, the included studies were heterogeneous in theoretical views, methodological approaches, research contexts and

measuring processes, which hampered the comparability and generalizability of the findings. Fourth, the methodological quality was assessed. The differences in study quality may alter the strength and reliability of the synthetic evidence. Additional databases should be included in future reviews. Finally, although this study is a comprehensive assessment of the literature based on up-to-date empirical evidence, the links identified should not be interpreted as definitive causal relationships. Therefore, future research should include several academic databases, broader ranges of languages, longitudinal and experimental approaches, and empirical validation of the purported relations.

The reviewed research indicates that digital technologies have an important role to play in strengthening supply chain resilience. Studies [4, 7, 9, 10, 14, 22, 28] identified advantageous links between digital technologies or digitalization and supply chain resilience, agility, visibility or related organizational objectives. For example, study [10] found a beneficial impact of IT investments on supply chain visibility, resilience and performance, whereas Study [4] proposed a positive influence of BDA and AI on supply chain reliability. Studies [7, 28] also showed the positive impact of digital transformation and AI-enabled solutions on supply chain resilience. However, the evidence is mixed. Study [27] reported a counterintuitive negative effect of digital production. Therefore, the benefits of digital transformation may depend on the specific technology, organizational factors, and implementation scenario. Digital technologies should not be considered inherently beneficial or harmful; rather, their success depends on organizational and contextual concerns.

Digital technologies (including AI, BDA, and IoT) serve as strategic resources that support resilience, flexibility, and real-time predictive decision-making in addition to being operational tools. Supply chain resilience is a capability-driven process that mostly focuses on developing human capital, workforce adaptability, a data-driven culture, and strong data governance; technological infrastructure alone is insufficient. Organizations are motivated to invest in digital technology and create proactive resilience plans by environmental unpredictability, such as market instability and global crises, which also serves as a threat. Initiatives for resilience and digital transformation are becoming more closely associated with more general sustainable and strategic performance objectives, such as ecosystem health, circular economy practices, and the accomplishment of the SDGs. This study demonstrates that physical and digital resources are insufficient without the dynamic capability to recognize, grasp, and rearrange them under environmental turbulence, confirming the supremacy of the RBV and the DCT. However, by finding a high degree of "theoretical convergence" and fragmentation, the study questions the state of theory today. In order to explain how individual cognition, employee adaptation, and organizational learning truly create resilience, it expressly argues that macro-level organizational capabilities frameworks must be merged with micro-level behavioral theories.

Based on the synthesis of the examined literature, a multi-level conceptual framework is provided to illustrate the propositional links between digital capabilities, dynamic capabilities, supply chain resilience and sustainable performance under environmental unpredictability. The framework is a conceptual map based on published empirical findings, not a validated causal hypothesis. At the company level, digital transformation skills such as the core technologies like AI, BDA, IoT and ERP are connected with the development of human and organisational capabilities such as workforce agility, data stewardship and a creative culture. It is hypothesised that these firm-level organisational assets may facilitate the development of higher-order dynamic capabilities (sensing, seizing and transforming) at the inter-organisational supply chain network level. These qualities are assumed to be core components of supply chain resilience mechanisms such as agility, operational transparency, disruption orientation, and adaptability. Environmental uncertainty also is a key contextual trigger and moderator that heightens the need for the organization to reconfigure resources and build dynamic capabilities. In summary, the framework hypothesises that better supply chain resilience will contribute to long-term sustainable and strategic performance in the economic, social and environmental aspects. Although most cross-sectional studies show positive relationships, other direct associations show mixed or non-significant results without capacity mediation, suggesting the need for further empirical validation in multi-level situations.

Adopt a well-rounded approach that balances investments in cutting-edge technology (AI, big data) with corresponding investments in human skills, such as upskilling and cross-functional training. Instead of viewing resilience as a reactive strategy, leaders need to include "disruption orientation" and operational openness into everyday practices. Policymakers should create incentives (such as tax breaks and support for digital transformation) that motivate businesses to match their resilience plans with more general society objectives like circular economy principles and climate adaptation. Additionally, they must put in place focused capacity-building initiatives for underrepresented groups, such as public sector organizations and SMEs in emerging nations. Large-scale industrial issues in the private sector are the primary focus of the research. This is especially true for the disproportionate neglect of humanitarian supply chains, public sector organizations, and small-to-medium-sized businesses (SMEs) in developing countries. In particular, government agencies, small and medium-sized businesses in developing nations, and humanitarian supply chains should be the focus of research on digital transformation and skill development in non-standard contexts. The combination of digital technology, operational resilience, and long-term environmental sustainability should be specifically addressed in future research.

