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Inside the world of stepsiblings: Linking global production networks to sustainable supply chain management

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Abstract

The theoretical foundation of (sustainable) supply chain management (SSCM) is an issue of frequent debate. Integrating it with the Global Production Networks (GPN), which is a kind of stepsibling, can help expanding the theoretical foundations of SSCM. The purpose of this paper is to explore how the GPN approach links to SSCM in analysing and explaining interorganizational sustainability. This paper is conceptual. Five central GPN constructs are identified: (1) the emerging supply chain structures and sustainability; (2) the importance and relevance of embeddedness and governance; (3) power dynamics; (4) the stakeholder approach; (5) the sustainability dimensions and the implementation strategies. They are explained in detail and then contrasted with how the related topics are dealt within SSCM. The paper provides insights into the ongoing discussions in GPN and integrates the political economy debate into SSCM research. Findings reveal that GPN offers an alternative and yet complementary explanation about network and cluster formation in supply chains, the effect of embeddedness (geopolitical, social, and cultural) power relationships and governance mechanisms and their role in implementing ecological and social sustainability across the supply chains. The comparison of these complementary disciplines allows for the exchange of ideas between the SSCM and GPN approaches, thereby providing an enriched understanding for managing supply chain sustainability. The selective comparison of the SSCM and GPN constructs is the first of its kind and should trigger further research at this intersection. Five propositions capture core directions for future research.

KEYWORDS

global production networks, governance, stakeholder management, sustainable supply chain management, theory development

Abbreviations: AI, Artificial intelligence; GPN, Global production networks; OBOR, One-belt-one-road initiative; SCM, Supply chain management; SSCM, Sustainable supply chain management; TBL, Triple bottom line; WCED, World commission on world development.

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1 | INTRODUCTION

Individuals, organizations, and society constantly interact with the natural environment and address social obligations. Such relationships determine local and global sustainability endeavours. Business organizations due to the abundant resources at their disposal are an integral part of society and therefore play a particularly important role in addressing sustainability challenges. Further, firms increasingly operate in multiple settings, that is, under different political, social, and economic factors that extend beyond their specific geographical limits (Charpin et al., 2020). Besides, various legislative and cultural frameworks at the local and global levels influence the adoption of sustainability strategies in supply chains (Davarzani et al., 2015; Hendry et al., 2019; Muller et al., 2012). Political measures, such as stringent legal regulations for sustainability standards (Silvestre et al., 2020), have placed more responsibility on firms to adopt initiatives and strategies that enhance sustainability in their supply chains. Similarly, structural changes in global and regional trade economy as a part of new global political economy paradigm also influence the managing of sustainability in global supply chains (MacCarthy et al., 2016). Wieland (2021) argues that revisiting and contextualizing of political economic scenarios could serve as the starting point in understanding the reconfiguration of supply chain processes and structures. However, despite the growing importance of putting global socio-political economy debates at the forefront, it is interesting to note that many SSCM practitioners and researchers have often applied the triple-bottom-line (TBL) approach at the firm level to understand the essence of sustainable supply chain functions (Miemczyk & Luzzini, 2019). The often-conceived TBL approach does not provide detailed explanations on the management of sustainability in supply chains when the firms are operating in different cultural and territorial settings with diverse legal frameworks and dealing with multiple stakeholders (e.g., Matos et al., 2021). A reductionist view of the TBL is often adopted by focusing more on the “performance aspects” while seldom elaborating the underlying political, social, and economic factors (Jajja et al., 2019; Miemczyk & Luzzini, 2019) even though organizations and their supply chains are typically embedded in their global socio-political environments (Charpin et al., 2020; Wieland 2021). Similar arguments are made by Silva et al. (2022) that inclusion of elements related to governance and institutional contexts are important in a better understanding of managing sustainability in supply chains. Previous literature on sustainability discusses political dimension as an important element in managing an interactive relationship between the other three dimensions of sustainability (Wieland, 2021). For example, the global socio-political environment could be the determinant of sustainability governance that might influence the formulation and regulation of sustainability standards, ratification, and adherence to the international protocols on climate change and economic empowerment (Van Zeijl-Rozema et al., 2008). While these assertions are made in the sustainability literature, very little explanation within the SSCM literature is provided on how these factors influence the reconfiguration and therefore the organization and functioning of the sustainable supply chains. One way of

explaining and enriching SSCM research and broaden its understanding is to apply perspectives from disciplines that engage in global political discussions and simultaneously have an emphasis on sustainability (MacCarthy et al., 2016).

Global Production Networks (GPN) as a discipline emphasizes that geo-political and socio-economic scenarios are the key determinants of sustainability across the supply chains (Henderson et al., 2002). Political economy, which is mostly an outcome of cultural and historical norms, determines the legal framework for supply chain operations (Thürer et al., 2019). For example, it focuses on the role of nation states and international governing bodies and their effect on the adoption of sustainable strategies by the firms. Similarly, GPN also realizes cultural embeddedness and wider stakeholder engagement as essential elements explaining the sustainability in a wider network context (Coe et al., 2008a, 2008b).

Based on the above observations, we take the theoretical development on GPNs as a base to explain the interrelations between economic (firms) and noneconomic actors (other stakeholders) along the supply chains by considering the political, economic, and social factors. GPN emphasizes the political economy debates and has strong links to the sustainability discussion and mainly rests in the social development approach central to the original definitions given in the Brundtland report (1987) submitted to the World Commission on Environment and Development (WCED). As GPN looks at much the same issues as SSCM, they might be called stepsiblings, explaining similar phenomena from a different perspective. The metaphor of stepsibling reflects the level of proximity and complementarities as well as the distinctive nature of each discipline. Further, both GPN and SSCM disciplines exhibit traits similar to that of stepsiblings where each has its own unique identity and yet have different emphasis.

In addition to the arguments presented above, there have been multiple calls within the SSCM discipline to apply theories originating from different disciplines, including organizational sciences, political economy, and sociology, to enrich the critical thinking and theoretical development of SSCM (Boons et al., 2012; Mathews et al., 2016). In response to these calls, we capture the underlying aspects of global political economy by building on the GPN approach, to broaden the theoretical basis of SSCM and contribute to its understanding by engaging in transdisciplinary research (Touboulis & Walker, 2015; Wieland, 2021). In doing so, we will answer the following research question:

How do GPN (social, political, and economic) factors contribute to a better understanding of Sustainable Supply Chain Management (SSCM)?

The main contribution of this paper is that it brings the global political economy discussions from GPN into SSCM and provides insights into theoretical and practical implications of using interdisciplinary discussions to enrich the field of SSCM. The article is conceptual and derives its arguments from an in-depth reading of the SSCM and GPN literature. Our article begins with an overview of the relevant concepts used in both the SSCM and GPN literature. Next, we introduce the theoretical approaches used by SSCM and GPN

scholars. The GPN and SSCM literature are subsequently elaborated, and it is followed by comparing them, which will form the core of the findings and discussion. Before we conclude, we will suggest some propositions for the future SSCM research.

2 | LINKING SSCM TO GPNs

As a starting point, we provide an overview of the disciplines and outline the present understanding of sustainability issues. After that, we discuss the existing literature linking GPN and SSCM and provide insights into the ongoing sustainability debate.

