



From Sustainable Global Value Chains to Circular Economy—Different Silos, Different Perspectives, but Many Opportunities to Build Bridges

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Abstract

A growing interest in the circular economy concept has pushed the discourse in various management-related disciplines beyond established boundaries, with calls to better address how such a model may be developed in a world of global value chains. Still, the conventional linear economy model continues to dominate business, society, and research. While the concept of better connecting physical output and input flows at multiple production or consumption levels is becoming more accepted, it remains unclear how to make this happen while ensuring that sustainability targets are met or exceeded. Multiple scientific communities contribute different perspectives to this discourse, with promising opportunities for research. Circular economy and sustainability from business and economics perspectives are multifaceted. The existing body of knowledge needs to be advanced to assist private individuals, business managers, investors, or policymakers in making informed decisions. In this article for the inaugural issue, we provide a snapshot of the discourses among those who have studied the circular economy and its related topics. We outline conceptual inroads and potential research questions to encourage further circular economy and sustainability research and discourse from business or economics perspectives as well as from the broader transdisciplinary angle. We propose three research pathways: (1) connecting output with input needs in a global circular economy; (2) beyond today's business logic for a global circular economy; and (3) inclusion of the Global South in North-dominated circular economies. For each, we

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propose concepts, theories, or methodological approaches and offer various perspectives from the micro, macro, and meso levels.

Keywords Circular economy · Circular society · Sustainability · Global value chains · Multi-disciplinary · Research agenda · Micro · Macro · Meso

Introduction (J. S. Hofstetter)

Sustainability in global value chains (GVCs) has become an established research field across multiple management-related disciplines. A growing interest in the circular economy concept has expanded the discourse beyond established boundaries. In the current literature, the conventional linear economy model of “take, make, and dispose” prevails, leaving many questions unanswered.

Circular economy models, with their reorganized production and consumption processes, offer new sources of value. Recent developments in product design, operations management, sales (e.g., performance-based pricing), and consumption (i.e., reuse, reduce, recycle), but also new materials and new technology, allowed new forms of production or product use to emerge (e.g., waste as supply, cradle-to-cradle). While the concept of better connecting physical output and input flows at all production and consumption levels is becoming more accepted, it remains unclear how to make this change happen at both the corporate and public policy levels while ensuring that sustainability targets are met or exceeded and without worsening the North/South divide. Scientific communities involved in developing circular economy models have contributed various perspectives to this conversation, with promising opportunities for research.

Many recent political statements and programs aimed at supporting national economies during the current global pandemic are related to sustainability objectives, such as the United Nations (UN) Sustainable Development Goals (SDGs). Along with the European Commission’s new economic development program, the European Green Deal, the circular economy has received increasing attention beyond academia, including in politics, business, the media, and the broader public. The political phrase “build back better” and government investments in national economies have led to many citizens aspiring toward a profoundly more sustainable economy, such as a circular economy. However, how this transition toward a circular economy may or should take place is little understood.

An analysis of how production and consumption processes should be restructured is key to transitioning to a circular economy. This will require radical rethinking of how resources (i.e., not only new raw materials) are used and moved through different cycles, and of the roles of different actors involved in the value chain. In this environment, the role of the consumer changes (or may even disappear) from being merely a destroyer of the value of final products to actively engaging in value cocreation. Suppliers and sub-suppliers may shift from being providers of “black box” materials produced without transparency to being partners that are transparent about the production and content of their products or services. Governments (e.g., the European Commission or the Chinese government) aiming to secure economic leadership push for technological developments that enable new organizational forms of value creation in the circular economy context. Corporate leaders, most of whom achieved their status by mastering the linear economy model, still struggle to envision and realize breakthrough circular business models.

Over the past decades, spatial fragmentation and the functional integration of activities following the linear model have led to long, global chains of actors, some independent and

others interdependent. As rule-setters [1], global lead firms, particularly large buyers or manufacturers from the Global North, appear being in the position to play a key role in supporting the diffusion of sustainability within GVCs [2]. The circular economy has the potential to influence the governance of industries and GVCs, shifting power between actors and supporting concentration dynamics. When only a small number of companies possess the required capabilities to provide circular inputs, their bargaining power increases.

The transition to a circular economy may cause changes to the location of activities, alongside other aspirations to reduce the number of actors involved in the manufacturing of goods or services and the distance between them. This may be not only for technical or economic reasons but also for value perception purposes because consumers are increasingly valuing locally produced products. In a growing number of nations, public procurement has strengthened requirements on sustainability and local content, fueling the transition to a circular economy.

The potential effects of a circular economy on business activities in the Global South, currently supplying in particular raw materials and cheap mass-produced goods to the world market, are likely strong. In a circular economy, such goods will be replaced by recycled or upcycled materials and long-lasting, high-quality goods that can be serviced locally. In such a scenario, if the South is to maintain or strengthen its position in the global trade market, this could require even more from its companies to shift focus from low production costs to unique contributions in value cocreation.

Significant resources appear necessary to be mobilized and allocated to drive the transition to a circular economy. Both public and private sector investments are required, but the tools to assess which companies or projects to support and to evaluate their impact are nascent. There is a danger that innovation trajectories may get locked into directions that could exacerbate power dependencies, extend the gap in progress between high-income and low-income countries [3], lead to rebound effects [4], or fall short in terms of actions required for strong sustainability [5].

A particular challenge in researching the circular economy from a business or economic perspective is that, aside from examples of regional industrial symbiosis or of company-internal setups, circular economies are largely nonexistent. Contrary to established research approaches, which are based on observing and explaining past or current phenomena in reality, research on the circular economy requires the use of scientific approaches that focus on visions and the future.

With this article in the first issue of *Circular Economy and Sustainability*, we want to outline conceptual inroads and potential research questions on the circular economy and sustainability from a business or economics perspective and beyond. From March to August 2020, we conducted various open forums and workshops within and beyond academia. At the Academy of Management Annual Meeting 2020, we formed as a group of academics from various management disciplines and took stock of the conversations taking place in diverse academic silos, considering different perspectives that appear promising to further the understanding of the circular economy. We shed light on discussions that have attracted substantial attention, acknowledging that other promising ones exist, which are just as welcome in this new journal: *Circular Economy and Sustainability*.

From these conversations, three clusters of research questions became apparent:

Pathway 1: Connecting output with input needs in a global circular economy

- How can we create a better understanding between companies with matching input needs and output opportunities to invest in aligning their business relationships?

- How can theories be extended toward sub-suppliers, sub-customers, and other potential business partners, thereby moving these value chain members from the periphery to the core?
- How can companies develop a circular mindset that enables them to transition and innovate?

Pathway 2: Beyond today's business logic for a global circular economy

- How can we better understand how value is (co)created and shared between the respective actors from chains to cycles?
- What organizational forms and business models are suited to the circular economy on a global scale?
- How can value be understood in terms of economy, ecology, or society?
- How can innovation trajectories be supported toward a fair and strong sustainable circular economy, which also better integrates the Global South?