Conflicts of Interest

The author declares no conflict of interest.

Author Contributions

Conceptualization, N.A. and T.K.; methodology, N.A. and T.K.; validation, N.A. and T.K.; formal analysis, N.A. and T.K.; investigation, N.A. and T.K.; data curation, N.A. and T.K.; writing—original draft preparation, N.A.; writing—review and editing, N.A. and T.K.; visualization, N.A. and T.K.; supervision, T.K.; project administration, N.A. and T.K. All authors have read and agreed to the published version of the manuscript.

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REFERENCES

1. Li, Y., & Sukhotu, V. (**2025**). Decoding the factors of electric vehicle supply chain resilience: A structured categorization for enhancing resilience through factor synergies. *IEEE Access, 13*, 35281–35297.
2. Yu, W., Jacobs, M. A., Chavez, R., & Yang, J. (**2019**). Dynamism, disruption orientation, and resilience in the supply chain and the impacts on financial performance: A dynamic capabilities perspective. *International Journal of Production Economics, 218*, 352–362.
3. Alaskar, T. H. (**2026**). Integrating AI and big data for firm resilience: The mediating roles of AI capabilities and supply chain agility. *Systems, 14*(5), 554.
4. Es-satty, A., Naimi, M., Lemghari, R., & Okar, C. (**2025**). The impacts of big data analytics and artificial intelligence on supply chain strategic performance: An empirical study. *Operations and Supply Chain Management: An International Journal*, 201–214.
5. Balci, G., Balci, E. S., & Iris, Ç. (**2026**). The role of human capital and Industry 4.0 in socio-technical dynamic capabilities for freight transport resilience. *Transportation Research Part A: Policy and Practice, 204*, 104784.
6. Saha, P., Belal, H. M., & Talapatra, S. (**2024**). Driving toward sustainable development goals (SDGs) in the ready-made garments (RMGs) sector: The role of digital capabilities and operational transparency. *IEEE Transactions on Engineering Management, 71*, 14071–14082.

