



Sustainable international business model innovations for a globalizing circular economy: a review and synthesis, integrative framework, and opportunities for future research

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Abstract

The global imperative has increased in recent years for international firms to respond to major threats such as unintended environmental, social, and economic problems arising from ecological destruction, population growth, and economic activity. To respond to this confluence that has created an emerging existential crisis, we identify that a globalizing circular economy (CE) is required and subsequently define a new construct: sustainable international business model innovations. In doing so, we introduce circular inputs, sharing platforms, product as a service, product use extension, and resource recovery as business models that contain the potential to reply to these grand challenges. Based on CE principles, the innovations and designs introduced are contrasted with the traditional linear economic model and are presented as actionable standardization/adaptation alternatives for companies responding to differing informal and formal international institutions. Based on the theoretical underpinnings of the resource-based, dynamic capabilities, and international business model innovation perspectives, we introduce an integrative framework that is accompanied by a series of detailed research questions to provide future research opportunities for the domain. This conceptual approach holds that international resource design influences marketing capabilities adaptation which, in turn, impacts international performance and offers a foundation from which to build the literature.

Keywords International marketing · International business model · Sustainable business model · Business model innovation · Sustainable international business model innovation · Circular economy · Environmental sustainability · Social sustainability · Economic sustainability · Resource-based view · Dynamic capabilities · Institutional theory · Standardization/adaptation · Globalization

Introduction

Given the global imperative for firms to respond to major threats such as unintended environmental, social, and economic problems arising from ecological destruction,

population growth, and economic activity that accelerate unregulated resource extraction, uninhibited waste generation, unmitigated environmental damage, and extensive socioeconomic inequalities worldwide (ILO, 2022; IPCC, 2021), sustainability serves as a core consideration for firms pursuing internationalization (Chakrabarty & Wang, 2012; Cuervo-Cazurra et al., 2018). To date, the concept of sustainability has been mainly based on Elkington's (1994: 3)

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triple bottom line concept that international firms should focus “not just on the economic value that they add, but also on the environmental and social value that they add—or destroy.” Based on the importance of marketing capabilities in sustainability performance (Mishra & Modi, 2016), this study follows that environmental and social sustainability has a positive effect on financial performance (Kang et al., 2016; Luo & Bhattacharya, 2006; Margolis et al., 2009; Orlitzky & Benjamin, 2001; Orlitzky et al., 2003).

To make the needed transformation to a more sustainable international economic system, firms need to innovate to provide more sustained value to their shareholders and stakeholders through global environmental and social transformations to reduce unfettered consumption and the use of disposable products on a wide scale (DeWeerd, 2022; King, 2022; Syberg, 2022).¹ However, technological advances toward sustainability have been incremental, and firms find it difficult to meet sustainability-related goals (Rashid et al., 2013). Hence, it is proposed that “innovation on the business model level is required to align incentives and revenue mechanisms to leverage sustainable solutions” (Geissdoerfer et al., 2018a, 2018b: 402). Thus, innovations concerning the business model’s value creation, delivery, and capture mechanisms are needed (Teece, 2010). Many of the sustainability challenges the world faces are global (e.g., climate change, worker exploitation, etc.), and, as a result, it is critical that firms transfer, deploy, and adapt their business model innovations to international markets (Tallman et al., 2018).

While we have witnessed an increase in research on sustainability-related business model innovations in the domestic context (Foss & Saebi, 2017; Geissdoerfer et al., 2018a, 2018b; Shakeel et al., 2020) and business model innovation with regards to internationalization (Von Delft et al., 2019), the extant literature lacks studies linking these streams of research to investigate sustainable business model innovation in the international business environment. Thus, we address this research gap and define sustainable international business model innovations as “the designed, novel, nontrivial change to the business model’s design adapted for international markets that provides solutions for long-term environmental, social, and economic prosperity and development to the organization and its stakeholders.”

An emergent set of sustainable international business model innovations with multinational applications relates

to the circular economy (CE), often defined as “an economic model wherein planning, resourcing, procurement, production, and reprocessing are designed and managed, as both process and output, to maximize ecosystem functioning and human well-being” (Murray et al., 2017: 369). This concept is related to the notion of sustainable marketing in a globalized marketplace, responsible environmental behavior, equitable business practices, ethical consumption, and necessary quality of life and well-being (Lunde, 2018). Valued as a \$1.5 trillion business opportunity in 2020 and estimated to increase to \$4.5 trillion by 2030 (Accenture, 2015), CE utilization in international firms is based on the continued use and reuse of resources to minimize or eliminate waste in the production and consumption process (Lacy & Rutqvist, 2015; Lacy et al., 2020). Radically different from the predominant linear economic model used by international small and medium-sized enterprises (SMEs), multinational enterprises (MNEs), and their customers, which is based on the consumption and disposal of materials and produced goods and services (Stahel, 2016), the transition to CE applications is considered a radical business model innovation (Preston, 2012). Therefore, gearing the global economic system to maximize shareholder profitability is not a small task, as it requires transforming traditional organizational structures and delivery networks to develop closed-loop systems for continued product use and consumption (Geissdoerfer et al., 2018a, 2018b; Geng et al., 2019; Preston, 2012).

Considerable research suggests the motivations for international business model innovations adopted by cross-national SMEs and MNEs implementing globalizing CE principles vary substantially based on the levels of economic development (e.g., developed, emerging, and developing nations) (Geng et al., 2019; Tallman et al., 2018), culture, social structure, institutions, infrastructure, and geography in both the home- and host-country markets of the internationalizing firm (Cuervo-Cazurra et al., 2018; Ioannou & Serafeim, 2012). Since the conditions for implementing CE-related business models in an international context are much more complex and dynamic than their domestic counterparts, the adaptation of the business model innovation in use is likely required for international markets. Firms from developed markets often face pressures to maintain their sustainability standards when entering both equally and less developed foreign markets (Lartey et al., 2021; Narula, 2019), while newly internationalizing emerging market firms often struggle to meet the sustainability standards of the more developed markets they seek to enter (Marano et al., 2017; Rabbiosi & Santangelo, 2019). This means there is a requirement to adapt the globalizing CE-based international business model innovation based on international regulatory, infrastructural, and/or market differences (Bohnsack et al., 2021).

¹ This is based on the definition of sustainable marketing (and, for the purposes of this study, sustainability) as “the strategic creation, communication, delivery, and exchange of offerings that produce value through consumption behaviors, business practices, and the marketplace, while lowering harm to the environment and ethically and equitably increasing the quality of life ... and well-being of consumers and global stakeholders, presently and for future generations” (Lunde, 2018: 94).



Table 1 Key concepts and definitions

Concept	Definitions
Business model	A business model “describes the design or architecture of the value creation, delivery, and capture mechanisms” the firm employs (Teece, 2010: 172)
International business model	An international business model describes the design of the business model elements and the extent they are adapted for international markets (Bohnsack et al., 2021; Child et al., 2017)
Sustainable business model	A sustainable business model “aim[s] at solutions for [environmental, social, and/or economic] sustainable development by creating additional monetary and non-monetary value” (Geissdoerfer et al., 2018a, 2018b: 713–714)
Business model innovation	A business model innovation refers to “designed, novel, nontrivial changes to the key elements of a firm’s business model and/or the architecture linking these elements” (Foss & Saebi, 2017: 201)
Sustainable international business model innovation	A sustainable international business model innovation refers to “a designed, novel, nontrivial change to the business model’s design adapted for international markets that provides solutions for long-term environmental, social, and economic prosperity and development to the organization and its stakeholders”

The international marketing literature has dealt extensively with questions related to the cross-national standardization and adaptation of marketing elements and processes for firms (Dow, 2006; Szymanski et al., 1993; Zou & Cavusgil, 2002), but has rarely addressed these in conjunction with sustainable business model innovations. This indicates a need to advance the conceptualization of sustainability within an international marketing context by introducing the notion of sustainable international business model innovations and examining its standardization versus adaptation requirements. Adding considerable value would be the revelation of the intellectual structure of existing research in this area to establish future research directions guided by the premise that prior and present research shapes future knowledge in a field of thought (Kuhn, 1962).

