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PARADOXES AND ECOSYSTEM COLLABORATION: KEYS FOR INNOVATION IN CIRCULAR BUSINESS MODELS DEVELOPMENT

MASTER THESIS

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ABSTRACT

The Circular Economy has gained momentum in recent years due to its potential to achieve sustainability. Hence a circular transition is imminent, where businesses can excel a crucial role by transforming their current models into circular business models (CBM). However, its implementation is scarce since companies may perceive it produces complex problems despite their benefits. Consequently, the advancement of CBMs in organizations depends on the practical and innovative management of circular-sustainable challenges. Thus, the purpose of this thesis is to study how paradoxical management and ecosystem collaboration overcome CBMs tensions by performing a Delphi study with experts from the Netherlands' circular fashion retail sector. The research found that both approaches complement each other, increase the innovation for CBMs development, and facilitating a culture based on them could be of benefit for any organization towards circular transition.

INTRODUCTION

The current environmental problems caused by the prevailing model of take-manufacture-discard have reached disturbing scales. To solve them, Circular Economy (CE) is a valuable alternative in the sustainability agenda, due to its widely recognized "restorative capacity of natural resources" (Bastein, Roelofs, Rietveld, and Hoogendoorn, 2013, p. 4). Even though there are strong arguments in favor of CE, it is still scarcely adopted (Henry, Bauwens, Hekkert, and Kirchherr, 2020). Only 9% of the world has developed it (Circle Economy, 2019). In order to change this situation, businesses can make a vital contribution since they can induce new production and consumption patterns by implementing circular business models (CBM) (Planing, 2015). Hence, innovation is necessary for this, ranging from changing some parts in current business models (BM), to completely reconfigure or create new and CBMs (Christoph Zott, Amit, and Massa, 2011).

The transition towards CBMs is still not widely deployed. Researchers have identified a stronger path dependency on established BMs, hindering its change (Christensen, 1997). Linder and Williander (2017) point out that CBMs are perceived as risky and highly uncertain, so organizations are reluctant to implement them. Indeed, in sustainability, it could be perceived that great benefits in one area could detriment another, thus creating tensions on how to approach sustainable objectives (Calic, Shevchenko, Ghasemaghaei, Bontis, & Ozmen, 2020; Hahn, Figge, Pinkse, & Preuss, 2017). So, sustainable practices could be seen as both beneficial but opposing (e.g., waste as raw material but diminishes quality) and, consequently, seem unattainable. There is evidence that by recognizing and accepting contradictions through the paradoxical approach, businesses can achieve sustainable objectives, find superior solutions and maximize profits (Hahn et al., 2017; Van Bommel, 2018). Nonetheless, paradoxical research in sustainability and CE is in early stages, and there are few empirical studies about innovative BMs (Daddi, Ceglia, Bianchi, & Dutra, 2019; Hahn et al., 2017).

On the other hand, innovation literature proposes that collaboration, alliances establishment, and open BMs creation are means which businesses can use to face coexisting uncertainties and opportunities (Chesbrough, 2006). Regarding CBMs, Zucchella and Previtali (2018) mention that

these "cannot be designed and operated as 'stand-alone' models" (p. 275). Therefore collaboration is a crucial element to implement CE principles (Witjes & Lozano, 2016) into BMs. However, working with stakeholders to reach an organization's CBM needs to meet and incentivize multiple interests (Parida, Rönnberg, Lenka, & Wincent, 2015), thus making it not an easy task. Hence, it is necessary to study CMBs from an ecosystem perspective, to understand how to reach the highest value and sustainable advantages (Lockett, Johnson, Evans, & Bastl, 2011; Rönnberg, Parida, & Kohtamäki, 2016).

Therefore, to address the previous gaps, this thesis aims to answer the following research question: How can paradoxical tension management and ecosystem collaboration lead to CBM innovation? By tackling this question, the thesis purpose is to advance in the innovation understanding for implementing CBM effectively. Hence, a qualitative approach was used to research CBMs innovation in the Netherlands' fashion retail sector by employing the Delphi methodology with a sample of seven experts. The retail sector has been almost unexplored regarding the CE transition, and which can exert an essential advance to sustainability due to its position between consumers and producers (Jones & Comfort, 2018). Regarding clothing retail, it is one of the most world pollutants (Expense Reduction Analysts, 2020) and this can be attributed due to its fast-fashion orientation. This trending is one of the more large-scale models used by retailers (Paige, 2020) but promotes linear production and consumption at alarming rates (Paige, 2020; Rathinamoorthy, 2019).

This research presents empirical evidence about the paradoxical management and ecosystem collaboration for CBM development, demonstrates the value of embracing both approaches, and provides a guide for interested businesses in transforming or develop as circular organizations.

