The Oscar Publishing Services
American Journal of Applied Science and Technology

VOLUME Vol.05 Issue 11 2025
PAGE NO. 265-272

SUSTAINABLE SUPPLY CHAIN MANAGEMENT: THEORETICAL SYNTHESIS, MODELING APPROACHES, AND PRACTICAL PATHWAYS TOWARD LOW-WASTE, RESILIENT NETWORKS

Dr. Amina R. Delgado
Global Institute for Supply Chain Sustainability, University of Lisbon

Received: 10 November 2025; **Accepted:** 22 November 2025; **Published:** 30 November 2025

ABSTRACT:

Background: Sustainable supply chain management (SSCM) has matured from normative prescriptions to an interdisciplinary field that blends ethics, operations research, risk management, and market mechanisms. Foundational work established definitional boundaries and conceptual frameworks; subsequent quantitative modeling and empirical studies have advanced our ability to design, manage, and evaluate supply chains that account for economic, environmental, and social dimensions (Linton et al., 2007; Seuring & Müller, 2008; Carter & Rogers, 2008). Despite progress, persistent gaps remain in integrating heterogeneous theoretical perspectives, operationalizing social criteria, and aligning market incentives with system-level sustainability objectives (Touboulic & Walker, 2015; Seuring & Müller, 2008).

Objective: This article synthesizes extant theoretical foundations and modeling approaches for SSCM, proposes an integrated conceptual architecture for designing and evaluating sustainable supply chains, and articulates prescriptive insights for managers and policy makers. The work strictly draws on the provided reference corpus and elaborates theoretical implications, counter-arguments, and future research directions.

Methods: A structured interpretive synthesis of seminal and contemporary works was performed: conceptual frameworks (Seuring & Müller, 2008; Carter & Rogers, 2008), structured literature reviews (Touboulic & Walker, 2015; Seuring, 2012), and quantitative model surveys (Brandenburg et al., 2014). The methodology section describes how theory integration, taxonomy construction, and model selection heuristics are derived from these sources and used to generate normative guidance.

Results: The synthesis identifies three organizing logics for SSCM: (1) normative-ethical logic emphasizing social responsibility and legitimacy (Anner, 2012; Buchanan, 2000); (2) market-incentive logic focusing on the role of demand, regulation, and transparency (Vermeulen & Seuring, 2009; Chowdhury, 2025); and (3) analytic-technical logic emphasizing modeling, optimization, and measurement (Seuring, 2012; Brandenburg et al., 2014). From this, an integrated architecture is proposed that brings together governance mechanisms, metric systems, quantitative models, and digital enablers. Practical recommendations center on robust decision rules, layered metrics, and stakeholder-aligned governance.

Conclusions: Progress in SSCM requires co-evolution of theory and application: richer social metrics, hybrid quantitative methods, and market structures that internalize externalities. The article concludes with a research agenda and policy recommendations that prioritize measurement, transparency, and resilience while acknowledging trade-offs and limitations.

Keywords: sustainable supply chain management, quantitative models, governance, social sustainability, transparency, resilience

INTRODUCTION:

The contemporary discourse on supply chains has shifted from an exclusive focus on cost and speed to a more nuanced emphasis on sustainability—integrating economic efficiency with environmental stewardship and social responsibility. Early conceptual work framed sustainable supply chains as multi-dimensional constructs requiring organizational change and extended network perspectives (Linton et al., 2007; Seuring & Müller, 2008). Over time, scholars have elaborated definitions, constructed conceptual frameworks, and introduced methodological innovations for measuring and optimizing sustainability outcomes (Carter & Rogers, 2008; Seuring, 2012). Yet, despite theoretical maturation and applied innovation, persistent gaps limit the transformational potential of SSCM: social dimensions remain under-measured and operationalized (Munny et al., 2019); markets often fail to reward sustainability (Vermeulen & Seuring, 2009); and quantitative models, while powerful, sometimes oversimplify complex normative trade-offs (Brandenburg et al., 2014).

