
Guest editorial: Navigating complexity: advances in supply chain due diligence for sustainable and resilient operations

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Introduction: navigating complexity through supply chain due diligence

In an era marked by increasing global interdependencies, technological disruptions and heightened regulatory scrutiny, supply chains are evolving into complex, multi-tiered systems that demand greater transparency, accountability and resilience (Zheng *et al.*, 2024; Sonar *et al.*, 2026). Organizations today face unprecedented challenges arising from sustainability pressures, ethical concerns, climate risks and geopolitical uncertainties, all of which necessitate a proactive and structured approach to supply chain governance. In this context, supply chain due diligence (SCDD) has emerged as a critical strategic capability that extends beyond compliance to encompass risk identification, ethical sourcing, environmental stewardship and resilience-building across supply networks (Buttke *et al.*, 2024). As highlighted in this Special Issue, due diligence is no longer a reactive mechanism but a dynamic, data-driven and technology-enabled process that integrates digital transformation, stakeholder collaboration and performance benchmarking to address the complexities of modern supply chains (Samal and Jena, 2025). The contributions in this issue collectively advance our understanding of how organizations can operationalize due diligence through innovative frameworks, digital technologies and governance mechanisms to achieve sustainable and resilient outcomes. By bringing together diverse perspectives spanning agri-food systems, hospitality, e-commerce, manufacturing and circular economy contexts, this Special Issue provides a comprehensive exploration of the evolving role of due diligence in navigating complexity and shaping the future of supply chain management.

Supply chain due diligence through local agricultural integration in hospitality

This study examines how hospitality firms operationalize supply chain due diligence through the integration of local agricultural sourcing, offering a nuanced perspective on sustainability-oriented governance in food supply chains. Adopting a qualitative multiple-case study approach across four leading hospitality organizations in Vietnam, the authors demonstrate that due diligence extends beyond compliance to function as a strategic and operational capability embedded within sourcing practices. The findings identify key dimensions of due diligence, including resource-oriented assessment, transparency and traceability mechanisms, stakeholder governance and cascading compliance across supply networks. Importantly, the study highlights how these practices generate multidimensional sustainability value – economic, environmental, social and cultural while simultaneously enhancing resilience and enabling circular supply chain transitions. By integrating the Natural Resource-Based View with circular economy principles (Hoang *et al.*, 2026), contributes to theory by positioning local sourcing not merely as a procurement decision but as a governance mechanism for sustainability and accountability. This work provides important insights into how context-specific, relationship-driven supply chains can operationalize due diligence in fragmented and locally embedded ecosystems.



Digital maturity as a driver of sustainable and resilient hotel operations

Focussing on the role of digital transformation in hospitality (Ranjan *et al.*, 2026), investigates how digital maturity influences sustainability and resilience through operational practices in

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hotels. Using Partial Least Squares Structural Equation Modelling (PLS-SEM), the authors develop and test a comprehensive framework linking digital maturity with environmental management practices, community-oriented initiatives, employee-focused practices and operational excellence. The findings reveal that digital maturity significantly enhances sustainability outcomes, particularly through community and employee engagement mechanisms, while resilience is mediated by these socio-operational practices. Grounded in dynamic capability theory, the study underscores that digital transformation is not merely technological adoption but involves capability development, organizational alignment and cultural transformation. The research contributes by bridging the gap between Industry 4.0 technologies and hospitality operations, demonstrating how digitally mature firms can simultaneously achieve efficiency, sustainability and adaptability. This paper offers valuable managerial implications by highlighting the need for integrated digital strategies that align operational excellence with broader sustainability and resilience objectives.