The study has the following structure: section two provides a literature review about CE, CBM and its innovation, paradoxical tensions management and ecosystems collaboration for CBM innovation. Section three describes the research method and empirical analysis. Section four examines the findings. Finally, section five discusses the conclusions, recommendations, limitations, and future research suggestions.

THEORY

The Circular Economy

CE is "a regenerative system in which resource input and waste, emission, and energy leakage are minimized by slowing, closing, and narrowing material and energy loops. This can be achieved through long-lasting design, maintenance, repair, reuse, remanufacturing, refurbishing, and recycling" (Geissdoerfer, M., Bocken, & Hultink, 2017). In other words, CE aims to avoid to the fullest the destruction of the value captured in goods and resources (Jonker, Kothman, Faber, & Montenegro Navarro, 2018) by designing products, services, and productive systems, to do the less or no breakdown of ecosystems and resources (Jørgensen and Pedersen, 2018).

In order to be a reality, CE has guiding principles (EMF, McKinsey, 2015), commonly known as "R" activities or practices (Lewandowski, 2016), which are described below (Henry et al., 2020; Jonker et al., 2018) :

- Regenerate.- preserves, and increases ecosystem spaces to continue using their benefits (e.g., green roofs and aquaponics).
- Reduce.- avoids hazardous or virgin materials, and improves product efficiency, design, and production to intensify its usage.
- Redesign.- relates to the previous activity regarding product-efficient design, allowing easy disassembly and modification of parts.
- Reuse.- means product reintroduction to the economy after its use, by three activities: reparation (slightly modifications and updates to extend useful life), refurbishment (more considerable upgrades that make the product looks like new) or remanufacture (remake by reusing some parts and/or with second-hand materials).
- Recycle.- allows materials recovery to reuse them for product manufacture with the same (upcycling) or lower (downcycling) quality.
- Repurpose.- reassigns a new purpose to the product, or for its parts/raw materials.
- Recover.- incinerates residuals with the recovery of embodied energy.

The “R” principles are means to take circularity into businesses (Ghisellini, Cialani, and Ulgiati, 2016), so their adoption must contribute to profitability (Urbinati, Chiaroni, and Chiesa, 2017). Thus, it is essential to use the BM approach to analyze principles' integration in an economically viable way (Ranta, Aarikka-Stenroos, and Makinen, 2018).

Circular Business Models and its Innovation

The CBM arises from the BM concept by Osterwalder and Pigneur (2010). The BM is a cognitive schema of how a company works and explodes business opportunities by illustrating how it creates, delivers, and captures value (Richardson, 2008; C. Zott, Amit, and Massa, 2011). Hence, CBM depicts how a business creates and retains value by slowing, closing, and narrowing the loops of resources and post-used products in a profitable way (Bocken, de Pauw, Bakker, & van der Grinten, 2016; Bocken, Schuit, & Kraaijenhagen, 2018; Jonker et al., 2018). At least a CBM should describe the original blocks of a BMs, but explaining their circularity. For this, De Pádua Pieronia, Pigosso, and McAloone (2018), Gassmann, Frankenberger, and Csik (2013), and Jonker et al. (2018), explain such approach:

- Value proposition.- the value offered to meet stakeholders through a bundle of products and services produced by R processes/materials. This achievement depends mainly on collaboration with other parties.

- Value creation.- means how to co-create value and retain it across a network scale, with certain processes, “R” materials, and specific resources to ensure closing, slowing, and narrowing loops. Value retention means “the conservation of resources closest to their original state, and in the case of finished goods retaining their state or reusing them with a minimum of entropy as to be able to give them consecutive lives” (Reike, Vermeulen, & Witjes, 2018, p. 254).

- Value delivery.- describes relationship management and the communication, sales, and distribution channels with all stakeholders.

- Value capture.- or revenue model, means the selling of products or services according to their use. It shows how business retains or recovers value.

Although the BM approach is the base of CBMs, as pointed out by Lewandowski (2016), it must be adapted for CE. Jonker et al. (2018) propose an expanded version, which considers blocks such as organization, parties, impact, cycles, and strategy.

Innovative BMs that embrace circularity are linked to CE achievement (Ruggieri, Braccini, Poponi, & Mosconi, 2016). This topic relates with CBM innovation (CBMI), which entails the reconfiguration or the development of a new business model, from the introduction of circular services and products, and which arise ripple effects on the enterprise as a consequence of the changes carried out (Zollo, Cennamo, & Neumann, 2013). CBMI is a repetitive process that can lead to different levels of innovation (Bocken et al., 2018; Frankenberger et al., 2013), and depends on how circular the organization decides to become and the strategies adopted for it (Mentik, 2014; Pieroni et al., 2019). Guldmann and Huulgaard (2019) affirm that it is vital to consider the organizational context and the pursued circular strategy. These researchers identify CBMI levels: internal, few changes occurred and focused mostly on resource efficiency and recycling, without interfering in the business core; hybrid, the business remains linear but incorporates circularity in several of its services and product design; and systemic, the model is entirely circular, and there is great interest in enhancing it (inside and outside), through higher collaboration levels and experimentation. These categories are similar to Lacy, Long, and Spindler (2020) proposals, mentioning that businesses do not need to start from the first level and can undertake multiple initiatives aiming at a higher transition.

