

Accepted for publication in the Journal of Business Research

13 January 2020

A Systemic Logic for the Circular Business Models

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A Systemic Logic for Circular Business Models

Abstract

While social and circular business models (CBMs) are viewed as important devices to improve humanity's wellbeing, their adoption rates have been somewhat disappointing. The CBM literature often contributes these low adoption rates to innovation failures of firms and redirects social and circular business models toward a stronger profit-orientation. Much of this work is grounded in a Porterian value chain logic that, arguably, overemphasizes economic goals at the expense of social and sustainability goals. In contrast, this study promotes an institutional perspective that shows that all business practices are part of larger societal and ecological systems, so that a real transition toward sustainability demands joint institutional alignment processes which balance the adaptive tensions between social mission, environmental stewardship and economic growth. We systematically develop five fundamental propositions for a new, institutional CBM framework and, based on these fundamental propositions, discuss an agenda for future research.

Keywords: *Circular economy, sustainable business models, social businesses*

1. Introduction

Sustainability and social inequality are some of the key challenges facing humanity. Issues such as climate change, pollution, poverty, discrimination, destruction of biodiversity, (food) waste, water scarcity and natural resource depletion are pressing environmental and social issues that pose significant threats to societies around the globe (Montabon, Pagell, & Wu, 2016). These developments have propelled the circular economy and circular business models (CBMs) to the top of corporate boards' strategic agendas and the hearts of government-funded initiatives (Bocken, Short, & Evans, 2014). CBMs aim to boost recycling and loss prevention of valuable materials, create jobs and social progress, thus potentially producing economic growth and social wellbeing in tandem (Bocken, Pauw, Bakker, & van der Grinten, 2016).

Various studies show that CBMs can be more effective and efficient than traditional business models. In industries such as food, construction and mobility, for example, cost savings of CBMs compared to traditional business models can range from 40 to 60 percent (Ellen MacArthur Foundation, 2013). However, despite such a promising outlook, pressing sustainability issues, political support in many countries, and decades of debate in the professional and academic literatures, widespread adoption and integration of CBMs in business and society is still lacking (Linder & Williander, 2017; Stal & Corvellec, 2018; Tukker, 2015).

The most intuitive approach for explaining this issue is to analyze the lack of adoption on a product-, process-, or organization-level (Tukker, 2015) and to examine firm-centered processes to see where implementation efforts fail. Much of this academic discourse is focused on efficiencies and effectiveness of firms in circular lifecycles (i.e., the extension of value chains in a circular manner; e.g., Bocken et al., 2016; Esposito, Tse, & Soufani, 2018; Geissdoerfer, Savaget, Bocken,

& Hultink, 2017). Such perspectives are commonly focused on creating higher profitability and view environmental and social goals merely as favorable ‘byproducts’ (Lieder & Rashid, 2016).

This is problematic since such firm-centric and profit-oriented value creation logics are, arguably, ill-equipped to address the complex challenges of sustainability and social inequality (Montabon et al., 2016). Recently, two emerging streams of research on CBMs (Gallo, Antolin-Lopez, & Montiel, 2018; Stal & Corvellec, 2018) and social businesses (Bruneel, Moray, Stevens, & Fassin, 2016; Sabatier, Medah, Augsdorfer, & Maduekwe, 2017; Toubiana & Zietsma, 2017; Zhao & Lounsbury, 2016) have started to recognize the importance of systemic and institutional approaches in driving circular and social business models. Gallo et al. (2018) and Rossignoli & Lionzo (2018) for example, point out that the sustainable and social challenges are so vast that a real transition toward sustainable development demands joint efforts and collective entrepreneurship, so that sustainable efforts of a single firm hardly lead to success. Similarly, Sabatier et al. (2017) argue that an expanded locus of value creation, starting with the focal enterprise but extending to society and individuals, is necessary when innovating social purpose organizations (see also Weerawardena, Salunke, Haigh, & Mort, 2019). Both literature streams point to adaptive tensions, institutional frictions and path dependencies in balancing social mission, environmental stewardship, and economic goals.

The purpose of this paper is to extend such emerging systemic perspectives on circular and social business models and develop a framework that furthers understanding regarding their innovation and design. To fulfill this purpose, the paper builds upon and extends the service ecosystems perspective (Vargo & Lusch, 2016) on business model formation advanced by Wieland, Hartmann, & Vargo (2017). This perspective emphasizes that all actors (firms, social entrepreneurs or otherwise) integrate and apply resources to benefit themselves and others (Vargo & Lusch, 2016; Vargo & Lusch, 2004), clarifies the role of (social) entrepreneurs in complex

adaptive systems, points to the engagement of broad sets of actors in the shaping of institutions, and explicates the role of institutions as being foundational to business models in general and circular and social business models in particular.

This paper makes three important contributions. First, it equips practitioners and scholars with a new theoretical foundation that provides a more encompassing perspective upon the circular economy context, as well as sustainable and social business models more generally. The paper makes five fundamental propositions (FPs) grounded in this new theoretical foundation and contrasts them with elements from the traditional, value chain-based CBM logic. Second, building on the five FPs, the paper outlines an extensive research agenda, composed of five areas for future investigation: institutional work in complex adaptive systems, collective action, systemic levels of aggregation, and theories and methodologies for circular business model innovation (CBMI). Third, this paper contributes to the recent discussion of systemic business models in the broader management and marketing disciplines. Our review of the extant CBM literature shows that some sustainability researchers are spearheading an understanding of value creation that goes beyond economic goals and methods (Breuer & Lüdeke-Freud, 2017; Gallo et al., 2018; Laukkanen & Patala, 2014). By linking their insights regarding collective action and symbiotic partnerships with an institutional framework, we aim to inform work on both, circular and social business models, as well as traditional business models.

Our article proceeds as follows. First, we identify key developments in the CBM literature. We then show that the CBM literature is converging on, but has not yet fully arrived at, a truly systemic perspective. Using examples from the fashion industry, we develop five propositions for systemic CBMs, which guide our assessment of methods applicable to innovate business models systemically. We end with a discussion of the implications of our work. This includes an

examination of how our newly developed systemic CBM framework can inform strategic decisions of firms and (social) entrepreneurs, and provide directions for future research.