Pathway 3: Inclusion of the Global South in North-dominated circular economies

- How can companies in developing countries connect into circular economy models?
- What are the systemic effects of the unequal power relations entrenched in GVCs on the inclusion of these companies in Western-dominated circular economies?
- How can we better determine non-cost-driven value propositions offered by these companies to circular economy business models?

The remainder of this article provides various perspectives and recommendations for research on the circular economy and sustainability. Each subsection offers a brief conceptual outline related to one of the three pathways defined above. To capture the specific issues that resonated with each contributor, the authors did not follow any particular templates or prompts regarding content.

Following an introductory background on GVCs by Valentina De Marchi, the article addresses the three main future research pathways, including emerging issues that we collectively agreed are recurrent in contemporary academic and policy discussions in the context of the circular economy.

With respect to Pathway 1 (“Connecting output with input needs in a global circular economy”), Joseph Sarkis first provides an overview of the various theories applied to explain circular economy from a material flow perspective and compares these with research on green supply chains. Kannan Govindan introduces us to technology-driven conversations in managing circular material flows. Robert Klassen points to questions related to the transition to a circular economy and suggests design thinking as a promising approach for future research. Aldo Ometto introduces us to various forms of social innovation to business required for a transition to a circular economy and provides examples from the Global South. Katharina Spraul extends this argument in the context of spirituality to the human or micro level, bringing the relevance of the mindset of the various actors to our attention.

With respect to Pathway 2 (“Beyond today's business logic for a global circular economy”), Nancy Bocken reflects on the current limitations in the definitions and business models in circular economy research and highlights the need for more experimental research to better understand the various loops in business practices. Weslyne Ashton introduces industrial

symbiosis as a promising lens through which to identify a range of resources beyond the current focus on materials, promoting the possibility of new highly beneficial exchange partnerships. Sanjay Sharma refers to the limited success of current approaches to improving business sustainability through the improved management of inputs, suggesting the increased need for attention on impacts. Given that these impacts extend well beyond business, he urges us to engage in wider cross-disciplinary research. Melanie Jaeger-Erben and Charlotte Jensen stress the societal context of the economy, calling for research to understand the prerequisite societal changes for a circular economy and society. Paul Dewick connects the debate about circular economy business models with financial market aspirations and models, suggesting that research should lead to knowledge that enables investors to understand business opportunities in circularity. In his separate article in this issue, Stephen Vargo suggests taking the position of the person who intends to create value as the key lens when developing a new economic model and to shift attention from goods-for-money transactions to service exchanges.

With respect to Pathway 3 (“Inclusion of the Global South in North-dominated circular economies”), Patrick Schröder describes the circular economy challenges and opportunities for small- and medium-sized enterprises (SMEs) in developing countries involved in current traditional GVCs and calls for investigations into how public policy in the Global North can help. Noemi Sinkovics focuses on sustainability as the desired outcome of circular economies and the strong relevance of interconnectedness among sustainability targets, economic actors, political actors, world regions, and global ecosystems. Sherwat Ibrahim reminds us that given their lack of access to raw materials, companies in the Global South have been innovating and engaging in circular economy practices for many years. As the circular economy is increasingly enforced in the North, successful circular business practices come under pressure. Luke Fiske and Anthony Goerzen use the power of the metaphor, pointing to the limited understanding of authoritative texts in cross-sector partnerships (CSPs)—the building blocks of the circular economy.

Finally, Diego Vazquez-Brust summarizes the various opinions on the circular economy and sustainability and outlines how these academic conversations could gain further momentum to build bridges between the different silos and perspectives, both in this new journal and beyond.

Establishing Conceptual Inroads for the Next Generation of Circular Economy Management Research from a Value Chain Perspective

The Circular Economy in Global Value Chains: How to Close the Loop in Globally Integrated Chains (V. De Marchi)

Production is increasingly taking place within interfirm networks that span international borders in which activities are governed by powerful global lead firms. These networks, known as GVCs, are pervasive across industries and countries [6] and are acknowledged as a long-lasting feature of the global economy and potentially resilient to the current COVID-19 crisis. Production fragmentation and trade integration in long linear chains of independent yet interconnected firms pose key challenges to the realization of the circular economy, which is aimed at closing the loops throughout all production steps. Such challenges are related to the need to coordinate the activities of a range of actors and manage material flows within the GVC that spans different geographical areas. Countries involved in the same GVC are often characterized by different practices and standards and experience environmental effects

differently. Although these effects are often felt at the local level where production takes place (mostly in the South), decisions on what to produce and how to produce it are made at the global level. Therefore, a multilevel perspective is needed.

In recent decades, researchers have increasingly investigated the conditions under which GVCs may represent channels for economic and social development. However, more research is needed to fully grasp how to ensure the greening of GVCs, especially to achieve circular economy outcomes [7]. Three interrelated research avenues should be pursued to improve our understanding of the circular economy in GVCs.

Contributors to economic upgrading have suggested that the governance structure (i.e., captive or relational) implemented by lead firms has important implications in terms of upgrading (or downgrading) opportunities. Considering the complexity involved in defining, enforcing, and monitoring environmental sustainability, lead firms must implement more hands-on mechanisms that span between more formal and compliance-based initiatives and more relational and enabling-oriented initiatives [7, 8]. Research on social standards suggests that these two approaches may have diverse outcomes [9]. However, the governance structure and combination of initiatives that can achieve the most beneficial outcomes and engage not only first-tier suppliers but also sub-suppliers [10] is still an open question.

Another key avenue of research involves the agency of suppliers. Suppliers participating in GVCs, which are often led by brand vendors or retailers, are the actors most influential in realizing changes in production activities to ensure a circular economy. However, they are often not fully involved in the design of circular economy processes [11] and are not necessarily able to extract value from these difficult investments [12]. This may create tension in coherent circular economy initiatives along the value chain and undermine overall outcomes. What may suppliers leverage to gain a louder voice in the identification of circular economy initiatives?

Finally, studies should move from considering the processes in which firms engage to ensure a circular economy to the analysis of results achieved at all levels of the GVC, warranting interdisciplinary research [7].

Pathway (1): Connecting Output with Input Needs in a Global Circular Economy

Theoretical Perspectives Connecting Output with Input Needs in a Global Circular Economy (J. Sarkis)

In this passage, I write about connecting output with input in a global circular economy. In other words, how can we create a better understanding between companies with matching input needs and output opportunities to establish aligned business relationships? Within this basic question, we particularly focus on how theories can be extended to sub-suppliers, sub-customers, and other potential business partners. This relates to moving peripheral value chain members—who are often in the Global South—to the core. These questions cannot be satisfactorily answered in a brief subsection in one paper containing many voices. Thus, I will supply a thumbnail sketch of some underlying concerns and directions for research, particularly from a theoretical perspective.

In a paper published in 2018, we provided a comparative review of theories of green supply chain management (GSCM) and the circular economy [13], identifying many organizational,

economic, and policy-level theories that were either overlapping or unique to GSCM and/or the two disciplines. Organizational theories were those most widely applied to both disciplines. Of these theories, some have taken a global perspective and are pertinent to our current focus on GVCs and the global circular economy. The two most frequently applied theories to global-level circular economy and GSCM analysis are the resource-based view and stakeholder theory.