When a business conceptualizes its value offering (value proposition, market segmentation, and revenue model), several factors challenge value creation development (Dmitriev, Simmons, Truong, Palmer, & Schneckenberg, 2014). Hence, even though there are multiple typologies and frameworks for designing and implementing CBMs (Lewandowski, 2016; Ludeke-Freund, Gold, & Bocken, 2018; Rosa, Sassanelli, & Terzi, 2019), there is an increasing need to comprehend the factors behind and which influence circular and sustainable practices embracement in BMs (Evans et al., 2017).

Paradoxical Tensions and Strategies for CBMI

CMBI constitutes a type of innovation that offers both opportunities/benefits and complexities/ uncertainties (Guldmann and Huulgaard, 2019; Pieroni et al., 2019) since it places organizations in an unknown territory in which the business logic, beliefs, ways of working, etc., will have to be transformed (Zollo et al., 2013). Consequently, in the presence of challenges and opportunities, this can generate tensions, which are better known as paradoxical tensions.

As Lewis (2000) states that paradoxes "seem logical in isolation but absurd and irrational when appearing simultaneously" (p. 760). Paradoxes foster the development of novel solutions (O'Reilly & Tushman, 2013). These are possible due to a paradoxical mindset (Miron-Spektor, Ingram, Keller, Smith, & Lewis, 2018), also known as ambidextrous mentality (Andriopoulos & Lewis, 2009), which accepts the apparent irreconcilable contradictions to find solutions (Calic, Hélie, Bontis, & Mosakowski, 2018). In sustainability, Calic et al. (2020) refer that the ambidexterity mindset would benefit sustainable and business goals achievement.

Contradictions in sustainability occur when at least one pillar is benefited, but the others are adversely affected. For example, Daddi et al. (2019) explain that using recycled paper instead of virgin cellulose for a particular tissue paper niche could increase the business's environmental commitment but, at the same time, negatively affect its competitiveness because it could be perceived as not hygienically appropriate. Therefore, the paradox theory has become increasingly attractive in the field of sustainable research, as a means to examine "how to work through contradictory elements" (Van der Byl and Slawinski, 2015, p. 59).

A recent study done by Van Bommel (2018) classifies tensions in four categories: belonging/identity, conflicts due to different beliefs, values, etc., at the individual and organizational level; learning/temporal, controversies related to different and coexisting timelines and due to new ways of system conforming; performing, contradictions due to diverse interests, goals, expectations, results, practices, etc., with stakeholders; and organizing, refers to conflicting structure changes. Table 1 provides some examples of the above mentioned.

TABLE 1
Types and Examples of Paradoxical Tensions in CBM (based on Van Bommel, 2018)

Tensions	Examples
Belonging/ Identity	Environmental vs. profit-focused; circular consumption/production vs. linear consumption/production
Learning/ Temporal	Long-term vs. short-term; new circular process vs. stability of previous systems
Performing	Long-lasting products/extending product usage vs. increasing product sales; recycled quality (low) vs. good quality
Organizing	Compete vs. collaborate; CE skills vs. common business skills

Likewise, Van Bommel (2018) indicates that companies can respond to tensions through two strategies: instrumental and integrative. In the former, the main focus is profit maximization through trade-off or win-win schemes. Here the tensions are generally perceived as limiting or difficult to resolve. Two sub-strategies emerge: alignment, circularity is not a business's core, but it adopts it on a superficial level for reputation benefit, risk reduction, etc.; and avoidance, this strategy ignores tensions or only benefits one aspect while affecting another. On the other hand, through integrative strategies, businesses accept and assume tensions and are taken as opportunities, leading to significant innovations. Here exist four subtypes: opposing, enterprises address contradictory characteristics simultaneously; spatial, conflicting elements are divided into different organizational levels; temporal, business separates tensions elements into different timelines; and synthesis, different or novel solutions emerge.

Additionally, Daddi et al. (2019) classify circular strategies as defensive to those that counteract the adverse effects on competitiveness (e.g., technology acquisition), and as proactive, to those that enhance the circular commitment, mainly through certifications. For the authors, the quality of recycled materials is the main factor that raises tensions.

Ecosystems: a Key Element for Innovation in CBMs

The shift towards CBMs implies that companies need to create new business strategies (De los Rios & Charnley, 2016; Lewandowski, 2016; Linder & Williander, 2017). For this, enterprises intrinsically require collaboration with several networks to understand and adequately address value creation (Lacy et al., 2014). Lüdeke-Freund (2020) points out that the broader context from

which BM belongs always influences its development. It also means that innovation for circularity necessarily produces significant changes to other organizations. Therefore, Konietzko, Bocken, and Hultink (2020) explain that it is vital to use an ecosystem perspective; since it places at the same level of importance both the BM of the organization and that of other main actors (Adner, 2016).