This study addresses three interrelated problems. First, conceptual fragmentation persists: multiple theoretical traditions (ethical, market-driven, risk-based, and analytical) offer different prescriptions for design and evaluation, but integration remains limited (Touboulic & Walker, 2015). Second, modeling and measurement approaches have advanced but lack systematic guidance for when particular quantitative techniques are appropriate, and how to interpret results in a holistic sustainability context (Seuring, 2012; Brandenburg et al., 2014). Third, emerging digital technologies—blockchain, advanced IT for project management and resilience—offer promise but their real impact, scalability, and governance implications are still being assessed (Chowdhury, 2025; Atadoga et al., 2024).

Against this backdrop, the present article pursues four goals. The first is to synthesize and reconcile diverse theoretical perspectives into a coherent architecture for SSCM. The second is to map quantitative modeling approaches to substantive managerial questions, clarifying scope conditions and trade-offs. The third is to examine how governance and market mechanisms interact with modeling and measurement to produce sustainable outcomes. The fourth is to articulate a practical and research agenda that addresses measurement, methodological pluralism, and institutional alignment. The synthesis follows logically from the provided reference corpus and foregrounds both established insights (Seuring & Müller, 2008; Carter & Rogers, 2008) and emergent evidence on digital transparency and resilience (Chowdhury, 2025; Atadoga et al., 2024).

METHODOLOGY

The methodology for this study is a structured interpretive synthesis that draws exclusively on the references provided by the commissioning instruction. The synthesis combines methods from systematic literature review traditions and conceptual integration techniques that enable theory building from heterogeneous sources (Touboulic & Walker, 2015; Seuring, 2012). Three complementary methodological moves were executed.

First, a conceptual mapping exercise categorized the literature into thematic clusters: definitional and conceptual foundations; methodological/modeling approaches; governance and market mechanisms; social sustainability; resilience and risk; and technological enablers. Foundational conceptual works (Linton et al., 2007; Seuring & Müller, 2008; Carter & Rogers, 2008; Vermeulen & Seuring, 2009) provided the basis for definitional clarity. Reviews and methodological surveys (Seuring, 2012; Brandenburg et al., 2014; Touboulic & Walker, 2015) guided classification of modeling methodologies and key constructs.

Second, analytic extraction identified the central propositions and methodological recommendations from each reference. For conceptual papers, this involved isolating primary constructs, assumed causal relationships, and normative claims. For methodological papers, this involved mapping model types (optimization, simulation, multi-criteria decision analysis, life-cycle assessment, robust optimization) to typical questions and data requirements, following the taxonomy articulated by Brandenburg et al. (2014) and Seuring (2012). Social sustainability literature (Munny et al., 2019; Anner, 2012) was analyzed for operational indicators and institutional mechanisms.

Third, integration employed abductive reasoning to reconcile diverse perspectives and generate an architecture that is both theoretically grounded and operationally actionable. The integration process sought to preserve the normative sensitivity of social approaches (Anner, 2012; Buchanan, 2000), the market-facing insights on demand and transparency (Vermeulen & Seuring, 2009; Chowdhury, 2025), and the rigor of quantitative methods (Brandenburg et al., 2014; Seuring, 2012). The resulting framework was validated conceptually by cross-referencing claims across the corpus; apparent contradictions (for example, between efficiency-driven optimization and justice-oriented social metrics) were not resolved by suppressing dissenting views but by articulating the boundary conditions under which each perspective offers guidance.

Methodological limitations of this synthesis should be acknowledged. Because the exercise is restricted to the supplied reference set, it intentionally omits literature beyond those sources; this constraint enables deep alignment with the user's instructions but limits the inclusion of complementary or more recent studies not provided. The synthesis is also interpretive rather than empirical: it does not collect primary data, but aims to translate existing theoretical and methodological knowledge into a cohesive roadmap. The analytical choices—such as which models to foreground—reflect the emphases of the provided references (e.g., significant attention to quantitative models as in Brandenburg et al., 2014).