2. Current Approaches to Circular Business Models

2.1 The Concept of the Circular Economy

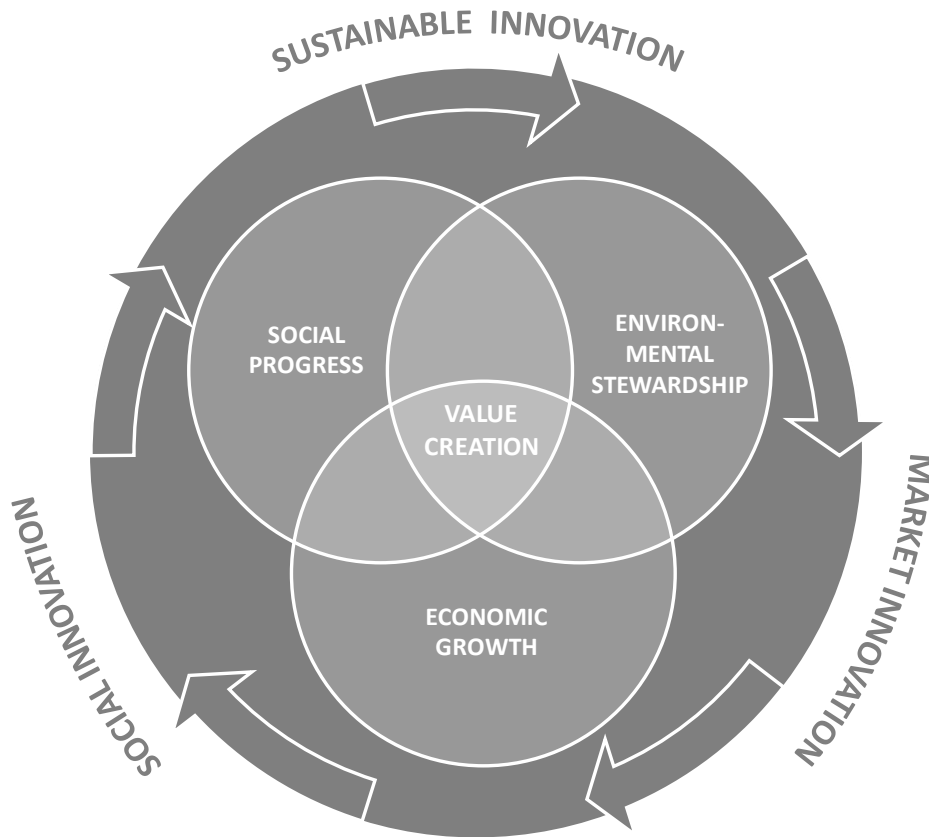
The circular economy is a countermovement to the current, linear ‘take-make-dispose’ industrial model (Ellen MacArthur Foundation, 2013) that addresses global environmental challenges such as the increasing exploitation of environmental resources (Lieder & Rashid, 2016). It is conceptualized as a self-contained, closed-loop system directed towards achieving zero-waste by maximizing reuse, repair, remake and, recycling practices paired with minimizing consumption practices (Jackson, 2009). The theoretical foundations of the circular economy concept stem from different schools of thought, such as the Cradle-to-Cradle idea of minimizing environmental damage through sustainable processes (McDonough & Braungart, 2002), Laws of Ecology (Commoner, 1971), the Looped and Performance Economy (Stahel, 2010), Regenerative Design (Lyle, 1994), Industrial Ecology (Graedel & Allenby, 1995), Biomimicry (Benyus, 2002), and the Blue Economy (Pauli, 2010).

The Ellen MacArthur Foundation describes the circular economy as ‘*an industrial system that is restorative or regenerative by intention and design*’ (Ellen MacArthur Foundation, 2013). This includes environmental as well as economic and social sustainability (Geissdoerfer, Savaget, Bocken, & Hultink, 2017; Kirchherr, Reike, & Hekkert, 2017; Lieder & Rashid, 2016) and has a strong focus on closing material and process loops (Bocken et al., 2016). The circular economy concept emphasizes sustainable design of materials, products, services and business models (Ellen MacArthur Foundation, 2013). Furthermore, in line with developments in the sharing economy

(Belk, 2014; Benoit, Baker, Bolton, Gruber, & Kandampully, 2017), it has a strong focus on providing access to functionality and experience rather than encouraging product ownership. The circular economy works on the basis of a triple-bottom-line value system (depicted in Figure 1), which incorporates environmental, societal, and economic dimensions (Geissdoerfer et al., 2017; Ghisellini, Cialani, & Ulgiati, 2016; Kirchherr et al., 2017; Murray, Skene, & Haynes, 2017).

Circular business models manifest in organizational structures that span the gamut from for-profit organizations to social enterprises and non-profit social ventures. The latter two social purpose organizations provide a socio-economic-sustainable bridge between economic growth, environmental stewardship, and social progress (Wallace, 1999). At the same time, the complexity of social and economic value creation requires social purpose organizations to work with a broad set of stakeholders representing social and commercial interests (Weerawardena, McDonald, & Sullivan Mort., 2010), which often creates adaptive tensions and institutional frictions (Weerawardena et al., 2019; Roundy, Bradshaw, & Brockman, 2018) that need to be orchestrated. In aiming for a better future—not only for a specific group in their ecosystem, but for the ecosystem (i.e., our society) at large (Martin & Osberg, 2007)—social purpose organizations provide inspiring examples of the implementation of a circular mindset.

Figure 1: Environmental, Social and Economic Dimensions of Circular Economy



2.2 Circular Business Models

In line with growing interest from environmental activists, politicians, and business practitioners, work on CBMs in the academic literature has increased significantly over the last five years. In the circular economy, business models and business model innovation are discussed as tools for fundamentally changing the way business is done and driving it toward sustainable and social innovation (Bocken, Schuit, & Kraaijenhagen, 2018). The business model concept has, starting with the proliferation of Internet-based businesses in the late 1990s, received increasing scholarly attention (Zott, Amit, & Massa, 2011). Business models have traditionally been viewed as value creation processes of firms (Nenonen & Storbacka, 2010; Zott & Amit, 2008), as descriptions of how the parts of business systems fit together (Magretta, 2002), and as sets of decision variables

that allow firms to use and coordinate their resources to create and deliver value to customers for appropriate monetary compensation (Morris, Schindehutte, & Allen, 2005). However, as exemplified by these somewhat divergent conceptualizations, business model research has yet to provide a clear description of what business models are (Chesbrough & Rosenbloom, 2002; Zott et al., 2011) and what they do (Doganova & Eyquem-Renault, 2009).

This ambiguity has also been highlighted by scholars working on CBMs. Work in this area has, for example, articulated the need to develop broadly accepted conceptual frameworks, applicable typologies, and normative strategies (Antikainen & Valkokari, 2016; Geissdoerfer et al., 2017; Murray et al., 2017). Most commonly, CBMs are conceptualized as holistic descriptions of how organizations create value for their stakeholders, optimize material loops, and thereby capture value (Antikainen & Valkokari, 2016; Bocken et al., 2016). More specifically, the existing CBM literature describes four distinct logics for value creation as illustrated in Table 1: (1) Efficient material-technical loops, (2) effective product-service loops, (3) social-collaborative loops, and (4) symbiotic ecosystems.

2.2.1 Efficient material-technical loops

Value creation in efficient material-technical loops (Bocken et al., 2016) works by closing, slowing, and narrowing biological and technical lifecycles. Closing loops refers to maximizing material and energy efficiency by reusing material through recycling and collecting (Bocken et al., 2014). Slowing loops is about prolonged use and reuse of goods over time, through the design of long-life goods, repairing, refilling, refurbishing, and upgrading (Khan, Mittal, West, & Wuest, 2018). Lastly, narrowing loops is about reducing resource use associated with the production process, resulting in efficiency improvements (Bocken et al., 2016; Stewart & Niero, 2018). Material-technical loops support the use of fully renewable, recyclable, or biodegradable resources.

Furthermore, new technologies, such as smart materials, 3D printing and blockchains, can increase the efficiency of such loops (Esposito, Tse, & Soufani, 2018; Goyal, Esposito, & Kapoor, 2018).

Efficient material-technical loops are characterized by forward- and backward-integrated processes. That is, they are set up to deliver sustainably produced goods to customers and retrieve end-of-life goods for the recycling process (Esposito et al., 2018). The governance mechanism—the way activities are managed and actors are coordinated—consists of well-defined contract models that ensure coordination of the circular supply chain (Håkansson & Olsen, 2012). Leising, Quist, and Bocken (2018) argue that, when closing and slowing material loops, it is essential to include all parties, from design and raw material suppliers to end users, service providers and recyclers, in the associated information flows. Furthermore, the social relationships between supply chain partners are considered to be essential in creating closed loop supply chains (Bocken et al., 2016).