Hence, this study seeks to answer the following main research questions. First, how can we conceptualize the prevalent sustainable international business model innovations and their designs in the CE domain? Second, how do the sustainable international business model innovation literature’s intellectual structures with an emphasis on the globalizing CE environment inform our current understanding of the field? Third, how do the sustainable international business model innovation literature’s intellectual structures with an emphasis on the globalizing CE environment enable us to build a theoretical framework for future research related to CE activities? Fourth, how does this current understanding of sustainable international business model innovations and the CE literature contribute to future research directions from an international marketing perspective?

Our theoretical contribution to international marketing is illustrated in four ways. First, we conceptualize five sustainable international business model innovations and their relevant designs prevalent in the globalizing CE domain of use to cross-national SMEs and MNCs. These have the potential to address the sustainability challenges we currently face globally. Second, we reveal the intellectual structure of

sustainable international business model innovation research and the intellectual structure of international marketing and CE research, which forms an in-depth understanding of the underlying research chains, standalone research groups, and associated themes in the literature. Third, these uncovered intellectual structures of the sustainable international business model innovation and CE literature enable us to build a theoretical framework related to sustainable international business model innovations suitable for future research about CE activities. Particularly, we examine in detail the standardization/adaptation requirements to international markets that must be considered in the international resource design, marketing capabilities adaptation, and international performance elements of the proposed framework. Finally, as a part of our presentation of the integrative framework, we establish a series of research opportunities that include concrete proposals for future directions in sustainable international business model innovation research relating to the globalizing CE concept that has the potential to advance the international marketing field.

Conceptual background

Definition of sustainable international business model innovations

As noted in Table 1, a *business model* describes the design or architecture of the value creation, delivery, and capture mechanisms of the firm (Teece, 2010). It can be seen as “a system of interdependent activities that transcends the focal firm and spans its boundaries” (Zott & Amit, 2010: 216). Various elements have been proposed as included in business models. Chesbrough and Rosenbloom (2002) include the value proposition, market segment, value chain configuration, cost structure, and profit potential as examples. Bohnsack et al. (2014) categorize these elements to contain the



value proposition (good/service content and target segment), value network (research and development, production, sales, aftersales, etc.), and revenue and cost models (pricing, additional income, and government incentives). Zott and Amit (2010) suggest the design elements from an activity system view include: (1) content as the selection of activities performed; (2) structure as to how activities are linked and their importance with a core, supporting, or peripheral position; and (3) governance as activity performance either internal or external. Determining the most viable business model for firms operating in rapidly changing markets with increasing pressures to account for sustainability-related demands is important, as it affects both internationalization efforts and performance (Bohnsack et al., 2021).

An *international business model* describes the design of the business model, its elements, and the extent they are adapted for international markets (Bohnsack et al., 2021; Child et al., 2017). For example, host-country environments may require adaptations of the business model to suit particular international contexts (Child et al., 2017). In addition, the international business literature highlights the importance of unique resources as the source for firm-specific advantages that can be non-location or location-specific, which lead to international firm competitiveness (Rugman & Verbeke, 2001). Building on this, Bohnsack and colleagues (2021: 828) define business model-specific advantages as “a configuration of location-bound and non-location-bound activities that, as a whole, lead to a firm-specific advantage.” Accordingly, business models that have non-location-specific advantages can be transferred relatively easily from home markets to international markets, while business models bound by location-specific advantages require adaptation through recombination with location-specific assets such as a value proposition, value network, and/or revenue-cost models to be competitive (Bohnsack et al., 2021). To create an international business model that is globally competitive, it is essential to leverage and integrate resources, decide the unique value-creating activities and locations to perform them, and link them to international product markets successfully (Von Delft et al., 2019).

A crucial difference between international business models and domestic business models is the need to adapt the international business model elements to cross-national regulatory, infrastructural, and market distinctions (Bohnsack et al., 2021). Value creation may require alteration based on varying customer requirements in host countries due to cultural, economic development, social structure, national institution, and/or geographic differences. Value delivery may require adaptation to the local market infrastructure due to increased costs and delivery options. Meanwhile, value capture could necessitate change based on infrastructure and legal differences in target markets that deal with issues such as inflation and exchange rate exposure, transfer

pricing, tax arbitrage, currency restrictions, reinvestment opportunities and requirements, local partners, corruption, and the free movement of money across borders (Tallman et al., 2018). Prahalad and Hammond (2002) stress that base-of-the-pyramid (BOP) markets are different from developed markets, but that each BOP market is different from another, which requires balancing between global standardization and local responsiveness in business models. As the literature acknowledges that the customer base in non-developed markets is considerably more heterogeneous along such traits as income (Sheth, 2011), these locations are characterized by several institutional voids concerning product, capital, and labor markets as well as the contracting and regulatory domains (Rehman et al., 2020), thus requiring business model adaptation (Zhu et al., 2019).

Business models can vary regarding the extent they consider sustainability-related demands. Porter and Kramer (2006) recommend that firms prioritize activities based on analyzing the social impact of their value chains in different countries and the social dimensions of the company’s competitive context. Geissdoerfer and colleagues (2018a: 713–714) define a *sustainable business model* as one that “aim[s] at solutions for [environmental, social, and economic] sustainable development by creating additional monetary and non-monetary value by the proactive management of multiple stakeholders and that incorporate[s] a long-term perspective.” As a natural progression, the development of sustainable business models requires consideration of stakeholders’ views and demands. Yunus et al. (2010) emphasize that when developing social business models, in addition to shareholder needs, socially based and profit-oriented stakeholder demands must be followed and social performance objectives specified.

However, given the extensive literature on business models, international business models, and sustainable business models, fewer attempts have been made to integrate these ideas into meaningful applications. In other words, research on business models has emphasized the value creation, delivery, and capture process for companies (Teece, 2010; Zott & Amit, 2010) while this concept has been adapted to the international context (Bohnsack et al., 2021; Child et al., 2017) to provide a deeper understanding of the phenomenon in a global marketplace. However, the notion of sustainable business models has been largely studied separately. While the topic has been examined in support of sustainable development, another critical topic relates to the financial and non-financial value provided by such activities (Geissdoerfer et al., 2018a, 2018b). Therefore, a considerable discrepancy exists that provides an opportunity for this study to introduce a construct that builds on these distinct concepts.

Critical for superior firm performance (Zott et al., 2011), *business model innovation* is defined as “designed, novel, nontrivial changes to the key elements of a firm’s business



model and/or the architecture linking these elements” (Foss & Saebi, 2017: 201). Amit and Zott (2012) set forth four mechanisms for business model innovation and improved financial performance: (1) renewing the business model architecture by introducing novel content, structure, or governance; (2) striving to lock in partners or customers by including switching costs for leaving or incentives to stay; (3) adding complementarities by enhancing the interdependencies of business activities; and (4) creating efficiency-related benefits through savings due to the interactions of the activities in the system. The changes to the firm’s business model and/or the architecture linking these elements adapted for international markets can be seen as an international business model innovation. To accomplish this, Anderson and Markides (2007) propose that, to reach BOP markets, firms should innovate in four aspects of their business models: affordability (lower prices), acceptability (adaptation to local needs), availability (distribution to isolated communities), and awareness (alternative communication methods to reach target audiences).

Changes in the external environment such as greater demands for addressing sustainability-related concerns (e.g., environmental, social, and economic) call for sustainable business model innovations. However, extant research has scarcely addressed how managers can innovate such models, particularly as it relates to the adaptation requirements for international markets. Based on the aforementioned presentation, an international business model innovation can be considered sustainable when it focuses on environmental, societal, and the long-term prosperity and development of the organization and its stakeholders. Hence, we define *sustainable international business model innovations* as “designed, novel, nontrivial changes to the business model’s design adapted for international markets that provide solutions for long-term environmental, social, and economic prosperity and development to the organization and its stakeholders.”² To advance such sustainable international business model innovations, a company needs to identify sustainability-related business opportunities addressing environmental and/or social challenges, conduct careful analysis across international markets to identify the extent of adaptation required, pursue these opportunities by designing the business model and mobilizing the required resources, and convert the organization by transitioning and renewing its capabilities to support its implementation (Bocken & Geradts, 2020; Bohnsack et al., 2021; Child et al., 2017).