Supply chain ambidexterity as a strategic capability for resilience

This paper advances the understanding of supply chain resilience by positioning ambidexterity as a central dynamic capability that enables firms to navigate uncertainty and disruption. Drawing on data from 2,301 manufacturing firms and employing Structural Equation Modelling (Rashid *et al.*, 2026), examines the interplay between structural risk sharing, collaboration, ambidexterity, dynamic sensing, reconfiguration and flexibility. The findings demonstrate that supply chain ambidexterity – defined as the simultaneous pursuit of alignment and adaptability plays a pivotal mediating role in enhancing resilience. Specifically, structural mechanisms such as risk sharing and collaboration significantly influence ambidexterity, which in turn drives dynamic capabilities and supply chain flexibility, ultimately strengthening resilience outcomes. Grounded in the Dynamic Capability View, the study provides a holistic and integrative framework that moves beyond isolated capability analysis toward understanding the synergistic interactions among structural and dynamic elements. This research contributes theoretically by introducing sequential mediation effects and empirically validating ambidexterity as a critical enabler of resilient supply chains in highly volatile environments.

Big data analytics adoption for enhancing flexibility and supply chain resilience

Addressing the growing importance of data-driven decision-making (Kumar *et al.*, 2026), explores the antecedents and outcomes of Big Data Analytics (BDA) adoption in manufacturing supply chains. Using the Technology–Organization–Environment (TOE) framework and PLS-SEM analysis of survey data from Indian firms, the authors identify key drivers of BDA adoption, including technological competence, organizational readiness, financial support and competitive pressure. The findings reveal that BDA adoption significantly enhances organizational flexibility and supply chain resilience, enabling firms to respond effectively to dynamic and uncertain environments. The study highlights how BDA functions as a strategic resource that supports real-time decision-making, improves operational efficiency and strengthens adaptive capabilities. By linking digitalization with resilience outcomes, the research contributes to the literature on Industry 4.0 and supply chain management, offering empirical evidence on how data-centric approaches can transform traditional supply chains into agile and resilient systems. The study also provides actionable insights for managers seeking to leverage analytics for competitive advantage and disruption management.

Benchmarking supply chain due diligence in agri-food systems

This study develops a comprehensive benchmarking framework to examine how supply chain due diligence is institutionalized and how it influences sustainability performance

and resilience in agri-food supply chains. Using covariance-based Structural Equation Modelling (CB-SEM) on data from 230 professionals (Sharma, 2026), empirically validate the relationships between regulatory pressure, technological transparency, supply chain complexity and due diligence practices. The findings indicate that due diligence acts as a strategic governance capability rather than a compliance mechanism, with sustainability performance serving as a key mediator in enhancing supply chain resilience. By integrating governance, performance measurement and benchmarking perspectives, the study reconceptualizes due diligence as a performance-driven capability embedded within operational systems. This research makes a significant contribution by offering one of the first empirically validated benchmarking models for due diligence in agri-food contexts, providing both theoretical advancement and practical tools for assessing maturity levels and improving governance effectiveness across supply chains.

Blockchain adoption for sustainable e-waste recycling and reverse supply chains

Addressing the growing complexity of electronic waste management, this study develops a strategic framework to examine barriers to blockchain technology adoption in reverse supply chains. Using the Grey DEMATEL methodology (Agrawal and Singh, 2026), uncover causal relationships among multiple technological, regulatory and organizational barriers influencing blockchain adoption in e-waste recycling systems. The findings highlight that the lack of blockchain-compatible infrastructure and tools acts as a critical root cause, triggering cascading effects such as risk aversion, collaboration challenges and implementation complexity. The study further identifies regulatory ambiguity, insufficient technical expertise and infrastructural limitations as key interrelated barriers that collectively hinder adoption. By moving beyond traditional linear ranking approaches, the research contributes by offering a causal mapping perspective that captures the systemic interdependencies among barriers. This provides deeper insights into how emerging digital technologies can enable transparency, traceability and sustainable value creation within circular economy systems. The study also offers actionable implications for policymakers and practitioners, particularly in developing economies, emphasizing the need for targeted investments in infrastructure, regulatory clarity and capacity building to unlock blockchain's potential in reverse supply chains.

