International Journal of Physical Distribution & Logistics Management

Innovators and Transformers
Revisiting the gap between academia and practice: insights from the green logistics phenomenon

Received 30 December 2023
Revised 5 April 2024
29 April 2024
Accepted 6 June 2024

Amer Jazairy
Department of Maritime Business Administration, Texas A&M University, Galveston, Texas, USA
Timo Pohjosenperä
Oulu Business School, University of Oulu, Oulu, Finland
Lorenzo Bruno Prataviera
Cranfield School of Management, Cranfield University, Cranfield, UK, and
Jouni Juntunen
Oulu Business School, University of Oulu, Oulu, Finland

Abstract

Purpose – Logistics and supply chain management (L&SCM) scholars and practitioners have devoted extensive efforts to advancing green logistics practices (GLPs), yet the intersection between the two domains in relation to the topic remains underexplored. To accelerate GLPs' development amid the escalating climate crisis, this research examines this intersection by comparing the responsiveness of academia and practice to the call for green logistics over time.

Design/methodology/approach – To compare between academia and practice, we combined a systematic literature review on the development of GLPs in L&SCM journals (N = 122) with a content analysis of annual and sustainability reports published by the four major global logistics service providers (LSPs: DHL, DB Schenker, UPS and FedEx; N = 156) over the past three decades.

Findings – This research reveals that all the GLPs covered in the L&SCM literature have already been applied and reported by practitioners, both consistently and over a significant period of time. Academic progress, in turn, is delayed by slow-paced empirical methods, elevated research quality standards, prolonged funding and recruitment processes, and extended peer-review intervals. Further, a tendency toward *reactive* knowledge creation rather than *proactive* knowledge transfer is evident, obscuring the role of L&SCM scholars in steering the industry's green advancement.

Practical implications – Recommendations are offered to L&SCM authors, editors, reviewers and university departments to advance pracademic endeavors in green logistics research and increase its responsiveness to global events.

Originality/value – This is one of the first studies to scrutinize the intersection between academia and practice on the evolution of GLPs. The revealed gaps prompted us to suggest a transformative paradigm for academia-practice collaborations targeting the L&SCM discipline at large, combining a bold proactive research stream aimed at knowledge transfer with a more traditional reactive stream aimed at knowledge creation.

Keywords Green logistics evolution, Logistics service providers, LSP, Shipper, Environmental sustainability, Practical relevance, Supply chain disruptions

Paper type Literature review

International Journal of Physical Distribution & Logistics Management
Emerald Publishing Limited
0960-0035
DOI 10.1108/IJPDLM-12-2023-0497

1. Introduction

Green logistics has emerged as a transformative force within the logistics industry, driven by increasing environmental awareness and growing needs for sustainable practices to preserve the planet (Lieb and Lieb, 2010; Sharma *et al.*, 2023). Historically, the concept was primarily focused on reducing emissions and optimizing fuel efficiency in transportation (McKinnon *et al.*, 2015). It was not until the late 1990s and early 2000s that the concept has matured to encompass a broader range of green logistics practices (GLPs) (Jazairy *et al.*, 2021), including waste reduction, green packaging and integration of renewable energy sources (Colicchia *et al.*, 2013; Martinsen and Bjorklund, 2012). Advances in technology have further facilitated this maturity, allowing for optimized route planning, enhanced fleet management and adoption of electric vehicles (Centobelli *et al.*, 2020; Prataviera *et al.*, 2023a). This transformation is not just a trend but a necessary evolution (van Hoek, 2021), reflecting the growing societal and regulatory pressures to accelerate the adoption of GLPs by the logistics sector (Huge-Brodin *et al.*, 2020). Indeed, in a world grappling with climate change, resource depletion and environmental degradation (Sweeney *et al.*, 2018), the logistics sector is increasingly finding itself at a pivotal juncture: it must adapt, innovate and transform to mitigate its environmental footprint while maintaining, or even enhancing, its service quality to meet escalating customer demands (Moncef and Monnet Dupuy, 2021; Roy and Mohanty, 2023).

The urgency of this transformation has sparked substantial interest among researchers and practitioners alike, with a growing number of initiatives, reports and consortia from both groups reflecting this interest. Recent negotiations at COP28 in Dubai have agreed on a global "transition away from fossil fuels," calling for a deep re-evaluation of logistics functions and their strategies to meet rising sustainability challenges (McKinsey, 2023). Such a sense of urgency, however, coincided with a palpable tension between academic scholarship and industry practice; while academia focuses on cultivating theoretical frameworks and rigorous methods to understand and address environmental challenges, practitioners operate within the pragmatic constraints of real-world applications to find immediate solutions (Dwivedi *et al.*, 2024). This makes one wonder if practitioners have outpaced academics in their comprehension and adoption of GLPs – recalling instances where logistics and supply chain management (L&SCM) scholars have drifted away from the field's foundations of relevance and industry engagement (Lambert, 2019). Such potential misalignments between the two streams can inhibit the integration of theoretical insights and practical solutions, stalling progress in mitigating the environmental impact of logistics functions.

While climate change cannot wait, actionable measures are still within reach. This identifies a need for creative imagination from both academics and practitioners to design and implement logistics systems that are regenerative in the face of grand challenges like global warming (van Hoek *et al.*, 2023). To lay the foundation for this discourse, we examine how effective L&SCM academics and practitioners have been in responding to the call for green logistics by positing the following research question:

RQ1. How do L&SCM academics and practitioners compare in their pace and responsiveness to the call for green logistics over time?

To compare between academia and practice, we combined (1) a systematic literature review on GLPs' development in L&SCM journals, covering 122 peer-reviewed articles, with (2) a content analysis of annual and sustainability reports published by the four major global logistics service providers (LSPs: DHL, DB Schenker, UPS and FedEx), encompassing 156 reports over the past three decades. See Supplementary Materials at https://doi.org/10.1108/IJPDLM-12-2023-0497 for full method details.

This research contributes to the L&SCM literature by revealing potential discrepancies (or consistencies) between academia and practice vis-à-vis green logistics endeavors.

Specifically, it evaluates and compares the responsiveness and sensitivity of both streams to climate protection initiatives and global events, offering a historical narrative of their evolution in parallel with escalating climate urgencies. In doing so, it provides insights into how efforts from both streams can be better aligned to encourage further development in this critical area. This inquiry also enabled us to revisit the renowned gap between research and practice (Stentoft and Rajkumar, 2018; Svanberg, 2020), which, in turn, prompted us to offer actionable recommendations aimed at strengthening the interaction between the two streams and better positioning them to address the urgent challenge of climate change. In our conclusions, we propose a new transformative paradigm for academia-practice collaborations, aiming to enhance research responsiveness for both the green logistics phenomenon and the L&SCM discipline at large.

2. Key events driving interest in green logistics

The global awareness of the detrimental impact of logistics activities on the natural environment developed incrementally, gaining prominence in the late 20th and early 21st centuries (Evangelista, 2014). In the 1960 and 1970s, concerns were more focused on local environmental issues such as air pollution, noise, vibration and visual intrusion (McKinnon *et al.*, 2015), but the 1992 Earth Summit in Rio de Janeiro marked a shift towards recognizing the broader environmental impacts of various industries, including logistics (Bloemhof *et al.*, 2015). The contribution of the logistics sector to climate change gained further attention following the Kyoto Protocol in 1997, which led to increased scrutiny of greenhouse gas emissions from this sector (Colicchia *et al.*, 2013). In early 2000s, the Intergovernmental Panel on Climate Change (IPCC), alongside other scientific bodies, began providing more explicit evidence of the impact of transportation and warehousing on climate change (Abbasi and Nilsson, 2016). This awareness was further reinforced in the 2010s, as concepts like Corporate Social Responsibility (Piecyk and Björklund, 2015) and Green Supply Chain Management (Jazairy and von Haartman, 2020) came to the forefront in the logistics industry, highlighting the importance of reducing emissions from logistics functions and the need to expedite the adoption of GLPs (Prataviera *et al.*, 2023b). Table A in the Supplementary Materials lists key global events that have significantly influenced climate mitigation efforts in human activities.