RESULTS

The synthesis yields three principal results: (1) a conceptual taxonomy of SSCM logics and mechanisms; (2) a mapping of quantitative modeling approaches to managerial questions and their limitations; and (3) an integrated architectural blueprint that links governance, metrics, modeling, and digital enablers to practical strategies for low-waste, resilient supply chains.

1. Conceptual taxonomy: three organizing logics

The literature coalesces around three organizing logics for SSCM: normative-ethical, market-incentive, and analytic-technical. Each logic foregrounds different drivers, assumptions, and mechanisms.

Normative-ethical logic. This logic centers on responsibility, legitimacy, and human wellbeing. Buchanan (2000) articulates the ethical foundations that link health and well-being to organizational practices; Anner (2012) highlights freedom of association and labor rights as core ethical concerns in global value chains. Under this logic, sustainable supply chain initiatives derive from moral obligations and organizational legitimacy pressures, and they elevate social metrics—labor rights, community impacts, equitable outcomes—alongside environmental metrics (Munny et al., 2019).

Market-incentive logic. Vermeulen and Seuring (2009) emphasize how markets and consumer preferences can drive sustainability adoption. Chowdhury (2025) demonstrates how transparency technologies such as blockchain create market signals that can reward sustainable behavior by enabling credible traceability and waste reduction. This logic assumes that market mechanisms, regulation, and reputational effects can align private incentives with public goods, provided credible information and institutional design are present.

Analytic-technical logic. This logic concerns modeling, metrics, and optimization. Seuring (2012) and Brandenburg et al. (2014) catalog the array of quantitative tools—life cycle assessment (LCA), multi-objective optimization, stochastic models, robust optimization, and simulation—that can quantify trade-offs and support decision making. This logic assumes that formal analysis can convert sustainability objectives into tractable constraints and objectives for design and operations.

Crucially, the literature suggests these logics are complementary rather than competing. Touboulic and Walker (2015) call for theoretical plurality, urging scholars and practitioners to integrate multiple theories to capture the complexity of SSCM. The implication is that effective practice requires ethical commitments, market-aligned incentives, and analytical rigor working in concert.

2.Mapping quantitative models to managerial questions

Brandenburg et al. (2014) and Seuring (2012) provide systematic overviews of quantitative approaches; synthesizing their work yields clear mappings between model families and the managerial decisions they support.

Life Cycle Assessment (LCA). LCA is suited for product-level environmental accounting and for comparing design alternatives in terms of cradle-to-grave impacts (Alvarez-Rodriguez et al., 2020). LCA excels at highlighting hotspots of environmental burden and informing eco-design, but it can be data-intensive and sensitive to system boundaries.

Multi-objective optimization. When decision-makers face simultaneous economic and environmental objectives, multi-objective optimization can trace Pareto frontiers and clarify trade-offs (Benjaafar et al., 2012). It is valuable for strategic network design (facility location, capacity choices) but often requires simplification of social dimensions into quantifiable proxies.

Stochastic and robust optimization. For uncertain demand, supply disruptions, and variability in emissions factors, stochastic and robust optimization methods provide solutions that hedge against risk (Paul et al., 2017; Bandi et al., 2019). These approaches are particularly relevant for medical supply chains and critical goods where reliability is paramount (Bandi et al., 2019).

Simulation models. Agent-based and discrete-event simulation capture dynamic behaviors and emergent properties in complex networks. They are useful for testing interventions in urban logistics, crowd logistics, and last-mile delivery scenarios (Buldeo Rai et al., 2017). Simulations allow incorporation of behavioral rules and heterogeneity but are computationally intensive and require calibration.

Multi-criteria decision analysis (MCDA). MCDA supports decisions where multiple qualitative and quantitative criteria—economic, environmental, social—must be balanced. It is a practical tool for stakeholder-inclusive decision processes but depends on the elicitation of weights and the transparency of value judgments.

Carbon footprint modeling and input-output analysis. Carbon accounting models and environmentally extended input-output (EEIO) frameworks identify supply chain contributions to emissions at sectoral scales (de Vries & Ferrarini, 2017). These approaches illuminate consumption-based responsibilities but can obscure firm-level actionable levers.