The ecosystem concept emerged in the Biology area. An ecosystem is the interrelationships between the environment, the surrounding factors, and its organisms, and to ensure its existence, the balance must happen, meaning that each member must be complementary (Riesener, Döller, and Kuhn, 2019). Industry takes the ecosystems term as an analogy to denote a set of companies that depend and interact with each other (Jacobides, Cennamo, & Gawer, 2018). In CE, some scholars identify that "complementarities between firms are the starting point for moves toward CE relations that close industrial loops" (Mathews, Tan, and Hu, 2018, p. 175). Complementarity means combining diverse elements from various actors and adapting between each other (co-specialization) (Jacobides, Knudsen, & Augier, 2006; Teece, 1986), and which can lead to higher innovation levels (Riesener et al., 2019). As Hockerts (2015) explains, more outcomes emerge from combining resources that complement each other than by only considering each asset separately. For example, Parida, Burströmc, Visnjicd, and Wincent (2019) mention a circular company that implemented a platform to summed various partners who complemented/tailored the offerings; these also commercialized their proposals and thus creating more significant benefits for all.

The ecosystem theory of Jacobides et al. (2018) proposes that ecosystems are "a set of actors with varying degrees of multilateral, nongeneric complementarities that are not fully hierarchically controlled" (p. 161). It suggests that members coordination does not necessarily require a vertical structure. Hence, it is easy for anyone to join and to benefit mutually. Complementarities are unique (co-specialized) or super-modular (complements usage), implying a customization level. Therefore, the more number of complementarities, innovation becomes more attractive and facilitates further collaboration. However, the successful development of ecosystems often requires orchestration (Parida et al., 2019). It has as antecedents the orchestration resource theory, which indicates that an organization can achieve competitive advantages by effectively managing its resources by classifying them as capabilities and creating value for customers guided through

managers (Sirmon, Hitt, Ireland, & Gilbert, 2011). In the CE context, ecosystems create value based on Moore (1993) findings, that is, through community collaboration. Here, a focal company usually establishes the ecosystem's operating rules (Parida et al., 2019) and shares its disruptive vision where all members can benefit (Zucchella & Previtali, 2018). Among the actions that the orchestrator performs are (Parida et al., 2019; Zucchella & Previtali, 2018): identifying and managing complementarities (Mathews et al., 2018); establishing a collaboration system (formal and informal); encouraging an environment of communication, trust, and commitment; and develop different mechanisms/strategies. Thus, through the ecosystem, it manages CBM implementation (Zucchella & Previtali, 2018).

The following ecosystems types are relevant to review for CBMs achievement:

- Business ecosystem.- businesses primarily integrate it even in a global scale, and customers also participate (Valkokari, 2015). Partners mutually impact through interacting and managing their activities and competencies to efficient, increase, or create value for the customer (Jacobides et al., 2018; Moore, 1996). The leading company usually establishes mechanisms for the ecosystem's collaboration and stability (Iansiti & Levien, 2004) .

- Innovation ecosystems.- are innovation co-creation centered and integrated by innovation organizations, policymakers, investors, etc., which are usually geographically close (Valkokari, 2015). However, Brandenburger and Nalebuff (1996) mention that innovation developers(s) may or may not link directly. Intermediaries could be the figures linking actors (Valkokari, 2015).

Sustainable BMs rely on various parties' participation and their disposition to develop relationships (Lüdeke-Freund, 2020). Indeed, the client is a key partner because, first, value proposition overall revolves around clients (Woodruff, 1997), and yet more significant, to move to CE, the customers' willingness to switch towards circular offerings is fundamental (Hazen, Mollenkopf, & Wang, 2017). However, prior research focuses on the provider's perspective; thus, there is insufficient knowledge about other players such as customers (Parida & Wincent, 2019). Also, there is scarce information about government and expert organizations. Hence, these actors are next briefly reviewed:

- Customers.- Compensations for sharing resources and activities in a coordinated and collaborative way can enable customer collaboration (Belk, 2014; Möhlmann, 2015). Aagaard and

Ritzén (2020) consider that innovation to create sustainable BMs needs customer collaboration for value co-creation. Hence, it is better to refer to service experience co-creation. It considers a broader scope since it embraces the interaction between customer-provider, customer-customer, or customer-other actors to collaboratively integrate each party's resources and abilities to enhance the service experience before, during, and beyond it. (Jaakkola, Helkkula, & Aarikka-Stenroos, 2015). Through it, stakeholders' interaction produces meaningful experiences and responses, and their growth generates value and its evolving in a shared space (Hernández-Ortega and Franco, 2019).