The question that arises here is how these events drove the adoption of GLPs by the main actors responsible for their facilitation: LSPs (Perotti *et al.*, 2012). In closer connection to the core of this paper, we reflect on the role we – as L&SCM researchers – can play in stimulating the adoption of GLPs by LSPs in response to rising awareness of the matter. Are we in a position where the logistics sector is reliant on our guidance to introduce green initiatives, or does the sector already possess the necessary capabilities to proactively address the challenge at hand? Examining the growth of the annual and sustainability reports that mention already adopted GLPs by the four leading global LSPs (i.e. DHL, DB Schenker [1], FedEx and UPS), and comparing them to the development of academic articles examining the same topic in our field (Figure 1), we notice that practitioners are significantly ahead of academics in this arena – albeit quite late compared to the first global conference on the human environment in 1972 or the Brundtland Report in 1987.

Before driving this point home, it is important to note that the first publication about green logistics in a mainstream logistics journal does not necessarily signify the starting point of research on this topic. An interpretation of this kind would have ignored a large body of earlier research undertaken before logistics gained recognition as a field of academic inquiry, argued McKinnon *et al.* (2015), who also dated substantive research efforts on the subject back to the mid-1960s. With that said, the focus of this paper is not to scrutinize research efforts on green logistics altogether; rather, to specifically shed light on the responsiveness of the L&SCM research field in addressing GLPs compared to practice. As such, Figure 1 shows

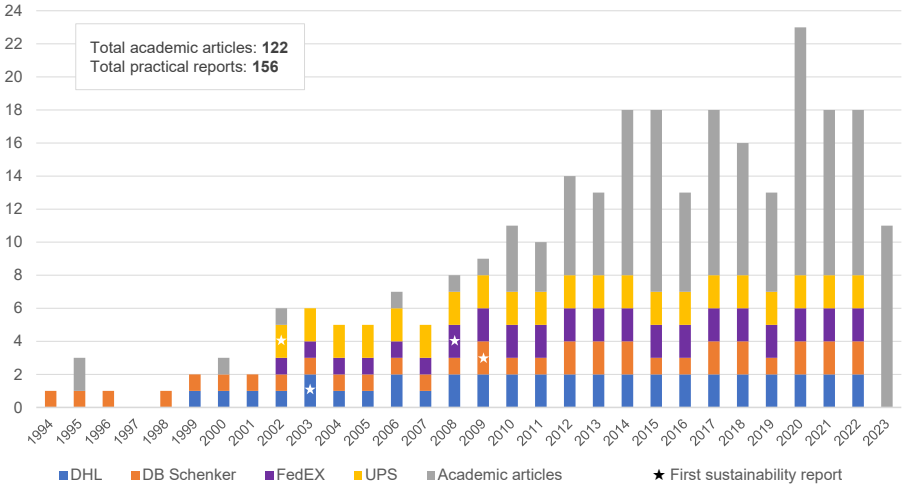


Figure 1.
Accessed practical reports and academic articles addressing GLPs

Source(s): Created by authors

that DB Schenker pioneered in incorporating GLPs (mainly in relation to rail operations) in their reports since 1994, joined by the other three LSPs from the late 1990s onwards. In turn, Murphy *et al.*'s (1995) piece, "Role and relevance of logistics to corporate environmentalism," along with Wu and Dunn's (1995) article, "Environmentally responsible logistics systems," signify the first peer-reviewed works on green logistics published in our journals – both appearing in IJPDLM. While one might expect these articles to have inspired substantial contributions on the topic in subsequent years, Figure 1 shows that the field did not truly gain momentum until the early 2010s, with the exception of five articles that were sporadically published throughout that decade. Practice, meanwhile, remained consistent in their efforts; as soon as a (leading) LSP incorporated GLPs in its annual reports, it continued to do so in the following years. Yet, quantity does not necessarily represent impact. Perhaps these early few academic pieces had a large impact on the practical domain – or, in contrast, perhaps the accumulation of the 122 academic articles did not lead to as much impact on practice as one might have originally wished. In the following sections, we shed further light on the responsiveness of each of academia and practice in addressing GLPs, followed by a nuanced comparison between the two streams in reference to global events.

3. The evolution of green logistics research and practice

3.1 Research evolution

Although one might expect scholars to simultaneously respond to global events and pressing academic inquiries, the reality paints a different picture. McKinnon *et al.* (2015) note that national interests often drive research efforts on green logistics; In the UK, for example, studies on green logistics initially tackled public concerns about large trucks, whereas in Germany, the focus was on reverse logistics due to strict packaging waste laws in the early 1990s. In contrast, US-led research on reverse logistics was mainly economically driven, focusing on cost and profitability more than environmental incentives. As L&SCM scholars began investigating the phenomenon during the mid-1990s, a futuristic tone can be noticed in their appraisal of the industry's environmental movement, such as Wu and Dunn's (1995, p. 21) note, ". . . firms *will take* [emphasis added] proactive steps to incorporate environmental

management principles," and Murphy *et al.*'s (1995, p. 19) statement, "A critical challenge facing logistics executives … *will be* [emphasis added] the need to expand the role and relevance of logistics as a major contributor to corporate environmental management." These remarks suggest that the field perhaps did not have much to say about GLPs at that time due to their scarcity in practice, possibly explaining its silence on the topic for almost a decade to come.

While a few contributions on green logistics emerged from the early 2000s (e.g. Fernie *et al.*, 2000; Meade and Sarkis, 2002), it was not until the 2010s that GLPs became further industrialized in practice and reflected in academia. Indeed, this period marked a significant increase in scholarly attention, with L&SCM scholars starting to examine already implemented GLPs rather than hypothetically conceived ones (Colicchia *et al.*, 2013; Eng-Larsson and Norrman, 2014). For instance, scholars began consistently mentioning the ISO 14001 certificate as an integral part of green reporting (e.g. Centobelli *et al.*, 2020; Perotti *et al.*, 2012; Sallnäs, 2016), with some attempts to link the certification's impact on LSPs' performance (e.g. Bajec *et al.*, 2015).

Inquiries have matured, evolving from exploratory "what" (Lieb and Lieb, 2010) and "if" questions (Wolf and Seuring, 2010) to more complex "how" (Laguir *et al.*, 2021) and "why" investigations (Ellram *et al.*, 2022). The focus has expanded from exclusively examining LSPs (Perotti *et al.*, 2012) or shippers (Björklund, 2011) to including both (Jazairy, 2020; Sallnäs, 2016), and even extending to other stakeholders (Huge-Brodin *et al.*, 2020; Prataviera *et al.*, 2023a). This evolution coincided with a growing global trend towards unifying academic efforts to accelerate green logistics research. Several L&SCM journals arranged special issues exclusively for this topic, and a number of prominent conferences started hosting dedicated sessions to that end. The European Operations Management Association (EurOMA), a major global conference for L&SCM scholars, branched out annual conferences solely to address sustainable L&SCM research since 2014. Consequently, the field has amassed a total of 122 scholarly contributions addressing GLPs in one way or another.

3.2 Practice evolution

The industrial reports of the four major LSPs illustrate their evolution from the mid-1990s to the present day, reflecting a significant shift in the industry's approach to sustainability. Initially peripheral, environmental considerations have become central to the industry's operations and strategic positioning, driven by both regulatory changes and competitive dynamics.

In the 1990s, mentions of GLPs began to surface in these reports, albeit more as a favorable mention than a reflection of substantial action. For instance, Deutsche Bahn's (before their merger with Schenker) annual reports from this era prominently featured their "Climate Protection 2020" program, launched in 1994. This program highlighted a shift from road to rail transportation, a change presented as an environmentally friendly initiative. Such communications often focused on existing, easily implementable changes (i.e. low hanging fruits) to position the companies as eco-conscious in the eyes of their stakeholders.

Nonetheless, the majority of the reports from the 1990s and early 2000s primarily discussed efforts to enhance logistics efficiency in terms of speed and service levels. Environmental sustainability was not yet a central theme in these narratives. The landscape began to shift more noticeably in the early 2000s. LSPs started to release dedicated sustainability-related reports (UPS in 2002, DHL in 2003, FedEx in 2008 and DB Schenker in 2009), which described, for example, their acquisition of ISO 14001 certificates and implementation of alternative transport modes – indicating a growing importance of environmental considerations. This change was partly influenced by evolving regulations, such as the Energy Policy Act of 2005 in the US and the EU Waste Framework Directive of

2008. These regulations mandated certain environmental standards to be met, compelling LSPs to adapt their operations and reporting practices in compliance. By the late 2000s and early 2010s, a competitive dynamic emerged among LSPs around the implementation of GLPs. Pioneering initiatives in green shipping options, electrification of vehicles and recycling practices not only showcased corporate responsibility but also offered a competitive edge. Soon, adopting GLPs became essential for industry players to remain competitive in the marketplace.