SSCM is about managing all the direct and indirect links between the organizations meaning that different functional areas within and across the organizations and their respective stakeholders form network-like structures enabling the efficient flow of information, judicious use of materials, resources, and finances and creating better societies thereby contributing to sustainable development. It is critical to understand that networks are typically embedded and operate in a complex global socio-political and economic environment. Therefore, the governance of network structures requires an understanding of the global political economy scenarios as they provide a latent explanation about managing sustainability across the supply chains. For example, sourcing strategies are influenced by labour and environmental laws originating in different geographical regions. Similarly, supply chain scenarios, especially the realignment and adjustment of suppliers and focal firms to form supply networks, are impacted by the political environments where nation states are working around trade policies and agreements that would impact the functioning of the supply chains. The emergence of new logistical corridors in the form of one-belt one-road initiative (OBOR); operationalization of silk route and the increased protectionist policies, emergence of artificial intelligence (AI) revolution that are driven by global political economic factors are all expected to change the ways supply chains will adopt and implement sustainability (Boons et al., 2012; Seuring, Brandenburg, et al., 2022; Thürer et al., 2019). A closer observation at the SSCM literature indicates that some aspects central to sustainability are discussed while other aspects such as global political scenarios receive little attention. Evidence of this can further be shown by comparing the GPN approach to SSCM.

The GPN approach, which has its origin in the academic disciplines of global political economy and economic geography, offers a broad understanding of sustainability in production-related contexts (Coe et al., 2008a, 2008b). The GPN approach has extended the literature on global commodity and value chains, which was previously dominated by intrafirm governance structures (Gereffi & Lee, 2012; Yeung & Coe, 2014). According to Yeung and Coe (2014, p. 4), GPNs are about interconnections between economic and noneconomic actors coordinated by a global lead firm to produce goods and services across multiple geographic locations for worldwide markets. Elaborating further, they argue that the broader inclusion of stakeholders in GPNs explains the development of countries and even regions. This explanation overlaps with the key elements of SSCM, as

both disciplines emphasize the relationships between interorganizational actors, focus on focal firms, and pay particular attention to stakeholders' concerns regarding sustainability. However, the extant GPN literature emphasizes the role of governance structures, as well as spatial, social, and cultural embeddedness, and provides detailed insights into the role of new supply chain entities, such as networks and clusters, which are linked to the sustainability debate (Coe et al., 2008a, 2008b; Coe & Hess, 2013). Moreover, the GPN approach provides detailed explanations of the power relationships between the supply chain members in networks resulting from stakeholder interactions (Coe et al., 2004). This explains the formation and functioning of supply chain and network structures that are focused on the role of businesses as agents of local and global developmental (Bush et al., 2015; Coe et al., 2004).

Thus, GPN is about managing complex interactions and systems involving broader stakeholders to produce and distribute goods while aiming for regional and local development that includes activities such as improving the local livelihoods, infrastructure development, and creating jobs, whereas SSCM is also linked to minimizing the adverse environmental and social impacts while improving the economic performance of diverse stakeholders across the supply chains. Therefore, while SSCM and GPN adopt different routes towards sustainability, they also exhibit complementarity to a great extent allowing the integration of more classical aspects discussed in supply chains to the changing global socio-political and economic factors.

2.1 | Identifying core GPN constructs

As a starting point, a vast number of publications that focused on theory development aspects in SSCM were scanned thoroughly to identify the major research areas that required attention from the researchers. Some of the papers that were scanned in the process of identification are listed in Table 1, while this can offer only a selection of related publications and much of this is based on conceptual reasoning by working with both the concepts. The size of the body of literature on the single topics contrasts with the overlap among the field. Searching "Web of Science" and "Scopus," we used "sustainable supply chain" and "global production network" as keywords that resulted in the identification of only one paper at the intersection (Boström et al., 2015). To the best of our knowledge, we are not aware of a paper comparing SSCM and GPN concepts to each other, justifying the approach taken here.

It is important to note that we do not adopt a systematic literature review and therefore analysis presented is based on the review of selected papers in the field of SSCM, which could be considered as a limitation of this paper. While undertaking the review, we were deeply involved with the process of disciplined imagination, which is one of the accepted methods of theory construction in the business and organization management fields (e.g., Cornelissen, 2006; Weick, 1989). Disciplined imagination is a combination of deductive reasoning based on literature reading and inductive reasoning that is rooted in intuitive thinking. Such thorough reading and logical

TABLE 1 Details and definitions of the key criteria.

Criterion	Explanation	Key concepts	Definition	References from SSCM	References from GPN
The emerging supply chain structures and sustainability	Details the role supply chain structures like clusters and networks and their impact on sustainability	Networks and clusters and other emerging supply chain structures	<p>Networks: structures with multiple links wherein numerous exchanges and the circular flow of materials among different internal and external stakeholders in the supply chains take place</p> <p>Clusters: geographically concentrated and highly interconnected setup of firms belonging to a particular sector or group of industries that achieve joint advantages (Barrientos et al., 2011; DeWitt et al., 2006; Gereffi & Lee, 2016)</p>	Young and Kielkiewicz-Young (2001), Alvarez et al. (2010), Miemczyk et al. (2012), Carter et al. (2015), Bush et al. (2015), Wilhelm et al. (2016) Sauer and Seuring (2018), Bellamy et al. (2020), Saunders et al. (2019), Sarkis et al. (2019)	Coe et al. (2004), Nadvi (2008), Rutherford and Holmes (2008), Henderson and Nadvi (2011), Barrientos (2013), Coe and Hess (2013), Aznezh and Nadvi (2013) Boström et al. (2015), Bush et al. (2015)
The importance and relevance of embeddedness and governance	Emphasizes the importance of considering different forms of embeddedness in dealing with sustainability issues. Interorganizational governance structures are mostly emphasized.	Societal (cultural and social), territorial and network embeddedness, governance within and among the supply chains	<p>Embeddedness: is the behaviour or functioning of firms, depending on the regulatory frameworks, cultural settings, and socio-political conditions under which they operate (Tate et al., 2013)</p> <p>Governance: refer to mechanisms that result from the interactions within and between firms and institutions (Humphrey & Schmitz, 2001; Gereffi et al., 2005; Gimenez & Sierra, 2013)</p>	Alvarez et al. (2010), Fabbe-Costes et al. (2011), Tate et al. (2013), Gimenez and Tachizawa (2012), Barrientos (2013), Wu and Pullman (2015), Touboul et al. (2014), Xia et al. (2019), Zhou et al. (2020), Charpin et al. (2020), Grabs and Carodenuto (2021)	Hess and Coe (2006), Coe et al. (2004), Sturgeon et al. (2008), Kelly (2013), Kelly (2013), Gereffi et al. (2005), Boons et al. (2012), Coe et al. (2008a, 2008b), Coe and Hess (2013), Vermeulen and Hess (2013), Boström et al. (2015), Beyers and Heinrichs (2020).
Power dynamics	Discusses the relationships between and among firms and their external and internal stakeholders	Power relationships between and among the supply chains	<p>Power dynamics: are the various forms and level of power between firms and their stakeholders that influence sustainability phenomenon (Cox, 1999; Cox et al., 2004; Hojmoose et al., 2013; Kähkönen, 2014)</p>	Maloni and Benton (2000); Cox et al. (2004), Alvarez et al. (2010), Touboul et al. (2014), Touboul et al. Walker (2015), Meqdadi et al. (2017, 2019), McLoughlin and Meehan (2021)	Gereffi et al. (2001), Henderson et al. (2002), Hess and Yeung (2006), Barrientos and Smith (2007), Coe et al. (2008a, 2008b), Boons et al. (2012), Barrientos (2013), Coe and Hess (2013), Boström et al. (2015).