From the circular economy perspective, theoretically linking GSCM, inputs, and outputs requires consideration of industrial symbiosis [14]. Chertow [14] defines industrial symbiosis as engaging “traditionally separate industries in a collective approach to competitive advantage involving physical exchange of materials, energy, water, and by-products. The keys to industrial symbiosis are collaboration and the synergistic possibilities offered by geographic proximity” (p. 314). It is unfortunate that geographic proximity is a core aspect of this definition because it implies that industrial symbiosis may not be possible for geographically diverse supply chains. Interestingly, industrial symbiosis has been investigated at the global level with respect to the inclusion of locally generated products and materials in global supply chains.

Interestingly, institutional theory has rarely been applied to global circular economy research, although it has gained some traction in sub-supplier research with respect to institutional logistics and entrepreneurship theories [15]. Future investigations into institutional logistics and multicultural relationships in the global circular economy are warranted.

The stakeholder theory questions how organizations and individuals deep in the supply chain can become primary stakeholders of larger focal firms, especially those in the North. Many of these distant suppliers are, at best, peripheral stakeholders of these organizations. Whether they can become more important as sub-suppliers and multitier relationships can become more prevalent is an issue for investigation [16]. One question we should ponder is whether these organizations, especially those in the Global South, care about being stakeholders of the North.

Another theoretical perspective with global implications—one that has gained some traction at the nexus of this work—is ecological modernization theory (EMT) [17]. EMT, which is based on policy studies, essentially asserts that technology can be used to help decouple economic growth from its environmental impacts. However, this decoupling perspective and EMT in general have come under scrutiny and been subject to criticism [18] (some of these criticisms are addressed by others in this paper). From this theoretical perspective, technology may play a role beyond decoupling. It may also inform us about how technology can further integrate companies in the Global South into the broader global supply chain. For example, one concept we have championed in the circular economy and GSCM field is the use of blockchain technology and the Internet of Things (IoT) as a way of giving voice to smaller and more vulnerable entities [19].

A general question is whether these various theoretical lenses can supplement each other and whether technological solutions may be applied to provide smallholder farmers and organizations in the Global South with a greater voice and improved stakeholder salience. Although these theories may be considered in future research, the lack of theoretical positioning in the research on the circular economy field is a major concern [20].

A Digitalization and Multitier Supply Chain Perspective on the Circular Economy (K. Govindan)

In recent years, organizations have recognized that effectively connecting their output with their resource input needs in a circular economy context can reap several benefits, including

enhancing their reputations and competitive advantage, reducing costs, minimizing environmental impacts, and reducing waste generation. According to Correia et al. [21], sustainability is a critical factor for business success. However, the unsustainable behaviors of linked supply chain firms can have adverse financial consequences. In the global supply chain context, integrating a circular economy into the supply chain is considered a new research direction [22, 23, 24]; however, research on the global circular economy with a supply chain focus is still in its infancy [25].

Several strategies have recently been introduced to integrate sustainability and the circular economy among supply chain partners. Despite this, technology has emerged as key to successfully connecting supply chain partners. Technological advancements have motivated organizations to consider technologies such as radio frequency identification, sensors, and the IoT to ensure their supply chains are simple but effective. Although these technologies are effective in practical scenarios, they do not necessarily include all real-life data, especially those concerned with sustainability. Technologies such as the IoT and big data enable the effective processing and management of important data throughout the supply chain. However, the reliability and quality of data shared among supply chain actors is still unclear. Hence, GVC actors are reluctant to trust all data shared online through selected technologies, resulting in a lack of coordination and ineffective implementation of circular economy in the supply chain context.

Research in these areas may provide future directions in which to explore the circular economy and sustainability in the supply chain context. This gives rise to a number of research questions, including:

- How can companies develop a roadmap by which to better understand companies that match their input needs and output opportunities and establish aligned business relationships through readiness and maturity models?
- In the multitier supply chain context, how can complexity theory be utilized to explore the relationship between focal companies, suppliers, sub-suppliers, sub-customers, and potential business partners?

To explore the transition to a circular mindset among companies and their supply chain partners, the following question may be asked:

- In the transition to a circular economy, what is the potential role of organizational change management in terms of the barriers and drivers of change, building capability for change, and implementation?

Organizations could also explore the following questions:

- How will the application of Industry 4.0 technologies affect the organization's sustainability performance?
- How will extended producer responsibility affect circular supply chains?

Circular Economy: Design Thinking Allows Us to Map the Journey (R. Klassen)

When considering the promise of a more circular economy, researchers tend to view a snapshot in time, which tends to emphasize the barriers to adoption and prompts lament over

our collective business and infrastructure shortcomings. Even successful examples are considered only with 20/20 hindsight once the “finished” state is evident. Much less attention has been given to the evolution of processes, supply chains, and markets in creating a more circular economy. Moreover, using local examples of circular economy supply chains to map this development pathway is challenging, particularly for international efforts.

A simple analogy juxtaposes the sustainability “destination” of a circular economy with the “journey” followed to achieve that outcome. If the intent is to arrive at a circular economy as a destination, how can a firm develop multiple evolving targets and initiatives, which represent “waystations” along the journey, to progress toward a circular economy? Just as importantly, how can a firm and its supply chain engage multiple stakeholders at numerous waystations on the journey? By way of example, the challenges and progress made by Dell toward a more circular economy in terms of ocean plastics provide a map for how design thinking may be applied [26]. The firm has proposed an important destination: to ensure that 100% of product packaging is sourced from sustainable materials [27]. However, what journey must companies such as Dell undertake, and what can we learn from how this firm has traveled close to but has not yet reached this destination?

Design thinking is one possible framework that can speak to both the challenge of the journey and the need to draw on the perspectives and expertise of multiple stakeholders [28]. In essence, managers work iteratively toward solutions using an abductive approach that emphasizes incremental changes and assessment of outcomes, followed by further adjustments and refinements [29]. This framework includes five formally structured iterative steps: empathize, define, ideate, prototype, and test [30].

Of course, Dell’s destination of sustainable packing relies partially on materials derived from a circular supply chain, such as recyclable materials. Incorporating recycled ocean plastics in packaging represents one possible waystation along that journey. Ocean plastics present a particularly troublesome large-scale problem for the environment and human health, and their capture and recycling through the circular economy would offer multiple benefits. After empathizing, defining the problem, and ideating, Dell, in consultation with multiple experts and stakeholders, shifted its attention to earlier in the life cycle. Rather than attempting to harvest plastic waste from the ocean, focusing on “at-risk” ocean-bound plastics offered key advantages.

In the prototype step, Dell undertook a pilot supply chain study in Haiti, which is close to Dell headquarters, enabling strong technical support. In this step, over 7000 kg of ocean-bound high-density polyethylene plastic waste was harvested before being cleaned and processed into resin in the United States and shipped to China to be mixed with postconsumer plastic waste. Several important lessons emerged. For example, the firm had to understand how to work in the informal economy, namely, with pickers who collected the waste plastic, to ensure that their efficiency and livelihoods improved. In addition, educational efforts such as local beach cleanups raised awareness. Next, in the test step, the firm’s prototyping was expanded to build a larger supply chain to source ocean-bound plastic waste from Indonesia and India. To do so, the circle of stakeholders was expanded to include competitors and other large users of plastic packaging to form a consortium with bigger economies of scale.