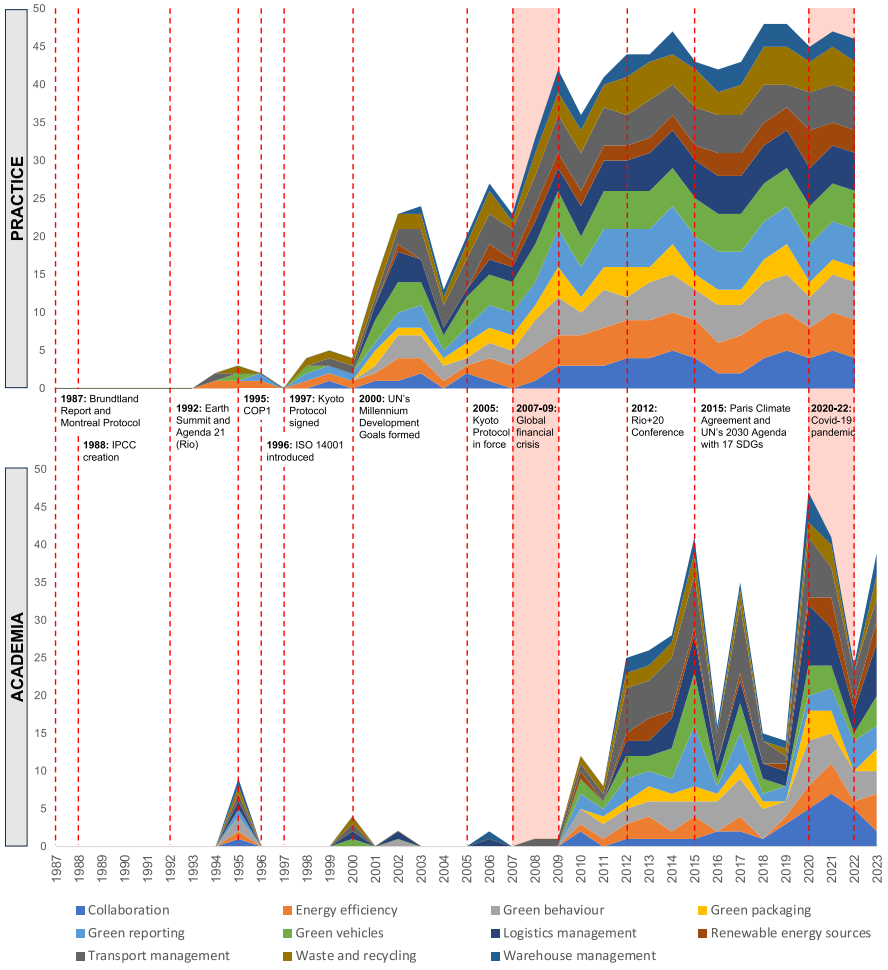
Entering the second decade of the 2000s, sustainability initiatives became commonplace, with LSPs reporting extensively on their environmental efforts in line with recognized standards such as the Global Reporting Initiative. This period saw the integration of sustainability as a fundamental aspect of annual reports, often detailed in separate sustainability or corporate responsibility reports. The intensification of regulations like the EU Energy Efficiency Directive (2012), the 2030 Agenda (2015), the Paris Agreement (2015), the EU Circular Economy Package (2015) and the European Green Deal (2020) further propelled LSPs towards adopting cleaner vehicles, improving energy efficiency in warehouses and pursuing more sustainable operations overall.

3.3 Comparing research and practice

Drawing parallels between academia and practice regarding the green logistics phenomenon, we observe that the L&SCM field's examination of GLPs intensified only after their pragmatic application by industry practitioners. In other words, it becomes evident that the majority of L&SCM research efforts did not originate GLPs from scratch; rather, they focused on elucidating the rationale behind their adoption and exploring avenues for their refinement. This observation is further supported by Figure 2, which shows that all the GLPs discussed in the L&SCM literature were already operationalized and reported by the four major LSPs over a considerable period of time. The figure also reveals the consistency among practitioners in implementing and reporting GLPs as well as their recognition of the various types, leading to a uniform emphasis on all GLPs over time. On the contrary, L&SCM scholars have placed fluctuating year-to-year weights on the different types of GLPs, despite the growing body of research on them over the past 15 years.

Figure 2 also exhibits the coverage of GLPs in academia and practice in parallel to key global events and sustainability initiatives. Although establishing direct cause-and-effect links for such events in either stream remains elusive, we observe that the responsiveness (and sensitivity) of practice to global occurrences is strikingly more evident. Note, for example, how LSPs' first mentions of GLPs shortly followed the Earth Summit in 1992, or how the first COP1 meeting in 1995 and the signing of the Kyoto Protocol in 1997 coincided with the birth of a few additional GLPs shortly after. A steeper rise in the industry's responsiveness can be observed after the conception of the UN's Millennium Development Goals in 2000, a trend that slightly slowed down then quickly reversed in 2005 when the Kyoto Protocol came into force. From then, practitioners entered a progressive no-return point, with a gradual incline in implementing and reporting GLPs (across their diverse forms) until reaching what can be called a "saturation point" (i.e. when almost all types of GLPs are steadily and consistently implemented and reported by all LSPs). This point coincided with the Paris Climate Agreement and the introduction of the UN's Sustainable Development Goals (SDGs) in 2015 and has maintained momentum through the Covid-19 pandemic to the present day.

In turn, academia (particularly us, L&SCM scholars) can hardly be described as responsive. Several global events and milestones have passed without a clear pulse from our end – except for a few "bumps" following the Earth Summit in 1992 (Figure 2). It was not until 2009 that GLPs started to appear more clearly in our journals, perhaps in response to the Kyoto Protocol being put into force a few years earlier, in 2005. The 2007-2009 financial crisis, along with its



Source(s): Created by authors

Figure 2.
Coverage of GLPs: academic articles vs practical reports

detrimental impact on energy demand and supply, coincided with the rise of several investigations of GLPs in our journals (e.g. Lieb and Lieb, 2010). However, our pace – though evolved in maturity, breadth and quality (as discussed in Section 3.1) – is far from steady or consistent. For instance, while the Rio+20 Conference overlapped with growing research endeavors tackling GLPs across their diverse forms, our academic coverage unexpectedly fluctuated in non-uniform waves post the Paris Agreement in 2015, yet to experience another cyclical wave parallel to the Covid-19 pandemic. At this junction, one might ask: Is academia's responsiveness governed by the quantity of our publications and the frequency of mentioning certain GLPs in them? Not necessarily; it is possible to argue that a handful of seminal papers addressing GLPs holistically may suffice to demonstrate responsiveness, provided they offer generative insights for years to come. We, however, adopt a (careful) contrasting stance. Every published article concludes with avenues for further research, inviting other scholars to

investigate the nuances revealed or overlooked in the current study. If this discourse had continued in a healthy manner, we would not expect such irregularity to be present in the process. This nonuniform coverage of GLPs through time aligns with Jazairy and von Haartman's (2021) observation, who noted that past research on green logistics often treats GLPs as a singular entity – failing to establish focused inquiries for each GLP despite their unique characteristics. However, this trend seems to have shifted lately, with more recent studies being dedicated to examining certain GLPs in greater depth, such as those covering green warehousing (e.g. Perotti and Colicchia, 2023) or modal shifts (e.g. Sallnäs *et al.*, 2022).