(Continues)

TABLE 1 (Continued)

Criterion	Explanation	Key concepts	Definition	References from SSCM	References from GPN
The stakeholder approach	Argues for the inclusion of broader stakeholders to manage sustainability issues across supply chains	Collaborative approaches	Stakeholder approach: engagement of wider stakeholders and adoption of collaborative approaches to managing sustainability in supply chains (Meixell & Luoma, 2015)	Alvarez et al. (2010), Meixell and Luoma (2015), Rodriguez et al., 2016, Silvestre (2015); Andersson et al. (2022), Fontana and Pisalyaput (2022), Norris et al. (2021)	Coe et al. (2004), Sturgeon et al. (2008), Nadvi (2008), Coe et al. (2008a), Stewart et al. (2009), Gereffi and Lee (2012).
The sustainability dimensions and the implementation strategies	Treatment of sustainability dimension and the different strategic orientations to implement sustainability	Three dimensions of sustainability (economic, environmental, and social)	The implementation of sustainability strategies: the treatment of dimensions related to sustainability and the corresponding corporate strategies that firms adopt to implement them in supply chains (Seuring & Müller, 2008)	Pagell and Wu (2009), Gualandris et al. (2015), Vermeulen (2015), Yawar and Seuring (2018).	Coe et al. (2004), Coe et al. (2004), Sturgeon et al. (2008) Coe and Hess (2013), Yeung and Coe (2014), Azmeh and Nadvi (2013), Boström et al., 2015; Beyers and Heinrichs (2020)

reasoning allow the researchers to select the relevant concepts and draw related constructs from the respective disciplines to propose creative and innovative theoretical frameworks and concepts. We make implicit assumptions about managing a complex phenomenon such as sustainability in a supply chain context, and drawing from multiple disciplines, we adopted what Jaakkola (2020) calls theory synthesis approach, which brings conceptual integration across multiple literature streams and suggests propositions that can be tested in further studies. Below is a brief explanation on the selection of the constructs that is grounded in the literature intersecting GPN and SSCM.

Boström et al. (2015) point to the relevance of (1) supply chain structures and (2) the interrelation with governance and (3) power in chains and networks. This is further linked to (4) the stakeholder approach and (5) implementation issues, thereby already providing reference of all five core constructs used later for the analysis. All the criteria are much used in related GPN and SSCM literature, such as the papers listed in Table 1, and this is also a general observation across both the disciplines (Seuring Aman, et al., 2022). For example, the stakeholder approach and implementation of sustainability strategies emerged more commonly in SSCM articles (Meixell & Luoma, 2015; Siems & Seuring, 2021; Siems et al., 2023), whereas the emergence of supply chain structures and power dynamics emerged from traditional SCM literature (Cox, 1999; McLoughlin & Meehan, 2021). Some articles such as Thüner et al. (2019), New (1997), and Charpin et al. (2020) highlight the importance of economic and socio-political contexts while discussing sustainability in supply chains, while this is much more pronounced and evident on the GPN side (Bush et al., 2015). Similarly, Gereffi and Lee (2012, 2016) explain governance and upgrading scenarios in global supply chains by linking it to GPN, where Beyers and Heinrichs (2020) link this to the SSCM side. They point to different modes of governance and related implementation of respective structures in supply chains. The stakeholder context is mentioned in both approaches, so some relevant literature is available from both disciplines (see Table 1). Siems et al. (2023) provide a review at the SSCM intersection, pointing to different roles stakeholders can take. Similar observations are made in GPN literature where broader stakeholder involvement, network formation, power dynamics within the value chain, and governance are predominantly mentioned to deal with the local and regional developments thereby bringing the social sustainability concept that includes the regional and local development distinctly into the debate (Chung Yeung, 2009; Horner, 2017; Neilson et al., 2014).

A brief explanation and definition of the individual criterion is provided in Table 1, where the extraction of the constructs and key references is also listed. Each criterion and its relevance to SSCM and GPN will be explained in subsequent paragraphs. It is worth mentioning that the criteria are discriminant, each explaining a different concept. However, it should be emphasized that these are not isolated constructs; instead, they are interrelated and help to paint a sufficiently holistic picture of the interorganizational sustainability debate:

1. The emerging supply chain structures and sustainability,
2. The importance and relevance of embeddedness and governance,

3. Power dynamics,
4. The stakeholder approach,
5. The sustainability dimensions and the implementation strategies.

Based on the discussion provided above, the position of five GPN constructs in SSCM setting is illustrated in Figure 1. This figure reflects the disciplined imagination approach adopted in this paper that allowed us to bring the core constructs of complementary disciplines such as SSCM and GPN into one conceptual framework. The figure shows the positioning of GPN within an SSCM setting indicating that discussions based on global political economy in GPN can provide a broader understanding of managing sustainability in supply chains.

3 | LINKING THE SSCM AND GPN CONSTRUCTS

In the following paragraphs, we present the discussions occurring in the respective disciplines and show the possible areas in GPN that can be integrated into SSCM research. While doing so, we continuously show that below chosen constructs from SSCM and GPN exhibit the characteristics of “stepsiblings” indicating a strong resemblance to each other while also expressing their individual dominant and recessive traits like the principles of genetics where one trait in a family member could show dominance whereas the same trait can be recessive and can get expressed much later in other members.

3.1 | The emerging supply chain structures and sustainability

3.1.1 | Explanation

The composition of supply chains (i.e., the number of tiers) and the links between them, which include horizontal and vertical information and product flows, resulting in a chain or network structure ultimately determines organizational practices and their impact on operational performance (Bush et al., 2015; Vurro et al., 2009). The emergence of new structures, such as clusters and networks, has a significant impact on the sustainability initiatives that are adopted along the supply chain (Miemczyk et al., 2012). Supply chain structures were taken as the starting point of the discussion, as they are typically composed of

actors who are individually and collectively responsible for the implementation of sustainability strategies (Carter et al., 2015; Fabbe-Costes et al., 2011).

3.1.2 | The SSCM approach

SSCM has traditionally taken the dyad or triad of organizations as the unit of analysis (McLoughlin & Meehan, 2021; Miemczyk et al., 2012). However, little attention has been paid to the end-to-end supply chain network, although it represents the most comprehensive understanding of a global supply chain (Bush et al., 2015; McLoughlin & Meehan, 2021; Sauer & Seuring, 2018). A network perspective is particularly relevant, as it facilitates understanding of the behaviours of the various actors that constitute the supply chain (Alvarez et al., 2010). Early definitions of SCM and SSCM have incorporated the network as an integral component (Miemczyk et al., 2012); however, SSCM has typically avoided analysis of the broader network (Carter et al., 2015). Vurro et al. (2009) emphasize the influence of dominant focal firms on supplier networks in determining the models of supply chain governance, which, in turn, shape sustainable value chains. However, a broader network perspective, such as in a GPN that includes the stakeholders of an ultimate network, such as the state and its related entities, nongovernmental organizations (NGOs), and civil society actors, is rarely taken in SSCM studies, with Rodriguez et al. (2016) being an example that puts them to the centre of the analysis. In particular, the interdependencies and interactions between the internal and external networks that shape the sustainability strategies of firms are seldom investigated.