Modelling enablers of sustainable and resilient supply chain due diligence

This study develops a hierarchical and interpretive framework to understand the enablers of sustainable and resilient supply chain due diligence in global operations. Employing a mixed-method approach integrating Modified Total Interpretive Structural Modelling (m-TISM) and MICMAC analysis (Shardeo *et al.*, 2026), systematically identify and structure key enablers across multiple levels of influence. The findings reveal that regulatory alignment, leadership commitment and multi-stakeholder collaboration act as foundational drivers with high driving power, while operational and technological elements such as traceability systems, ESG monitoring and circular economy integration emerge as dependent outcomes. Importantly, the study demonstrates how institutional and strategic factors exert cascading effects on operational capabilities, emphasizing the systemic nature of due diligence implementation. By reframing supply chain due diligence as a hierarchical and evolving organizational capability, the research contributes to both theory and practice by offering a structured roadmap for prioritization and benchmarking. The interpretive modelling approach further enhances understanding by explaining not only the relationships among enablers but also the underlying logic governing their interactions, thereby addressing a critical gap in existing literature that often examines these factors in isolation.

Evolution of supply chain resilience in the context of global disruptions

This study provides a comprehensive examination of the evolution of supply chain resilience (SCRES) by integrating systematic literature review (SLR), network analysis and qualitative comparative analysis (QCA). Based on an extensive review of 198 studies (Ramanathan *et al.*, 2026), identify four key sectors – manufacturing, agriculture, human wellbeing and logistics and uncover three dominant themes shaping resilience: technology, human–technology interface and market-side performance. The findings reveal that while each theme independently contributes to resilience, their combined interaction, particularly between technology and human interface, has become increasingly critical in the post-pandemic context. The study highlights a paradigm shift in resilience from a risk management perspective to a broader socio-technical and systemic capability. By comparing pre- and post-COVID literature, the research offers novel insights into how resilience has evolved in response to global disruptions and technological advancements. This work contributes methodologically through the integration of SLR and QCA, and conceptually by advancing a holistic understanding of resilience as a multi-dimensional and dynamically evolving construct.

Conclusion: a call for advancing due diligence in complex supply chains

The contributions in this Special Issue underscore the transformative potential of supply chain due diligence as a strategic enabler of sustainability and resilience in increasingly complex global operations. From benchmarking due diligence practices in agri-food systems and modelling enablers in global supply chains to leveraging digital technologies such as blockchain, big data analytics and UAVs, the studies collectively demonstrate how due diligence can enhance transparency, mitigate risks and strengthen adaptive capabilities across supply networks. Importantly, the findings reveal that effective due diligence requires an integrated approach that combines technological innovation, organizational commitment, regulatory alignment and multi-stakeholder collaboration. However, realizing this potential is not without challenges. Persistent barriers related to infrastructural limitations, regulatory ambiguity, technological readiness and capability gaps continue to hinder the widespread adoption and effective implementation of due diligence practices, particularly in developing and resource-constrained environments.

As guest editors, we believe that the insights and frameworks presented in this Special Issue offer a valuable foundation for advancing both theory and practice in supply chain due diligence. Future research should focus on developing context-specific due diligence models for emerging economies, integrating advanced digital technologies such as AI-driven risk analytics and digital twins, and exploring the role of behavioural and cultural factors in shaping due diligence effectiveness. Additionally, there is a need for longitudinal and multi-tier empirical studies to better understand how due diligence capabilities evolve over time and across supply chain networks. Policymakers and practitioners must also collaborate to design enabling regulatory frameworks and capacity-building initiatives that support scalable and inclusive due diligence implementation. We hope this Special Issue inspires continued research, interdisciplinary dialogue and practical action toward building supply chains that are not only efficient and competitive but also sustainable, ethical and resilient in the face of ongoing global complexity.

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