As business researchers, we understand the compelling drive for logistics practitioners to develop GLPs in a fast and attentive manner. Being surrounded by escalating stakeholder demands, rapidly changing market dynamics and sudden influxes of global disruptions, LSPs are compelled to swiftly embrace innovative and sustainable solutions that satisfy all stakeholders and yield a competitive edge (Huge-Brodin *et al.*, 2020; Prataviera *et al.*, 2023a). This responsiveness is a necessity for their survival in the extremely intense – and often, unforgiving – competitive sphere (Jazairy, 2020). In our academic sphere, on the other hand, the prevailing metrics guiding the discipline seem to have diverted us from paths that would directly benefit practitioners (Lambert, 2019), or society at large (Touboulic and McCarthy, 2020). That is, the dominant publication paradigm tends to prioritize expanding the existing body of literature – often to secure tenure and promotion – without involving practitioners in either the research design or the tenure process (Lambert, 2019). This path overlooks the immediate needs of the main stakeholders our research purports to serve, resulting in an "overflow of theoretical relevance" (Stentoft and Rajkumar, 2018, p. 515) at the expense of practical relevance. A tendency among reviewers to decline review invitations or perform non-constructive reviews may have also slowed our discipline's pace and contributed to its divide from practice (Hazen *et al.*, 2016).

What is also intriguing from our observation is that our role as L&SCM scholars seems to mainly revolve around adding insights about the applications of GLPs to our body of knowledge – perhaps hoping that by better understanding how GLPs work, we can suggest ways for practitioners to improve them. While this could mark a substantial stride in knowledge creation (Sandberg and Tsoukas, 2011), our contribution to knowledge transfer in this domain seems rather limited, encompassing – at best – the dissemination of findings via seminars, executive reports, or teaching sessions (Hazen *et al.*, 2016). Such contributions may appear less exciting when compared to other fields within the natural sciences (e.g. physics), where foundational research has catalyzed groundbreaking practical developments like atomic power plants and quantum mechanics applications.

Before feeling discouraged by this realization, we should first consider whether our field is truly capable of driving radical change in the industry to match its pace and sense of urgency. This invites a closer examination of the research and publication process within L&SCM.

4. Assessing the green logistics research and publication process

In this section, we shed light on the research and publication process for the green logistics phenomenon to closely evaluate our discipline's responsiveness to industry needs and the escalating climate crisis. Let's first envision this rather common scenario in academia: global climate events incite national interests to commence green logistics research. A research team at a local university spends several months preparing and applying for grants from government or private agencies to fund their study. Once the grant is secured (if ever), the department advertises a position for doctoral/postdoctoral researchers to dedicate ample time and attention to the project. The selected candidate(s), after navigating a potentially lengthy hiring process (including visa acquisition for international candidates), begin their role at the department. Before digging into their inquiries, the newly appointed researchers need time to

master relevant research methods and familiarize themselves with extant literature. If all goes well, worthwhile research questions could be formulated within six months of hiring. Adding this to a year for fund acquisition and another six months for the hiring process, it could take up to two years before beginning fieldwork and data collection. Three additional months could be added if the study involves human subjects and requires approval of ethical boards. This scenario, however, is not always the case; not all L&SCM scholars seek new hires for their research, nor do all projects need external funding for their inception. In US business schools, for example, it is very common for faculty members to utilize departmental funds for their research.

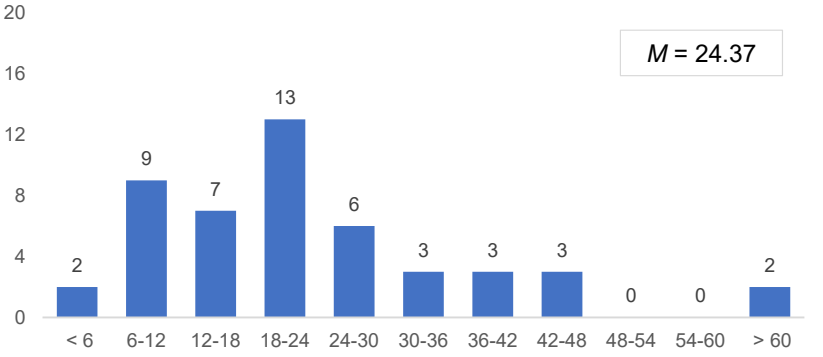
The next logical question to ask is how much time researchers need from data collection to submitting their manuscript to a journal. Upon examining the empirical papers in our sample ($N = 109$), we noticed that only 48 of them (i.e. less than half) disclosed the period of data collection – found indiscriminately across case studies ($N = 53$), surveys ($N = 33$), experiments ($N = 6$), mixed methods ($N = 14$) and secondary data analyses ($N = 3$). While it is unclear whether this omission was deliberate or accidental, we find it intriguing. Could it be that researchers spent several years on their projects and thus chose to hide the time intervals for fear of reviewer criticism for an outdated study? Why did reviewers not spot that oversight during the review process? We cannot be certain here, but we can at least encourage (1) authors to mention the time intervals for data collection to enhance the transparency of their research and (2) reviewers to request this information without using it to undermine the work (unless it disputes the study's core premise).

While analyzing the 48 articles that did mention the data collection period, we found an average journey of two years from data collection to paper submission. This duration, depicted in Figure 3(a), cannot explain instances where papers were initially rejected by other journals or presented at conferences before submission to their final outlets.

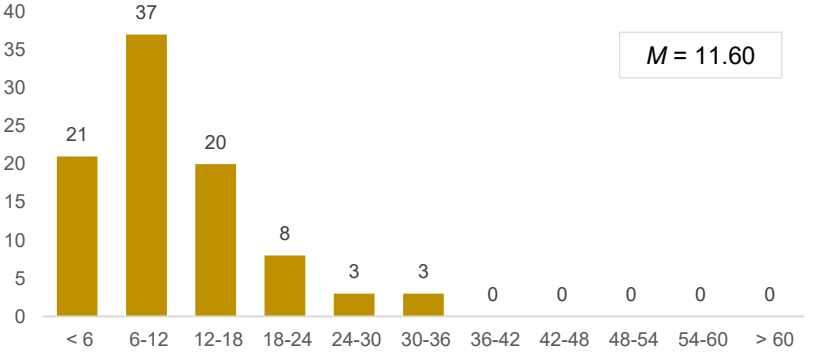
Figure 3(a) further indicates that it rarely takes scholars less than six months post-data collection to finalize their reports, with around 27% falling within the 18–24 months interval. Such a lengthy period can be attributed to the extensive deliberation and reflexivity required for data coding, analysis and manuscript preparation. Although it may be argued that the writing process could be expedited with more focused efforts, we cannot forget that scholars' schedules are often packed with teaching duties, departmental services, grant applications, attending conferences and personal time off, all of which can affect the amount of time available for writing their manuscripts.

Another reason for the lengthy data collection-to-submission periods can be attributed to the applied research method. Since 2010, there has been a modest increase in the use of mixed methods in the green logistics field, with 14 articles employing this approach to date. While this may reflect the field's rising quality standards, we should also note that mixed methods typically require longer intervals due to their sequential application. Bask *et al.* (2018), for example, surveyed 600 LSPs and then interviewed 15 experts to gain in-depth insights, while Rodrigues *et al.* (2015) studied six LSP cases and followed that with a survey to enhance the study's external validity. Notably, only one study in the sample employed a longitudinal design (Vivaldini and Pires, 2016), despite increasing calls for such designs to understand the evolution of GLPs amid logistics antecedents (e.g. Ellram *et al.*, 2022; Piecyk and Björklund, 2015).

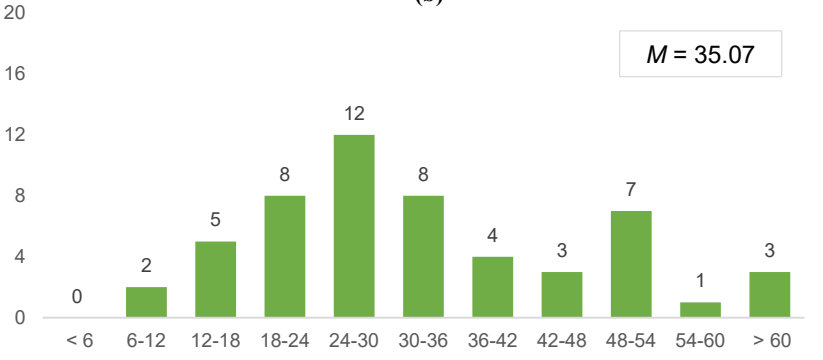
We also examined the dates from manuscript submission to acceptance in the journals (Figure 3(b)) – noting that not all publications specify submission timeframes, especially those in older volumes. Our review revealed that, on average, an article in our field requires an additional year from submission to eventual publication (interestingly, three articles spent around three years in the review process!). This duration can be attributed to the rigorous review process of manuscripts, often involving multiple peer-review rounds, each taking 2–3 months for completion and a similar time for revisions based on the provided feedback,



(a)



(b)



(c)

Source(s): Created by authors

Figure 3.
Time intervals of green logistics research

followed by the editorial team's final approval. This stage is undeniably crucial for ensuring the quality and rigor of academic research, but it also significantly extends the overall publication timeline.