Table 1: Circular Business Models

| CBM Value Creation Logic | Efficient material-technical loops | Effective product-service loops | Social-collaborative loops | Symbiotic ecosystems |
|---|--|---|--|---|
| <i>(Zott and Amit, 2012)</i> | <i>(Bocken et al., 2016; Esposito et al., 2018; Geissdoerfer, Morioka, Carvalho, & Evans, 2018; Hopkinson, Zils, Hawkins, & Roper, 2018; Khan et al., 2018; Leising et al., 2018)</i> | <i>(Hobson, Lynch, Lilley, & Smalley, 2018; Pialot, Millet, & Bisiaux, 2017; Tukker, 2015; Yang, Smart, Kumar, Jolly, & Evans, 2018)</i> | <i>(Lacy & Rutqvist, 2015; Todeschini, Cortimiglia, Callegaro-de-Menezes, & Ghezzi, 2017; Wells & Nieuwenhuis, 2018)</i> | <i>(Bocken et al., 2014; Gallo et al., 2018; Stal & Corvellec, 2018)</i> |
| Content: <i>changing and creating (new) activities</i> | Maximizing material and energy efficiency: <ul style="list-style-type: none"> ▪ Developing and building for durability ▪ Repairing, refilling, and refurbishing ▪ Recycling and collecting ▪ Upgrading | Deliver functionality rather than ownership: <ul style="list-style-type: none"> ▪ Paying for use ▪ Leasing ▪ Renting ▪ Maintaining ▪ Servitisation | Proactively engage all stakeholders: <ul style="list-style-type: none"> ▪ Sharing ▪ Diffusion of sustainable practices ▪ Slowing down consumption | Driving systemic change: <ul style="list-style-type: none"> ▪ Re-purposing the role of business for the society and environment ▪ Restoring and reincarnating ▪ Scale-up solutions |
| Structure: <i>linking activities, resources, and actors in new ways</i> | Circular supply chains, vertical (forward and backward) integration | Service solutions, vertical (forward) integration | Collaborative consumption platforms, network integration | Open associative and collaborative networks, network integration |
| Governance: <i>ways of governing/ managing the activity system</i> | Supply chain management, firm-centered contractual models | Service management, firm-centered with contractual models | Platform orchestration, decentralized with collective contractual models | Collective entrepreneurship, multi-organizational governance, decentralized with collective authority |

2.2.2 Effective product-service loops

Effective product-service loops create value by replacing product ownership with access to the products and service, for example through renting, leasing and pay-for-use approaches (Esposito et al., 2018; Edbring, Lehner, & Mont, 2016). In the existing CBM literature, these product-service loops are commonly discussed under the rubric of product-service systems (PSS). The underlying impetus of PSS is to reconsider how material and service needs are being met and working toward goods and parallel services that are more environmentally benign and materially/energetically efficient (Hobson, Lynch, Lilley, & Smalley, 2018). Since the 1990s, PSSs have been discussed as effective instruments for moving society toward higher resource-efficiency and close product-service loops (Tukker, 2015). Pialot, Millet, and Bisiaux (2017) point out that sustainability in PSS can be further enhanced through dynamic and continuous upgrades of the goods integrated in the service offering. On the other end of the PSS spectrum, sustainability researchers have suggested to ‘dematerialize’ or ‘servitize’ goods and to consider fundamental needs rather than products when developing CBMs (e.g., providing transportation services rather than selling cars) (Hobson et al., 2018). The proposed governance mechanisms (similar to the previously described efficient material-technical loops) are firm-centric and follow the logic of one focal firm managing the PPS.

Taken together, much of the literature discussing value creation in CBMs is thus narrowly focused on the efficiency and effectiveness of circular lifecycles (Bocken et al., 2016; Esposito et al., 2018; Geissdoerfer et al., 2017) and fundamentally rooted in the causal relationships of the value chain. This literature thus calls back to Porter’s structure-conduct-performance approach centered on competitive advantage and profitability (Porter, 1980). While the Porterian view of the value chain is broadened and the engagement of versatile actors is getting more consideration, the underlying value creation logic of many CBMs is still focused on competitive advantage and profitability (Porter, 1980). Sustainable and environmental goals are byproducts of creating higher

economic value for the focal firm—a value creation mechanism that does not fully align with the triple-bottom-line (Lieder & Rashid, 2016) and the systemic nature and complexity of the circular economy.

2.2.3 Social-collaborative loops

Todeschini, Cortimiglia, Callegaro-de-Menezes, and Ghezzi (2017) outline collaboration, rather than competition, as a central practice for transitioning toward a well-functioning circular economy. The emergent academic debate revolving around collaboration of interdependent actors in circular systems directs sustainable and circular research toward a more systemic perspective (Stewart & Niero, 2018), which is more suitable for addressing the complex challenges of the circular economy. That is, value creation in social-collaborative loops is focused on linking actors to perform sustainable practices effectively (Todeschini et al., 2017). This approach is compatible with the idea of ‘sweating idle assets’ (Lacy & Rutqvist, 2015) in the sharing economy (Belk, 2014; Benoit et al., 2017), which reduces demand for new manufacturing (Esposito et al., 2018). Hence, the consumption cycle is slowed down and underutilized resources become activated (Wells & Nieuwenhuis, 2018). Social-collaborative loops keep assets in the economy and create new opportunities for actors in the ecosystem (Goyal et al., 2018). Customers, for example, engage in alternative consumption systems based on sharing, which utilize idling capacity of already produced but rarely used goods or individuals’ spare time and skills.

Following the logic of social-collaborative loops, customers are no longer seen as passive recipients, but active performers cocreating new consumption systems (Mont & Heiskanen, 2015). Realizing the full potential of social-collaborative loops requires that their governance mechanisms are set-up to take advantage of open and collaborative infrastructures (Tiwana, 2013). On sharing

platforms, for example, review mechanisms help to collectively govern the practices of versatile actors.

2.2.4 Symbiotic ecosystems

Symbiotic ecosystems, first discussed in the context of industry symbiosis and industrial ecology (Bocken et al., 2014; Ehrenfeld & Gertler, 1997) create value by closing resource loops (similar to recycling). However, differing from the above described CBM logics, symbiotic ecosystems build on collective action and collaboration of various actors in their value creation logic (Neumeyer & Santos, 2018). Gallo et al. (2018), and Rossignoli and Lionzo (2018) point out that the sustainable challenges are so vast that a real transition toward sustainable development demands joint efforts and collective entrepreneurship, and that sustainable efforts of a single firm hardly lead to success.

Symbiotic ecosystems consider broader institutional structures and horizontal network integration, and acknowledge that the success of sustainable innovations depends to a large part on the structure and dynamics of their environment (Laukkanen & Patala, 2014; Stal & Corvellec, 2018). The governance of such CBMs is decentralized, with a certain degree of collective authority held by multiple organizations and entrepreneurs (Gallo et al., 2018). This emergent CBM logic points toward a more holistic and systemic perspective upon business models. It draws on an entrepreneurial ecosystem framework, which has contributed to a deeper understanding of the context of agglomerations of individuals, businesses and other regulatory bodies (Gallo et al., 2018). This emergent CBM logic recognizes the interplay of collective action and the environment, and promotes the study of their interdependences and connections (Morris et al., 2005).