Among the exceptions are the studies by Young and Kielkiewicz-Young (2001) and Alvarez et al. (2010), who explicitly take networks as the unit of analysis. Their analyses revealed that supplier networks are essential constituents of SSCM. Alvarez et al. (2010) emphasize the vital role of external stakeholders in understanding the governance mechanisms that drive sustainability management within and across networks. Furthermore, they noted that firms increasingly target environmental issues, rarely address societal or ethical issues in their networks, and closely work with their suppliers by sharing knowledge and adopting other collaborative approaches to improve sustainability and competitiveness across the supply chain. More recently, Meqdadi et al. (2017, 2019), Saunders et al. (2019), McLoughlin and Meehan (2021), and Andersson et al. (2022) have also

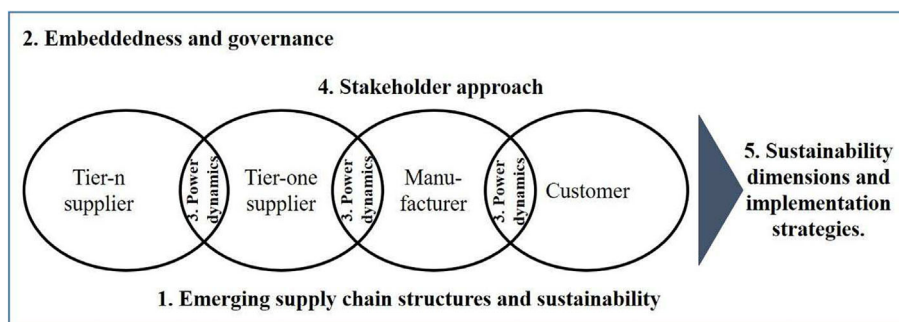


FIGURE 1 Illustrating the position of the five GPN constructs in a supply chain setting.

used the supplier network as the unit of analysis when examining the diffusion of sustainability practices across the buyer–supplier networks. However, these studies report the viewpoint of focal firms and their extended suppliers and exclude other actors in the networks that influence sustainability. Similarly, the emergence of industrial clusters and their impact on sustainability have often been neglected in SSCM literature. DeWitt et al. (2006) argue that the interconnectedness of clusters in a particular sector or group improve the possibility of achieving joint advantages. These advantages include an improved flow of information and products, as well as an increased level of coordination and dependence and the diffusion of innovation among firms. Therefore, focal firms in clusters can expect performance outcomes in the form of reduced transaction costs and improved economic outcomes (DeWitt et al., 2006). These studies explain the impact of clusters on the focal firm, but they do not focus on the behaviour of the individual firm or the suppliers within the clusters. Therefore, in line with the call for a broader stakeholder perspective in Pagell and Wu's (2009) reconceptualization of the supply chain, the use of networks and industrial clusters as the units of analysis in SSCM research would help to extend our knowledge of sustainability in supply chains (Miemczyk et al., 2012).

3.1.3 | The GPN approach

Comparatively, GPN is an alternative and yet complementary approach for two reasons: First, it includes different interest groups in the analysis. There is emphasis on the role of workers in GPN, as it aims to improve their (social) well-being (Barrientos, 2013; Coe & Hess, 2013). Second, GPN explicitly analyses the role of networks of companies and industrial clusters. The network perspective in GPN includes firms, workers or consumers, government agencies, NGOs, unions, and other external stakeholders that seek to shape organizational practices and clusters; some of these entities are rather only addressed recently in traditional SSCM research (see e.g. Rodriguez et al., 2016). The argument for choosing a network viewpoint in the sustainability debate is that it offers a more comprehensive understanding of the nature and extent of interorganizational relationships (Coe et al., 2004). The GPN approach argues that external stakeholders, such as states and their governance mechanisms at the local and global levels, are important drivers of network configuration. Glasman (2011) argues that government regulations and contracting between business organizations are influenced by prevailing geopolitical scenarios that in turn determine the accessibility of firms to other local and global firms resulting in the formation of supply networks. It is evident in the massive global sourcing strategies taken up with the firms in Asia and Far East economies and the onset of new global legislations regulating environmental and social issues across the supply chains. Similarly, the inclusion of political factors such as natural calamities, wars, and the resulting new global strategic alliances and its impact on the supply networks is more pronounced in GPN literature (Chung Yeung, 2009; Neilson et al., 2014). Such explanations provide a nuanced view of the role of external stakeholders

by considering the global political economy that is recently starting to emerge (Gold & Schleper, 2017; Thüner et al., 2019; Wieland, 2021) in SSCM literature.

Similarly, most studies that investigate the impact of clusters on supply chains typically adopt a GPN approach (Azmeah & Nadvi, 2013; Henderson & Nadvi, 2011; Nadvi, 2008). This way, the GPN literature provides a more detailed explanation of the mechanisms underlying the formation of clusters (Rutherford & Holmes, 2008). A detailed description of cluster formation and its impact on the economic and social development of the respective regions can be obtained, for example, in the study of Bair and Gereffi (2001). These studies argue that various external political and economic factors influence the formation of industrial clusters. They point out that product type and market volatility contribute to the formation of clusters and networks and that this, in turn, drives the agglomeration and dispersion of suppliers. This dispersion and agglomeration then help to diffuse and transfer knowledge across the networks and clusters. The knowledge diffusion creates linkages among the firms and across the industries, which improves the coordination in production networks. Such coordination and linkages improve the collective innovation capabilities that are a source of competition ultimately contributing to the local and regional development (Bair & Gereffi, 2001; Coe et al., 2004; Humphrey & Schmitz, 2001).

3.1.4 | Summary

While the SSCM literature would argue that networks and clusters are a reality that practitioners must deal with, researchers have often treated them as being outside the scope of the SSCM discipline. GPN can provide SSCM researchers with complementary explanation about the formation and functioning of networks and clusters, and it can relate this knowledge to the underlying socioeconomic and political debate, which can help to broaden the prevailing view in SSCM. Because global supply chains face complex challenges concerning the management of sustainability, research in this area should adopt a broader perspective that includes network structures and industrial clusters (Azmeah & Nadvi, 2013). Based on the above discussion, we propose the following:

- P1.** The influences of external stakeholders on network and cluster formation in GPN asks for the integration of the economic and social development in SSCM research.

3.2 | The importance and relevance of embeddedness and governance

3.2.1 | Explanation

Different types of embeddedness determine the composition and operation of supply chains and their impacts on sustainability management (Tate et al., 2013). Embeddedness within the SSCM context is

about managing sustainability considering the external factors such as cultural norms, institutional mechanisms globally and locally which are driven by governance mechanisms between the firms and organizations. Similarly, in GPN, managing sustainability is also about managing relationships between the various stakeholders and the context within which they are embedded. These contextual factors and the resulting relationships are again a result of governance mechanisms between organizations. Therefore, both disciplines show that embeddedness is about managing relationships and interdependencies between diverse stakeholders that are influenced by governance mechanisms thereby expressing the stepsibling phenomenon. Hess and Coe (2006) argue that various forms of embeddedness determine the effective functioning of product and service supply chains, thereby resulting in regional and global development. They place particular emphasis on territorial and network embeddedness as the main components of the implementation of sustainable supply chain strategies. Similarly, structural embeddedness plays a vital role in knowledge sharing among networks and has a positive influence on performance in the supply chain (Nair et al., 2018; Tate et al., 2013). Despite the significance attached to different forms of embeddedness, SSCM researchers are reluctant to employ embeddedness as a unit of analysis.