Summarizing our analysis, as illustrated in Figure 3(c), the average timeframe for a paper to move from data collection to journal publication is approximately three years, which can extend to five years when counting the time for fund acquisition and hiring new researchers. While this period may not seem overly excessive for thorough research inquiries, its significance is amplified when contrasted with the rapid progression of the industry. This is particularly crucial in the context of green logistics, which is propelled by rising R&D efforts and continuous advancements of supportive technologies such as vehicle electrification (Wehner *et al.*, 2021), smart warehousing (Perotti and Colicchia, 2023), fleet tracking (Creazza *et al.*, 2023), blockchains (Nguyen *et al.*, 2022) and automated vehicles (Baglio *et al.*, 2022). The increasing frequency of natural disruptions like heatwaves, wildfires and floods further accentuates this urgency. Such frequent and fast-paced changes in the global landscape stress the need for more responsive and timely research to ensure relevance in addressing current and emerging challenges for greening logistics – even if L&SCM scholarship is outpaced by practice and its contributions predominantly remain within the boundary of knowledge creation.

5. Pracademic recommendations for advancing green logistics research

The pace of research in the L&SCM field concerning the green logistics phenomenon has been conspicuously slow compared to industry practices – a situation attributable to several factors. Sluggish empirical methods, often necessary for thorough investigation but time-consuming, play a significant role. Extensive funding procedures further compound the delay, as does the protracted process of recruiting doctoral/postdoctoral researchers who are essential for advancing research projects. The lengthy peer-review process in our journals, coupled with escalating demands for increased research quality and rigor, further slows down the dissemination of our findings. These delays, coupled with the field's tendency to reactively elucidate industry practices – primarily reflecting knowledge creation over knowledge transfer – further obscure our role as L&SCM researchers in guiding the industry in its green logistics endeavors.

Building on the lessons from L&SCM scholars on embracing interdisciplinary research (Grant *et al.*, 2018; Lambert, 2019), leveraging artificial intelligence (AI) applications (Hendriksen, 2023; Richey *et al.*, 2023), fostering academia-industry collaborations (Stentoft and Rajkumar, 2018; Svanberg, 2020), adopting Knowledge Transfer Partnership (KTP) schemes (Ates *et al.*, 2024; Rossi *et al.*, 2017), utilizing intervention-based research (van Hoek *et al.*, 2022) and enhancing the review process by better aligning editors, reviewers and authors (Hazen *et al.*, 2016), we propose stepping up our game in green logistics research through a multifaceted approach involving authors, editors, reviewers and university departments – summarized in Table 1. Our recommendations, designed to improve the current landscape, aim to expedite green logistics research, increase its relevance to practitioners, promote academia-industry collaborations, streamline the research, review and publication processes in our journals, and align with the rapid advancements in green technologies alongside pressing environmental challenges confronting the industry.

6. A new transformative paradigm for responsive L&SCM research

The observed reactivity of our field in investigating the green logistics phenomenon unveiled a broader remark for the L&SCM discipline at large. We recognize a recurring pattern reminiscent of earlier events, such as when lean philosophies were developed and adopted by

Stakeholders	Current situation	Suggestions for improvement
Authors	- Research on green logistics is often obstructed by slow-paced empirical methods, extended writing/publication intervals, difficult-to-obtain funds with prolonged application processes, protracted recruitment of doctoral/postdoctoral researchers, reactive inquiries to the industry's green logistics applications, emphasis on knowledge creation (rather than knowledge transfer), slow responsiveness to global events, and a lack of interdisciplinary integration - Scholars often face challenges in accessing relevant and timely data on the latest GLPs and struggle to keep pace with rapidly evolving environmental standards and policies	- (Responsibly) Utilize generative AI tools to facilitate brainstorming, in-depth analysis and predictive insights. Pay close attention to ethical and integrity guidelines for AI use (cf. Hendriksen, 2023; Richey *et al.*, 2023) - Seek funding opportunities from public and industry sources through grants specifically targeting sustainability research - Engage in interdisciplinary collaborations that blend logistics management with more fast-paced and applied fields like transport science, environmental engineering and information technology - Implement intervention-based research (e.g. action principles research) to join logistics practitioners in assessing emergent GLPs in real-world settings - Join KTP (or similar) programs that promote (1) knowledge transfer, where clear roles for academic knowledge creators and practice-based knowledge receivers are established at the outset of research projects and (2) knowledge co-creation, where both academics and practitioners jointly create knowledge - Communicate with relevant stakeholders and regularly update research inquiries to align with the rapidly evolving environmental regulations and standards - Increase practical relevance by seeking logistics practitioners' input during the research process (e.g. problem formulation, theorizing, data analysis and implication extraction) - Consider co-authorship with logistics practitioners - Include grey literature from LSPs' annual/sustainability reports to stay abreast of the latest green logistics trends

Table 1.
Current situation of green logistics research and suggestions for improvement

(*continued*)

Stakeholders	Current situation	Suggestions for improvement
Editors	- Editorial progress may get delayed by high volumes of submissions, lack of specialized reviewers and a tendency to decline reviews or offer non-constructive critiques - Editors might struggle to maintain a balance between timely publication and thorough reviews, especially for niche subjects like newly developed GLPs - Proactive and novel research is rarely welcomed by editors of traditional journals, who tend to prefer research that is reactive, empirically based and aligned with established knowledge	- Use AI-based editorial and manuscript tracking systems to improve the efficiency and management of submissions - Develop special issues focusing on emergent green logistics themes to attract cutting-edge research - Broaden the pool of reviewers to include experts in sustainability and logistics from outside the L&SCM field - Introduce expedited review tracks for innovative and potentially impactful green logistics research - Involve practitioners with relevant academic expertise to accelerate (and potentially streamline) the peer-review process - Open avenues for proactive and thought-provoking submissions, even if not backed by thorough empirical data
Reviewers	- Reviewers tend to rely on conventional evaluation criteria, which may not adequately assess innovative or interdisciplinary aspects of evolving green logistics research - The review process can be prolonged due to the complexity and novelty of topics covered or the methods applied - Reviewers often favor research that aligns closely with current knowledge, resulting in hesitance to accept studies that reveal new phenomena or challenge prevailing understandings	- Develop and adopt specialized review criteria tailored for green logistics research - (Responsibly) Use AI-assisted tools to provide initial screening and insights for the review report. This should not compromise the thoroughness and reflectivity needed for the actual review - Engage in continuous training to stay updated with the latest advancements in green logistics policies and practices - Consider jointly reviewing submissions with logistics practitioners to incorporate diverse opinions in the review report - Be open to appreciating current research for its own logic and reasoning, rather than blindly measuring it against previous knowledge, familiar methods, or adopted schools of thought

(*continued*)

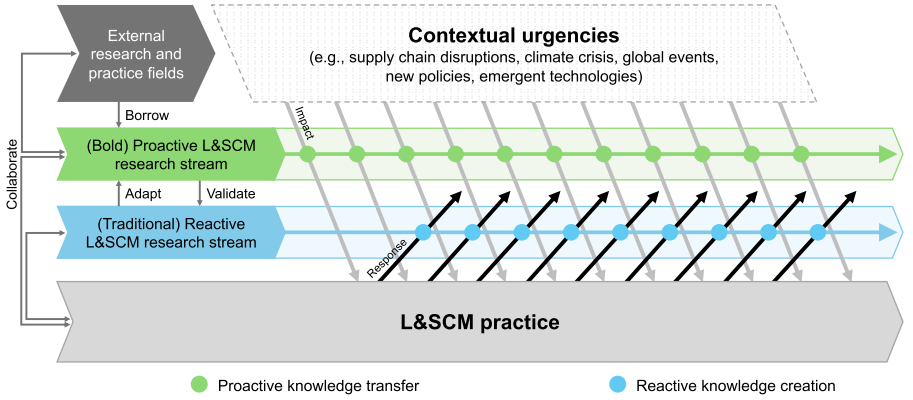
Table 1.