However, while work on symbiotic ecosystems has started to recognize the importance of systemic and institutional theory in response to the circular economy's wicked problems (Gallo et

al., 2018; Laukkanen & Patala, 2014; Stal & Corvellec, 2018), the conceptual underpinnings of such theory have yet to be systematically defined.

Extending this embryonic field of research, our paper proposes a truly systemic framework for CBMs leading to important normative implications for CBM design. Specifically, as we will show in the next section, a systemic and institutional view of CBMs reframes the fundamental logic of circular business models from a focus on decision variables controlled by focal firms to broader institutional change processes.

3. Toward a Systemic Logic for Circular Business Models

3.1 Examples from the Fashion Industry

The broader focus on holistic value creation and the triple-bottom-line, combined with social and economic goals of broad sets of stakeholders, highlights the importance of viewing CBMs from a systemic perspective. The textile and fashion industry exemplifies many challenges faced by such CBMs. Sustainability problems span the entire supply chain and product lifecycle, from the design and the production of fibers to the disposal of used garments. Consequently, sustainability challenges affect a broad set of actors, including farmers, manufacturers, retailers, fashion designers, waste management companies, influencers, and customers, highlighting the complexity of this industry's ecosystem.

Circular fashion business models aim at phasing out harmful substances in the fiber and material production, prioritize the use of biodegradable material, and promote the restoration of the environment. There are several issues related to closing production and material loops (The Boston Consulting Group, 2018). Animal-based (e.g., wool or silk) and plant-based (e.g., linen or cotton) fiber production, for example, often relies on pesticides, herbicides and fertilizers that pollute soil

and water. Furthermore, monocultures such as cotton fields restrict biodiversity in certain regions. For synthetic-based fibers (e.g., polyester or rayon) on the other hand, environmental challenges relate to the use of non-renewable and non-degradable resources, such as petrochemicals and fossil fuels. Furthermore, greenhouse gas emissions and the release of toxic chemicals during production, packaging, and transportation processes (e.g., dyeing and finishing, burning of fossil fuels, etc.) are central environmental challenges (Departement for Environment and Rural Affairs, 2011).

Short life cycles and the ‘fast fashion’ trend (i.e., short-term use and symbolic obsolescence of fashion) exacerbate sustainability challenges (Christopher, Lowson, & Peck, 2004). While a couple of decades ago, fashion labels produced two to three collections per year, today labels such as H&M and Zara display new articles in stores and on online platforms on a weekly basis. Customers now purchase 60 percent more clothing pieces every year, but keep them only half as long as they did 15 years ago (McKinsey, 2016). Thus, underutilization and recycling are major economic and environmental challenges. Only 20 percent of the clothing items get recycled and the rest are disposed in landfills or incineration plants (European Commission, 2014).

3.2 Fundamental Propositions for Systemic Circular Business Models

The textile and fashion example highlights the need for a truly systemic view on business models that goes beyond the focus on efficiency, productivity, and ‘greening’ the supply chain prevalent in much of the literature (Bakker, den Hollander, van Hinte, & Zijlstra, 2014; Bocken et al., 2018). As we have shown in the previous section, an emerging stream of work emphasizes the systemic and symbiotic perspective of CBMs as a response to the circular economy’s complexity (Gallo et al., 2018; Stal & Corvellec, 2018). This trend coincides with similar observations in the traditional, profit-focused (Mason & Spring, 2011) and social, non-profit venture business model literatures

(e.g., Sabatier et al., 2017; Toubiana & Zietsma, 2017). Zott et al. (2011), for example, describe a ‘firm’s business model as a system of interdependent activities that transcends the focal firm and spans its boundaries,’ and highlight that research is beginning to recognize the need for holistic and systemic perspectives on business models.

In an effort to fuse such systemic views, Wieland et al. (2017) have recently proposed a truly systemic and actor-centric, rather than a firm-centric, view on business models. This actor-centric view highlights that value is cocreated by the mutual exchange of resource-integrating actors that perform practices enabled and constrained by institutional arrangements, and that these institutional arrangements connect actors to form self-adjusting, complex adaptive ecosystems (Vargo & Lusch, 2016). According to Wieland et al. (2017), business models can be viewed as tools that enable collective actors to form shared understandings of exchange and resource integration practices (see also Doganova & Eyquem-Renault, 2009). This institutional view on business models does not only highlight that the formation and enactment of business models is embedded in broader social contexts, but also that all actors (including customers and other stakeholders) continually rely on business models to guide their actions. Specifically, Wieland et al. (2017) point to the performative nature of business models (Callon, 1998; MacKenzie, 2003) by defining them as ‘*dynamic assemblages of institutions that, through the performative practices (i.e., actions, constructions) of actors, reciprocally link and influence innovation.*’ Building on this conceptualization and the emerging literature on systemic CBMs, we propose five fundamental propositions that build a new logic for CBMs.

Fundamental Proposition 1: Traditional views of CBMs often maintain conceptualizations of value as something that can be created by a focal actor and delivered to a customer (e.g., Bocken et al., 2016; Esposito et al., 2018). Similarly, in many of these views, business models are still understood as sets of elements (i.e., decision variables) developed and altered to maximize the

value captured from customers. In contrast, the more recent marketing literature proposes that ‘actors cannot deliver value but can [only] participate in the creation and offering of value propositions.’ (Vargo & Lusch, 2016). Following this logic, value is conceptualized as something that is always cocreated through service provisions of interacting and systemic actors (Vargo & Lusch, 2008; Vargo & Lusch, 2004). Value, for example, cannot be embedded in a garment during the manufacturing process, but is cocreated as a person wearing the clothes combines the garment with other garments, accessories and the context of his or her life. A systemic and institutional view highlights that the widely adopted logic of value creation, value delivery, and value capture falls short in explaining systemic value flows. Consequently, we propose an alternative logic for value creation in CBMs, one that reflects a systemic view of business models. Our first FP serves as a summative statement of this discussion:

FP 1: Business models do not describe value creation, value delivery, and value capture flows, but systemic and dynamic value cocreation and resource integration practices of broad sets of actors.

Fundamental Proposition 2: All resource-integrating and -exchanging actors, including customers, rely on business models (i.e., assemblages of institutions such as heuristic rules, norms and beliefs) to guide their practices. A customer on a sharing platform may barter clothes if her heuristic rules, norms, and beliefs (i.e., her business model) favor minimalism and sustainability. Similarly, a company may decide to only use recycled fabrics based on its sustainable procurement procedures (i.e., its business model). The fact that the business models of firms are often clearly documented and more salient (e.g., due to published terms and conditions) does not mean that non-corporate actors lack business models. That is, an institutional view on business models overcomes traditional, firm-centric conceptualizations by highlighting that ‘all economic and social actors rely

on business models' and engage in resource integration and value cocreation in a fundamentally similar way (Wieland et al., 2017). Our second FP therefore states:

FP 2: All actors engaging in circular economies rely on and enact business models (i.e., assemblages of institutions).