Governance mechanisms are dependent on the existing power relationships between the buyers and suppliers in a supply chain (Alvarez et al., 2010; Grabs & Carodenuto, 2021; Matos et al., 2021). In one of the few papers from GPN-related authors to appear in an SCM journal, Gereffi and Lee (2012) argue for governance as a fundamental driver of sustainability in supply chains. They call for closer collaboration between supply chain and GPN researchers and emphasize that the relationship between governance structures and social, ecological, and economic upgrading (i.e., sustainability performance) should be thoroughly investigated. They further distinguish different forms of governance and point to the overlap and intersection with SSCM, but they refrain from integrating the broader set of constructs that the GPN approach has to offer. Therefore, governance structures and embeddedness are core criteria that are relevant to this study.

3.2.2 | The SSCM approach

SSCM and GPN research emphasizes the interorganizational relationships existing among the actors, and both disciplines stress intrafirm and interfirm coordination (Norris et al., 2021). In SSCM, coordination is typically realized via extended information flows among the actors, whereas GPN focuses on implicit factors, such as power structures, cultural values, socio-political structures, and embeddedness (spatial, social, and cultural), related to enhanced sustainability (Jajja et al., 2019). The focus on various forms of embeddedness and their explicit relationship to sustainability is mainly missing from the SSCM literature. Recently, Nair et al. (2018) emphasized the role of structural embeddedness in the buyer-supplier relationships in network structures. However, such discussions are standalone examples and are not replicated in SSCM, in which other forms of embeddedness, such

as societal, social, and cultural, play an important role in SSCM (see, e.g., Yawar & Seuring, 2018). Tate et al. (2013) conceptualize the diffusion of environmental business practices in networks using structural embeddedness. Both studies are contextual and focus specifically on the environmental aspect of sustainability. The influence of cultural embeddedness in SSCM has started to emerge (Gimenez & Tachizawa, 2012; Muller et al., 2012; Wu & Pullman, 2015). Even though these studies show the importance of culture in shaping supply chain strategies, it is still far from being used as a unit of analysis in SSCM research (see, e.g., Jajja et al., 2019). The role of embeddedness, which refers to the influence of external stakeholders and local factors on supply chain governance, is rarely discussed in the existing SSCM literature (Barrientos, 2013; Muller et al., 2012). Supply chain governance is mostly explained in a buyer-supplier context using a transaction cost perspective (Touboulic & Walker, 2015) indicating a limited approach taken by the SSCM literature in explaining the governing structures beyond the dyads and supply chains.

3.2.3 | The GPN approach

The GPN approach is mainly concerned with three types of embeddedness (Hess & Coe, 2006): societal, network, and territorial. These three forms of embeddedness are important for global and local supply chains, as they influence firms' adoption of sustainability strategies. Similarly, the GPN approach offers insights into the firms' reconceptualization options for their supply chains to address sustainability issues. The strategies that are used to manage sustainability in local and global supply chains are not universal and depend on several local and external factors. These factors range from local and national cultures to the government policies that determine supply chain strategies. The embeddedness debate in GPN is shaped by the economic, social, and political arrangement within an environment (Hess & Coe, 2006). The discussions on embeddedness in GPN present a granular analysis of the role of states, institutions, firms, and other related stakeholders regarding wider developmental aspects, such as the local and regional development of suppliers and their communities (Hess & Coe, 2006).

It is interesting to note that the view from the focal firm perspective dominates embeddedness in the SSCM literature, whereas in GPN, it is precisely the societal embeddedness and local cultures that are perceived as the drivers of supply chain performance. Therefore, it is surprising to see that even after 20 years of SSCM research, different forms of embeddedness as a construct are not fully operationalized and are rarely used in the extant SSCM literature (Carter et al., 2015). Perhaps GPN, with its focus on social, political, cultural, and spatial embeddedness, can provide corresponding discussion to understand firm responses at the intersection of economic globalization and sustainability.

A part of the GPN literature is dedicated to dealing with governance mechanisms within and between the supply chains and typically emphasizes the role of the focal firm in shaping the control



mechanisms in the buyer–supplier relationship (Gereffi et al., 2005; Yeung & Coe, 2014). Similarly, interorganizational governance structures are discussed extensively in GPN. It specifies that geopolitical scenarios that are influenced by external stakeholders, such as the state, and its political structures and the individual firms typically affect interorganizational governance mechanisms (Yeung & Coe, 2014). The interfirm governance structures result in the emergence of various supply chain structures, which further determine the sustainability strategies employed in local and global supply chains (Vurro et al., 2009). Governance mechanisms are, thus, essential methods of coordinating and controlling actors and play an important role in guiding the sustainability efforts of the firms (Barrientos, 2013). Integrating interfirm and interorganizational governance mechanisms into research could help to extend our current knowledge of SSCM.

3.2.4 | Summary

Upon examining SSCM and the GPN approach, it is evident that the discussion on different forms of embeddedness in SSCM is still at an abstract level. Similarly, interorganizational governance structures that include external stakeholders and drive the sustainability strategies of firms are rarely discussed. Therefore, the GPN approach, with its focus on different forms of embeddedness and discussions on interfirm and interorganizational governance, explains the sustainability strategies of local and multinational firms operating in diverse environments. Based on these arguments, we suggest the following:

- P2.** Integrating embeddedness (geopolitical, social, and cultural) and interorganizational governance structures is critical in moving towards a better understanding of managing sustainability in supply chains and would drive sustainable development further.

3.3 | Power dynamics

3.3.1 | Explanation

The power relations between various internal and external stakeholders are important determinants of the sustainability strategies adopted by firms (Meqdadi et al., 2017, 2019). Touboullic et al. (2014) argue that power is an essential component in understanding buyer–supplier relationships and is an important ingredient for designing more sustainable supply chains. Boons et al. (2012) suggest that sustainability is a complex phenomenon that requires an in-depth discussion of the power relations among supply chain actors from a transdisciplinary perspective, which hereby includes GPN. The extant SSCM discusses power issues that directly involve buyers and suppliers and, therefore, neglects the power relationships between external and internal stakeholders whose power affects the management of sustainability across supply chains (Meqdadi et al., 2017, 2019; Touboullic et al., 2014).

3.3.2 | The SSCM approach

Power is a recurring phenomenon in the relationship between firms and has frequently been discussed in SSCM research (Cox et al., 2004; Maloni & Benton, 2000; Matos et al., 2021; Touboullic et al., 2014; Touboullic & Walker, 2015). Researchers have acknowledged that the power asymmetry in buyer–supplier relationships give rise to potential conflicts and results in the formulation of different horizontal and vertical relationships in a supply chain (Cox, 1999). However, most SCM studies discuss power within a supply chain, wherein a dominant firm and its suppliers are involved. The external stakeholders, such as national and supranational institutions, and their effects on the power distribution among various supply chains and their members are rarely at the centre of discussion in the SSCM research (Wu & Jia, 2018). Maloni and Benton (2000) argue that managing interorganizational power issues could lead to both positive and negative impacts on supply chains. Similarly, in sustainable supply chains, power plays an important role in determining the sustainability-focused initiatives adopted by firms and their suppliers (Meqdadi et al., 2017, 2019; Touboullic et al., 2014).