Stakeholders	Current situation	Suggestions for improvement
University departments	- Research departments may be slow to integrate green logistics inquiries into their programs due to a lack of expertise, resources and institutional support - Hiring specialized researchers can be time-consuming due to lengthy recruitment and visa application processes - The focus of some departments may still be aligned with traditional logistics metrics, lagging behind emerging sustainability trends - Faculty are often hired and promoted with no regard for industrial/ sustainability impact	- Incubate KTP (or similar) programs that promote pracademic knowledge transfer and knowledge co-creation schemes - Incorporate advanced technologies like AI, IoT and big data analytics into research programs and faculty resources - Redefine research agendas to prioritize responsive green logistics research, making it a core area of study - Create pracademic workshops, seminars and events to promote relevance and responsiveness to global events - Launch short-term, impact-driven research projects on emerging green logistics issues for prompt application in real-world setups - Revise the criteria for hiring and promoting faculty to include metrics that measure real industrial/ sustainability impact (e.g. co-development of GLPs)

Table 1. **Source(s):** Created by authors

Toyota long before being studied in our journals (Spear and Bowen, 1999). This pattern speaks to our field's loss of agency (Touboulic and McCarthy, 2020), detachment from practice (Stentoft and Rajkumar, 2018) and departure from our forefathers' foundations of relevance and industry engagement (Lambert, 2019). While academic conferences and meetings often foster proactive dialogues, there is a lack of encouragement for researchers to document these conversations, since career development is often supported by publishing reactive academic works that reflect already implemented industry practices. As our analysis alludes to the lag of our discipline in leading meaningful industrial change, we are inclined to echo these sentiments.

These reflections prompted us to propose a new transformative paradigm to enhance the responsiveness of L&SCM research and foster its collaboration with practice in light of pressing contextual urgencies (Figure 4). This paradigm involves combining (1) a bold proactive research stream with (2) a more traditional reactive research stream – each to be managed within designated editorial tracks in our journals. For the proactive stream (inspired by IJPDLM's "Innovators and Transformers" and IJOPM's "Impact Pathways" tracks), collaboration between L&SCM academics and practitioners is encouraged to explore abrupt contextual urgencies entering the L&SCM field, such as supply chain disruptions (e.g. the Covid-19 pandemic, the Russia-Ukraine War, the collapse of the Baltimore bridge), climate events, political tensions, UN agreements, regulatory mandates and emergent technologies. Depending on the urgency at hand, this type of research can be mediated through partnerships with external research and practice fields. This involves working with engineering scholars, climate scientists, inventors, medical doctors, geologists, psychologists, business consultants, news agencies, non-governmental organizations (NGOs), humanitarian relief groups, policymakers and others to better understand the L&SCM industry's



Source(s): Created by authors

Figure 4. Proposed transformative paradigm for responsive L&SCM research

preparedness to face the urgency and the possible solutions at its disposal to respond. As such, the main emphasis of this stream is to facilitate prompt knowledge transfer to L&SCM practice to cope with the highly dynamic and rapidly changing contextual urgencies confronting it. This chiefly exploratory research stream can take either a (1) qualitative form, using methods like interpretive research, sensemaking, action research, discourse analysis and narrative research (Wieland *et al.*, 2024) – with the aim of engaging with various interest groups and stakeholders to uncover pressing insights, or a (2) quantitative form, using methods like experiments to examine innovative interventions, econometrics to uncover new patterns, and surveys to explore novel relationships or provide descriptive distributions of an emergent phenomenon. To accelerate the investigation and avoid "reinventing the wheel," methods may be partially developed and concisely described, while concepts, frameworks and theories may be adapted from extant L&SCM knowledge to inform the new investigation. In addition, borrowing new methods, untapped theories, uncommon structures and alternative schools of thought that are external to the L&SCM field should be tolerated – and even encouraged – by journal editors and reviewers to enable thinking outside the box. Submissions under this stream must be fast-tracked through the editorial system, with the possibility of involving reviewers from both academia and practice in the process. Taken to its logical extreme, this proactive approach would recall what happens in the natural sciences, where theories often undergo empirical validation years after their conception. It could allow for a vibrant scientific discourse that puts forth competing proactive theories, reclaiming the pioneering role of academia in leading the conversation to address emergent challenges.

This proactive research stream should then be complemented by a more traditional (and relatively slow-paced) reactive stream to validate the promptly elicited academic and managerial insights. These insights should be closely examined through well-established methods – be they qualitative, quantitative, or both – with a heavier emphasis on confirmatory, normative, or even replicatory logics. Validation of such insights may alternate between confirmation, modification, or rejection – afforded by the thorough scrutiny of journal editors and peer reviewers. The primary goal of this reactive stream is to adhere to L&SCM's top standards of rigor and derive empirically grounded knowledge from real-world applications. This, in turn, may enable dissemination to L&SCM practitioners with higher degrees of confidence. In this reactive stream, reviewers would still engage in standard-paced tracks for evaluating submissions, with more leniency for necessary extensions. However, it

is crucial to maintain close collaboration with practitioners in this stream as well and to consider possible ways to expedite the research, review and editorial processes (in line with Table 1) – ensuring that academic inquiry remains relevant and closely connected to rapidly changing real-world applications.

By suggesting this transformative paradigm, we aim to foster a more responsive, practice-aware, forward-thinking and methodologically solid L&SCM research environment by leveraging both reactive knowledge creation and proactive knowledge transfer – subsequently elevating our knowledge dissemination to practice. The R&D departments of companies and future project initiatives would likely be eager to partner with academia on the proactive stream, provided the right incentives for scholars to engage in forward-thinking research. To facilitate this, it is essential that the hiring, promotion and tenure criteria for proactive research align with those of traditional reactive studies and publications. In turn, reactive research may aid companies' boards and managers by providing validated theories and best practices for long-term strategic planning. Meanwhile, academics may utilize the reactive stream to elevate the quality of their research output to better theorize and represent real-world scenarios. This dichotomy is coherent with Richey *et al.*'s (2023) call for future research in the context of AI, where AI applications and models represent the initial stage, and theoretical frameworks are positioned at a more advanced level. It also aligns with Stentoft and Rajkumar's (2018) call for new types of papers in L&SCM research that speak to practitioners' needs. At its best, the proposed paradigm could lead to rapid developments related to necessary transitions, along with pilot tests that could eventually be confirmed as generalizable under various conditions. As L&SCM academics, we could then elevate the knowledge production process – without compromising its quality – to reaffirm our central role in knowledge creation and transfer, thereby responsively addressing current and future grand challenges.

Note

1. Although Deutsche Bahn (DB) acquired Schenker in 2002, we refer to both as "DB Schenker" for simplicity.

References

Abbasi, M. and Nilsson, F. (2016), "Developing environmentally sustainable logistics: exploring themes and challenges from a logistics service providers' perspective", *Transportation Research Part D: Transport and Environment*, Vol. 46, pp. 273-283, doi: 10.1016/j.trd.2016.04.004.

Ates, A., Paton, S., Bititci, U. and Kemal Konyalıoğlu, A. (2024), "From transfer to co-creation: action research perspectives in knowledge transfer partnership (KTP) projects", *Production Planning and Control*, Vol. ahead-of-print No. ahead-of-print, pp. 1-14, doi: 10.1080/09537287.2024.2335475.

Baglio, M., Perotti, S., Dallari, F. and Creazza, A. (2022), "How can logistics real estate support third-party logistics providers?", *International Journal of Logistics Research and Applications*, Vol. 25 No. 10, pp. 1334-1358, doi: 10.1080/13675567.2021.1908242.

Bajec, P., Tuljak-Suban, D. and Krmac, E. (2015), "Do ISO standards favour logistics provider efficiency, competitiveness and sustainability? A Slovenian perspective", *The International Journal of Logistics Management*, Vol. 26 No. 2, pp. 275-295, doi: 10.1108/IJLM-01-2013-0006.

Bask, A., Rajahonka, M., Laari, S., Solakivi, T., Töyli, J. and Ojala, L. (2018), "Environmental sustainability in shipper-LSP relationships", *Journal of Cleaner Production*, Vol. 172, pp. 2986-2998, doi: 10.1016/j.jclepro.2017.11.112.