Thus, the process of moving toward a more circular economy—the journey—requires much more explicit mapping. Expanding efforts to develop a circular economy of global scope is difficult and requires thinking beyond the traditional supply chain of suppliers, focal firms, and customers. The variety of stakeholders that must be engaged at different times—particularly in the context of GVCs—creates additional complexity but also the potential for

much richer and more effective outcomes. The framework of design thinking can offer one such approach for mapping this journey.

Sociotechnical Transition and Mindset Change for System Innovation Toward a Circular Economy (A. Ometto)

This section provides a historical perspective of sustainable business evolution. Over the last few decades, business practices have evolved from being reactive with a focus on waste, such as end-pipe solutions in the 1960s and 1970s and recycling in the 1980s, to being more proactive with a focus on production processes, such as cleaner production in the 1990s, expanding to product life cycles, ecodesign, and the whole value chain, including reverse cycles. Sustainable supply chain management in the 2000s involved an even more strategic level of analysis, leading to sustainable/circular business models in the 2010s from a systems perspective as circular business ecosystems and systems innovation. In this context, the main contributions of the circular economy have been to highlight strategic business approaches and the systems perspective based on long-term values and positive effects for all. Liu et al. [13] suggest that ecosystem theory has been applied to the circular economy but not to green supply chains.

The sociotechnical and systemic transition to sustainability and the circular economy should be addressed from multilevel perspectives: the concepts of landscapes, regimes, and niches [31] highlight the complex and dynamic processes required for system innovation. To create opportunities for a circular economy with social innovation, it is necessary to integrate niches into the regime to build a circular value network with social inclusion and align this with the landscape.

In the Global South, the greatest outcome from circular economy opportunities is social innovation. Many of the actors involved in new opportunities such as reverse cycles are informal waste pickers or low-tech organizations with poor management skills and a lack of equipment or even fuel for waste collection. These represent niches outside of the mainstream. The integration of social innovation with technological, product, and business model innovation is crucial. The role of lead companies in seeding this path and governments to incentivize the transition through public policies is essential.

Building a framework for circular business ecosystems based on more than 30 case studies and action research with the National Confederation of Industry in Brazil, it was identified that the central element in the transition to a circular economy is mindset. The results reveal the change of scope from the process to the ecosystem; from efficiency to effectiveness; from value propositions made only for cost reductions to long-term and new value generation for all stakeholders based on innovation and collaboration rather than on competition; and from customers being simply consumers to being users or partners; in other words, a mindset based no longer on extraction, production, and disposal processes but on a strategic and systemic design for restoration and regeneration [32].

Future research should focus on practical roadmaps to build circular ecosystems with social inclusion, from the macro scale to firm transformation, including attitudes and practices from key stakeholders, especially from the value network, customers, government, and public policies.

A Perspective on the Circular Mindset and Spirituality (K. Spraul)

The circular economy is widely considered a challenge for society in general and companies in particular. Many industries require technical innovations to transform their traditional linear

ways of producing. Hence, business model innovations are crucial in creating new economic opportunities, and regulatory responses are needed. With the circular economy concept expanding on the global scale, more emphasis is being placed at the individual level (i.e., those who live and work in linear value creation). The circular economy is in many ways still utopian—to transform the economy, we need to first envision it. To transform the economic challenge into an opportunity, the World Business Council on Sustainable Development [33] has called on business leaders to “adopt a circular mindset.” We know that theoretical lenses can shape how business leaders and management professionals think and make sense of the world. Therefore, how can we transform business leaders’ mindsets from being linear, which may have been shaped by Michael Porter’s value chain, to being circular?

In her seminal TED talk, Dame Ellen MacArthur explains how she discovered the systemic character of the world by sailing across the ocean. The circular mindset can be seen through several lenses. First, as shown in the butterfly diagram produced by the Ellen MacArthur Foundation or the cradle-to-cradle concept, the circular economy is often understood as imitating natural cycles, using biomimicry to transform industries and economies as a whole. Learning from natural cycles may assist innovators and business leaders to innovate for the circular economy [34]. Second, by not only closing the loops in the linear economy in the technical sense but also reconnecting with nature in the spiritual sense, the circular economy can transform businesses and the economy as a whole. The links between sustainable business and spirituality have gained growing attention in the scientific management literature [35]. Shifting individual values and mindsets to connectedness and sustainability may be a crucial step in establishing a circular economy. Third, broadening one’s vision and acknowledging that elements are interdependent feeds into the topic of systems thinking, which has been shown to be especially important in educating sustainability experts [36]. Fourth, from the GVC perspective, it is important to acknowledge that Indigenous communities often possess knowledge of natural cycles and circularity [37]. Here we arrive at a crucial step because extracting natural resources and Indigenous knowledge from the Global South and exporting them to the Global North is a model of the past and not the future.

Future research avenues may include how circular economy education in universities and other settings should be designed to foster systemic rather than linear thinking, how biomimicry may be combined with Indigenous knowledge on circularity, and whether a circular mindset acts as a prerequisite or a catalyst for sustainable circular business models.

Pathway (2): Beyond Today’s Business Logic for a Global Circular Economy

Beyond Today’s Business Logic for a Global Circular Economy: Theory and Practice (N. Bocken)

The circular economy supports sustainable development by aiming to secure the resources to sustain this and coming generations. This is necessary to stay within the planetary boundaries and prevent biodiversity loss and devastating climate change. The circular economy specifically prioritizes the optimal use of products and resources over time, and its core strategies can be categorized into four distinct resource loop strategies: narrowing, closing, slowing, and regenerating resource loops [38], based on [39–41]. Narrowing the loop refers to using fewer materials and less energy per product; closing the loop essentially refers to postconsumer

recycling; slowing the loop refers to extending product lifetime and avoiding unnecessary consumption; and regenerating the loop refers to cleaner loops and leaving the environment in a better state than previously.

Nevertheless, a lack of circular economy theory has resulted in diverse definitions and assumptions and unclear boundaries that hinder practice [42]. At the same time, there is a persistent gap between circular economy theory and ideas and business practices, with some companies using the circular economy paradigm as an excuse to focus attention on recycling only [43]. Moreover, successful environmentally sustainable implementation of the circular economy depends on rebound effects, energy used (e.g., for reprocessing), and physical limitations (e.g., in recycling).

Future circular economy research may benefit from focusing on the following: addressing the theory–practice gap through approaches such as experimentation; slowing and regenerating the loop in addition to narrowing and closing the loop, which are more prevalent in the linear economy; and integrating with other disciplines such as innovation and design studies.

With respect to closing the theory–practice gap, researchers have focused on design thinking [44] and experimentation [45, 46]. This type of research has generated practical tools that have been tested on businesses as well as direct interventions in the business context that have the potential to accelerate the circular economy transition in practice.