² This definition of *sustainable international business model innovations* is supported by research and definitions related directly to business models (Teece, 2010), international business models (Bohnsack et al., 2021; Child et al., 2017), sustainable business models (Geissdoerfer et al., 2018a, 2018b), and business model innovations (Foss & Saebi, 2017).

Next, we turn to discuss specific international business model innovations and their related designs.

Sustainable international business model innovations and designs in the circular economy

To date, CE initiatives have been implemented on a noteworthy scale in Asia and Europe, but also in North and Latin America to some degree (Geissdoerfer et al., 2017; Geng et al., 2019). Countries such as China, Finland, Japan, South Korea, and Germany have national CE strategies (Abend & Nolting, 2022; Geissdoerfer et al., 2017; Geng et al., 2019; Preston, 2012). A few countries like Costa Rica have generated over 98% of their energy from renewable sources like hydropower, geothermal, and wind for several years (Zúñiga, 2021). Meanwhile, supporting the idea that developing and emerging nations have a long history of informally utilizing CE principles (Cord, 2017; Nagendra, 2018), India has implemented various extended producer responsibility systems to encourage waste management on a small and larger scale, while Indonesia and the Philippines have used national policies to protect waterways (Lacy et al., 2020). In addition, research and innovation are being conducted in a centralized manner in industrial parks and elsewhere utilizing CE concepts in countries such as China and the Netherlands (Geng et al., 2019; Mathews & Tan, 2016; McDonough, 2016). On a more localized scale, international non-governmental organizations (NGOs) set up community repair locations to refurbish electrical, textile, and/or mechanical goods and devices in nations like Belgium, Germany, the Netherlands, and the United Kingdom (Kiser & Charter, 2016). Taken together, experts have stated that converting to CE applications could reduce greenhouse gases by 70% and increase the workforce from 4% on a macroeconomic scale to as much as twenty-fold in certain industries emphasizing reuse and remanufacturing (Benton, 2014; Stahel, 2016).

Given these conditions across markets, firm strategy and implementation adaptation are required (Dow, 2006; Szymanski et al., 1993; Zou & Cavusgil, 2002). Even though some Asian and European countries have enacted nationwide CE laws and regulations, they are rarely similar between countries. For example, Finland seeks to stop waste altogether, China has created many industrial parks to maximize CE principles in the supply chain, and Japan makes manufacturers responsible for the use of their materials after production (Abend & Nolting, 2022; Geng et al., 2019). This creates a complex cross-national network of formal institutional requirements that companies must address to maintain a presence in multiple countries (DiMaggio & Powell, 1983).

To compete at a localized level, cross-national SMEs and MNEs should better understand the formal and informal institutional context they enter as the knowledge base and



competitive positions of local rivals are likely superior at the outset based on liabilities of foreignness due to familiarity with different rules and norms (North, 1991; Scott, 1995; Zaheer, 1995). Over time, the firm can take advantage of competitive opportunities to alter its initial strategy and increase its success in the foreign market based on its experience (Zaheer & Mosakowski, 1997). Relatedly, there could be differential informal institutional country-of-origin effects across nations that impact the company's international success (Gürhan-Canli & Maheswaran, 2000; Johansson et al., 1985; North, 1991; Scott, 1995). National ethnocentrism or animosity toward a firm may exist because of its origin which might hinder its strategy (Klein et al., 1998; Shimp & Sharma, 1987). However, with time and familiarity in the market, the potential for products and brands from the firm's country could develop a good reputation in the host environment, thus having a positive impact on performance (Pappu et al., 2007). The result is that companies must be able to adjust their international business model innovations depending on the location, the intensity of CE-related competition in the institutional environment, consumer perceptions of their products based on the company's origin, and the demand for CE-focused goods and services.

On a broad scale, CE applications contribute most to five of the United Nations' Sustainable Development Goals (SDGs): clean water and sanitation (SDG 6), affordable and clean energy (SDG 7), decent work and economic growth (SDG 8), responsible consumption and production (SDG 12), and life on land (SDG 15) (Geng et al., 2019; Schroeder et al., 2019). Based on this, the SDGs linked to the CE overlap with its environmental, social, and economic traits. For instance, SDG 6 relates to the environment and economy. Meanwhile, SDG 7 impacts the environment as well as society. Then, SDG 8 contributes to society and the economy. Also, SDG 12 connects to the environment and society. Finally, SDG 15 is the only goal focusing primarily on one aspect of the CE phenomenon—the environment—but could be extended to apply to societal and economic issues, as well.

Based on a review of the wider sustainability and CE literature, five unique business model innovations were identified that reflect pioneering design and implementation at multiple levels and in varied contexts of the global marketplace (Bocken et al., 2016; Geissdoerfer et al., 2018a, 2018b; Teece, 2010; Zott & Amit, 2010). CE principles can be applied within the firm, with customers, and within a value network to create three distinct levels at which they can be achieved: the micro, meso, and macro levels (Ghisellini et al., 2016; Sitra, 2020; Su et al., 2013). A description of each business model innovation and its design as they relate to creating, delivering, and capturing value in internationalizing SMEs and MNEs is described later in this study when emphasizing future research directions in the domain

(Bocken et al., 2016; Lepak et al., 2007). Figure 1 depicts the interrelationships of each sustainable international business model innovation, their designs, and their relation to the traditional linear manufacturing and consumption process of product design, sourcing, manufacturing, logistics, marketing and sales, product use, and disposal (Arponen et al., 2018; Sitra, 2020). Details about the operationalization of these business model innovations and designs in practice are found in Web Appendix 1.

Method overview

Given the scope of this study, two different multidimensional scaling (MDS) analyses were conducted. These two MDS evaluations are based on previous research emphasizing the relationship between the topics of marketing and sustainability as well as the importance of international-focused business models (Chabowski et al., 2011; Cuervo-Cazurra, 2012; Zott et al., 2011). By evaluating the first, generalized international MDS configuration with the second, marketing-specific MDS results, the basis was provided as support that the CE concept contains a set of innovative and emergent sustainability-oriented business models, making a discussion concerning future research directions possible.

The Web of Science (WOS) database was used to gather the required information, as it is an established source of citation, publication, and journal analysis in many international business studies that have emphasized network-based co-citation analysis (Devinney & Hohberger, 2017; Hutzschenreuter et al., 2007). The syntax for the international sustainability and business model innovation interface intellectual structure search had four keyword components: sustainability inclusion terms, sustainability exclusion terms, international terms, and business model terms. This contrasts with the international marketing and CE interface intellectual structure search which contends that the CE concept is the basis for radical forms of business model innovation, is internationally focused, and is specific to the field of marketing. Utilizing publications in the Business, Business Finance, and Management WOS categories, this intellectual structure ensures its relevance to the international marketing literature as its syntax had three components: CE terms, international terms, and marketing terms. For more details about the method used in this study, see Web Appendix 2.

Results

This section provides a summary of the international sustainability and business model innovations as well as the international marketing and CE intellectual structures. While a comparison of the two visualizations (see Web Appendices