- Experts.- these are third parties that share information and knowledge, formed by research institutes, consultants, and the government (Chertow, 2000; Haskins, 2006). This point only considers describing the first two. In research institutions case (includes universities), Riesener et al. (2019) note that the main reason for collaboration is sustainable innovations, where novelty can reach the disruption level, and reciprocal teaching and cooperation are indispensable to multiplying innovation opportunities. On their part, consultants are mainly hired by companies to provide information, approaches, and knowledge for project advance and can facilitate collaborative network development (von Malmborg, 2004).

- Government.- Public policies can be an essential source of complementary resources (Lüdeke-Freund, 2020). Public financial supports are one type of it. According to Teece (2006), a resource is complementary when it is obtained through third parties. These resources are essential given the restricted availability to access financial capital when businesses are in the early stages of R&D and application (Grubb, 2004), since private capital is somewhat reluctant to fully invest in these stages (Wüstenhagen and Menichetti, 2012). On the other part, the development of policies can help overcome challenges, since new regulatory instruments can support sustainable alternatives.

METHODOLOGY

Since this study focuses on revealing the CBMI achievement, a qualitative approach was applied by employing the Delphi methodology. This method is suitable due to its exploratory nature to enhance comprehension of specific topics, issues, etc. (Skulmoski, Hartman, and Krahn, 2007).

Also, researchers use it in contexts where there are information gaps (Czaplicka-Kolarz, K., Stanczyk & Kapusta, 2009). The next sections describe the method development.

Delphi Technique

The Delphi methodology is a testing technique that requires experts judgment through an iterative process (Rowe and Wright, 1996). Questionnaires are the gathering tools presented in an interspersed form by stages or rounds until a consensus on ideas and estimations is reached (Skulmoski et al., 2007). The experts can be in different geographic locations (Rowe and Wright, 1999), and this ensures the anonymity, inferring with this that any bias minimizes compared to the risk of falling into conformity with others' opinions due to being in the same group (Dalkey and Helmer, 1963).

The method has been adapted in various ways: to facilitate group problem solving and models generation (Turoff and Linstone, 1975), to produce new knowledge due to less-explored problems or phenomena (Adler & Ziglio, 1996; Delbecq, van de Ven, & Gustafson, 1976), etc. Van Dijk (1990) concluded that conducting individual interviews has a lower probability of desertion and improves quality responses than questionnaires. Additionally, (Bryman & Bell, 2015) stated that profound insights generation is more feasible because of its application. The Rand Corporation also employed interviews during the early stages of Delphi's development (Dalkey & Helmer, 1963). Hence, due to the above arguments, I chose semi-structured interviews as the data-gathering tool.

In the traditional Delphi method, researchers apply at least three questionnaires rounds to consolidate the results and draw conclusions from all judgments (Skulmoski et al., 2007). However, authors such as Hartman and Baldwin (1995) and Kuo and Yu (1999) have applied only one round. Similarly, de Meyrick (2003) describes that George Washington University adapted the methodology to a single round since it intended to obtain data and identify emerging technologies without seeking consensus. Thus, I decided to develop only one round due to the thesis and interviewees' limited time availability.

Experts Selection

Experts selection is fundamental since their answers influence the results (Hsu & Sandford, 2007; Skulmoski et al., 2007). For this, Reid (1988) states that they should be chosen for their independence, capacities, and background. MacCarthy and Atthirawong (2003) indicates that the group of experts must be at least seven. Therefore, the panel consisted of seven experts from different areas with extensive knowledge and experience in CE/CBMs of the circular fashion retail sector in the Netherlands (see Table 2) (practitioners started as circular enterprises with a considerable circularity level). Clients are practitioners' customers. Experts were randomly identified by internet browser due to expertise and outstanding activity; through social media or in person at the practitioner's store (customers case); and because I knew any of the experts from the city I was living in the Netherlands. It is worth mentioning that the Dutch industry has a leading position in CE development (van Buren, Demmers, van der Heijden, & Witlox, 2016).

TABLE 2
Experts Profile

Interviewee code	Category	Expertise	CBMI level
R1	Practitioner	Retailer (founder)	Systemic
R2			
R3			Hybrid
C1	Customer	Consumer	--
C2			--
G1	Government	Municipality (CE expertise)	--
D1	Consultancy	Circular fashion retail expertise	--

Data Collection and Analysis

Following Yin's (2009) recommendation, I developed an interview protocol for semi-structured interviews application to increase reliability. It consisted of briefly notifying the interviewee about the information collection purpose (for academic objectives) through email invitation and at the beginning of the interview and asking their consent to record the session. Likewise, during the interview introduction, I mentioned the aim of the research. Throughout its development, if needed, I asked more questions to deepen in a specific topic. The interviews took place through

Microsoft Teams, Zoom, and WhatsApp call between July and September of 2020. Interviews duration was between 30 to 60 min. I recorded and transcribed them to increase reliability and construct validity (Riege, 2003). For transcription, the researcher used the WORD program.