Various studies within the SSCM literature (e.g., Hoejmose et al., 2013) cover power structures within the supply chains (also Cox, 1999). Moreover, the SSCM literature mostly discusses the power relationships between buyers and suppliers from a collaborative perspective and in the context of dyadic or triadic supply chains (Kähkönen, 2014; Touboullic et al., 2014). Even when discussing dyads and triads, the power derivation mechanism and its manifestation at the supply chain level are not well documented. However, achieving a full understanding of sustainability also requires a thorough investigation of power at the interfirm level and the inclusion of multiple stakeholders in the study. The distinct role of external stakeholders and the involvement of reputational risks in the case of noncompliance with sustainability initiatives are visible in SSCM (Busse et al., 2017). The management of sustainable supply chains is determined by the relationship between embeddedness and the connectivity level, which depends on the power equations in the supply chain networks (Kähkönen, 2014). Therefore, SSCM could benefit from the series of ongoing discussions in GPN about power relationships between external and internal stakeholders (Coe et al., 2008a; Coe & Hess, 2013), as these dynamics play an important role in managing sustainable supply chains (Touboullic et al., 2014). Otherwise, a minor discussion is found in the SSCM literature regarding the role of power in the management of sustainability in local supply chains. However, it presents an exciting area of future research, as domestic supply chains are increasingly linked to international supply chains (Hendry et al., 2019).

3.3.3 | The GPN approach

Within the GPN literature, power is operationalized in a broad sense, wherein the role of states and their impact on the local supplier networks and individual supply chain actors are discussed extensively

(Rutherford & Holmes, 2008). In the GPN literature, discussions concerning power provide details on institutional mechanisms and their role in shaping local and global supply chains. The GPN literature argues that external stakeholders, such as international trade and financial institutions, shape the functioning of supply chains (Kelly, 2013). Moreover, it sheds light on the sequence of events that forms the supply chain structures locally due to the distribution patterns of the production systems. The GPN literature argues that local supplier networks tend to either work as a cluster or act as individual units and exercise different levels of power in global supply chains (Barrientos, 2013; Coe et al., 2004; Sturgeon et al., 2008). This kind of power distribution results in different levels of collaboration among local and global supply chain members. Because the power structures and interaction among supply chain actors are an integral part of the GPN discussions (Barrientos, 2013; Coe & Hess, 2013), they provide a more detailed view of power imbalances not only in local but also global supply chains. Such a nuanced approach to power relationships in GPN describes the relational exchanges and dependencies between various stakeholders at the local and international levels and presents a clearer picture of the management of sustainability in supply chains. These discussions in GPN provide the opportunity to examine power distribution patterns among the supply chains and link these to the sustainability debate in both local and global supply chains.

3.3.4 | Summary

The close link and interaction between local and international supply chains create various patterns of power distribution at different levels within and across the supply chains, adding new sustainability challenges for firms to overcome (Hoejmose et al., 2013; Touboul et al., 2014). Additionally, based on the power discourse in GPN, an in-depth discussion of power structures in supply chains uncovers the potential to reconceptualize supply chains and helps to integrate local supply chains into international and global ones. Therefore, we suggest the following:

P3. Power and its distribution between a firm's internal stakeholders and external institutions in GPN would advance the comprehension of its influence on the management of sustainability in global and local supply chains.

3.4 | The stakeholder approach

3.4.1 | Explanation

The stakeholder approach as a core conceptual element is at the centre of the debate in both SSCM and GPN and is therefore considered to be a fundamental step towards discussing and addressing sustainability issues in supply chains (Andersson et al., 2022; Busse

et al., 2017; Meixell & Luoma, 2015; Silvestre, 2015). Stakeholder theory typically emphasizes the collaborative role of internal and external stakeholders as a premise for meeting the sustainability challenges across supply chains (Meixell & Luoma, 2015; Pagell & Wu, 2009). Alvarez et al. (2010) argue that multistakeholder engagement is the key to establishing formal governance mechanisms and acts as an essential means of expanding supply chain networks. Similarly, Coe et al. (2004) highlight the role of various external institutions as relevant stakeholders that influence the adoption of sustainability initiatives in supply chains.

3.4.2 | The SSCM approach

An interesting observation in the GPN and SSCM disciplines is the joint emphasis on stakeholder involvement and collaboration. SSCM research, and, in particular, the research on “green” management and corporate social responsibility, highlighted the need for closer collaboration among supply chain actors (Fontana & Pisalyaput, 2022; Seuring & Müller, 2008). SSCM research has often referred to the extended stakeholder approach (Meixell & Luoma, 2015; Pagell & Wu, 2009) and argued for collaborative efforts among stakeholders taking different roles (Siems et al., 2023). For example, multistakeholder initiatives widen the monitoring of sustainable initiatives through concerted efforts to a broader set of supply chain actors (Andersson et al., 2022; Yawar & Seuring, 2018). Shared monitoring mechanisms ensure stricter implementation of sustainability programs across supply chains (Nadvi, 2008). These collaborative efforts include knowledge sharing between the focal firm and the suppliers to develop the latter's internal capacities and to improve overall supply chain performance. Therefore, when arguing about the multistakeholder approach, SSCM focuses mainly on the collaborative efforts among supply chain actors and rarely includes interfirm collaborative approaches, such as cross-sectoral partnerships. However, Alvarez et al. (2010) and Florino and Bhan (2016) argue that studies focusing on the interaction between diverse stakeholders, such as public and private institutions, will enable an enriched understanding of supply chain governance. Further, Busse et al. (2017) emphasize the need to identify relevant stakeholders and their prioritization to identify and manage supply chain sustainability risks.

3.4.3 | The GPN approach

The GPN approach, on the one hand, emphasizes the functioning of networks and clusters and argues that multistakeholder collaborative efforts are important in the diffusion of ideas and knowledge sharing (Gereffi & Lee, 2012). On the other hand, it also emphasizes extensive interfirm and cross-sector collaboration among the geographically spread production regimes (Sturgeon et al., 2008). Additionally, it looks at information sharing and collaboration among the private and public sector when dealing with sustainability-related issues in supply chains. The GPN approach argues that collaborative efforts between

the private and public sector provide the opportunity to create sustainable supply chains. For example, the creation of sustainable codes and standards largely depends on the collaborative efforts of public and private organizations (Coe et al., 2008a; Nadvi, 2008). Stewart et al. (2009) argue that the improving the mechanisms of communication will break the barriers between public and private organizations, thus enabling the implementation of more collaborative sustainability initiatives.

3.4.4 | Summary

Broader stakeholder involvement in the form of the participation of governments, public sector, and other related entities is important in addressing sustainability issues. Factors such as enhanced communication and collaboration among multiple stakeholders that include public-private partnerships can offer a mature reflection on the rapidly emerging sustainability issues in supply chains. Therefore, we propose the following:

P4. Cross-sector and multilevel stakeholders' interactions, as analysed in GPN, allows assessing the role of diverse collaborative mechanisms in addressing and managing sustainability-related issues in supply chains.

3.5 | The sustainability dimensions and the implementation strategies

3.5.1 | Explanation

The implementation of sustainability dimensions in GPN and SSCM describes firms' focus on issues related to sustainability. It is necessary to measure the depth and range of the sustainability initiatives that are adopted by firms in their supply chains to understand the implementation of sustainability dimensions. Furthermore, the implementation of sustainability strategies is discussed because it provides insights into the existing strategies and allows for the prediction of the sustainability strategies that a firm will adopt (McLoughlin & Meehan, 2021; Pagell & Wu, 2009).