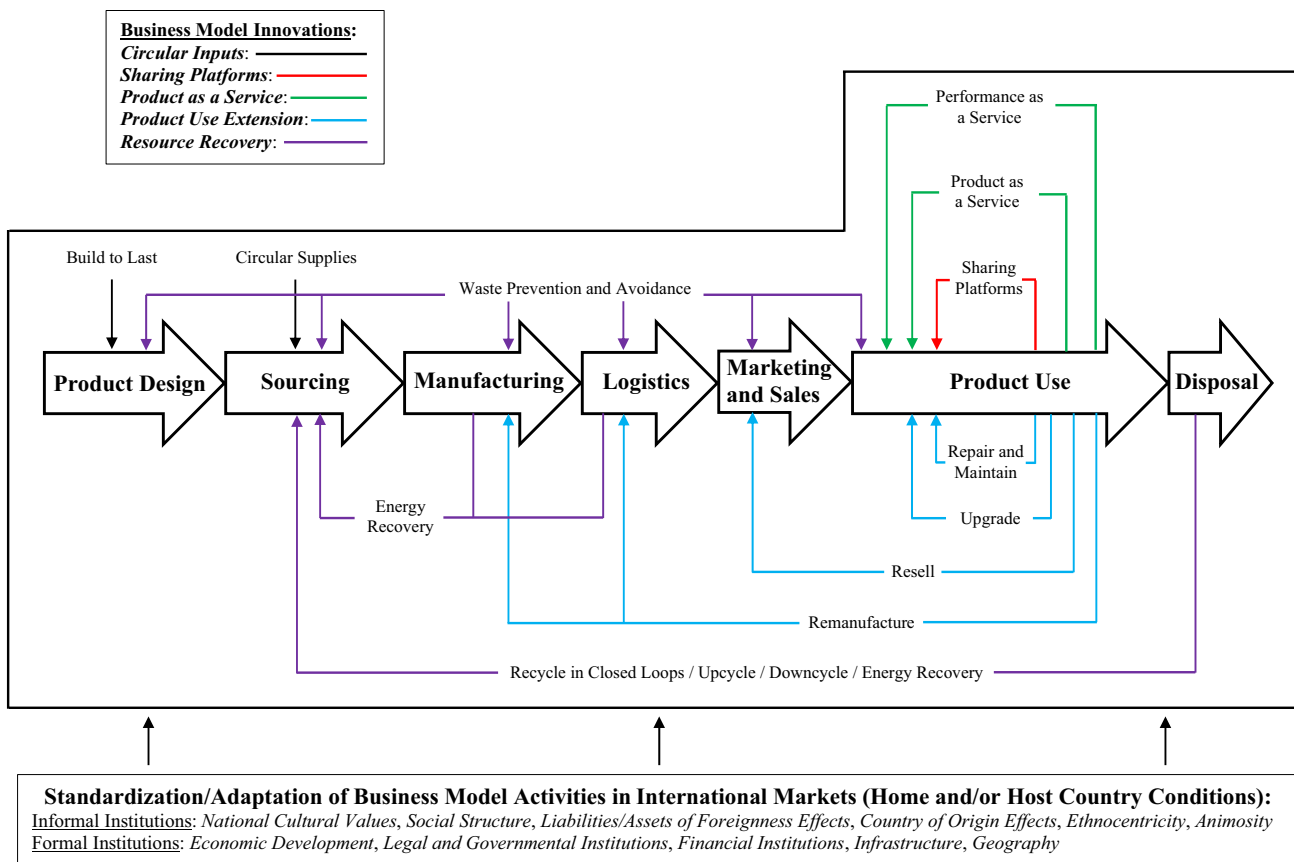


Fig. 1 Sustainable international business model innovations and designs. *Notes:* Adapted from Arponen et al. (2018), Lacy et al. (2020), and Sitra (2020). Line color represents specific business model innovation and *line name* indicates a particular design as defined in Web Appendix 1

3 and 4) indicates there are not any direct relationships, the two depictions provide the basis for a thorough discussion concerning sustainability-focused business model innovations in an international context.

International sustainability and business model innovation interface

As indicated in Web Appendix 3, there are 13 groups in the intellectual structure relating to international sustainability and business model innovations. Even though there are varied topics on this synthesized cross-functional subject, three research chains and one isolated research group are found in the results. The first research chain related to topics emphasizing stakeholder issues. Research cliques are located at either end and include themes such as stakeholder identification, service orientation, and corporate social performance (Group 1), stakeholder identification, corporate strategy, and social performance (Group 2), and value dynamics, bargaining power, stakeholder management, and competitive advantage (Group 4). A group links these two ends of the chain together by focusing on corporate stakeholder management and competitive advantage (Group 3).

The second research chain examined a variety of issues related to business models. Containing three cliques, this chain included subjects related to business model design (Group 6), strategy, innovation, and business model design (Group 7), and strategy, innovation, value capture, and social business models (Group 8). Between these first two research chains, a group highlighting value creation and competitive strategy (Group 5) is found.

The final research chain is the most extensive and includes social entrepreneur and BOP topics. Anchored by research emphasizing the numerous facets of the social entrepreneur’s experience (Zahra et al., 2009), two groups extend out from the chain relating to global governance, value creation, and social entrepreneurs (Group 9) and BOP alliances and social entrepreneurs (Group 10). Then, supported by a clique emphasizing strategic entrepreneurial innovation process, profitable services, and BOP alliances (Group 12), the other two cliques identified concern strategic entrepreneurial innovation process, profitable market creation, and BOP alliances (Group 11) and emerging market strategy and BOP service profitability (Group 13). These results indicate the social emphasis of the international sustainability and innovation business model interface intellectual structure.



International marketing and circular economy interface

Web Appendix 4 shows 13 research groups in the international marketing and CE interface intellectual structure. Two research chains and five standalone research groups are found. The first research chain is expansive and relates to a multitude of topics emphasizing business models. While a clique focused on product design, national practice, and global business model strategy (Group 1) is located at one end of the chain, the other related themes deal with product design, supply chains, and business model strategy (Group 2), supply chains and business model innovation uncertainty (Group 3), national indicator systems and business model innovation uncertainty (Group 4), national indicator systems and business model implementation (Group 5), and product service offerings and business model implementation (Group 6).

Centered on research related to the intersection of environmental economics and CE concepts (Andersen, 2007), the second research chain consists of two research groups: environmental economics and international implementation (Group 12) and environmental economics and systems thinking (Group 13). One of the isolated research groups was supported by work related to implementation tools that can be utilized (Korhonen et al., 2018a, 2018b; Murray et al., 2017) to create a topic on global CE (Group 7). Another group was comprised of research related to the breadth of CE issues particularly in Europe and China for a theme on international policies and firm awareness, behavior, and development (Group 8). A clique on manufacturer environmental economic systems and sustainability (Group 9) consisted of research on implementation at the firm level (Geissdoerfer et al., 2017; Ghisellini et al., 2016; Lieder & Rashid, 2016). Based on economic development on an environmental, social, and economic scale (Korhonen et al., 2018a, 2018b), another detached research group was produced focusing on sustainable development and implementation challenges (Group 10). The final isolated research group emphasized the cultural issues encountered at the firm, industrial group, and regional levels among businesses and customers (Kirchherr et al., 2018) to form international strategy development barriers (Group 11). This indicates extant research on sustainable business models and the CE in the international marketing context has room to grow.

Framework for future circular economy research

The goals of the different CE business models and designs are to create, develop, and launch internationally competitive sustainability-based ideas, products, and companies

(Geissdoerfer et al., 2017; Korhonen et al., 2018a, 2018b). However, rather than providing value to the global marketplace with a linear economy configuration in which goods and services are produced, consumed, and discarded with as little regard for the environment and society as required, CE applications seek to employ disposed or under-utilized resources as long as possible—sometimes saving energy by 60% and raw materials by 70% (DS ISRI, 2020; Smith, 2023; World Economic Forum, 2014). This is done to minimize their ecological and social impact as well as to maximize business opportunities. Another way to look at this perspective is to emphasize the exchange between supplier and customer as a relationship involving mindful consumption. For the customer, mindful consumption begins with a mindset emphasizing nature, community, and self that leads to sustainability-focused behavior (Sheth et al., 2011). This perspective drives not only the sustainable international business model innovations presented earlier but also the theory-based framework discussed below.