With respect to slowing the loop, recent academic attention has been placed on increasing product lifetime [47], avoiding planned obsolescence through policy [48] and business practices, and mapping viable business strategies for sufficiency [49, 50]. With respect to regenerating loops, there has been an interest in businesses becoming “net positive,” such as focusing on how they may contribute positively to biodiversity [51]. Given that high-functioning businesses (and more broadly the economy) are dependent on the future of the planet, regenerative strategies will be an essential element in future research and practice.

Finally, with respect to bridging innovation and sustainability-focused research on the circular economy, authors have started to bring together separate streams of research [52, 53]. Bocken and Ritala [54], for example, explored how companies can combine perspectives of open (vs. closed) innovation and resource-driven innovation (slow, close, narrow, regenerate) to develop viable circular business models. Ample knowledge has been generated by research on innovation and other fields that could enrich the circular economy research agenda through interdisciplinary insights.

Innovation in the Circular Economy: Looking Beyond Boundaries (W. Ashton)

Increasingly, organizations are recognizing that they cannot achieve circular economy objectives alone and must collaborate with others to effect systems change [55]. Such collaboration requires organizations to seek a diverse set of appropriate partners with whom they can achieve circular innovations, devise strategies to manage these relationships effectively, and develop mechanisms to distribute the benefits among partners [52]. In addition, it requires a broadening of the concept of circular economy and the types of resources that are mobilized in it, in order to achieve socially equitable outcomes [56, 57].

The most obvious interorganizational collaborations for the circular economy have emanated from reaching forward and backward in organizational supply chains to coordinate the design and sourcing of sustainable inputs, or the collection, repair, reuse, and recycling of end-of-life materials [39]. Less obvious collaborations among unrelated businesses, government agencies, non-governmental organizations, and academia are also proving to be rewarding. Industrial symbiosis is one such strategic supply chain approach in which organizations develop linkages with those in unrelated industries to use their by-products or share in the

management of utilities or other infrastructure [58]. Partnerships with businesses in different industries as well as with governments, non-governmental organizations, or academics depend on building trust to overcome the lack of familiarity across distinct sectors and the creation of new cultural norms to harmonize different objectives and ways of working [59]. Research is needed to explore the effectiveness of various strategies for information-sharing and long-term relationship building across diverse organizations. Researchers might also explore how applying a systems perspective can lead to more holistic outcomes and how to quantify public benefits, such as improved environmental quality, and private benefits, such as increased profitability or improved reputation for individual businesses.

The circular economy explicitly focuses on three types of resources—natural, manufactured, and financial—because the dominant narrative is based on the cycling of materials to preserve value, reduce costs, and increase profits [42]. However, many other resources are used in any organization's activities and need to be explicitly recognized to value them. By considering capital as any resource capable of producing other resources [60], organizations can evaluate the stocks, flows, depletion, and regeneration of various types of capital through their activities [59]. Digital capital, information infrastructure, and data are essential to successfully operate any business today. Human and social capital include the knowledge and capabilities of individual people as well as their personal and organizational networks, enabling organizations to access resources they do not own. Also important are political capital, or the relationships with the political establishment and the distribution of decision-making within organizations, and cultural capital, or the cultural values embedded in organizations. By considering multiple forms of capital, organizations can have a more holistic understanding of how their use of different resources contributes to their circular economy goals [59]. Researchers could develop quantitative and qualitative methods to assess how organizations contribute to the depletion and regeneration of various capital stocks through these activities.

The convergence of global concerns regarding climate change, racial injustices, and the COVID-19 pandemic has led us to a critical moment in which we can pivot business models toward a circular economy to address human well-being and social inequities. By broadening their view of the resources that they need, the value they create, and who they may partner with, organizations may be better equipped to adopt circular innovations and effect transformative systems change.

Shifting Focus from Corporate Strategy and Actions to Cradle-to-Grave Impacts (S. Sharma)

To develop inclusive and sustainable GVCs, companies adopt strategies and actions to prescribe, analyze, and audit their activities and those of their suppliers in terms of carbon emissions, water and energy conservation, and working conditions and wages, among other environmental and social indicators. Metrics are typically focused on input activities, actions, and strategies of actors in the global supply chain rather than on outputs and effects on the ecosystem and social justice. For example, a water treatment facility may be considered compliant, even if the system is dysfunctional and ineffective, or fails to significantly reduce chemical contamination. Wages may be considered fair, even if workers live in crime-ridden communities in which their wage cannot buy safety for their families, healthcare, hygiene, or education for their children.

A focus on input by scholars over the last three decades has failed to prevent the world from rushing headlong toward a tipping point of ecosystem collapse and greater social injustice. Hence, the focus needs to shift to analyzing the positive effects of improving overall ecosystem

health, whether organizations are operating within the carrying capacity of ecosystems, the restoration and accrual of natural capital for future generations, and the incorporation of principles of inter- and intragenerational equity across species, societies, and marginalized and disadvantaged groups of people.

To meaningfully include the South in global supply chains, transdisciplinary and interdisciplinary scholarship is critical. Measuring the impacts of global supply chains lies within the expertise of natural and social scientists in disciplines such as chemistry, biology, physics, zoology, medicine, environmental science, economics, sociology, and geography. Moreover, different types of impacts are relevant for different organizational stakeholders at various nodes of the supply chain in different geographic contexts.

Scholars should also compare the economic, social, and environmental impacts of supply chain nodes at different geographic locations. For example, a medium-sized electric car battery imported from Sweden and made using renewable energy emits 350 kg of carbon dioxide, while the same battery made in Poland using coal-generated energy emits over 8000 kg. Hence, the complexity of GVCs needs to be unpacked to explain the ways in which organizations deliberately or inadvertently export and import pollution and environmental impacts from one country or region to another via their supply chains to result in better regulations, public policies, and international agreements.

Such research may have the potential to break down barriers between academic disciplines, enriching the potential for generating and integrating knowledge. The challenge of improving the welfare of and accruing natural capital for marginalized societies and future generations has the potential to create new insights into future organizational architecture. For most modern organizations, resource extraction, production, consumption, and disposal systems are geographically dispersed. For an organization to operate within the carrying capacity of the ecosystem while improving human welfare, it may have to organize its inputs, processes, and outputs within a locally identifiable ecosystem rather than in a complex GVC. Sustainability may be possible between groups or networks of organizations that operate within definable geographic regions or communities.

From Circular Economies to Circular Societies (M. Jaeger-Erben & C. Jensen)

Recent critical reflections on the circular economy debate have highlighted a lack of concern for issues of social and cultural sustainability and social transformation [61, 62]. It is further argued that the circular economy has mainly been conceptualized as an ecological modernization project that continues to build on a capitalist economic growth narrative [63, 64].

Various researchers and practitioners have introduced the term “circular society” to highlight discourses and approaches that go beyond technological and market-based solutions and frame the transition toward circularity as a profound socioecological transformation. Diverse proponents have attached various meanings to the term that imply somewhat different intensities of change. However, a common denominator is that circular economy transitions are not possible without commitment from and the participation of society.