Fundamental Proposition 3: Traditional views on business models often focus on market innovation as outcome variables and greatly overemphasize monetary and economic aspects. Similarly, Wieland et al. (2017), in their institutional conceptualization of business models, seem to highlight the roles of these aspects in market innovation. However, a systemic and institutional view on business models shows that it would be a mistake to limit the context in which they are applied to for-profit exchange and markets. As stated, business models guide exchange and resource integration practices (Wieland, Akaka, & Barbeau, 2019). That is, an institutional view redirects attention from monetary value creation and capture to the shaping of exchange practices and perceptions, which can be of circular and social nature. The recent social business model literature discusses this tripartite of value creation (profit generation, social progress and/or environmental stewardship), and the institutional complexity that comes with it, under the rubric of adaptive tensions arising from the balancing of social and economic interests (e.g., Neck, Brush, & Allen, 2009; Weerawardena et al., 2019).

The Australian nonprofit Boomerang Bags, for example, uses donated fabrics to produce reusable shopping bags. While the Boomerang Bags organization provides toolkits, most of the exchange and resource integration is done by volunteers who collect previously used fabrics and create unique bags that not only reduce waste but also start conversations about sustainability. The bags are both given away for free and sold, highlighting the fact that business models cover exchange and resource integration practices regardless of whether money is exchanged. Furthermore, this example confirms that the use of business models is not limited to firms or

entrepreneurs (see FP2). Volunteers collect the fabrics, produce the bags, and often find interested users. The fact that monetary value capture is not part of this process does not mean that the exchange and resource integration practices of these volunteers are fundamentally different from ones that include monetary elements and are performed by firms or entrepreneurs. These practices are equally shaped by the institutional arrangements of the exchanging and resource integrating actors (i.e., their business models), leading to circular, social and market innovation as outcome variables. Our third FP therefore states:

FP 3: Business models guide resource integration and value cocreation practices, regardless of whether these practices aim at profit generation, social progress and/or environmental stewardship.

Fundamental Proposition 4: The fact that all economic and social actors rely on business models does not make these business models micro-level phenomena. While single actors, such as social entrepreneurs, powerful incumbent firms, or social activist are important, they cannot drive institutional change (and business model innovation) in isolation. However, much of the early literature on institutional entrepreneurship tended to describe entrepreneurs as powerful and heroic figures who are able to dramatically shape institutions (Battilana, Leca, & Boxenbaum, 2009).

From a systemic perspective however, we argue, institutional change is an emergent outcome of the activities of diverse, spatially dispersed actors (Hardy & Maguire, 2008; Lawrence & Suddaby, 2006). Specifically, the institutional work and engagement of collective actors in translations, interpretations, modifications and accommodations of nested and overlapping institutional arrangements are critical for driving sustainable, social and market innovation (Lawrence & Suddaby, 2006). Business models—from an institutional perspective—always comprise relative perspectives of micro-level institutions of individuals, groups, and organizations, meso-level institutions, such as those associated with professions, social movements, or industries,

and macro-level societal institutions (Lawrence & Suddaby, 2006; Vargo & Lusch, 2016). Starbucks' business model element of giving a discount to customers bringing a personal cup, for example, can only be truly understood when observing the underlying institutional arrangements at multiple levels of aggregation. On a micro-level, it can be argued that Starbucks saves money for every disposable cup it does not have to use in a dyadic exchange. However, zooming out to the meso-level, it quickly becomes apparent that the food industry is slowly transitioning to more sustainable packaging as customers demand a move away from plastics and other harmful materials. Moreover, this move is embedded in more macro-level institutional alignments on the need to fight climate change, loss of biodiversity, and ocean pollution. Our fourth FP therefore states:

FP 4: No single actor can drive institutional change and innovate business models in isolation and the systemic alignment processes that shape business models can only be understood when viewed from various system levels (e.g., micro, meso, and macro levels of aggregation).

Fundamental Proposition 5: Seo and Creed (2002, p. 225) describe institutional arrangements as 'multiple, interpenetrating social structures operating at multiple levels and in multiple sectors,' as opposed to isolated, abstract phenomena. This multiplicity of institutional arrangements results in continual institutional frictions, incompatibilities, and adaptive tensions (Bruneel et al., 2016; Toubiana & Zietsma, 2017; Zhao & Lounsbury, 2016), which can be experienced among sets of actors and even by a single actor. Since business models are dynamic assemblages of institutions, shared understandings of them cannot be taken for granted. For example, the business models of manufacturers promoting prolonged use might experience adaptive tensions or frictions with the business models of retailers whose customers favor fast fashion products. Furthermore, two sustainability-focused retailers, for instance, might disagree on the usefulness of collecting used clothing items for recycling. Similarly, a customer might

fundamentally agree with the idea of locally produced garments with short-distance supply chains, but through exchange practices, enact traditional, non-sustainable business models due to their lower costs and greater convenience. Such adaptive tensions and misaligned institutional arrangements can hinder exchange and resource integration practices (Hartmann, Wieland, & Vargo, 2018), but can also be a catalyst for change by highlighting problems that need to be solved through new combinations of practices (Seo & Creed, 2002). Scott (2008), for example, argues that misaligned institutions motivate changes in practices and behaviors.

While no single actor can drive change in isolation (FP4), as shown by many empirical examples, single actors play important roles in institutional change in general and the change of business models in particular. The institutional work perspective adopted in this paper overcomes perceptions of ‘hyper-muscular institutional entrepreneurs’ (Creed, DeJordy, & Lok, 2010) without questioning the ability of single actors to significantly influence institutional change. For example, Waddock and Post (1991) point to the ability of social entrepreneurs to interpret social challenges (i.e., institutional frictions) as opportunities for action, and to be able to communicate their vision to others. This highlights the performative nature of business models. As Wieland et al. (2017) describe, perceptions of business models shape the enactments of future business models (see also Callon, 1998).

In this vein, business models can create powerful “cognitive biases,” and “path-dependencies” (Chesbrough & Rosenbloom, 2002, p. 531). For example, a manufacturer heavily invested in traditional production processes might view these processes as superior despite the fact that toxic dyes used in these processes cause water pollution. A Greenpeace lobbyist, on the other hand, might underestimate the challenges involved in the creation of high-quality recycled materials. In order to overcome such path-dependencies, successful business models need to enroll allies to achieve legitimacy and perform the world they narrate (Araujo & Easton, p. 316). While

single actors cannot cause institutional change, they can engage in institutional work by identifying institutional frictions and by enrolling allies through communicating their visions of new resource integration and value cocreation practices. Greenwood, Raynard, Kodeih, Micelotta and Lounsbury (2011) further refer to the importance of ‘appropriate’ collective action and behavior of various stakeholders to balance shifting institutional logics. The success of green packaging initiatives in the food industry, for example, relies on shared understandings (i.e., shared business models) among broad sets of enrolled allies (e.g., restaurants, packaging producers, and customers) in order to perform more sustainable practices. Our fifth FP therefore states:

FP 5: Institutional frictions and adaptive tensions are the catalyst for actors’ institutional work, the change, maintenance and disruption of institutions influencing social, environmental and market innovation.

Table 2 summarizes our proposed fundamental propositions and contrasts them with the widely adopted value chain-based logic of CBMs. Adopting a truly systemic and institutional view on CBMs has, as we will explicate in the next section, substantial implications for the methods used to innovate business models.