The framework proposed in Fig. 2 is based on the related features of the resource-based, dynamic capabilities, and international business model innovation perspectives to include three main components: resources, capabilities, and competitive advantage (Barney, 1991; Dyer & Singh, 1998; Eisenhardt & Martin, 2000; Teece, 2010). Centered on these theoretical traditions, we develop an approach for globalizing CE research stating that international resource design has an impact on marketing capabilities adaptation. During the marketing capabilities adaptation process in an international context, the framework indicates that resources may need reconfiguration in their application as a part of the value creation and delivery process to be most effective and capture the highest performance. Therefore, this aspect of the study has three portions. The first section reflects the value creation process and follows the influence of international resource design on marketing capabilities adaptation (Amit & Zott, 2001; Zott & Amit, 2010). The second aspect indicates value delivery and shows the influence of marketing capabilities adaptation in foreign markets on international performance (Bocken et al., 2016; Chesbrough & Rosenbloom, 2002; Mishra & Modi, 2016; Zott et al., 2011). The third portion emphasizes value capture in the form of environmental, social, and economic performance with the ultimate goal as the financial well-being of the company (Chabowski et al., 2011; Murray et al., 2017). The origins and support for the variables featured in the integrative framework are found in Web Appendix 5. This provides the basis to suggest future research opportunities related to sustainable international business model innovations in a globalizing CE. Some of these possibilities are presented below after the introduction of each of the three primary sections of the framework. The suggestions identified here in the text



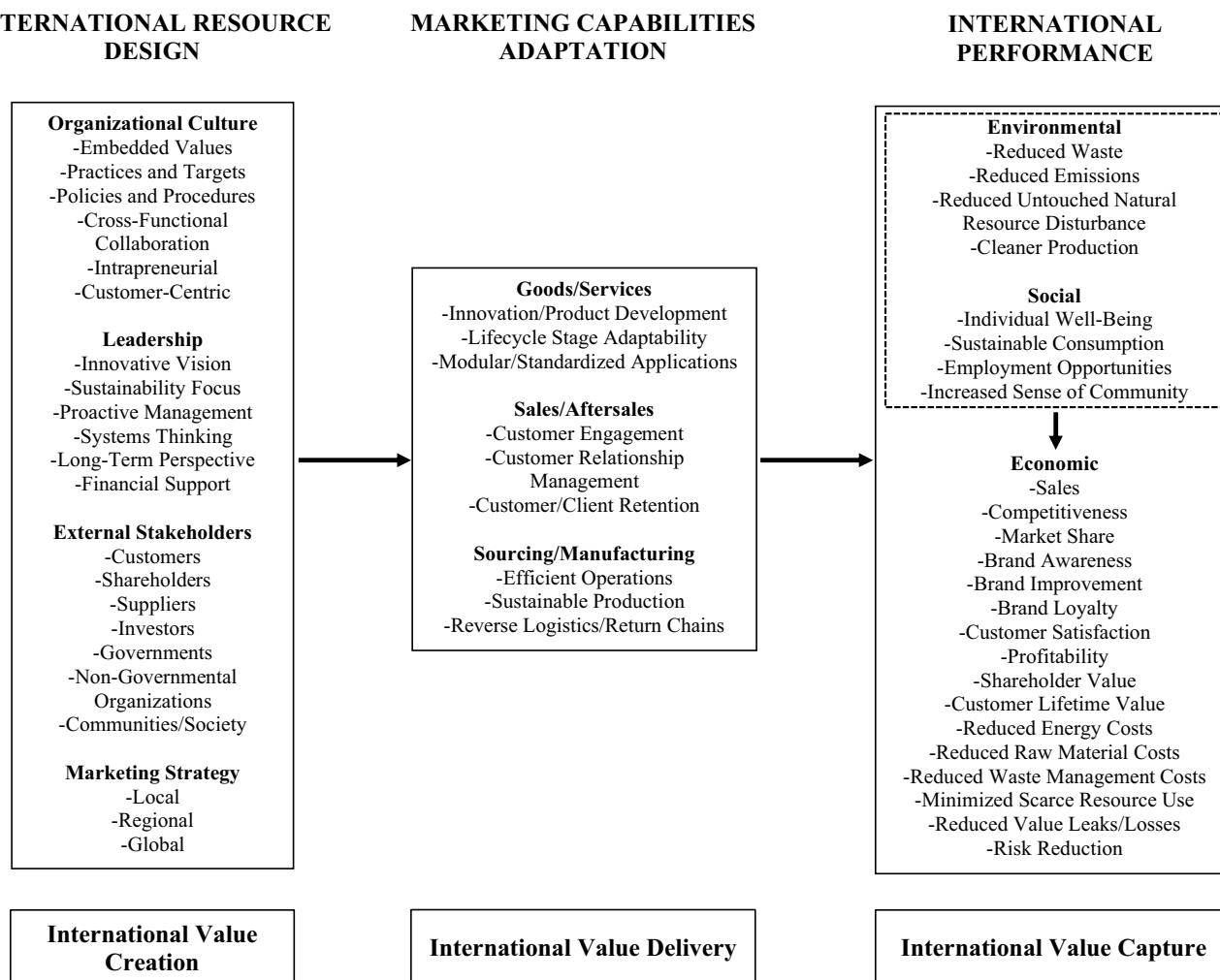


Fig. 2 Integrative framework for future research on sustainable international business model innovations in a globalizing circular economy

with the integrative framework are a sample of the extensive options available to researchers presented in Table 2.

Influence of international resource design on marketing capabilities adaptation

Developed at the firm level to begin the value creation process that impacts the emergence of a firm’s value proposition, international resource design contains four main components: organizational culture, leadership, external stakeholders, and marketing strategy. Beginning with a focus internally within the company (Sitra, 2020), a firm’s organizational culture can act as an impetus or impediment to the development of globalizing CE activities (Kirchherr et al., 2018; Korhonen et al., 2018a, 2018b). Organizational culture can impact the effectiveness of an SME’s or MNE’s implementation of a specific sustainable international business model innovation design (e.g., build to last or sharing platform). The embedded values of the company influence

the practices, targets, policies, and procedures set which determine its international sustainability level (Anderson & Markides, 2007; Schroeder et al., 2019). Cross-functional collaboration has been identified as a key aspect to facilitate the development of a more global CE mindset in SMEs and MNEs (Murray et al., 2017). Having both intrapreneurial (Ellen MacArthur Foundation, 2020; Lacy et al., 2020) and customer-centric (Arponen et al., 2018; Lacy et al., 2020; Sheth et al., 2011) approaches help the business utilize its resources more effectively.

Leadership can assist the implementation of CE principles in international markets as well and is based on the notion that guidance must be provided to the company before marketplace engagement to achieve success (Arponen et al., 2018; Lacy & Rutqvist, 2015; Porter & Kramer, 2006). This aspect of international resource design provides direction in terms of which sustainable international business innovation design (e.g., product as a service or repair and maintain) an SME or MNE should pursue. Innovative vision is required



Table 2 Research opportunities for the international marketing and circular economy literature

Framework relationships	Research question examples
<i>International resource design</i> → <i>marketing capabilities adaptation</i>	
Organizational culture → marketing capabilities adaptation	<p>How does an organization's international customer centricity influence its adaptation strategy for innovation and product development, lifecycle stage adaptability, or level of modular and standardized applications across countries in CE operations?</p> <p>How do an organization's internationally embedded values impact its responses to different positive and/or negative country of origin perceptions in customer engagement, customer relationship management, or customer and client retention activities cross-nationally using CE processes?</p> <p>How does an organization's international cross-functional collaboration initiatives affect its ability to react to diverse country-of-origin perceptions to implement efficient operations, sustainable production, or reverse logistics and return chains in different nations with CE applications?</p>
Leadership → marketing capabilities adaptation	<p>How does leadership's international innovative vision influence its reactions to different legal and governmental institutions for innovation and product development, lifecycle stage adaptability, or modular and standardized applications across countries using CE processes?</p> <p>How does leadership's international long-term perspective impact the ability of firms to minimize liabilities of foreignness for efficient operations, sustainable production, or reverse logistics and return chains cross-nationally in CE applications?</p> <p>How does leadership's international sustainability focus affect its adaptation strategy for customer engagement, customer relationship management, or customer and client retention activities in different nations in CE operations?</p>
External stakeholders → marketing capabilities adaptation	<p>How do home and host governments influence adaptation strategies for efficient operations, sustainable production, or reverse logistics and return chains across countries using CE processes?</p> <p>How do the different national cultural values of international customers affect the company's customer engagement, customer relationship management, or customer and client retention activities in different nations with CE applications?</p> <p>How do the positive and/or negative country of origin perceptions of international suppliers impact the firm's ability to create innovation and product development, lifecycle stage adaptability, or modular and standardized applications cross-nationally in CE operations?</p>
Marketing strategy → marketing capabilities adaptation	<p>How do different national cultural values inform local marketing strategy to influence innovation and product development, lifecycle stage adaptability, or modular and standardized applications in different nations in CE operations?</p> <p>How does a regional marketing strategy impact adaptation strategies for efficient operations, sustainable production, or reverse logistics and return chains cross-nationally with CE applications?</p> <p>How does a global marketing strategy overcome liabilities of foreignness for successful customer engagement, customer relationship management, or customer and client retention across countries in CE processes?</p>

as new business models will often need firms to re-configure their approach to interact with the market effectively (Anderson & Markides, 2007; Teece, 2010; Yunus et al., 2010). This can lead to the use of at least three different categories of technology: digital, engineering/physical, and/or biological. Examples of digital technology relating to a globalizing CE are mobile devices, machine-to-machine, cloud

computing, social, big data analytics, blockchain, artificial intelligence, machine learning, machine vision, and Internet-of-Things technologies (Lacy & Rutqvist, 2015; Lacy et al., 2020). Engineering/physical technologies refer to modular design, 3D printing, advanced recycling, robotics, energy harvesting, virtual/augmented reality, carbon capture and utilization, nano-, and materials sciences technologies