Thus, existing definitions of the circular economy must be extended by moving away from a strict focus on material flows. First, the circular economy must include social policy measures that target users of circular products and services [65]. Second, circularity must be extended to society, with circular principles applied to the flow of wealth, knowledge, technology, and power, which should be fairly redistributed in society [66]. Third, narratives about well-being and societal prosperity or progress must go beyond the objective of decoupling resource use from economic

growth to include a decoupling of assumptions about “the good life” and societal prosperity from economic growth [67]. A core idea is to replace the prevalent principles and meanings of economic practice with alternative narratives rooted in discourses on social sustainability, sustainable development, social justice, and quality of life. Fourth, the circular economy must enable a societal vision of participatory, communitarian, solidary, and circular consumption and production systems [68], which may foster a profound socioecological transformation.

An important argument behind many circular society concepts is that business and economic activities should not be ends in themselves. Rather, economics—in the Aristotelian sense—is intended to run the “household” of society so that all household members are looked after equally well and available resources are managed effectively. With their current focus, circular economy strategies will improve the management of resources; however, it remains questionable whether all members of the global household will benefit equally.

Focusing attention on the concepts of a circular society will enable consideration of how a circular economy can ensure a satisfactory life for all while remaining within planetary boundaries. This includes creating different definitions for value. At present, the monetary exchange value of products (i.e., the profit that a product or service brings to the market) is the central focus of economic endeavors. In a circular society, social and ecological value creation is essential, implying a multidimensional definition of value that includes the social and ecological usefulness of products or services. While circular economy strategies often focus on business model development, the circular society literature highlights the importance of bottom-up social innovation and emancipatory social movements. Finally, it favors sufficiency strategies over efficiency measures. In seeking the equal distribution of resources by enabling strategies of refusing, rethinking, and/or reducing consumption, we should ask, “How much consumption is necessary for everybody and should be secured by the economy, and how much consumption is tolerable within planetary boundaries?”

Angel in the Detail—Circular Economy Financing (P. Dewick)

Studies of circular business models have been increasing in the academic literature in recent years [69, 70]. Interest in businesses offering circular products, services, and processes is growing among policymakers and investors. Evidence of this rising interest can be seen in the growth of circular investment funds, estimated by the Ellen MacArthur Foundation to have increased sixfold to \$2 billion since the beginning of 2020 [71]. BlackRock’s circular economy fund is a notable example: the investment fund was launched with \$20 million of seed funding in October 2019, but as we approach the end of 2020, the fund has raised more than \$1.25 billion (<https://www.blackrock.com/uk/individual/products/310167/>).

In the academic literature, the lack of empirical work on the circular economy and the relatively few articles drawing recommendations for practitioners has been noted [72]. A recent publication aimed at practitioners of circular economy financing [71] cited not one academic paper in a list of over 280 references, which begs the question: How can we—the community of scholars in the circular economy and sustainability—address this disconnect? Can this journal provide both a scientific contribution and practical utility?

It is accepted among the academic community that having a circular business model or strategy is one thing, while reducing net environmental impacts is quite another. Business models or strategies that appear circular at face value may in fact add to the net environmental burden. For example, reuse does not necessarily equate to absolute environmental savings if the market expands and new products are purchased while older and less efficient products stay in

use. Recycling can be beneficial as long as the environmental savings are not outweighed by costs incurred elsewhere in the production and consumption system. There is also the issue of circular economy rebound [73]: the second-order effects of circular innovations. A three-pronged approach of reducing resource use, minimizing the transfer of impacts, and mitigating rebound effects has recently been suggested by Kjær et al. [74] and Palmie et al. [75].

Evaluating the net environmental impact reduction of a project, organization, or supply chain is vital for the integrity of the circular economy. Broadening our perspective to better understand not only how value can be created and shared but how net environmental reductions can be evaluated and reported on calls for closer collaboration between the scientific community and practitioners.

The collection of useful data will assist in the decision-making of board members to fund circular strategies within their organizations or support circular activities in their supply chains. It will help the financial industry to consider whether to invest in a particular organization or project as part of a circular fund. However, how can we overcome this information asymmetry? Can project managers, chief procurement officers, directors, and investors even know the actual impact of a circular business model or activity [76]?

The year 2020 has seen some noteworthy developments. January 2020 saw the launch of Circulytics, a circularity measurement and benchmarking tool developed by the Ellen MacArthur Foundation. A second version was released in October 2020. July 2020 also saw the entrance of the World Business Council for Sustainable Development's Circular Transition Indicators. These tools aim to help companies target, measure, benchmark, and disclose their progress toward circular economy targets. Both have already attracted over 500 companies to sign up, offering positive network effects for both developers and users, allowing the tools to evolve and improve. Uncertainty is also being reduced by government activities. One role for the newly created Platform on Sustainable Finance—a European Commission initiative—is to develop detailed technical screening criteria for the circular economy. This is just one of many developments from government and other stakeholders aiming to develop frameworks for metrics, indicators, and disclosures to aid the transition to circularity.

While these and other initiatives present progress and provide a focus for circular innovation—in particular to reduce resource use within organizations—they currently fall short of offering a strong sustainability [77] and holistic approach called for by academics. The inclusive and collaborative nature of the circular economy and the need to scrutinize the actual effects of circular endeavors means that the close collaboration of scholars and practitioners is essential. As a community of scholars, we should not wait for practitioners to come to us. We should proactively seek opportunities to cocreate research projects with industrial and societal stakeholders that may provide evidence of strong sustainability outcomes of circular initiatives, providing investors with data to finance the circular economy more confidently.

Pathway (3) Inclusion of the Global South in North-Dominated Circular Economies

Inclusion of Countries and Businesses in the Global South in North-Dominated Circular Economies (P. Schröder)

Creating an inclusive global circular economy requires the active involvement and participation of companies located in developing countries. The challenge is to connect them with circular

business models and integrate them in the ongoing processes of reshaping GVCs. To be successful, a better understanding of existing circular practices and associated GVCs in developing countries is urgently needed. This is important for both the conceptual development and practical implementation of the circular economy at regional, national, and local levels.

The COVID-19 pandemic has revealed the significant shortcomings of the linear economy and the vulnerability of GVCs. The health crisis and economic lockdowns have resulted in the exacerbation of social inequalities and job losses. As an approach to a green recovery, the circular economy will need to address not only new economic opportunities but also social issues, particularly unemployment and inequality [78].

The trade dimension of the circular economy is not well understood. Most linear GVCs are structured and controlled by powerful actors, creating additional difficulty in developing circular or closed-loop value chains [5]. The unequal relationships between multinational corporations and suppliers from developing countries pose the risk that value creation in circular value chains will largely be captured by dominant actors.

On the positive side, there are potential leapfrog opportunities for businesses and countries in the Global South through integrated production technologies (e.g., 3D printing) and digitalization. In the context of Latin America, governments and businesses are viewing the circular economy as an opportunity to reduce regional economic dependency of the export of natural resources and generate higher-value goods and services that generate benefits for the region and society [79].

While the circular economy appears to offer an alternative framework for a more resilient and inclusive economic model, the transition will not be without its challenges. SMEs, in particular, will face many capacity constraints in shifting from linear to circular modes of production and new business models. These constraints include a lack of skills and management capacity for circularity, outdated technology and equipment, and the lack of finance to upgrade factories, facilities, and logistics systems.