Table 2: Contrasting traditional and systemic foundations of CBMs

| | Traditional value chain–based foundations of CBMs | Systemic foundations of CMBs |
|----------------------------------|---|--|
| Value creation | <ul style="list-style-type: none"> Value is created through circular lifecycles and captured by the firm through enhancing efficiency and effectiveness. Value is delivered to the customer. | FP1: Business models do not describe value creation, value delivery, and value capture flows, but systemic and dynamic value cocreation and resource integration practices of broad sets of actors. |
| Roles and relationships | <ul style="list-style-type: none"> Firms and (social) entrepreneurs alone possess (circular) business models; customers possess (social, sustainable, etc.) needs and firms create experiences and products to fulfill these needs. | FP 2: All actors engaging in circular economies rely on and enact business models (i.e., assemblages of institutions). |
| Outcome variables | <ul style="list-style-type: none"> Business models guide market exchange practices leading to economic growth with sustainable and social goals as favorable byproducts. | FP 3: Business models guide resource integration and value cocreation practices regardless of whether these practices aim at profit generation, social progress, and/or environmental stewardship. |
| Business Model Innovation | <ul style="list-style-type: none"> Firms and (social) entrepreneurs drive business model innovation. Firms and (social) entrepreneurs design and manage business model transformation processes to create social, environmental, and market innovation. | <p>FP4: No single actor can drive institutional change and innovate business models in isolation, and the systemic alignment processes that shape business models can only be understood when viewed from various system levels (e.g., micro, meso, and macro levels of aggregation).</p> <p>FP 5: Institutional frictions and adaptive tensions are the catalyst for actors’ institutional work, the change, maintenance and disruption of institutions influencing social, environmental, and market innovation.</p> |

3.3 Methods for Systemic Circular Business Model Innovation

The majority of the business model design methods are visualization and mapping techniques, centered on developing efficient material-technical loops along value chains. Kozłowski, Sercy, and Bardecki (2018), for example, expand the business model canvas (Osterwalder & Pigneur, 2010) to account for a circular lifecycle. Similarly, Nußholz (2018) draws on circular business model mapping as a tool to visualize business model representations and to reveal their tacit structures. While such visualization tools for CBMs have broader boundaries than the classical

business model canvas and include additional social and environmental layers (Joyce & Paquin, 2016), they still remain firm-centric. That is, while pressing environmental and sustainability challenges require broad institutional alignments (*as pointed out in FP1 and FP2*), most CBM design methods are focused on the actions of focal firms (Gallo et al., 2018). Furthermore, a recent study by Ritala, Huotari, Bocken, Albareda, and Puumalainen (2018) finds that CBM in incumbent firms predominately focuses on areas with low-hanging fruits and ‘win-win’ situations where environmental gains, reputations, and cost savings meet clearly.

Geissdoerfer, Vladimirova, and Evans (2018), adopting a more systemic position, point out that existing business model design methods and tools, such as the business model canvas, are ill-equipped to address systemic and sustainable issues. They argue, in accordance with (Bakker et al., 2014), that designers need to reconsider their thought processes. Specifically, instead of thinking about the product lifecycle itself, designers need to (*somewhat in line with FP3*) think systemically and reinvent how value is created along the triple-bottom-line. Consequently, iterative design methods, such as the lean start-up (Weissbrod & Bocken, 2017) and systems thinking have become relevant in the CBM discourse. Bocken et al. (2018) suggest that organizations should focus on developing ‘environmental design capabilities’ when innovating toward more sustainability. That is, sustainability and social goals, *as emphasized in FP5*, must be embedded in a systemic business model innovation process (Kozlowski et al., 2018).

In this context, Breuer & Lüdeke-Freud (2017) point to the importance of institutions and shared values in shaping broad notions of desirability of various actors embedded in the business model innovation process (*see FP4 and FP5*). Value shaping (Oskam, Bossink, & Man, 2018) and value mapping (Bocken, Short, Rana, & Evans, 2013; Breuer & Lüdeke-Freud, 2017) offer CBM design tools to develop shared values and value propositions among versatile and systemic actors.

From a systemic perspective, however, circular business model innovation must be understood as a dynamic process of changing existing business models in response to market, environmental, and societal conditions (such as changing customer preferences, environmental changes or new technologies) and, at the same time, as a practice to disrupt such existing conditions (Saebi, Lien, & Foss, 2017). It is an ongoing, iterative process of learning and change resulting in new collaboration practices within complex systems of interdependent actors (Bocken et al., 2018). Only very few CBM design methods respond to these complex interdependencies. Backcasting and eco-design (Heyes, Sharmina, Mendoza, Gallego-Schmid, & Azapagic, 2018), for example, are design methods that incorporate environmental considerations into product and service process design to minimize resource use and environmental impacts. Similarly, systems of practices design methods, such as business origami (Hobson et al., 2018), draw on collective mapping and modeling of complex systems by explicitly emphasizing the interplay between elements that occur over time and the context they occur in. Gigamapping, a method for systemic design used in other disciplines, further complements the rather thin method set of dynamic and systemic design approaches by offering system maps across multiple layers and scales, supported through various visual artifacts (Sevaldson, 2017).

As pointed out in *FP4*, viewing business model design across various levels of aggregation requires more than visualization tools and scenario-based approaches. CBM design methods are often grounded in an action-orientation, which makes them very appealing and useful on the one hand, but limiting when it comes to reflecting the systemic complexity that is foundational to circular economies (Jones, 2014). Table 3 provides an overview of existing design methods used for CBMs.

In summary, we believe that the fields of sustainable and social business models—and CBMs in particular—are good homes for the further development of systemic business model

methods and tools. These fields, given their established theoretical interest in increasingly systemic design frameworks and their long history of dealing with complex social and environmental problems are at the forefront of systemic business model design. On the basis of this discussion and utilizing the five FPs of systemic CBMs, we discuss implications for future research in the next section.

Table 3: Design Methods for Circular Business Model Innovation

| BM Innovation Approach | Innovation Method | Description |
|---|---|--|
| Visualization and blueprinting approaches | <ul style="list-style-type: none"> ▪ Redesign Canvas (Joyce and Paquin, 2016) / Triple-layered Canvas (Kozlowski et al., 2018) | Visualization tool to innovate business models, informed by design and systems thinking that integrates additional (social and sustainable) layers in the established business model canvas framework. |
| | <ul style="list-style-type: none"> ▪ Circular business model mapping (Nußholz, 2018) | Visualization map for CBMs that combines lifecycle value management with business model thinking. |
| Dynamic and iterative process approaches | <ul style="list-style-type: none"> ▪ Dynamic capabilities framework (Amit and Zott, 2016; Bocken et al., 2018) | The process of business model innovation is described as applying the dynamic capabilities of seizing, sensing, and transforming. This view complements static notion of BMs as design artifacts, and provides a rich and nuanced account of the links between BMs and dynamic capabilities. |
| | <ul style="list-style-type: none"> ▪ Lean start-up (Weissbrod and Bocken, 2017) | The process of business model innovation through pivoting (changing directions of the business model) as a result of learning from business experiments and prototyping. |
| Stakeholder and value mapping approaches | <ul style="list-style-type: none"> ▪ Value shaping (Oskam et al., 2018) | A mutually constitutive process in which networking helps to refine and improve the business model and, vice versa, the business model spurs the expansion of the network. |
| | <ul style="list-style-type: none"> ▪ Value mapping (Bocken et al., 2013; Breuer & Lüdeke-Freud, 2017) | Process of developing shared value propositions for diverse stakeholders, such as customers, suppliers and governments. By taking a network rather than a firm-centric perspective, the value-mapping tool offers a way to integrate the perceptions of multiple stakeholders. |
| Increasingly dynamic and systemic approaches | <ul style="list-style-type: none"> ▪ Systems of practices design/ business origami (Hobson et al., 2018; Watson, 2012) | Practice of collective mapping and modeling complex systems by explicitly emphasizing the interplay between elements that occur over time and the context they occur in. |
| | <ul style="list-style-type: none"> ▪ Backcasting and eco-design (Heyes et al., 2018; Mendoza et al., 2017) | The practice of developing scenarios aimed at exploring the feasibility and implications of achieving a certain desired end-point in the future, while systematically incorporating environmental considerations into the business innovation process. |
| | <ul style="list-style-type: none"> ▪ Circular Transition Framework (Scheepens, Vogtländer, & Brezet, 2016) | A design framework based on a multi-level design model, integrating product, infrastructure, regulatory, and societal levels that can facilitate the transformation of business models towards more sustainability. |
| | <ul style="list-style-type: none"> ▪ Giga-mapping (Sevaldson, 2011) | A systems-oriented design practice mapping systems across multiple layers and scales drawing on soft systems methodology, critical systems thinking and systems architecting |