3.5.2 | The SSCM approach

SSCM and GPN take different approaches to deal with the three commonly investigated dimensions of sustainability. Traditionally, SSCM has mostly investigated ecological issues (emissions, resource depletion, etc.) and has only recently broadened its focus to address the social issues as well. However, its focus is shifting towards broader societal issues and the possibilities of exploring them by developing the capabilities of suppliers (McLoughlin & Meehan, 2021; Yawar & Seuring, 2018). Developing capabilities is critical in improving the resilience of firms as it allows them to sense, reconfigure, and

transform their supply chains to overcome disruptions as witnessed during the Covid-19 pandemic (Silva et al., 2022). SSCM dealt in particular with supplier development initiatives that aimed to improve the economic and social performance of the supply chain (Brix-Asala et al., 2021), but it remained surprisingly silent when it came to their implementation and their role in improving the living standards of the supplier and supplier communities (Silva et al., 2022; Yawar & Seuring, 2018). Further, SSCM literature has usually taken a static approach when describing supplier development, that is, mostly focusing on the lead firm as a dominant actor in driving these initiatives and not capturing the aftermath effects of such efforts on suppliers and their communities. This is also corroborated by Silva et al. (2022), who argue that sustainability capability is a dynamic concept and undergoes constant transformation and therefore requires adaptations over time. More recently, SSCM has emphasized the monitoring of mechanisms and their active role in implementing sustainability strategies in supply chains (Brix-Asala et al., 2021; Gualandris et al., 2015). More recently, debates surrounding the forging of high levels of collaborations have started to appear that would enhance the socio-ecological sustainability in supply chains (Silva et al., 2018; Sudusinghe & Seuring, 2022). However, these discussions are restricted to the firm level and rarely include extended stakeholders, such as states and institutions, and their role in implementing sustainability strategies (Vermeulen, 2015; Wu & Jia, 2018).

3.5.3 | The GPN approach

The GPN approach, with its focus on workers and developmental issues, addresses broader social and societal phenomena (Coe et al., 2004; Coe & Hess, 2013; Sturgeon et al., 2008) that could complement the SSCM discussion. Yeung and Coe (2014) point out that the GPN approach rarely integrates the ecological aspects of production processes, including activities related to the energy and material transformation taking place in each node of production networks. It is possible to compensate for this lack of analysis in the GPN literature by taking into consideration the in-depth discussion available in the SSCM research regarding the role of the ecological dimension in managing sustainability across supply chains. When it comes to discussing the economic dimension of sustainability, both GPN and SSCM explicitly mention firm performance as the ultimate aim. It is not at all surprising, as debates on cost-capability ratios are traditionally discussed in the SSCM literature because the emphasis is on the performance of focal firms and their supply chains.

Conversely, the GPN approach has recently begun to focus on the capability development of suppliers and focal firms. There is increasing evidence from the GPN-related research that factors such as interfirm learning and supplier integration that develop the capabilities of suppliers are the key to performance outcomes (Yeung & Coe, 2014). Having the current focus in mind, it could be worth borrowing the concept of the economic and social upgrading of suppliers from GPN. The GPN literature aims to explain economic development at not only the industry level but also the state level when meeting

social standards or to improve related conduct (Azmeah & Nadvi, 2013; Coe et al., 2004). Further, it provides detailed explanations on the interrelations and complexities between economic and social upgrading and links it to institutions, states, unions, governance, and other relevant factors (Barrientos et al., 2011; Gereffi & Lee, 2016). In this sense, performance improvements by firms are explained through economic and social upgrading, which is an explanation that is somewhat under-represented from the SSCM literature thus far.

It is interesting to examine the arguments in the SSCM and GPN disciplines regarding the implementation strategies that could lead to sustainability improvements. Both disciplines seem to converge in one area, that is, their views on the implementation of sustainability standards. However, although there is some level of agreement regarding the beneficial role of codes and standards in improving sustainability performance, there are considerable differences when it comes to implementing them. The monitoring mechanisms for the successful implementation of codes and standards are discussed extensively in the SSCM literature and, in particular, in the buyer-supplier context (Gualandris et al., 2015). According to the GPN approach, monitoring is not solely the responsibility of focal firms. This moves beyond company boundaries by including external stakeholders, such as states and local governments. However, the role of governments can differ and might not always lead to sustainable solutions and, therefore, government interventions alone cannot be seen a remedy for implementing sustainability strategies. Nevertheless, as argued by Sturgeon et al. (2008), support from institutions (local, national, and international) shapes the organizational behaviour of firms both locally and internationally. These institutions suggest sustainability policies that are embedded in the local knowledge and locally prevailing socio-political, economic, and cultural environments (Wu & Jia, 2018).

3.5.4 | Summary

The broader concept that is used in GPN, which emphasizes the vital role of the government as a stakeholder in the monitoring and implementation of sustainability strategies, could, therefore, serve as a new baseline from which to generate sustainability in supply chains. The investigation of governments and companies in ensuring sustainability across supply chains has only recently begun to emerge in SSCM (Boström et al., 2015; Wu et al., 2014; Wu & Jia, 2018). In-depth empirical studies are still lacking, and SSCM researchers should, therefore, include the wider range of stakeholders and the multiple roles they can take in (Bush et al., 2015; Rodriguez et al. 2016). Based on the discussion above, we propose the following:

P5. The role of states and wider stakeholders in monitoring the implementation of sustainability initiatives and its emphasis in the GPN literature, along with a stronger focus on social and economic upgrading, would allow for a better integration of sustainability in the SSCM field.

3.6 | Summarizing the findings

Based on these arguments and observations, we summarize the comparative criteria in the GPN and SSCM disciplines and put forward future research directions in Table 2.

4 | DISCUSSION

The recent geo-political changes and the shifting power dynamics have increased the diversity and complexity of supply chains resulting in new sustainability challenges to the firms. As an example, the emergence of new economic power centres and shifting of production regimes to new geographical areas would require a thorough investigation of inter and intra-firm relationships that emerge out of the interactions between different stakeholders (Norris et al., 2021). Similarly, the redesigning of logistics networks, reconfiguration of supply chains and the emerging sustainability challenges demands research in SSCM to take a broader and inclusive approach wherein multiple factors such as governance structures, power dynamics, global and regional contexts (embeddedness) are considered as factors affecting the management of sustainability in supply chains. In this context, a detail empirical analysis taking the above propositions as the starting point would reap insights into the new realities occurring due to the above changes. It will further help in the identification of risks, challenges and opportunities that the firms might have to face in the coming years.

The core contribution of the paper is that it brings together two concepts from different field of research, that is, the GPN approach from a geo-political and socio-economic field with the management driven SSCM. While this might be questioned, it crosses over disciplines and enriches theory building beyond the typical domain (Ashby et al., 2012) and is the reason, why we called them stepsiblings. It might be seen as an unusual attempt, but the analysis of GPN and SSCM shows that sustainability is a complex phenomenon and that the current understanding of it in the context of supply chains can be enriched further. Based on the observations made in the findings section, we argue that SSCM as a field can closely engage with its stepsibling GPN, so to broaden its theoretical foundations. Both streams of research emphasize the extensive involvement and collaboration of stakeholders in achieving sustainability in supply chains (Fontana & Pisalyaput, 2022). Further, both disciplines agree that sustainability in supply chains can be achieved when a multidimensional, multiactor perspective is taken into consideration (Boons et al., 2012; McLoughlin & Meehan, 2021; Yeung & Coe, 2014). While both fields emphasize a broader approach towards understanding sustainability, GPN emphasizes the granular aspects of embeddedness and power, and therefore offers a more nuanced explanation on the sustainability aspects in supply chains. Based on the extant analysis, we argue that there are overlaps in certain areas of sustainability discussions in both the fields and yet there is a possibility of exchanging viewpoints and discussions from the respective disciplines of SSCM and GPN. It indicates that the two fields have grown separately but share some



TABLE 2 Summary of comparative analysis and future research directions.