Björklund, M. (2011), "Influence from the business environment on environmental purchasing—drivers and hinders of purchasing green transportation services", *Journal of Purchasing and Supply Management*, Vol. 17 No. 1, pp. 11-22, doi: 10.1016/j.pursup.2010.04.002.

Bloemhof, J.M., van der Vorst, J.G., Bastl, M. and Allaoui, H. (2015), "Sustainability assessment of food chain logistics", *International Journal of Logistics Research and Applications*, Vol. 18 No. 2, pp. 101-117, doi: 10.1080/13675567.2015.1015508.

Centobelli, P., Cerchione, R. and Esposito, E. (2020), "Pursuing supply chain sustainable development goals through the adoption of green practices and enabling technologies: a cross-country analysis of LSPs", *Technological Forecasting and Social Change*, Vol. 153, 119920, doi: 10.1016/j.techfore.2020.119920.

Colicchia, C., Marchet, G., Melacini, M. and Perotti, S. (2013), "Building environmental sustainability: empirical evidence from Logistics Service Providers", *Journal of Cleaner Production*, Vol. 59, pp. 197-209, doi: 10.1016/j.jclepro.2013.06.057.

Creazza, A., Colicchia, C. and Evangelista, P. (2023), "Leveraging shippers-logistics providers relationships for better sustainability in logistics: the perspective of SMEs", *The International Journal of Logistics Management*, Vol. ahead-of-print No. ahead-of-print, doi: 10.1108/ijlm-03-2022-0103.

Dwivedi, Y.K., Jeyaraj, A., Hughes, L., Davies, G.H., Ahuja, M., Albashrawi, M.A., Al-Busaidi, A.S., Al-Sharhan, S., Al-Sulaiti, K.I., Altinay, L., Amalaya, S., Archak, S., Ballestar, M.T., Bhagwat, S.A., Bharadwaj, A., Bhushan, A., Bose, I., Budhwar, P., Bunker, D., Capatina, A., Carter, L., Constantiou, I., Coombs, C., Crick, T., Csáki, C., Darnige, Y., Dé, R., Delbridge, R., Dubey, R., Gauld, R., Gutti, R.K., Hattingh, M., Haug, A., Hendricks, L., Hino, A., Hsu, C.H., Iivari, N., Janssen, M., Jebabli, I., Jones, P., Junglas, I., Kaushik, A., Khazanchi, D., Kodama, M., Kraus, S., Kumar, V., Maier, C., Malik, T., Matthee, M., McCarthy, I.P., Meier, M., Metri, B., Micu, A., Micu, A.E., Misra, S.K., Mishra, A., Molin-Juustila, T., Oppermann, L., O'Regan, N., Pal, A., Pandey, N., Pappas, I.O., Parker, A., Pathak, K., Pienta, D., Polyviou, A., Raman, R., Ribeiro-Navarrete, S., Ritala, P., Rosemann, M., Sarker, S., Saxena, P., Schlagwein, D., Schultze, H., Sharma, C., Sharma, S.K., Simintiras, A., Singh, V.K., Smuts, H., Soldatos, J., Tiwari, M.K., Thatcher, J.B., Vanberghen, C., Varga, A., Vassilakopoulou, P., Venkatesh, V., Viglia, G., Vorley, T., Wade, M. and Walton, P. (2024), "'Real impact': challenges and opportunities in bridging the gap between research and practice–Making a difference in industry, policy, and society", *International Journal of Information Management*, Vol. 78, 102750, doi: 10.1016/j.ijinfomgt.2023.102750.

Ellram, L.M., Tate, W.L. and Saunders, L.W. (2022), "A legitimacy theory perspective on Scope 3 freight transportation emissions", *Journal of Business Logistics*, Vol. 43 No. 4, pp. 472-498, doi: 10.1111/jbl.12299.

Eng-Larsson, F. and Norrman, A. (2014), "Modal shift for greener logistics– exploring the role of the contract", *International Journal of Physical Distribution and Logistics Management*, Vol. 44 No. 10, pp. 721-743, doi: 10.1108/ijpdlm-07-2013-0182.

Evangelista, P. (2014), "Environmental sustainability practices in the transport and logistics service industry: an exploratory case study investigation", *Research in Transportation Business and Management*, Vol. 12, pp. 63-72, doi: 10.1016/j.rtbm.2014.10.002.

Fernie, J., Pfab, F. and Marchant, C. (2000), "Retail grocery logistics in the UK", *The International Journal of Logistics Management*, Vol. 11 No. 2, pp. 83-90, doi: 10.1108/09574090010806182.

Grant, D.B., Kovács, G. and Spens, K. (2018), "Questionable research practices in academia: antecedents and consequences", *European Business Review*, Vol. 30 No. 2, pp. 101-127, doi: 10.1108/ebr-12-2016-0155.

Hazen, B.T., Fawcett, S.E., Ogden, J.A., Autry, C.W., Richey, R.G. and Ellinger, A.E. (2016), "Addressing a broken peer review process", *The International Journal of Logistics Management*, Vol. 27 No. 3, pp. 622-628, doi: 10.1108/ijlm-09-2016-0201.

Hendriksen, C. (2023), "Artificial intelligence for supply chain management: disruptive innovation or innovative disruption?", *Journal of Supply Chain Management*, Vol. 59 No. 3, pp. 65-76, doi: 10.1111/jscm.12304.

Huge-Brodin, M., Sweeney, E. and Evangelista, P. (2020), "Environmental alignment between logistics service providers and shippers–a supply chain perspective", *The International Journal of Logistics Management*, Vol. 31 No. 3, pp. 575-605, doi: 10.1108/ijlm-04-2019-0101.

Jazairy, A. (2020), "Aligning the purchase of green logistics practices between shippers and logistics service providers", *Transportation Research Part D: Transport and Environment*, Vol. 82, 102305, doi: 10.1016/j.trd.2020.102305.

Jazairy, A. and von Haartman, R. (2020), "Analysing the institutional pressures on shippers and logistics service providers to implement green supply chain management practices", *International Journal of Logistics Research and Applications*, Vol. 23 No. 1, pp. 44-84, doi: 10.1080/13675567.2019.1584163.

Jazairy, A. and von Haartman, R. (2021), "Measuring the gaps between shippers and logistics service providers on green logistics throughout the logistics purchasing process", *International Journal of Physical Distribution and Logistics Management*, Vol. 51 No. 1, pp. 25-47, doi: 10.1108/ijpdlm-08-2019-0237.

Jazairy, A., von Haartman, R. and Björklund, M. (2021), "Unravelling collaboration mechanisms for green logistics: the perspectives of shippers and logistics service providers", *International Journal of Physical Distribution and Logistics Management*, Vol. 51 No. 4, pp. 423-448, doi: 10.1108/ijpdlm-09-2019-0274.

Laguir, I., Stekelorum, R. and El Baz, J. (2021), "Going green? Investigating the relationships between proactive environmental strategy, GSCM practices and performances of third-party logistics providers (TPLs)", *Production Planning and Control*, Vol. 32 No. 13, pp. 1049-1062, doi: 10.1080/09537287.2020.1784483.

Lambert, D.M. (2019), "Rediscovering relevance", *The International Journal of Logistics Management*, Vol. 30 No. 2, pp. 382-394, doi: 10.1108/ijlm-02-2019-0059.

Lieb, K.J. and Lieb, R.C. (2010), "Environmental sustainability in the third-party logistics (3PL) industry", *International Journal of Physical Distribution and Logistics Management*, Vol. 40 No. 7, pp. 524-533, doi: 10.1108/09600031011071984.

Martinsen, U. and Björklund, M. (2012), "Matches and gaps in the green logistics market", *International Journal of Physical Distribution and Logistics Management*, Vol. 42 No. 6, pp. 562-583, doi: 10.1108/09600031211250596.

McKinnon, A., Browne, M., Whiteing, A. and Piecyk, M. (Eds) (2015), *Green Logistics: Improving the Environmental Sustainability of Logistics*, Kogan Page Publishers, London.

McKinsey (2023), "COP28: wrap-up", available at: https://www.mckinsey.com/capabilities/sustainability/our-insights/sustainability-blog/cop28-wrap-up

Meade, L. and Sarkis, J. (2002), "A conceptual model for selecting and evaluating third-party reverse logistics providers", *Supply Chain Management: An International Journal*, Vol. 7 No. 5, pp. 283-295, doi: 10.1108/13598540210447728.