4. Implications and Suggestions for Future Research

In circular economies, all problems need to be viewed as ‘wicked’ since they have no clearly defined ends, innumerable solutions, multiple root causes, and involve large numbers of stakeholders (Buchanan, 1992; Rittel & Webber, 1973). Stated alternatively, these problems can be described “as collections of components that are all interrelated and necessary, and whose inter-relationships are at least as important as the components themselves” (Norman, Donald A., Stappers, Pieter J., 2015, p. 90). Specifically, in order to solve some of the problems related to circular economies, business models and business model innovation need to overcome long-established emphases on linear causal relationships rooted in value chain conceptualizations.

We have shown that the underlying logic of CBMs needs to change from a firm-centric value chain approach to a broader systemic logic that truly aligns with the triple-bottom-line of value creation to move people, organizations, and markets toward sustainability (Wiek, Withycombe, & Redman, 2011). Arguably, adopting a systemic perspective to address sustainability can enable firms to analyze complex problems across multiple interacting subsystems, to reframe the impacts and responsibilities of their activities and behaviors beyond their organizational boundaries, and to include consideration of biospheric limits across their entire ecosystem (Perey, Benn, Agarwal, & Edwards, 2018). The sustainability context powerfully demonstrates that all business and industrial practices are part of larger societal, ecological (Bansal & Song, 2017) and institutional systems.

We call for further research that expands the extant domain of sustainable and social business model research through consideration of actors’ institutional work, collective action and new measures, theories and methodologies that integrate the broader systemic logic, developed in this paper, to account for environmental stewardship, social progress, and economic growth.

4.1. Research Area 1: Understanding Actors' Institutional Work in Complex Adaptive Systems

As we move from a firm-centric to an actor-to-actor perspective, we suggest that all social and economic actors rely on business models to guide their resource integrating practices. Stated alternatively, we argue that all actors, including but not limited to firms and entrepreneurs, rely on business models (i.e., assemblages of institutions) to guide their sustainable, social and economic exchange and value cocreation practices. Consequently, in order to accommodate this wider engagement of actors, business model researchers need to broaden their classifications, architectures and architypes of CBMs.

Furthermore, because no single actor can change institutions and innovate business models in isolation, developing the institutional work framework further in the context of business model innovation will advance knowledge of CBMs. Central to institutional work is the identification of adaptive tensions, institutional frictions, and incompatibilities based on existing path-dependencies in actors' business models. Boomerang Bags, for example, identified not only the problem of plastic waste in our oceans, but also the willingness and generosity of people from all fabrics of society to do something about it. Their pilot project in Burleigh Heads created such a buzz among the local community (the 'incubator room' for their social and sustainable innovation) that other communities around Australia and later more than 800 Boomerang Bags communities around the globe wanted to join. Business model scholars may want to explore such 'incubation-room'-strategies (Geels, 2002) to drive social and sustainable innovation further and develop a more advanced understanding of the importance of networks that develop bottom-up, out of such incubation rooms. In general, further consideration of (social) entrepreneurial strategies to build

networks and enroll allies in order to facilitate institutional change among systemic actors will greatly inform CBM thought.

4.2 Research Area 2: A Focus on Collective Action to Shape Circular Economies

As outlined by Laukkanen and Patala (2014), and Greenwood et al. (2011), paying more explicit attention to enrolling allies and understanding their collective actions in CBMs might help to overcome critical barriers that hinder sustainable and social innovation, such as lack of customer acceptance, short time horizons, and the lack of awareness and understanding among market and social actors. Collective action in the existing business model literature is mainly discussed in the context of one focal actor coordinating such action and managing resource integrating processes, usually based on comprehensive and well documented contractual agreements.

Drawing on Lee and Bourne (2017), we see great potential in advancing knowledge about more decentralized forms of collective action (e.g., grassroots organizations) and the ways in which such decentralized collective actions are governed. Much social and sustainable action happens in informal and undeclared ways, which often encourages resourcefulness and entrepreneurship among involved actors. Consequently, we call for a better understanding of informal networks and decentralized governance mechanisms in the context of CBMs in specific and the business model literature in general. Informality and decentralization however, produces information asymmetries and makes standardization difficult. This leads to the question of how much formality (i.e., contracts, industry standards, defined processes, etc.) is most supportive for collective action and resource integration of versatile actors. Such questions can be further discussed in light of new technologies, such as blockchains, that support decentralized collective action and decentralized governance.

4.3 Research Area 3: Measuring Circularity on Multiple System Levels

The triple-bottom-line of sustainable, social and economic goals is commonly outlined as the central value creation logic in the CBM literature. However, our review of this work shows that the majority of CBM conceptualizations, despite recognizing larger numbers of stakeholders, still prioritizes profitability and market innovation while social progress and environmental stewardship are reduced to favorable ‘byproducts’ (Lieder and Rashid, 2016). More foundationally, Stal and Corvellec (2018) argue that a lot of sustainable innovations and transitions toward CBM fail due to narrow perspectives and the lack of adequate measurement tools that are able to capture truly balanced value systems.

Many measurement frameworks, including the widely used lifecycle assessment (LCA), a comprehensive tool to analyze the degree of sustainability (De Los Rios & Charnley, 2017), or the in business practices widely accepted Material Circularity Indicators (MCI) (Ellen MacArthur Foundation, 2019) focus only on environmental impacts on product and production process levels. While the Ellen McArthur Foundation recently introduced a company-level Circularity Score, even this organizational level measurement seems to be too limited to truly capture the systemic nature of the circular economy.

An important next step would be to extend product- and organization-level frameworks to embrace biological cycles, materials, technologies, and social structures from an institutional perspective. Such measures should not only focus on micro- and meso-levels of systems, but also on broader societal indicators, including wellbeing (e.g., happiness, altruism, compassion; Anderson & Ostrom, 2015), the quality of life construct (Lee & Sirgy, 2004), and gross national happiness (Laczniak & Santos, 2018)

4.4 Research Area 4: Broaden the Theoretical Perspectives to Further Investigate Circular Economies

As we extend the conceptual understanding of CBMs, we recognized the need to draw from broader ranges of theories that underpin systemic thinking, including neo-institutional theory and institutional work. We encourage scholars to continue using systemic theoretical frameworks to better understand CBMs and circular economies and more broadly markets, societies and technologies. These might include practice theory (Bourdieu, 1990), complexity theory (Anderson, 1999), systemic design theories (Buchanan, 1992; Jones, 2014; Sevaldson, 2017b), structuration theory (Giddens, 1984), sociology of technology (Mokyr, 2003), and (social) entrepreneurial theories (Sarasvathy, 2001). In this paper, we have argued that circular business models are embedded in broader institutional contexts. Consequently, future research should also draw on institutional theory to further develop normative theory such as, for example, design principles for systemic business model design.