Integration across model types. The literature stresses the value of hybrid approaches—e.g., coupling LCA with multi-objective optimization or embedding stochasticity within optimization frameworks to capture both environmental impacts and operational uncertainty (Mota et al., 2015). Brandenburg et al. (2014) urge careful matching of model complexity to managerial questions and data availability.

3. Integrated architectural blueprint

The integrated architecture synthesizes governance, metrics, modeling, and digital enablers into a coherent approach for designing and operating sustainable supply chains.

Governance layer. Governance mechanisms include corporate CSR commitments, buyer-supplier contracts, regulatory standards, and multi-stakeholder initiatives. Anner (2012) warns that governance structures can be ambivalent: they may aim for legitimacy yet produce control mechanisms that undermine worker autonomy. Effective governance must therefore balance enforcement with participatory mechanisms that empower stakeholders (Wittstruck & Teuteberg, 2012).

Metric and measurement layer. The architecture demands layered metrics: (a) product-level environmental footprints (LCA), (b) network-level emissions and resource use (EEIO and footprinting), and (c) social impact indicators (labor conditions, community outcomes). Munny et al. (2019) show that social sustainability requires context-sensitive indicators and industry-specific measurement strategies. Measurement should be transparent and auditable to support market incentives (Chowdhury, 2025).

Modeling and decision-support layer. Choose modeling tools based on decision context: strategic design calls for optimization and LCA; operational resilience needs stochastic/robust models; policy and stakeholder deliberation benefits from MCDA and simulation. Hybrid models that combine LCA with optimization or robustness considerations provide nuanced trade-off analysis (Benjaafar et al., 2012; Brandenburg et al., 2014).

Digital enablers layer. Technologies—blockchain for traceability (Chowdhury, 2025), advanced IT for project management and resilience (Akindote et al., 2024; Atadoga et al., 2024)—facilitate measurement, transparency, and coordination. However, technology alone does not guarantee sustainability; it must be embedded within governance and market contexts that reward verified improvements.

Operational levers. Operationally, the blueprint recommends a set of levers: eco-design (reducing material and energy intensity), supplier engagement and capacity building, demand management and circular strategies (repair, reuse, remanufacture), logistics optimization for fuel and emissions reduction, and investment in resilience through redundancy and flexible sourcing (Carter & Rogers, 2008; Mota et al., 2015).

DISCUSSION

The synthesis yields several interpretive insights, critical reflections, and implications for research and practice. These are organized around thematic tensions: measurement vs. meaning, market incentives vs. regulation, modeling rigor vs. realism, and technology vs. governance.

Measurement versus meaning. Quantitative metrics afford rigor but risk excluding intangible or contextually salient social aspects. Munny et al. (2019) document the challenges of operationalizing social sustainability: indicators may be difficult to measure, context-dependent, and contested. Buchanan (2000) reminds us that human well-being is a normative construct that cannot be fully captured by narrow indicators. Therefore, measurement systems must be multilayered, combining quantitative footprints with qualitative assessments, stakeholder narratives, and participatory approaches. MCDA and deliberative scoring procedures can help integrate diverse values into decision-making, but the process must transparently expose weightings and trade-offs.

Market incentives versus regulation. Vermeulen & Seuring (2009) argue that market mechanisms can scale sustainability when consumers and business partners value transparency and are willing to pay premiums. Chowdhury (2025) offers an empirical account of blockchain increasing transparency and reducing waste, thereby strengthening market-based incentives. Yet market mechanisms can be uneven: premium capture varies across sectors and consumer segments, and vulnerable workers may not benefit if gains accrue to brand owners (Anner, 2012). Hence, markets must be complemented by regulatory standards and social protections to ensure distributive justice. Multi-stakeholder governance platforms and public procurement policies can align demand-side levers with social objectives.

Modeling rigor versus realism. Quantitative models are invaluable for clarifying trade-offs, but their prescriptions depend on assumptions—data quality, system boundaries, functional forms—that influence outcomes (Brandenburg et al., 2014). For example, multi-objective optimizations may present elegant Pareto solutions, but the underlying representation of social impacts as scalar penalties can distort normative complexities. Robustness analysis, scenario modeling, and sensitivity analysis are therefore essential to reveal how results vary with assumptions. Additionally, hybrid models that embed behavioral rules or stakeholder preferences can bridge the gap between mathematical solutions and implementable strategies.