Moncef, B. and Monnet Dupuy, M. (2021), "Last-mile logistics in the sharing economy: sustainability paradoxes", *International Journal of Physical Distribution and Logistics Management*, Vol. 51 No. 5, pp. 508-527, doi: 10.1108/ijpdlm-10-2019-0328.

Murphy, P.R., Poist, R.F. and Braunschweig, C.D. (1995), "Role and relevance of logistics to corporate environmentalism: an empirical assessment", *International Journal of Physical Distribution and Logistics Management*, Vol. 25 No. 2, pp. 5-19, doi: 10.1108/09600039510083916.

Nguyen, S., Chen, P.S.L. and Du, Y. (2022), "Risk assessment of maritime container shipping blockchain-integrated systems: an analysis of multi-event scenarios", *Transportation Research Part E: Logistics and Transportation Review*, Vol. 163, 102764, doi: 10.1016/j.tre.2022.102764.

Perotti, S. and Colicchia, C. (2023), "Greening warehouses through energy efficiency and environmental impact reduction: a conceptual framework based on a systematic literature review", *The International Journal of Logistics Management*, Vol. 34 No. 7, pp. 199-234, doi: 10.1108/ijlm-02-2022-0086.

Perotti, S., Zorzini, M., Cagno, E. and Micheli, G.J. (2012), "Green supply chain practices and company performance: the case of 3PLs in Italy", *International Journal of Physical Distribution and Logistics Management*, Vol. 42 No. 7, pp. 640-672, doi: 10.1108/09600031211258138.

Piecyk, M.I. and Björklund, M. (2015), "Logistics service providers and corporate social responsibility: sustainability reporting in the logistics industry", *International Journal of Physical Distribution and Logistics Management*, Vol. 45 No. 5, pp. 459-485, doi: 10.1108/ijpdlm-08-2013-0228.

Prataviera, L.B., Creazza, A. and Perotti, S. (2023a), "A call to action: a stakeholder analysis of green logistics practices", *The International Journal of Logistics Management*, Vol. 35 No. 3, pp. 979-1008, doi: 10.1108/ijlm-09-2022-0381.

Prataviera, L.B., Creazza, A., Perotti, S. and Rodrigues, V.S. (2023b), "How to align logistics environmental sustainability with corporate strategy? An Italian perspective", *International Journal of Logistics Research and Applications*, Vol. ahead-of-print No. ahead-of-print, pp. 1-23, doi: 10.1080/13675567.2023.2230916.

Richey, R.G., Chowdhury, S., Davis-Sramek, B., Giannakis, M. and Dwivedi, Y.K. (2023), "Artificial intelligence in logistics and supply chain management: a primer and roadmap for research", *Journal of Business Logistics*, Vol. 44 No. 4, pp. 532-549, doi: 10.1111/jbl.12364.

Rodrigues, V.S., Piecyk, M., Mason, R. and Boenders, T. (2015), "The longer and heavier vehicle debate: a review of empirical evidence from Germany", *Transportation Research Part D: Transport and Environment*, Vol. 40, pp. 114-131, doi: 10.1016/j.trd.2015.08.003.

Rossi, F., Rosli, A. and Yip, N. (2017), "Academic engagement as knowledge co-production and implications for impact: evidence from Knowledge Transfer Partnerships", *Journal of Business Research*, Vol. 80, pp. 1-9, doi: 10.1016/j.jbusres.2017.06.019.

Roy, S. and Mohanty, R.P. (2023), "Green logistics operations and its impact on supply chain sustainability: an empirical study", *Business Strategy and the Environment*, Vol. 33 No. 2, pp. 1447-1476, doi: 10.1002/bse.3531.

Sallnäs, U. (2016), "Coordination to manage dependencies between logistics service providers and shippers: an environmental perspective", *International Journal of Physical Distribution and Logistics Management*, Vol. 46 No. 3, pp. 316-340, doi: 10.1108/ijpdlm-06-2014-0143.

Sallnäs, U., Rogerson, S. and Santén, V. (2022), "Trusting the power: facilitating a modal shift in relationships between shippers and logistics service providers", *Research in Transportation Business and Management*, Vol. 45, 100864, doi: 10.1016/j.rtbm.2022.100864.

Sandberg, J. and Tsoukas, H. (2011), "Grasping the logic of practice: theorizing through practical rationality", *Academy of Management Review*, Vol. 36 No. 2, pp. 338-360, doi: 10.5465/amr.2011.59330942.

Sharma, M., Luthra, S., Joshi, S., Kumar, A. and Jain, A. (2023), "Green logistics driven circular practices adoption in industry 4.0 Era: a moderating effect of institution pressure and supply chain flexibility", *Journal of Cleaner Production*, Vol. 383, 135284, doi: 10.1016/j.jclepro.2022.135284.

Spear, S. and Bowen, H.K. (1999), "Decoding the DNA of the Toyota production system", *Harvard Business Review*, Vol. 77, pp. 96-108.

Stentoft, J. and Rajkumar, C. (2018), "Balancing theoretical and practical relevance in supply chain management research", *International Journal of Physical Distribution and Logistics Management*, Vol. 48 No. 5, pp. 504-523, doi: 10.1108/ijpdlm-01-2018-0020.

Svanberg, M. (2020), "Guidelines for establishing practical relevance in logistics and supply chain management research", *International Journal of Physical Distribution and Logistics Management*, Vol. 50 No. 2, pp. 215-232, doi: 10.1108/ijpdlm-11-2018-0373.

Sweeney, E., Grant, D.B. and Mangan, D.J. (2018), "Strategic adoption of logistics and supply chain management", *International Journal of Operations and Production Management*, Vol. 38 No. 3, pp. 852-873, doi: 10.1108/ijopm-05-2016-0258.

Touboulic, A. and McCarthy, L. (2020), "Collective action in SCM: a call for activist research", *The International Journal of Logistics Management*, Vol. 31 No. 1, pp. 3-20, doi: 10.1108/ijlm-08-2019-0222.

van Hoek, R. (2021), "Retrospective on the launch of IJPDLM–lessons for the future of logistics and supply chain management research", *International Journal of Physical Distribution and Logistics Management*, Vol. 51 No. 10, pp. 1065-1089, doi: 10.1108/ijpdlm-11-2020-0349.

van Hoek, R., Lacity, M. and Willcocks, L. (2022), "Influencing supply chain practice: the action principles approach applied to pandemic risk management", *International Journal of Physical Distribution and Logistics Management*, Vol. 52 Nos 5/6, pp. 456-478, doi: 10.1108/ijpdlm-11-2021-0474.

van Hoek, R., Loseby, D. and Wong, C.Y. (2023), "Reimagining supply chain management practice and research", *International Journal of Physical Distribution and Logistics Management*, Vol. 50 Nos 9/10, pp. 769-774, doi: 10.1108/ijpdlm-11-2020-407.

Vivaldini, M. and Pires, S.R. (2016), "Sustainable logistical operations: the case of McDonald's biodiesel in Brazil", *International Journal of Logistics Systems and Management*, Vol. 23 No. 1, pp. 125-145, doi: 10.1504/ijlsm.2016.073303.

Wehner, J., Deilami, N.T.N., Vural, C.A. and Halldorsson, A. (2021), "Logistics service providers' energy efficiency initiatives for environmental sustainability", *The International Journal of Logistics Management*, Vol. 33 No. 5, pp. 1-26, doi: 10.1108/ijlm-10-2019-0270.

Wieland, A., Tate, W.L. and Yan, T. (2024), "A guided tour through the qualitative research city", *Journal of Supply Chain Management*, Vol. 60 No. 1, pp. 3-12, doi: 10.1111/jscm.12315.

Wolf, C. and Seuring, S. (2010), "Environmental impacts as buying criteria for third party logistical services", *International Journal of Physical Distribution and Logistics Management*, Vol. 40 1/2, pp. 84-102, doi: 10.1108/09600031011020377.

Wu, H.J. and Dunn, S.C. (1995), "Environmentally responsible logistics systems", *International Journal of Physical Distribution and Logistics Management*, Vol. 25 No. 2, pp. 20-38, doi: 10.1108/09600039510083925.

Appendix

The supplementary material for this article can be found online

Corresponding author

Amer Jazairy can be contacted at: jazairy.a@tamu.edu