The example from the fashion industry demonstrates that CBMs are not bounded by a specific discipline or knowledge field. In fact, the opposite is the case. CBMs are at the interface of multiple disciplines and draw on various knowledge fields in ecology, economy, science, social science, public management, and many more. We therefore encourage business model scholars to look into wider fields, including ecology research, architecture, city design, computer systems design, civic design, etc. to inform the conceptualization of the circular economies, systemic CBM design frameworks, and design methods.

4.5 Research Area 5: New Methods for Systemic Circular and Social Business Model Innovation

Finally, developing a broader systemic perspective of CBMs and CBM innovation requires new methodological approaches that are able to strengthen the understanding of alignment processes among broad sets of actors. While the majority of the existing CBM literature still focuses on business model innovation within the boundaries of firms, there is an emerging stream of sustainability and social business research that seems to converge on the notion that CBM innovation needs to be addressed using a systemic perspective. In fact, some argue that such a systemic perspective is required in order to promote more widespread adoption of circular and social business models (e.g., Gallo et al., 2018; Linder & Williander, 2017; Sabatier et al., 2017). However, this emerging stream is still in its infancy. Much of the existing work limits system perspectives to multi-actor views and networks of focal actors (e.g., innovation networks) without considering broader institutional developments in ecosystems. Similarly, many of the proposed mapping techniques and design methodologies seem to be aimed at better understanding the parts of networks and systems. However, since systems are, by definition, greater than the sums of their parts (Bertalanffy, 1972), true system behavior can never be fully understood through a better understanding of each part.

Despite hope having been high for the results of contemporary design methodologies, their track records have been somewhat disappointing. Sevaldson (2017) speculates that a reason for these unsatisfactory results might be that these approaches are commonly being reduced to tool sets, heuristics, and methods that can easily and quickly taught to non-designers. Similarly, Ryan (2013), argues that making systemic design effective in solving the problems of complex social systems requires much more than ‘simplistic prescriptions and cookie-cutter solutions’. Thus, much work needs to be done to develop new methods for systemic design processes.

Arguably, the complexity of the circular economy highlights that many of today’s design tools, due to their grounding in linear and sequential process steps, are ill-equipped to facilitate

meaningful business model design processes. That is, while the linear and sequential nature of many business model design tools makes them easy to understand, use, and communicate—and therefore also very appealing—this ease of use seems to limit their richness. Instead, what is needed are design principles that permit flexibility across context and degrees of complexity. Specifically, building on promising work on systemic design (Buchanan, 1992; Jones, 2014; Sevaldson, 2017b), we encourage scholars and designers to further develop systemic business model design frameworks. Table 4 summarizes relevant research questions of the five research areas.

Table 4: Future Research Agenda

| Research Areas: | Research Questions: |
|--|---|
| Research Area 1: Understanding Actors’ Institutional Work in Complex Adaptive Systems | <ul style="list-style-type: none"> • How can CBM classifications, architectures and archetypes be broadened to embrace not only firms and (social) entrepreneurs as actors with their own business models, but also customers, volunteers, citizens, and other actors? • What are the types of institutional work actors can engage to drive sustainable, social, and market innovation? • How can (social) entrepreneurial ‘bottom up’ and piloting strategies inform CBM thought? • How can actors recruit allies, such as alliances among entrepreneurs and between entrepreneurs and incumbents, to advance partnerships, collaboration, and network development in circular economies? |
| Research Area 2: Focus on Collective Action to Shape Circular Economies | <ul style="list-style-type: none"> • How can the collective action of broad sets of actors (linked through formal and informal ties) be coordinated and directed towards sustainable and social goals? • What degree of formality (i.e., contracts, industry standards, defined processes, etc.) is most supportive for collective action and resource integration of versatile actors? • What design frameworks can be used to account for collective governance mechanisms in systemic CBMs? How can collective entrepreneurship inform coordination mechanisms in systemic CBMs? |
| Research Area 3: Measuring Circularity on Multiple System Levels | <ul style="list-style-type: none"> • How can measurement frameworks be integrated and broadened to benchmark for sustainability, social progress, and economic growth? • How can further levels of aggregation (beyond the product- and organization-level) be integrated in measurement systems that account for circularity? |
| Research Area 4: Broaden Theoretical Perspectives to Further Investigate Circular Economies | <ul style="list-style-type: none"> • How can theoretical frameworks, including practice theory, complexity theory, design theories, structuration theory, sociology of technology and (social) entrepreneurial theories further inform systemic business model thought? • How can other disciplines, including ecology research, architecture, city design, computer systems design, civic design, etc. inform the conceptualization of systemic CBMI frameworks? |

Research Area 5: New Methods for Systemic Circular and Social Business Model Innovation

- How can CBM design methods be adapted to account for broader institutional developments in circular ecosystems?
 - How can design tools account for the complexity of circular economies, while, at the same time, being appealing and useful for broad sets of actors? And how can these design tools be embedded in the operating processes of circular businesses?
 - How can ongoing adjustments and reconciliation processes be more systematically supported through methods such as big data management, experimenting, testing, and prototyping to enforce organizational learning?
-

5. Conclusion

In order to move people, organizations and markets toward sustainability and more social equality, business model conceptualizations need to overcome long-established emphases on linear causal relationships rooted in the value chain. In this paper, we propose an alternative logic. In contrast to other studies in the areas of social and sustainable business models, we argue that rather than redirecting social and circular business models toward a stronger profit-orientation, they should be innovated in the direction of a more systemic perspective, which balances the adaptive tensions between social mission, environmental stewardship, and economic growth. In order to facilitate the development of such a systemic perspective, we have introduced a framework that can explain complex developments in the circular economy. This framework draws from, and extends, recent works that begin to describe the nature of CBMs as systemic, performative, and institutional. Our holistic framework points to the importance of recognizing institutions as the fundamental components of business models.

Specifically, this paper makes three significant contributions. First, it provides an important step toward the development of a stronger business model logic that responds to the need for collective and collaborative action when addressing the vast challenges of social and sustainable innovation. It explicates the complexity of developing social and sustainable innovation through business model design and develops five fundamental propositions to inform understanding of

CBMs. Second, building on these five fundamental propositions, this paper provides an extensive research agenda pointing out the normative requirements for operating in complex adaptive systems such as the circular economy.

Third, this paper contributes to the recent discussion of systemic and institutional business models in the broader management and marketing discipline. Our review of the extant CBM literature shows that sustainability researchers are at the forefront of understanding value creation beyond economic goals, and providing methods to map larger numbers of stakeholders to innovate business models. By integrating fragmented insights regarding network participation and collaboration, collective action, and symbiotic partnerships with institutional and system theory, we provide a future-oriented understanding of business models in diverse contexts. As such, our research has the potential to inform contemporary business model innovation thought in general.

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