Technology versus governance. Digital innovations (blockchain, advanced IT systems) can improve traceability and coordination (Chowdhury, 2025; Atadoga et al., 2024). However, technology is an enabler not a substitute for governance. Trustworthy data architectures require institutional frameworks for verification, liability rules, and mechanisms for dispute resolution. Moreover, technology adoption can create new power asymmetries—firms that control data platforms may consolidate bargaining power unless governance ensures equitable access and standards. Hence, technology deployment must be accompanied by deliberative governance arrangements and capacity building among smaller suppliers and civil society.

Limitations and counter-arguments. The synthesis is restricted to the provided references and does not incorporate potentially relevant external empirical studies or more recent developments beyond the supplied corpus. Some scholars might argue that the framework is overly ambitious in expecting integration across normative and technical domains; tensions between economic competitiveness and social justice are sometimes irreconcilable in the short term. In response, the architecture emphasizes boundary conditions: it does not promise seamless integration but offers tools for clarifying trade-offs and designing institutional arrangements that attenuate conflicts over time.

Practical recommendations

Drawing on the synthesis, the following practical steps are recommended for managers and policy makers seeking to advance SSCM in their networks.

1.Adopt layered measurement. Implement product-level LCA for environmental hotspots, complement with network-level emissions accounting, and develop industry-customized social indicators. Use third-party verification where possible to enhance credibility (Seuring & Müller, 2008).

2.Match models to questions. Use multi-objective optimization for strategic design, robust/stochastic methods for resilience planning, and simulation/agent models for operational testing in complex urban logistics contexts (Buldeo Rai et al., 2017; Mota et al., 2015).

3.Invest in transparency technologies carefully. Blockchain and advanced IT can support traceability and waste reduction (Chowdhury, 2025), but deployment should be phased with governance protocols and data-sharing agreements to avoid unintended concentration of power.

4.Integrate suppliers through capacity building. Governance models that combine contractual requirements with supplier support reduce compliance costs and enable continuous improvement (Wittstruck & Teuteberg, 2012).

5.Use procurement levers. Public and private procurement can create demand for sustainable offerings and internalize externalities; procurement specifications should incorporate clear sustainability criteria and scoring mechanisms (Vermeulen & Seuring, 2009).

6.Embrace hybrid metrics. Combine quantitative footprints with qualitative social assessments and stakeholder input—use MCDA frameworks to synthesize results and support transparent decision-making.

7.Prepare for trade-offs and distribute gains. Recognize that improvements in environmental performance may produce distributional impacts; design benefit-sharing or transition assistance programs for affected stakeholders (Anner, 2012).

Limitations of recommended approaches

Even well-designed strategies face constraints. Data limitations hinder model accuracy; LCA hinges on granular life cycle inventories that may be unavailable for many suppliers. Social metrics are often qualitative and resource-intensive to collect. Market incentives can be fragile in downturns; regulatory backstops are needed. Modeling complexity may outpace managerial capacities; simpler heuristic rules coupled with scenario testing may be more actionable for many organizations. Finally, technology adoption without inclusive governance risks reinforcing existing inequalities.

Future research agenda

The following research directions emerge as particularly urgent and promising.

1.Social metric operationalization. Develop robust, scalable indicators for social sustainability that capture worker agency, labor rights, and community outcomes while remaining comparable across contexts (Munny et al., 2019).

2.Hybrid modeling methods. Advance integrated frameworks that combine LCA, optimization, robustness analysis, and simulation to produce actionable designs under uncertainty (Brandenburg et al., 2014).

3.Market governance interactions. Empirically examine how transparency technologies (e.g., blockchain) interact with market structures and regulatory regimes to affect sustainability outcomes and distributional impacts (Chowdhury, 2025).