For information analysis, I used the ATLAS 8 program. Likewise, I applied the content analysis method under a deductive approach, since it is proper for finding new perspectives, knowledge, and practical guidance (Krippendorff, 1980). It implied (Elo & Kyngäs, 2008): developing a pre-codes matrix based on the literature review, coding by using this base, but where new codes also emerged during the process (Saldana, 2009), which led to new concepts from an inductive approach (Elo & Kyngäs, 2008).

RESULTS

This section presents the results of the data analysis. The findings show that the treatment of CBMs challenges uses paradoxical and ecosystem collaboration lenses. Interestingly, most of the tensions are of performance type and mainly managed through integrative strategies. Similarly, CBMs inherently develop in an ecosystem context, generally as a business ecosystem. However, innovation ecosystems can take place. For these, specific strategies were identified, leading to CBMs achievement. The main findings are discussed in more detail below.

Paradox Management for CBMs Development

Tensions. Although belonging, learning, and organizing tensions appear, most are of the performance category. A description of them follows, depicting in Table 3 the relevant examples:

- Belonging/Identity, Learning/Temporal, and Organizing.- The three tensions emerged from D1 information. The companies more prone to them are incumbent companies. As shown in Table 3, these tensions locate at the decision-making levels. Change reluctancy is due to: not being identified with CBMs (belonging), preference over current systems/ methods (learning), or because of having the challenge to explore more and beyond their supply chain (organizing). Only R2 registered a temporal tension related to profit difficulties through leasing payments instead of immediate purchase.

- Performance.- This has the primary incidence and relates to external parties. They are grouped into two: those experienced with customers and with various organizations, mainly other companies. In the first group, divergences appear in value delivery, where clothing is mainly sold online, as expressed by C1: “I think the main issue that people don't switch to this kind of fashion is because there is no fun factor in it. And by this, I mean, people like to go shopping in the malls, and they like to go visit 20 stores and come back with 40 bags of clothes. So switching to sustainable brands means that usually, they are online.” Likewise, value capture discrepancies relate to leasing contracts, which in some cases, rules and scope raise doubts. However, price is the principal conflict. Usually, low prices are typical in fast fashion and are influenced by low-cost clothing/fabrics from China, leading to the perception that "the linear way is still cheaper than the circular way." (R1). Thus, the market still prefers economical. A similar effect can happen in the procurement systems, as G1 expressed: “Sometimes they have come up with a great solution, a very sustainable circular and we procure things in a very traditional way. So that product will never be shown because it's too innovative and even a bit more expensive than it's been […]”

The second group is the tensions with various organizations. Here, the value proposition is still not preferred over linear products (R1, R3), or there are still no policies to encourage/support circular fashion consumption/production. Nevertheless, difficulties are higher in value creation and concerns to collaboration for successful CBM deployment. Two stages are identified: before and during the partnership. Allies identification stills a challenge in the former, since there are differences in sharing the same perspectives, goals, vision, etc., even in *R* principles scope. Particularly on the values or means to rely on. Lastly, although partnership terms are agreed upon, tensions occur during its development: concerning manufacturing orders level, when some allies collaborate more than others, or how and who will manage new circular challenges and how everyone benefits (in ecosystems). As R2 says: “We stand for what we would like to have partners also to work with. Although it is not so easy, sometimes we have to change or look for another partners.”

TABLE 3
Paradoxical Tensions in CBMs

1st order themes	2nd order themes	Frequency	Quotes examples
Linear vs. Circular	Belonging / Identity	D1	"So you can imagine if you're a founder and you founded a retail industry for 50 years or something and it's a good commercial business, you will wonder: 'Why should I change?' Because businesses are still going good. So there's a problem. Consumers still buy."
Short vs. Long term	Learning / Temporal	R2	"But when we sell online by leasing contract is getting hard also because, we pay only in parts, so our jeans are paid after that."
Stablished vs. Developing new processes		D1	"And so most of the times to change doesn't come from the big corporations because they have all the systems and they work in a certain way. And it's very hard to change."
Supply chain vs. Ecosystems network	Organizing	D1	"[...] but you have to know at least your supply chain. And I think there is the biggest challenge. Because a lot of retailers don't even have insight into their supply chains."
Cheaper vs. expensive	Performing	C1, G1, R1, R3	"People are used to paying 5 euros for shirts, for example, which is insane [...] And when I tell them: 'You have to go to this brand!' And they see like 30 euros, and they got like: 'What! Why would I pay so much money?'
Differences in collaboration		D1, G1, R1, R2	"But when there are contracts, then the leaders of the companies come for and say: "Oh, wait! Why does it have to be those strange things as contracts? Because we want to become free."