Criteria	SSCM	GPN	Research directions
Emerging supply chain structures	Focus on focal firm and dyads with a rare emphasis on triads and whole supply chains as the units of analysis. Discussion from the focal firm perspective mostly.	Networks and industrial clusters are the units of analysis. Political and economic factors influence the functioning of supply chain networks and industrial clusters.	Improving the understanding of emerging supply chain structures by integrating economic and political debates into SSCM research.
Importance and relevance of embeddedness and governance	Different forms of embeddedness neglected. Governance within a supply chain is emphasized, focusing primarily on the role of focal firms.	Embeddedness is a central concept in explaining sustainability. Governance among the supply chains is advocated as the critical factor in determining sustainability management.	Integrating the discussion on geopolitical, social, societal, and cultural embeddedness along with governance among the supply chains as emphasized in GPN will enrich the SSCM field.
Power dynamics	Power is rarely operationalized in the SSCM literature. More focus on power structures within the supply chains. Less emphasis on the role of powerful external stakeholders that influence sustainability challenges.	Emphasis on interorganizational interactions and their influence on power relationships. External stakeholders, such as states and institutions, and their role in distributing power among internal and external stakeholders, are often emphasized while explaining sustainability.	Including the debate on power relationships between internal and external stakeholders and especially the role of states and institutions could enrich SSCM research. It could provide nuanced insights into the management of sustainability in supply chains.
Stakeholder approach	The multistakeholder approach is emphasized; however, the focus is mainly on the collaborative efforts between supply chain actors. Less attention is given to cross-sectoral partnerships.	Multistakeholder initiatives are at the core of GPN, with a focus on knowledge sharing among networks and clusters. Calls for greater engagement between public-private and cross-sectoral partnerships.	The enhanced collaboration, communication, and inclusion of multilevel stakeholders, as emphasized in GPN, could provide more insights for SSCM researchers concerning sustainability-related issues.
Implementation of sustainability strategies	Traditionally focused on environmental and economic issues. Recent inclusion of social and societal issues. SSCM literature takes a narrow view on supplier development, i.e., mostly focusing on the lead firm as a dominant actor in driving these initiatives and not linking it to state, institutions, governance, and overall regional development. Implementing sustainability through monitoring by focal firms is stressed.	Environmental issues rarely included in GPN analysis. Recent application of cost-capability ratios in GPN. Social and economic upgrading and addressing developmental issues at the local and global level are emphasized. More emphasis on the role and impact of states in monitoring sustainability initiatives.	SSCM research could be enriched by considering the discussions in GPN, which emphasize the monitoring role of the state in implementing sustainability initiatives. Discussion on social and economic upgrading could broaden the sustainability debate in the SSCM field.

common characteristic features while maintaining their own identities somewhat exhibiting a stepsibling relationship. This is evident by elaborating five core constructs of GPN, which serve to structure the analytic part of paper.

Based on the suggestions offered, we argue that the discussions in GPN have much to offer in terms of constructs and concepts for dealing with emerging sustainability challenges in supply chains and its theoretical positioning (Touboulic & Walker, 2015). Despite the characteristic features and the slow convergence of interests and the perceptual differences between GPN and SSCM on the issues of dealing with sustainability in supply chains, we are careful in not explicitly arguing for the diffusion of ideas between these two different fields, as they carry or would have to carry the burdens of their original disciplines (Touboulic & Walker, 2015). Nevertheless, it will be interesting to see how these disparate areas coevolve through learning and borrowing constructs from each other to address new sustainability challenges in supply chains, moving beyond the triple-bottom line (Miemczyk & Luzzini, 2019), thereby being in line with, for example, the base-of-the-pyramid driven debate (Brix-Asala et al., 2021).

The initial suggestions proposed in the paper are broad and might serve as a starting point from which researchers can delve deeper and explain precisely the links existing between GPN and SSCM. Furthermore, the suggestions mentioned above, which are based on detailed discussions, could be taken into consideration in future empirical studies by SSCM researchers to broaden the sustainability debate about supply chains, still in accordance with what Seuring and Müller (2008) and other similar SSCM studies have asked for. Such theory-testing attempts are required for both theory consolidation and advancement in SSCM research (Carter, 2011; Touboulic & Walker, 2015). In this paper, we aimed at a balanced presentation of both disciplines. However, it might be now promising to carry out a detailed analysis of GPN from an SSCM perspective and vice versa. The inherent challenge would be not to conduct such an analysis in a simplistic manner that would entail the shortcomings of still having the origin and status of the development of both areas in mind.

Supply chain researchers have increasingly called for a broadening of the base of SSCM research, wherein discussions and concepts from disciplines, which place more emphasis on sustainability, can be accommodated (Touboulic & Walker, 2015). SSCM and GPN disciplines are dissected as an effort in this direction to provide more critical analysis of sustainability in supply chains. Such efforts are required to extend the theoretical basis of SSCM (and even SCM in general) as related GPN constructs are linked to the ongoing discussions in SSCM. Further, the GPN approach also benefits from the evaluation of SSCM. To the best of our knowledge, no such comparison has been put forward thus far, so presenting this analysis is the core contribution made in this paper. While it is beyond the scope of this paper to provide detailed directions on how each construct should be operationalized, we offer the first insights into the possible links between SSCM and GPN.

The implications of this study are that theory building encourages the introduction of new ideas to the existing field of research. The discussions offered in the paper should motivate the researcher to

further develop the SSCM field by engaging in interdisciplinary research. Such interdisciplinary research might not have many managerial implications as such, but it informs the practitioners about the relevance and importance of underlying factors (in this study the socio-political and economic conditions) in determining the future sustainability strategies while deciding to operate in local and global environments.

Nevertheless, on the managerial side, there are implications as well. Managers while managing sustainability in supply chains can take a cue from the discussion on global political economy and link it to governance structures, where political agenda setting would impact corporate conduct, such as overcoming institutional voids (Brix-Asala & Seuring, 2020; Bush et al., 2015). On the practical side, managers can build their understanding about the interplay between the governance levels (both about state governance and self-governance) and do a balancing act in strategizing their supply chain sustainability (Boström et al., 2015; Vermeulen, 2015) especially in the field of managing social and societal issues. Similarly, all other constructs are discussed, and the related arguments presented here would help governmental as well as corporate actor as much as NGOs in identifying the risks, complexities, and interdependencies between three dimensions of sustainability and allow them to build long-term sustainable business practices by taking global political scenarios into consideration.

5 | CONCLUSION

Integrating different schools of thoughts, such as SSCM and GPN, can contribute to a comprehensive understanding of a complex phenomenon, such as sustainability. Disciplines of different origins such as SSCM and GPN are not competing for paradigms that are used to explain sustainability; instead, they are converging fields that require the establishment of links to enable a clear definition and comprehensive understanding of the sustainability dimension in business. This paper contributes to our understanding of the management of sustainability in firms and their supply chains, thereby broadening the theoretical basis of SSCM. We identify five core constructs of GPN out of which some are already present in SSCM but are comprehended in a somewhat different manner. We have elaborated on them in the paper, thereby enriching the theoretical base. On the one hand, it provides insights to business practitioners to help them rethink their way of dealing with sustainability when operating in a highly dynamic and global environment. On the other hand, this paper encourages researchers to broaden and induce different lines of thinking in their future studies at the intersection of sustainability and supply chain management. This should allow assessing and managing the sustainability performance of firms against both the SSCM as well as GPN concept, thereby allowing a wider comprehension of related and possible measures.

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