4.Small supplier inclusion. Investigate mechanisms for integrating small and informal suppliers into sustainability programs without imposing disproportionate costs, including capacity-building models and financing solutions (Wittstruck & Teuteberg, 2012).

5.Resilience-sustainability trade-offs. Explore conditions under which resilience investments (e.g., redundancy) complement or conflict with sustainability goals such as resource efficiency (Paul et al., 2017; Mota et al., 2015).

6.Behavioral and institutional experiments. Test interventions in procurement, supplier incentives, and consumer nudges to identify scalable mechanisms that align private incentives with public goods.

CONCLUSION

This integrative article synthesizes conceptual foundations, quantitative modeling approaches, and governance mechanisms for sustainable supply chain management based on the provided reference corpus. The central insight is that sustainable supply chains require pluralistic approaches: normative commitments, market-oriented incentives, and analytical rigor must be combined within institutional frameworks that ensure transparency, inclusion, and resilience. Quantitative models are indispensable for clarifying trade-offs but must be used judiciously with attention to data limitations and normative complexity. Digital technologies offer novel capabilities for traceability and coordination, yet their promise will only be realized when embedded within governance systems that protect vulnerable stakeholders and distribute benefits fairly.

Practical adoption hinges on layered measurement, model selection that matches decision contexts, deliberate governance arrangements, and attention to supplier capacity and social outcomes. The research agenda prioritizes better social metrics, hybrid modeling methods, empirical assessment of technology-governance interactions, and inclusive strategies for small suppliers. By following an integrative architecture that aligns metrics, modeling, governance, and technology, practitioners and scholars can advance supply chains that are not only efficient but also equitable and environmentally sound.

REFERENCES

1. Linton, J.D., Klassen, R., & Jayaraman, V. (2007). Sustainable supply chains: An introduction. Journal of Operations Management, 25, 1075–1082.
2. Vermeulen, W.J.V., & Seuring, S. (2009). Sustainability through the market — the impact of sustainable supply chain management: Introduction. Sustainable Development, 17, 269–273.
3. Seuring, S., & Müller, M. (2008). From a literature review to a conceptual framework for sustainable supply chain management. Journal of Cleaner Production, 16, 1699–1710.
4. Carter, C.R., & Rogers, D.S. (2008). A framework of sustainable supply chain management: Moving towards new theory. International Journal of Physical Distribution & Logistics Management, 38(5), 360–387.
5. Touboulic, A., & Walker, H. (2015). Theories in sustainable supply chain management: A structured literature review. International Journal

of Physical Distribution & Logistics Management, 45(1/2), 16–42.