Governments, multinational companies, and the finance industry can take practical approaches in their circular economy strategies to include and support small- and medium-sized suppliers located in the developing world. At the government level, it will be important to introduce development cooperation programs to design and implement policies that support material circularity.

Scaling up investments in green businesses and sustainable value chains and creating green jobs will require the further involvement of financial institutions. Blended finance mechanisms can help to de-risk investments in circular economy innovations and business models.

Policy-Driven Transformation Toward a Sustainable Future (N. Sinkovics)

It is problematic to discuss the integration of circular economy principles into GVCs in general and the inclusion of countries in the Global South in North-dominated circular economies in particular without placing the discussion in the broader context of the UN SDGs, given the interconnection between social and environmental SDGs. Focusing on one category without ensuring that interventions are not detrimental for the other can cause significant unintended consequences. However, this balancing act must be driven by policymakers at both the national and supranational levels [80]. This is underpinned by several reports gauging progress on the SDGs.

For example, in their report prepared for the Club of Rome, Randers et al. [81] modeled the types of policy efforts under which the SDGs may be achieved while staying within planetary

boundaries, which constitute the safe operating space for human beings [82, 83, 84]. The modeling results clearly show that if the same efforts are extended as in the past few decades, the SDGs will not be achieved by 2030, nor even by 2050 (Scenario 1). This is because conventional policy tools cannot mitigate the trade-off between socially and environmentally oriented SDGs. If the world's national policymakers attempt to reach the SDGs through increased economic growth on a global scale, the risks will still outweigh the benefits because of the destabilization of the earth's system (Scenario 2). The third scenario modeled the impact of intensified conventional policies, representing a 30% increase in effort, across all SDGs. Although such a trajectory would improve the results in terms of achieving the SDGs within the planetary boundaries, some significant risks would still remain. The authors concluded that optimum results can only be obtained by designing unconventional, bold, and transformative policies (Scenario 4), including new development models for emerging economies, substantial investments in renewable energy and sustainable food chains, inequality reduction, and investments in health, well-being, education, and family planning [81]. Prepared by an independent group of scientists for the UN [85], the Global Sustainable Development Report 2019 also calls for transformational policies and a decoupling of economic growth from environmental impacts.

Thus, while powerful lead firms must be part of the solution, they cannot be expected to drive the transformation process necessary to achieve a sustainable future. Rather, strong global harmonization and governance through nation states and intergovernmental and inter-agency bodies are needed to set the pace of transformation. Without strong, transformational, collaborative, and inclusive global governance, the economic catch-up process of the Global South will reproduce and perhaps even surpass the biophysical boundary transgressions of the Global North [cf. 85].

Academia can contribute to the transformation agenda through what is studied, how it is studied, and how it is disseminated. Just as there is a need for global harmonization of policies, future researchers must strive to synthesize the existing knowledge across multiple disciplinary areas. Reinventing the wheel within disciplinary silos will not only slow progress but will also be unsustainable in the face of decreasing research funds and increasing respondent fatigue. Therefore, future researchers will need to investigate what implementing circular economy principles will mean for making our knowledge industry more sustainable. Further, in addition to more removed research practices such as the statistical analysis of large secondary data sets, future researchers will need to adopt a more engaged approach to conducting research. By being an active part of multistakeholder initiatives through action research, where government bodies collaborate with firms and civil society organizations, academics will not need to wait until the end of a lengthy publication process to have an impact.

A Global Value Chain Versus Circular Economy Debate on North–South Inclusion (S. E. Ibrahim)

The circular economy has gained traction in many developing countries, where there is an increasing interest in local business models. However, these circular economy models are not necessarily being integrated into GVCs. GVCs use an environmental upgrading lens when addressing sustainability practices in the South [7, 11, 86]. That is, focal firms in GVCs will dictate the practices of smaller firms operating in the South, or market dynamics governing GVCs will dictate the sustainability practices of companies joining GVCs. This raises the following questions:

- How do we reconcile the different conceptual lenses used by both research groups interested in sustainability issues?
- How do theories of GVCs related to power, dependency, and complexity merge with circular economy theories?

Linear GVCs need to address the looping nature of circular economic business models. There is a need for leapfrog opportunities and scaling up investments to overcome the capacity constraints of SMEs. Countries in the Global North with value chains in the Global South can offer targeted support to first- and second-tier SME suppliers and promote these practices to enable circular value chains. There is a need for stronger transnational harmonization of policies and governance. To have a greater impact, we must encourage the inclusion of more innovative SMEs in GVCs and reward them for their practices. Eventually, companies in the South operating or seeking to operate in GVCs will comply with the governing standards of those GVCs. This is encouraging because it assumes some kind of guidance that firms engaging in GVCs will have better sustainable practices.

Indeed, countries in the Global South, whose resources are under stress, are used to doing more with less. This inherent efficiency is expected to drive the recycling of resources and circular economy business models. We need to avert the common misconception that the Global North invented circularity and learn from what has long been taking place in the Global South. It is important to bring the experience of the South to the table and learn from the frugality of its successful circular economy models. Reflecting on the similarities and differences between the contextual settings of the North and South can promote a shared learning and create an innovative environment for the development of new circular business models that can benefit all.

Another issue identified is that GVCs take a production-focused approach and are regionally mapped using a production lens, while the circular economy reflects on production and consumption and depends on consumer behavior aspects that go beyond that captured by GVCs. To address these gaps, the following recommendations have been made:

- Regulating the market and consumer behaviors and developing policies targeting individuals
- Providing education (which will take a generation), creating policies for decision-making, and developing skill sets and capabilities
- Creating market-based policies to change opportunities and make it easier for businesses to move and take those opportunities

A government-driven change in the consumption behaviors of Western middle-class consumers is needed. If governments continue to put pressure on the markets to which GVCs sell their products, there will be nowhere left to sell. Rethinking consumption and consumerism must be part of the GVC discussion. A plausible example can be seen in how COVID-19 has affected the resilience of GVCs. Local sufficiency and reduced global sourcing are expected in the wake of the pandemic, which may be an opportunity for businesses and individuals to revisit their consumption patterns. However, questions remain: Can the sufficiency and efficiency values of the circular economy merge with the mass production efficiencies promoted by GVC economies of scale? How do we transform the model of GVC thinking, with its mass consumption and production efficiencies, to reconcile with SMEs and frugal innovations of the Global South [87]?

In conclusion, while GVCs will continue, we need to think about how they may be reshaped toward sustainability and circularity. Continuing with the traditional model will not take us where we need to go if we want to remain within the planetary boundaries. Thus, there is much work to be done and a long-term transition to think about.

Partnership Metaphors in Cross-Sector Partnerships (L. Fiske and A. Goerzen)

Metaphors are ubiquitous in social, political, and, increasingly, environmental discourse as policymakers and academics strive to communicate in a way that is emotionally resonant and drives change. Researchers have shown that a metaphor is more than a fanciful comparison of unlike things; rather, it is a cognitive framing device that acts as a schema [88] that influences various actions such as who is hired [89], how to reduce crime [90], and how to prevent cancer [91]. In fact, the circular economy itself is a metaphor—a cross-domain mapping that transposes our associations of space and movement upon the rigidity of an economy to encourage more sustainable and holistic outcomes. Thus, the notion of a circular economy relies on a metaphor of action, which is foundational to all abstract thought [92, 93, 94].