Strategies. As it is observed in Table 4, the developed strategies mostly belong to the integrative category rather than instrumental. The results are described next.

TABLE 4

Strategies to Address Paradoxical Tensions

1st order themes	2nd order themes	Category	Frequency	Quotes examples
Ignoring Investment	Avoidance	Instrumental	G1, R2	"We are quite in a central place in the networks. So we know almost every company in our region and we have a personal contact with them, almost every company." "So that's why we have a big investment from an alone investor fund the last year, who helped us to finance this gap."
Certifications/ Labels Circular frameworks/ tools Storytelling	Opposing	Integrative	D1, R1, R2, R3	"We worked with the FairWear foundation at the beginning. [...] And they also gave us a program saying: 'ok, this is what stills wrong and this is how you can improved that.'" "So we tell our story, how we started, what we do. We tell also, what is the cost, what are our opportunities but also our fails. So we are very honest to our clients [...]"
Specialized partnerships/ networking	Spatial		D1, G1, R1, R2	"We update the entrepreneur in the networks. So now they are talking to the ministry that is responsible for these rules and regulations." "So the NGO will do all the crunching numbers, all the theories, all the data, the project management, etc., and the companies that are involved to have the direct cases tested and also get input."
Monthly leveled payments/orders	Temporal		R2	"We try also for our used textile supplier, to give him a very leveled order program throughout the year, so he doesn't have very higher and very lows peaks."
New developments	Synthesis		R1, R2	"In 2010, we already thought about developing a fabric which where circular and upcycleable. And I had the luck to find a company, a specialized company in fabrics [...] and they we're interested and said: 'We will make the fabric." "And now we are together with four groups: we are with a University section, our company, people from circular economy and a Spanish supplier that we are now developing a new material."

- Instrumental.- These are mainly linked to monetary issues. Ignoring type emerged from the tension of high garments prices and low-cost prioritization. Here, none conclusive responses were replied by the involved parties —businesses or government. Although, from data analysis, companies have some solutions for it (see integrative strategies). Despite it, prices are still high. Nonetheless, it does not hinder the purchase by clients such as C1 and C2, who do not frequently change garments. Moreover, they support CE, as expressing: "It's my way of living!" (C2), they care about fair/ethic production, and consider these garments are in line with their principles. Investment type has to do with financial gaps due to leasing payment. R2 only referred to it. Here investors have been used to fund the gap. Still, this does not represent a definitive solution, and therefore, "again, the gap is growing quickly, and the finances again get difficult." (R2).

- Integrative.- Most strategies belong to this category. In Opposing strategies, certifications/labels are used to know, operate, and improve everything as a circular company. Similarly, it is advisable to use circular frameworks/tools, like risk analysis and mapping, as this allows "to become sustainable and circular, define priorities, targets, and actions, and how to approach risks on social and environmental levels, and then look for opportunities." (D1). Storytelling is a means to spread the CBMs and to attract customers but even investors and partners. The messages convey both good and bad business aspects (transparency). As R1 mentions: "that makes it possible that we are growing.". Temporal strategies appeared only in R2, to lessen the high clothing investment, it modifies the monthly renting (e.g., instead of single membership payment, it is split along the months) (although rent results in a paradox in the financial area). Also, leveled production orders with suppliers are a solution, which can address tensions related to manufacturing orders. Spatial strategies are developed with specialized partnerships. Businesses employ them for production and supply mainly. Moreover, to develop other activities and projects to slow, narrow, close the loop, and in which do not have the expertise or have limited resources. Here, certain kinds of contracts can exist to alleviate tensions before and during collaboration (mainly in ecosystems): key members (with a role and decision-making influence) and collaborator (only support). Furthermore, companies leans on parties to try improving expensive garments tensions (e.g., specialized fabric partner will cooperate with others to enhance cost production), and also government uses it for updating policies for the CE (through networking). Spatial strategies are frequently utilized with Temporal and Synthesis strategies. The

latter relies precisely on collaboration with parties to create novel solutions. Also, R2 uses its technologies to develop new systems to have samples of all its models in every size in partners' stores for customers' try on and for later delivery by R2. In this way, it intends to solve online selling tension (also for not enough garments in stores) and foster its leasing system.

Ecosystem Collaboration

Ecosystem characteristics, type and orchestration. A consistent result for successful CBMs and CE is that they require such a collaboration system that is only possible within an ecosystem (R3 and C2 do not have it), since "you cannot do it all by yourself." (R1). Therefore, it is better to refer to a collective value proposition (Jonker et al., 2018). Interestingly, circular fashion retailers not only sell garments, but they design circular clothing, services, etc. Thus, they develop and rely on an ecosystem to innovate, manufacture, get into the market, and close fabrics loops. Like R1 explains: “Actually in ‘X’, we are doing nothing. We are only the director of the circle.” Also notable, all practitioners agreed that quality is crucial, because “as a producer, you have to be responsible for what you put in the market because, at the end of product life, the same quality will be there.” (R2). Hence, they have high-quality, sustainable garments (confirmed by C1 and C2), in addition to tending to upcycling.