6. Seuring, S. (2012). A review of modeling approaches for sustainable supply chain management.
7. Brandenburg, M., Govindan, K., Sarkis, J., & Seuring, S. (2014). Quantitative models for sustainable supply chain management: Developments and directions. European Journal of Operational Research, 233, 299–312.
8. Chowdhury, W. A. (2025). Blockchain for Sustainable Supply Chain Management: Reducing Waste Through Transparent Resource Tracking. Journal of Procurement and Supply Chain Management, 4(2), 28–34. https://doi.org/10.58425/jpscm.v4i2.435
9. Akindote, O.J., Adegbite, A.O., Omotosho, A., Anyanwu, A., & Maduka, C.P. (2024). Evaluating the effectiveness of IT project management in healthcare digitalization: A review. International Medical Science Research Journal, 4(1), 37–50.
10. Anner, M. (2012). Corporate social responsibility and freedom of association rights: The precarious quest for legitimacy and control in global supply chains. Politics & Society, 40(4), 609–644.
11. Atadoga, A., Osasona, F., Amoo, O.O., Farayola, O.A., Ayinla, B.S., & Abrahams, T.O. (2024). The role of IT in enhancing supply chain resilience: A global review. International Journal of Management & Entrepreneurship Research, 6(2), 336–351.
12. Benjaafar, S., Li, Y., & Daskin, M. (2012). Carbon footprint and the management of supply chains: Insights from simple models. IEEE Transactions on Automation Science and Engineering, 10(1), 99–116.
13. Buchanan, D.R. (2000). An Ethic for Health Promotion: Rethinking the Sources of Human Wellbeing. Oxford University Press.
14. Buldeo Rai, H., Verlinde, S., Merckx, J., & Macharis, C. (2017). Crowd logistics: An opportunity for more sustainable urban freight transport?. European Transport Research Review, 9, 1–13.
15. Carter, R., & Easton, P.L. (2011). Sustainable supply chain management: Evolution and future directions. International Journal of Physical Distribution & Logistics Management, 41(1), 46–62.
16. Paul, S.K., & Sarker, R. (2017). A quantitative model for disruption mitigation in a supply chain. European Journal of Operational Research, 257, 881–895.
17. Mota, B., Gomes, M.I., Carvalho, A., & Barbosa-Povoa, A.P. (2015). Towards supply chain sustainability: Economic, environmental and social design and planning. Journal of Cleaner Production, 105, 14–27.
18. Giannakis, M., & Papadopoulos, T. (2016). Supply chain sustainability: A risk management approach. International Journal of Production Economics, 171, 455–470.
19. Munny, A.A., Ali, S.M., Kabir, G., Moktadir, M.A., Rahman, T., & Mahtab, Z. (2019). Enablers of social sustainability in the supply chain: An example of footwear industry from an emerging economy. Sustainable Production and Consumption, 20, 230–242.
20. Green, K.W., Zelbst, P.J., Meacham, J., & Bhadauria, V.S. (2012). Green supply chain management practices: Impact on performance. Supply Chain Management: An International Journal, 17, 290–305.
21. de Vries, G.J., & Ferrarini, B. (2017). What Accounts for the Growth of Carbon Dioxide Emissions in Advanced and Emerging Economies? The Role of Consumption, Technology and Global Supply Chain Participation. Ecological Economics, 132, 213–223.
22. Wittstruck, D., & Teuteberg, F. (2012). Understanding the success factors of sustainable supply chain management: Empirical evidence from the electrics and electronics industry. Corporate Social Responsibility and Environmental Management, 19, 141–158.
23. Ahi, P., & Searcy, C. (2013). A comparative literature analysis of definitions for green and sustainable supply chain management. Journal of Cleaner Production, 52, 329–341.
24. Alvarez-Rodriguez, C., Martin-Gamboa, M., & Iribarren, D. (2020). Sustainability-oriented efficiency of retail supply chains: A combination of life cycle assessment and dynamic network data envelopment analysis. Science of The Total Environment, 705, 135977.
25. Alwadani, R., & Ndubisi, N.O. (2021). Family business goal, sustainable supply chain management, and platform economy: A theory-based review & propositions for future research. International Journal of Logistics Research and Applications. doi:10.1080/13675567.2021.1944069.
26. Bandi, C., Han, E., & Nohadani, O. (2019).

Sustainable inventory with robust periodic-affine policies and application to medical supply chains. Management Science, 65(10), 4636–4655.

27. Giannakis, M., & Papadopoulos, T. (2016). Supply chain sustainability: A risk management approach. International Journal of Production Economics, 171, 455–470.

28. Wittstruck, D., & Teuteberg, F. (2012). Understanding the success factors of sustainable supply chain management: Empirical evidence from the electrics and electronics industry. Corporate Social Responsibility and Environmental Management, 19, 141–158.

29. Carter, C., & Easton, P.L. (2011). Sustainable supply chain management: Evolution and future directions. International Journal of Physical Distribution & Logistics Management, 41, 46–59.

30. Benjaafar, S., Li, Y., & Daskin, M. (2012). Carbon footprint and the management of supply chains: Insights from simple models. IEEE Transactions on Automation Science and Engineering, 10(1), 99–116.

31. Buchanan, D.R. (2000). An Ethic for Health Promotion: Rethinking the Sources of Human Wellbeing. Oxford University Press.

32. Buldeo Rai, H., Verlinde, S., Merckx, J., & Macharis, C. (2017). Crowd logistics: An opportunity for more sustainable urban freight transport?. European Transport Research Review, 9, 1–13.