While the idea of a circular economy is enabled by language, CSPs are increasingly understood as essential components of the circular economy and the promotion of sustainability more generally [95, 96, 97]. However, CSPs themselves are influenced by the power of metaphor; thus, our research interest pertains to the metaphors found in what Koschmann, Kuhn, and Pfarrer [98] refer to as “authoritative texts” that emerge as a product of CSPs, such as missions, visions, value statements, and memorandums of understanding. In these documents, it is common to find metaphors of the partnership itself alongside statements of shared goals, roles, and responsibilities (e.g., “decisions will be made with partners on an equal footing”).

Our current line of thinking is that the mixed performance of CSPs in driving toward a circular economy [99] may be partially explained by the metaphors contained within authoritative texts that either exacerbate the well-known underlying tensions in CSPs [100] or fail to reduce them. We leverage the well-known insight from resource dependence theory that organizations must access resources from their external environment to survive and the further understanding that a key driver of organizational behavior is an attempt to reduce uncertainty in accessing those resources [101, 102]. Power imbalances between partners in CSPs can drive such uncertainties, leading to tensions and politicking that hinder performance [103], and it is common in the academic commentary on CSPs to highlight the importance of integrating perspectives in a highly democratic way [104]. However, given the likelihood of unequal power relations within CSPs, it may be that metaphors pertaining to the partnership itself should aim not to equalize relations but to provide a cognitive frame by which partners can navigate their way productively through that inequality.

Summary and Implications (D. Vazquez-Brust)

This paper for the inaugural issue of *Circular Economy and Sustainability* has compiled contributions from key researchers in sustainability and green supply chains in the field of management, including scholars from operations management, strategy, organization studies, and marketing. As described in the “Introduction” section, contributions were grouped into three pathways: (1) connecting output with input needs in a global circular economy, (2) beyond today’s business logic for a global circular economy, and (3) inclusion of the Global

South in North-dominated circular economies. These pathways are not responding to an overarching theoretical framework but reflect the mapping of areas of growing interest in organizations and the natural environment academic collective. They emerged after reflecting on exchanges and discussions in diverse forums. Because the contributors were not given a template and could freely choose the focus of their piece, the resulting compilation is a vibrant mosaic of perspectives and interests, underpinned by a shared vision for better knowledge to accelerate the transition toward a circular society. The problems include the complexity of articulating GVCs, the difficulty of reforming a dominant logic that continues to display institutional capture, and the differences in interest, resources, and ideologies between actors in the North and South. The diverse solutions range from the micro (consumers, workers) to the meso (companies, collaborations, cities) to the macro levels (policies, transforming the finance sector), offering an array of theoretical perspectives to drive future circular economy agendas.

Table 1 presents a selection of topics for a preliminary agenda for circular economy research in the next decade, which hopefully will see a new normal in which ecological and social concerns are revitalized.

The sense of urgency in the thought pieces behind this emerging agenda is almost palpable. The need for transformative practice and theory, the rediscovery of social dimensions, and the

Table 1 Structure of contributions

Contributor	Research agenda item	Theory	Level
De Marchi	Influence of type of governance of GVCs on CE outcomes	GVC	Macro
Sarkis Ometto	Theoretical positioning in CE research Opportunities for social innovation in circular business ecosystems	Several Systems thinking	Macro/meso Meso
Spraul	Shifting individual values and mindsets to connectedness and sustainability		Micro
Govindan	Technology as the key to successfully connecting supply chain partners in CEs	Complexity	Macro
Klassen Sharma	Mapping the journey toward a CE Shifting research focus from CE inputs to CE outputs in ecosystems and social justice	Design thinking Trans-/interdisciplinarity	Meso Macro
Bocken	Bridging gaps between theory/ideas and practice in CE. Slowing down loops and regenerating	Design thinking	Macro
Ashton	Effectiveness (environmental and social) of strategies for interorganizational CE collaborations	Industrial symbiosis/types of resources	Macro
Dewick	Bridging the gap between CE academics and CE practitioners (e.g., funding, net impacts)		Meso
Schröder	Challenges and opportunities for the integration of actors in the Global South in global supply chains		Macro
Sinkovics	Implications of bold and transformative CE policies for sustainability in the knowledge industry		Macro
Ibrahim	Synergies and tensions in the integration of GVC theories with CE theories and “frugal CE” models	GVC	Macro
Jaeger-Erben and Jensen	Alternative principles and narratives of CE to extend the role of circularity beyond material and energy flows	Circular society	Macro
Fiske and Goerzen	Potential of CE metaphors (of action) as cognitive frames to navigate power imbalances in cross-sector partnerships	Resource dependence	Meso
Vargo	Logics and mental models for services ecosystems		Micro

Note: GVC global value chain, CE circular economy

emphasis on frontier technologies are examples of urgent topics addressed in all three pathways.

As noted by several colleagues, it is critical to bridge the divide between the interests of academics and practitioners. This divide may explain why, after decades of discussing circularity, the Circularity Gap Report 2020 shows that only 8.6% of the economy is now circular, and circularity fell from 9.1% in the 2 years since the first report was launched in Davos (<https://pacecircular.org/node/102>). Moreover, notions of circularity have slipped from the wording of the UN SDG targets and indicators—only recycling is mentioned in SDG 12 (sustainable consumption and production).

While the contributions reveal a vibrant plethora of perspectives and interests, they also suggest that the field is still fragmented, hindering the incremental accumulation of knowledge required to build the type of process-oriented theory needed to inform policy transformation. While we fully endorse the calls for multidisciplinary, systemic, and holistic thinking, partnerships, and inclusion of the South in global systems, a sense of *deja vu* lingers. I cannot help noting that these calls have been made for decades, but success has been elusive. Perhaps it is time to take a few steps back and critically discuss these concepts. Research on agonistic relations in organization studies [105] has long challenged the transformational possibilities of partnerships and consensus building, while the common academic practice of applying Western-centric management theories—including systems thinking—to explain the phenomena in the least developed countries has been strongly questioned by transmodern philosophers of the South [106]. The focus of many management journals on theory building as a hallmark of quality of a paper and the consolidation of research silos resisting the injection of ideas from other fields also hinder collaborations with colleagues from other disciplines that may be more practically oriented. This may explain why topics that lend themselves less to theory building, such as the development of indicators and tools for circularity, continue to be earmarked as an area in need of research more than 30 years after Daly [107] suggested measurability as one the four preliminary operational principles of sustainability, noting that “unless the effect of adopting and implementing each principle can be measured by an indicator of some sort, the operability of the principle is questionable.” Deep transformation may be needed in the field of management to meet these challenges. The scholars contributing to this paper are among those supporting such transformations, and this new and widely interdisciplinary journal is an auspicious sign that new arenas are emerging for debate and deliberation.

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Authors' Contributions The authors contributed each a subsection, as indicated in the subheaders. **Data Availability** None.

Declarations

Conflict of Interest The authors declare no conflict of interest.

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