Table 2 (continued)

Framework relationships	Research question examples
<i>Marketing capabilities adaptation</i> → <i>international performance</i> Goods/services → international performance	<p>How do different levels of international innovation and product development adaptation influence international environmental, social, and economic performance cross-nationally with CE applications?</p> <p>How do distinct tiers of legal and governmental institutions affect the SME's or MNE's effectiveness of its international product lifecycle adaptability on international environmental, social, and economic performance in various nations with CE processes?</p> <p>How do various positive and/or negative country-of-origin perceptions impact the company's ability to establish a successful relationship between international modular and standardized applications and international environmental, social, and economic performance across countries in CE operations?</p> <p>What alignment between the degree of international adaptation of goods/services and factors of international resource design would be positively associated with international environmental, social, and economic performance in different nations using CE functions?</p>
Sales/aftersales → international performance	<p>How do distinctions of national cultural values affect the relationship between the firm's international customer engagement and international environmental, social, and economic performance across countries in CE operations?</p> <p>How do different liabilities of foreignness impact the relationship between the SME's or MNE's international customer relationship management and international environmental, social, and economic performance in different nations in CE processes?</p> <p>How do various home- and host-country legal and governmental institutions influence the relationship between a company's international customer and client retention and international environmental, social, and economic performance cross-nationally using CE functions?</p> <p>What alignment between the degree of international adaptation of sales/aftersales and factors of international resource design would be positively associated with international environmental, social, and economic performance in various nations with CE applications?</p>
Sourcing/manufacturing → international performance	<p>How do different legal and governmental institutions impact the relationship between an organization's international efficient operations and international environmental, social, and economic performance cross-nationally in CE processes?</p> <p>How do liabilities of foreignness affect the relationship between a firm's international sustainable production and international environmental, social, and economic performance in various nations using CE functions?</p> <p>How do national cultural values influence the relationship between a company's international reverse logistics and return chains and international environmental, social, and economic performance across countries in CE applications?</p> <p>What alignment between the degree of international adaptation of sourcing/manufacturing and factors of international resource design would be positively associated with international environmental, social, and economic performance in different nations in CE operations?</p>

(Arponen et al., 2018; Lacy & Rutqvist, 2015; Lacy et al., 2020). Biological technology relates to concepts such as bio-energy, genetic engineering, DNA marking, cellular

and tissue engineering, and hydroponics and aeroponics (Arponen et al., 2018; Lacy & Rutqvist, 2015; Lacy et al., 2020).



Table 2 (continued)

Framework relationships	Research question examples
<i>International performance</i>	
Environmental performance and social performance → economic performance	<p>How can CE international business model innovations that reduce waste and increase sustainable consumption contribute to sales, profitability, and shareholder value by attracting new customer segments in global markets across cultures?</p> <p>How can CE international business model innovations that reduce emissions and increase a sense of community grow brand awareness, brand loyalty, and customer satisfaction in international markets despite liabilities of foreignness?</p> <p>How can CE international business model innovations that provide cleaner production and more employment opportunities increase competitiveness, reduce waste management costs, and increase customer lifetime value despite various institutional voids in international markets?</p> <p>How can CE international business model innovations that reduce untouched natural resource disturbance and increase individual well-being contribute to brand improvement, minimize scarce resource use, and increase risk reduction using standardization and/or adaptation applications in international markets?</p>

Antecedent and dependent variables are based on information presented in the integrative framework (Fig. 2)

A sustainability focus is important as circularity necessitates an emphasis on the environmental, social, and economic aspects of cross-national business implementation (Geissdoerfer et al., 2018a, 2018b; Ghisellini et al., 2016; Webb et al., 2010). Based on a sustainable innovation orientation, the firm can create and introduce innovations that alleviate ecological and societal problems profitably in developed, emerging, and developing countries (Varadarajan, 2017). Then, proactive management can identify emergent opportunities from which the firm may benefit further (Lieder & Rashid, 2016; Su et al., 2013). For managers tasked with evaluating complex operations spanning multiple industries to develop a company utilizing international CE principles, systems thinking is required for positive outcomes (Stahel, 2016; Zott & Amit, 2010).³ In addition, a long-term perspective is needed since many global CE initiatives take considerable time to develop and implement because they are often new to their respective industries and the acceptance process can be gradual (Geissdoerfer et al., 2018a, 2018b). Finally, internal financial support is critical since this action explicitly communicates to the organization the level of importance the plan possesses (Kirchherr et al., 2018).

The third component emphasizing international resource design relates to a company's external stakeholders and the importance of developing valuable relationships (Freeman,

1984; Mitchell et al., 1997). More precisely, external stakeholders can influence the type of sustainable international business model innovation design (e.g., waste prevention or circular supplies) a cross-national SME or MNE could use. Due to their critical role in exchanges with the firm, international customers are a fundamental stakeholder to consider in a circular-based configuration since they expect something of value in their interaction (Prahalad, 2004; Prahalad & Hammond, 2002; Yunus et al., 2010). Another vital stakeholder is the shareholders as they own the business and have a vested interest in its profitability (Geissdoerfer et al., 2018a, 2018b; Yunus et al., 2010). Suppliers are essential stakeholders since they consider the company their client and are concerned with its performance (Geissdoerfer et al., 2018a, 2018b; Genovese et al., 2017; Preston, 2012). Investors are valuable stakeholders as they expect returns from the financing provided to the firm (Geissdoerfer et al., 2018a, 2018b).

Home- and host-country governments are critical stakeholders since they interact with the company and are social actors as well as that determine regulations and policies which influence the firm's operations (McDowall et al., 2017; Patala et al., 2022; Preston, 2012; Rainville, 2021; Teegen et al., 2004). Regulations established by governmental bodies are very effective at encouraging international firms to be more sustainable and circular in their strategies and operations with product standards, recycling requirements, and harmful material bans (Lieder & Rashid, 2016; Su et al., 2013). Additionally, financing and/or taxation are tools that governments use to (1) enact subsidies to provide companies assistance with circular business activities and/

³ Such design-based thought processes focus on issues such as longevity, leasing or service, reuse in manufacturing, and/or material recovery (RSA, 2013).



or (2) require imposed payments to discourage company actions not contributing to environmental or social well-being (Ghisellini et al., 2016; Korhonen et al., 2018a, 2018b; Stahel, 2016). Another alternative utilized by home or host governments is investment in research and development to improve physical and/or digital infrastructure, increase awareness, and encourage behavior change in favor of circularity (Ellen MacArthur Foundation, 2017; Lacy & Rutqvist, 2015; Lacy et al., 2020).

NGOs are another stakeholder group that is crucial since they can—along with governments—interact with companies to develop and offer sustainability solutions (Su et al., 2013; Teegen et al., 2004; Webb et al., 2010). These collaborations provide firms with critical information for environmental, social, and economic advancement (Arponen et al., 2018; Lacy & Rutqvist, 2015; Lacy et al., 2020). Communities/society is the final stakeholder category and reflects the interests and well-being of groups of people overall (Lieder & Rashid, 2016; Porter & Kramer, 2006).

The final aspect of this part of the integrative conceptual framework relates to a firm's marketing strategy (Genovese et al., 2017). This facet indicates the scope that a firm could market a sustainable international business model innovation design (e.g., performance as a service or upgrade) to customers. Coordinated cross-national SME and MNE activity can make circularity successful at both the local and regional levels due to differences across national boundaries (McDowall et al., 2017; Porter & Kramer, 2006; Preston, 2012). However, a global focus may be less effective based on competing perspectives and priorities worldwide on environmental and social sustainability as well as circularity issues (Funk et al., 2020; Kirchherr et al., 2018; Stokes, 2013). Still, global companies can implement productive strategies profitably that make a substantial ecological or societal contribution (Kirchherr et al., 2018; Teegan et al., 2004).