7. Haddad, H., Jum'a, L., Alkalha, Z., & Madanat, H. (**2026**). AI-powered tools for supply chain resilience: A dynamic capabilities perspective from Jordanian manufacturing firms. *Logistics, 10*(1), 24.
8. Latif, S., Salleh, S. I. M., Ahmad, B., & Saif, F. (**2025**). ERP adoption and strengthening of management accounting and controls at a Pakistani manufacturing SME: A case study approach. *South Asian Journal of Business and Management Cases, 14*(2), 145–161.
9. Papanagnou, C., Seiler, A., Spanaki, K., Papadopoulos, T., & Bourlakis, M. (**2022**). Data-driven digital transformation for emergency situations: The case of the UK retail sector. *International Journal of Production Economics, 250*, 108628.
10. Dar, S. F. D., & Lone, T. A. (**2025**). Impact of information technology usage on visibility resilience and performance of supply chain management: An empirical study. *ShodhKosh: Journal of Visual and Performing Arts, 6*(2).
11. Qi, Y., Li, L., & Kong, F. (**2023**). Research on the improvement path of prefabricated buildings' supply chain resilience based on structural equation modeling: A case study of Shenyang and Hangzhou, China. *Buildings, 13*(11), 2801.
12. Huang, W., & Ichikohji, T. (**2024**). How dynamic capabilities enable Chinese SMEs to survive and thrive during COVID-19: Exploring the mediating role of business model innovation. *PLOS ONE, 19*(5), e0304471.
13. Karuppiah, K., Bahari, N., Wider, W., Nawanir, G., Udang, L. N., & Fauzi, M. A. (**2026**). Understanding e-cigarette and vape use through the theory of planned behavior: A science mapping and TCCM framework analysis of current and emerging trends. *Substance Use & Misuse, 61*(9), 1438–1450.
14. Rodríguez-González, R. M., Madrid-Guijarro, A., & Maldonado-Guzmán, G. (**2023**). Digital organizational culture and absorptive capacity as precursors to supply chain resilience and sustainable performance. *Journal of Cleaner Production, 420*, 138411.
15. Shriharsha, B., Pai, J., & Hungund, S. (**2025**). Enhancing decision-making in construction projects: The mediating role of adaptability and response strategy in supply chain and coordination dynamics. *Results in Engineering, 27*, 106193.
16. Pawar, P. S., & Alsedais, B. A. (**2026**). Building sustainable supply chain resilience through digitalisation and circular practices: Evidence from emerging economies. *Sustainability, 18*(3), 1393.
17. Morishita, I., Pankham, S., & Lekcharoen, S. (**2025**). Advancing sustainable retail performance through digital transformation and social media use: A dual-method FCM–SEM approach in an emerging market. *Sustainability, 17*(23), 10652.
18. Wang, L., Kong, X., Wang, W., & Gong, Y. (**2023**). Pursuing supply chain ecosystem health under environmental turbulence: A supply chain learning approach. *International Journal of Production Research, 62*(8), 2792–2811.
19. Karneli, O., Harlen, N. A., Maulida, Y., Ohara, M. R., & Suhartanti, P. D. (**2025**). Women entrepreneurs in Indonesia's culinary sector: A study on entrepreneurial orientation and financial capability. *International Journal of Entrepreneurship and Small Business, 55*(5), 1–28.
20. Rixin, S., Ramayah, & Xinrui, M. (**2025**). Cultivating competitive advantage for Chinese SMEs via big data analytics: The mediating role of data-driven innovation and antecedents of data governance and data-driven culture. *PLOS ONE, 20*(12), e0337324.
21. Mondal, S., Uyen, N. C. T., Das, S., & Vrana, V. G. (**2025**). Innovation dynamics and ethical considerations of agentic artificial intelligence in the transition to a net-zero carbon economy. *Sustainability, 17*(19), 8806.
22. Ruan, Z., Min, J., Kim, D. S., Ghardallou, W., Ben-Salha, O., & Alazzam, F. A. F. (**2025**). Driving supply chain agility through digitalization: Unpacking the roles of innovation capability and integration in Chinese enterprises. *Journal of Global Information Management, 33*(1), 1–28.
23. Sharma, K., Nigam, N., Jha, J. K., & Xu, X. (**2024**). Role of readiness to change in the relationship between workforce agility and digital transformation. *Journal of Global Information Management, 32*(1), 1–22.
24. Abushaikha, I., Alqahtani, M. S., Bwaliez, O. M., & Bwaliez, O. M. (**2026**). Cognitive supply chain management and risk management in pharmaceuticals: The mediating roles of forecasting, synchronization, and transparency. *Logistics, 10*(1), 11.
25. Allammari, Y., Taqi, A., & El Morabit, N. (**2025**). Entrepreneurial orientation and SME performance: A sequential mediation analysis of market and learning orientation. *Journal of Applied Structural Equation Modeling, 9*(2), 1–30.
26. Chung, S., Kim, H., & Choi, D. (**2025**). Impacts of internal and external uncertainties on logistics service flexibility in cross-border e-commerce logistics: Evidence from South Korea. *Systems, 13*(12), 1082.
27. Elmouhib, S., & Idrissi, Z. Y. (**2025**). Agility in the digital era: Bridging transformation and innovation in supply chains. *Sustainability, 17*(8), 3462.
28. Hossain, M. I., Talapatra, S., Saha, P., & Belal, H. M. (**2024**). From theory to practice: Leveraging digital twin technologies and supply chain disruption mitigation strategies for enhanced supply chain resilience with strategic fit in focus. *Global Journal of Flexible Systems Management, 26*(1), 87–109.
29. Jaffari, A. A., Muzaffar, A., Shaikh, S., & Butt, A. H. (**2026**). Sustainability-driven digital transformation and customer experience in emerging markets: The interplay of business model innovation and value co-creation. *Systems, 14*(4), 390.

30. Kishore, L., Pai, Y. P., Geetha, E., Dmello, V. J., & Bidi, S. B. (**2025**). The impact of dynamic capabilities on shipping port performance: A serial-mediation of sustainability practices based on dynamic capability view. *Discover Sustainability*, *6*(1).
31. Li, Y., & Ndiaye, A. (**2026**). Enhancing resilience in logistics: The role of HR-SCM practices and AI technology readiness. *International Journal of Information Systems and Supply Chain Management*, *19*(1), 1–21.
32. Liu, J., Yong, J. Y., & Rathakrishnan, T. (**2026**). The roles of government support and competitive intensity in big data analytics driven performance in the wellness tourism sector. *Systems*, *14*(4), 379.
33. Sumrit, D., & Katthamaruesee, S. (**2026**). An analytical framework for enhancing hospital pharmacy supply chain performance using fuzzy rough set theory. *Supply Chain Analytics*, *13*, 100187.