Based on the informal and formal institutional differences that exist across countries (DiMaggio & Powell, 1983; Ioannou & Serafeim, 2012; North, 1991; Scott, 1995), there are many liabilities of foreignness and country of origin issues that international SMEs and MNEs should address when using cross-national CE applications (Johansson et al., 1985; Zaheer, 1995). This creates conditions in which the firm must decide whether to standardize or adapt its activities in the global marketplace (Dow, 2006; Szymanski et al., 1993; Zou & Cavusgil, 2002). As an example of the impact of international resource design, clear distinctions exist globally among external stakeholders such as customers (Kirchherr et al., 2018; Prahalad, 2004; Prahalad & Hammond, 2002). Informal institutions can be “cultural-cognitive ... [to] provide stability and meaning to social life” (Scott, 1995: 33). Therefore, considerable diversity exists among consumers across countries by tastes, needs, and wants which impacts whether foreignness or country of origin is

perceived as a liability or an asset in a country-specific marketplace. This institutional complexity requires marketing capabilities adaptation in globalizing CE activities either regionally or locally to adjust to customer demand and remain competitive.

Another external stakeholder that relates to formal institutional differences concerns governments (McDowall et al., 2017; Preston, 2012; Su et al., 2013). There can be “regulations governing the content of advertising, media through which the goods and services can be advertised, and types of sales promotion programs that can be employed” (Szymanski et al., 1993: 14) requiring marketing capabilities adaptation. While there may be similarities in certain regional areas such as Western Europe to permit a more regional or even global CE marketing strategy (Funk et al., 2020; Kirchherr et al., 2018; Stokes, 2013; Zou & Cavusgil, 2002), considerable differences across nations could impact the goods/services and sales/aftersales CE offerings of the international SME or MNE. Given the different laws in effect in many countries, the adaptation of sourcing/manufacturing could be required, as well, based on local distinctions.

Finally, the marketing strategy deployed as a part of the firm's international resource design may be configured as implementing standardization or adaptation principles (Dow, 2006; Szymanski et al., 1993; Zou & Cavusgil, 2002). There could be needs that are very specific to each country. This will require a local marketing strategy from the cross-national SME or MNE (McDowall et al., 2017; Porter & Kramer, 2006; Teegan et al., 2004). Then, the marketplace may have specific requirements in certain parts of the world. This would necessitate a more regional marketing strategy (McDowall et al., 2017; Porter & Kramer, 2006; Teegan et al., 2004). Finally, if there are universal solutions needed, then a global marketing strategy can be used (Kirchherr et al., 2018; Teegan et al., 2004). Based on these three conditions, the marketing capabilities adaptation of CE goods/services, sales/aftersales, and sourcing/manufacturing would be more standardized or adapted based on whether a global or local marketing strategy is required, respectively.

Influence of marketing capabilities adaptation on international performance

Related to the idea that the use of a designed resource configuration is international value delivery in the globalizing CE context (Teece, 2010), this section examines the three components of marketing capabilities adaptation in global markets: goods/services, sales/aftersales, and sourcing/manufacturing (Lieder & Rashid, 2016; Su et al., 2013). Circularity requires revision to linear economy-based goods and services. Stated differently, a transition to a sustainable international business model innovation design (e.g., recycle in closed loops or resell) is required for cross-national SMEs



and MNEs to capitalize on a globalizing CE. Innovation/product development is key for the company to distinguish itself and offer something unique to the international marketplace that promotes recycling, waste reduction, or decreased material use (Anderson & Markides, 2007; Cainelli et al., 2020; Prahalad & Hammond, 2002; Preston, 2012). Life-cycle stage adaptability is important since the firm must understand at which stage a product exists in each country and how it can be used through the product's lifecycle so the company can manage its customer product portfolio (Lieder & Rashid, 2016; Preston, 2012). Modular/standardized applications are critical in international markets as they tend to have an impact on performance by positively influencing the environment, reducing costs, and increasing revenues (Agrawal et al., 2021; Preston, 2012).

The second facet of marketing capabilities adaptation relates to sales/aftersales (Arponen et al., 2018; Prahalad, 2004; Prahalad & Hammond, 2002). To establish trust and maintain commitment, cross-national SMEs and MNEs can focus on the sales-related processes and capabilities used to attain and retain customers using a specific sustainable international business model innovation design (e.g., remanufacture or upcycle). Customer engagement in foreign target markets is vital in this step of the process as understanding and fulfilling needs and wants allows the firm to anticipate and develop international CE offerings in the future (Arponen et al., 2018; Lacy & Rutqvist, 2015; Lacy et al., 2020). This allows the business to build customer relationship management activities that present the relevance of the product and establish mutually beneficial interactions (Arponen et al., 2018; Lacy & Rutqvist, 2015; Sheth et al., 2011). Rather than complete a transaction and not maintain any communication afterward, the goal of these activities is to deliver value and sustain a relationship so there is customer/client retention through the additional globalizing CE-based services provided (Ellen MacArthur Foundation, 2020; Lacy & Rutqvist, 2015; Sheth et al., 2011).

The third aspect focuses on sourcing/manufacturing (Lieder & Rashid, 2016; Stahel, 2016). In this facet of market capabilities adaptation, cross-national SMEs and MNEs can establish considerable scale for their sustainable international business model innovation design (e.g., downcycle or energy recovery). Efficient operations are critical due to the relevance of curtailing the level of resources used in the organization (Ellen MacArthur Foundation, 2019; Lacy & Rutqvist, 2015; Lacy et al., 2020). Sustainable production is vital since a globalizing CE application should minimize (maximize) its negative (positive) impact on the surrounding environment and community to maximize profitability (Chabowski et al., 2011; Genovese et al., 2017; Su et al., 2013). Then, reverse logistics/return chains are essential to the function of circularity as this process reclaims used products and/or resources in the international value network

for processing and continued application in the system and can reduce material costs in global companies by at least 10–15% (Arponen et al., 2018; Lacy & Rutqvist, 2015; Lacy et al., 2020).

There are differential cross-national informal and formal institutional factors impacting the influence of marketing capabilities adaptation on international performance. A firm's foreignness or country of origin could be considered a liability if it comes from a location lacking an understanding of the environmental, social, or economic norms of a particular country (Ioannou & Serafeim, 2012; Johansson et al., 1985; Scott, 1995; Zaheer, 1995). These differences could be the result of a long-standing history between countries that creates ethnocentrism or animosity toward foreign products (Klein et al., 1998; Shimp & Sharma, 1987). Because of these issues, elements of goods/services such as innovation/product development may not be successful (Anderson & Markides, 2007; Prahalad & Hammond, 2002; Preston, 2012; Stahel, 2016). This could be based on a lack of trust due to: (1) insufficient knowledge about the host country in the focal firm's home country; or (2) its reputation as hostile toward the ecological or societal values of the host country. Due to this lack of communication, consumers may not provide the company with vital information to develop effective CE goods and/or services for the country's market. Therefore, strategic performance goals such as reduced emissions, an increased sense of community, and improved sales may not be achievable for some time (Korhonen et al., 2018a, 2018b; Stahel, 2016). Prolonged experience implementing these types of activities may be needed to improve success (Zaheer & Mosakowski, 1997). Given that negative and positive perceptions of foreignness and country of origin differ globally about specific countries, adaptation could be required across nations (Dow, 2006; Szymanski et al., 1993).

As mentioned previously, laws can impact how a firm markets to consumers in particular economies to influence its adaptation strategy (Dow, 2006; Szymanski et al., 1993). In other words, the formal institutions across nations could be considerably different and require adaptation to the sales/aftersales program of customer engagement to adhere to these policies (Arponen et al., 2018; DiMaggio & Powell, 1983; Ioannou & Serafeim, 2012). In some countries, firms focusing on CE principles may approach consumers on a personal level directly, but adaptation could be required for success due to different standards in place to communicate with them. If done well, this could positively impact international performance variables such as reduced waste, individual well-being, and brand awareness based on the disparate levels of interaction with customers (Geissdoerfer et al., 2018a, 2018b; Korhonen et al., 2018a, 2018b; Murray et al., 2017; Preston, 2012). Meanwhile, in other locations, the cross-national SME or MNE may only deal with intermediaries. As a result, cleaner production may



be the outcome through coordination with these partners to reflect the variation in international performance due to the required adaptation activities in each country (Geissdoerfer et al., 2018a, 2018b; Su et al., 2013).

International performance: environmental, social, and economic

Based on the notion that international value capture of sustainability-related activities should be assessed together for a holistic representation to determine economic performance (Luo & Bhattacharya, 2006; Margolis et al., 2009; Orlitzky & Benjamin, 2001; Orlitzky et al., 2003), the CE literature shows there are three facets to international performance: environmental, social, and economic (Lieder & Rashid, 2016; Schroeder et al., 2019). A variety of environmental performance variables have been found (Andersen, 2007; Ghisellini et al., 2016). One measure identified is reduced waste (Geissdoerfer et al., 2018a, 2018b; Korhonen et al., 2018a, 2018b; Stahel, 2016). Another relates to reduced emissions (Korhonen et al., 2018a, 2018b; Stahel, 2016). Reduced untouched natural resource disturbance has been indicated as a measure of successful environmental performance (Lacy & Rutqvist, 2015; Sitra, 2020). Finally, the general measure of cleaner production is also important in this category (Geissdoerfer et al., 2018a, 2018b; Su et al., 2013).

The second classification identified, social performance, includes four variables (Pralhad, 2004; Prahalad & Hammond, 2002; Yunus et al., 2010). Individual well-being has been discovered as one such concept (Murray et al., 2017; Preston, 2012). Sustainable consumption emerges as another topic in this area (Liu & Bai, 2014). Employment opportunities become a contribution to the fabric of society (Burger et al., 2019; Murray et al., 2017; Schroeder et al., 2019). Then, an increased sense of community can result as a part of social performance (Korhonen et al., 2018a, 2018b).

The last aspect of international performance focuses on economic variables (Andersen, 2007; Ghisellini et al., 2016). The concept of sales is a variable quite prevalent in the globalizing CE domain (Anderson & Markides, 2007; Prahalad & Hammond, 2002; Yunus et al., 2010). Competitiveness has been found as an important measure in the literature (Lieder & Rashid, 2016; Porter & Kramer, 2006; Su et al., 2013). The metric of market share is identified as relevant (Lacy & Rutqvist, 2015; Lacy et al., 2020; Sheth et al., 2011). Consumer-based measures such as brand improvement (Korhonen et al., 2018a, 2018b) and brand loyalty (Ellen MacArthur Foundation, 2019, 2020; Lacy & Rutqvist, 2015; Lacy et al., 2020) are seen as possible due to globalizing CE activities. Customer satisfaction (Hult et al., 2022; Su et al., 2013), profitability (Geissdoerfer et al., 2018a, 2018b; Lieder & Rashid, 2016; Prahalad & Hammond, 2002), and

customer lifetime value (Arponen et al., 2018) can be critical economic measures to relate to business models using circularity. Reduced energy costs are a benefit for companies engaged in such activities (Korhonen et al., 2018a, 2018b). Taking this a step further, reduced raw material, waste management, and scarce resource use costs are found as well as reduced value leaks/losses (Korhonen et al., 2018a, 2018b). Lastly, risk reduction has been identified as a variable for economic performance in this area's research (Arponen et al., 2018; Lacy et al., 2020; Sitra, 2020).

Institutional differences concerning international performance can increase the likelihood of adaptation to various market conditions (Dow, 2006; Ioannou & Serafeim, 2012; North, 1991; Scott, 1995; Szymanski et al., 1993). Based on informal institutional influences such as liabilities of foreignness and country of origin (Johansson et al., 1985; North, 1991; Scott, 1995; Zaheer, 1995), there are several possible successful outcomes based on the nation and level of measurement. Individual actions toward the environmental performance variable of reduced waste could differ substantially by country due to the general cultural expectations of its citizens. There may be some locations that consider it a source of national pride to maintain a very clean environment committed to CE principles. Therefore, reduced waste and, subsequently, economic performance, would be high. In comparison, there may be a country that lacks an emphasis on nature in its value system. This creates conditions in which reduced waste and, subsequently, economic performance could not be achieved easily.

A similar argument for adaptation in CE activities across countries could be made for the social performance variable of an increased sense of community (Dow, 2006; Szymanski et al., 1993). Using the informal institutional differences related to national culture (Hofstede et al., 2010; Ioannou & Serafeim, 2012; North, 1991; Scott, 1995), some distinctions would require adjustment in CE-related issues. There may be certain symbols, routines, and cognitions that are specific to particular countries. This could create conditions under which a highly individualistic culture would make it more difficult to accomplish an increased sense of community around globalizing CE concepts due to national values emphasizing independent action and thought. Meanwhile, with highly collectivist cultures, it could be easier to have global CE principles adopted if they align with the value system of the social structure that exists in the country. The reason for this is that these types of societies tend to place considerable value on group achievements and agreement. As a result, an increased sense of community would align well with this type of behavior and lead to increased economic performance.

There are differing legal requirements of the formal financial systems across countries (DiMaggio & Powell, 1983; Ioannou & Serafeim, 2012; North, 1991; Scott, 1995).



An example would be the reporting standards concerning marketing activities in a cross-national SME's or MNE's documents prepared for the country's financial market and governmental authorities (Doupnik & Salter, 1993). Though there will be greater similarity based on the comparable historical influences of countries, the different requirements in developed, emerging, and developing countries can vary substantially to impact the economic performance variable of risk reduction. By submitting these financial documents on time and properly, the company diminishes the possibility of government scrutiny and, as a result, requires adaptation to maintain operations in each jurisdiction (Dow, 2006; Szymanski et al., 1993). Such changes in structural behavior in the international SME or MNE are a necessary part of its ongoing duties in its countries of operation.

Conclusion

This study examines the sustainable business model innovation literature from an international marketing perspective. To lay the groundwork for establishing theory, the idea of sustainable international business model innovations was introduced, defined, and developed. Further, related to the globalizing CE concept, five sustainable international business model innovations and their designs were introduced as they relate to the current linear economy: circular inputs (build to last and circular supplies), sharing platforms, product as a service (product as a service and performance as a service), product use extension (repair and maintain, upgrade, resell, and remanufacture), and resource recovery (waste prevention and avoidance, recycle in closed loops, upcycle, downcycle, and energy recovery). As a part of the analysis conducted, the intellectual structures for the international sustainability and business model innovation interface as well as the international marketing and CE interface were presented. The first intellectual structure revealed the importance of considering various issues related to stakeholders, business model design, social entrepreneurs, and international market differences. Meanwhile, the second intellectual structure emphasized: (1) the role of product design, manufacturing, and supply chains in CE business model innovations; and (2) international CE business model innovation implementation barriers.

Then, after analyzing both intellectual structures, a framework for future research emphasizing the CE phenomenon in international marketing was proposed based on the resource-based, dynamic capabilities, and international business model innovation perspectives. Related to established theory, the framework depicts the concept of value creation which has international resource design (organizational culture, leadership, external stakeholders, and marketing strategy) influencing marketing capabilities adaptation (goods/

services, sales/after-sales, and sourcing/manufacturing) in international markets. Once the value delivery activities of marketing capabilities adaptation are completed, the next step of the framework shows the value capture process with its impact on environmental, social, and economic performance. The framework presents the crucial standardization and/or adaptation requirements to international markets that must be considered in the implementation of sustainable international business model innovations regarding international resource design, marketing capability adaptation, and international performance.

As forwarded in this study, the firm is required to adapt to the informal and formal institutional differences that exist across countries. While informal institutions relate to cultural and behavioral norms, values, and expectations, formal institutions include laws, policies, and formal procedures in each nation. To successfully implement its CE-based marketing plans globally, firms must typically adjust to the differing institutional conditions across markets. The integrative conceptual framework establishes detailed research directions that include concrete research questions for studying sustainable international business model innovations relating to the globalizing CE concept in the future. This study offers a considerable contribution to the literature as it provides a basis to develop and extend theory related to sustainable business model innovations, international business model innovations, international marketing, and globalizing CE principles.

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