The business ecosystem is typically described by practitioners, which is compounded by different and mainly foreign companies. They are orchestrated by the focal company's founder, who sets the innovation vision, coordinates, and integrates new participants into the ecosystem. It is noteworthy that G1 and D1 agree that two persons should direct the ecosystem. The second type is the innovation ecosystem. Only R2 cited that recently established one to develop new materials and processes and to scale them up. On the other hand, practitioners indicated that the government and specialists (consultants) had not been their partners. However, G1 and D1 mentioned their collaboration in other innovation ecosystems.

Strategies to develop ecosystem collaboration. Regarding how collaboration occurs in ecosystems, Table 5 shows the three levels of its development. Within each one appears the strategies that start and generate conditions for engagement (enablers), those that strengthen the link or maintain it (reinforcements), and the means that allow its development (tools).

TABLE 5
Strategies for Ecosystem Collaboration

1st order themes	2nd order themes	Category	Frequency	Quotes examples
Incentives/ compensations Special designs	Enablers (attractors)		C1, C2, R1, R2, R3	"The fact that if they're broken, I can send them back and I get a little bit of my money back to buy a new one. [...] All this made me to switch."
Meaningful experiences/ programs Close personal contact	Reinforcements	Micro-level: Customers	C1, C2	"They have this ambassador program, which I think is awesome. [...] I just keep telling: 'Don't go to X, don't go to Y, just do good for the environment and stay away from child labor items.'"
Information and communication technologies Contracts	Tools		C1, C2, R1, R2	"For example with Z in Belgium, we made the garments for their reception people. And we have contracts after two or three years where they collect the garments and we get it back."
Complementarities	Enablers		D1, R1, R2	"Now we have a big project with a huge retailer in Europe. [...] is going to be a cover for a sofa, with our 40% recycled material. They are going to use it as you have to bring back your old 'n', before you can buy this students' sofa very well known."
Close personal contact	Reinforcements	Meso-level: Organizations	R1, R2	
Contracts Public funding	Tools		G1, R1, R2	"We are going to work on a Holland circular suit this year. We have some development money from the European Union [...]"
Complementarities (Intermediaries)	Enablers		D1	"NGOs know exactly what the local governments need. So you maybe don't work directly with the local governments, but indirectly. [...] you just approach the NGOs."
Circular frameworks/tools (as programs) Public funding	Tools	Macro-level: Government	G1	"We also are going to use now at the end of this year Circo tracks.[...] to create certain tracks, so three day workshops for a specific sector."

- Micro-level.- Clients allow sales, but also enables the closing of the loop. Therefore there are strategies to attract them. For this, it can be added to the value proposition:

incentive/compensation schemes such as free repairs, discounts/promotions for returning old garments, or promoting the products among other people. A common factor is the originality of the garments' design, ranging from different models and colors, unique designs, and even tailored and multiple purpose circular wearing. Creating meaningful experiences/programs helps to strengthen the bond, like special programs for product promotion, and through this, collaborate with the circular impact. Also, it permits value co-creation for both the company (more customers and recycled garments) and customers (e.g., purchase discounts). Personal contact is a mean to strengthen the relationship. Collaboration development can be established through leasing contracts, and communication technologies such as web pages enable online contact and purchasing or rent.

- Meso-level.- Other companies, Universities, NGO's and consultancies are part of this level. The fundamental basis is complementarities. In other words, each actor contributes to their assets (knowledge, ideas, market reach, R&D, infrastructure, etc.), to support and jointly innovate. It has led to the circular creation of fabrics, processes, complementary products for organizations, etc. Sometimes these are developed through joint innovation projects supported by public funding. Close contact between members is crucial for partnerships development, strengthening, preservation (done by orchestrator), and collaboration conditions are established through contracts.

- Macro-level.- The means emerged from D1 and G1 data. Complementarities identification with the government may be possible through another organization. Notably, the NGOs can help with it, given their expertise, relationships, and governments' closeness. On the other hand, governments can use circular frameworks/tools as collaborative programs to support the development of CBMs (generally for priority sectors; fashion priority depends on the regions). Likewise, they have subsidies/funds to support innovation projects cooperatively, since working with other parties makes that “impact and a lot of ideas and innovations become interesting” (G1).

DISCUSSION

This section presents the conclusions regarding the results and the research question answering. Consequently, recommendations to support CBMI are proposed. Study limitations and suggestions for future research are offered in the last part.

Conclusions

The study intended to reveal how businesses can innovate to develop CBMs by conjugating paradoxical management and ecosystem collaboration lenses, from the analysis of interviews done with seven experts in circular fashion retail. Most of the experts started as circular businesses, and others have broad experience in CMBs or CE. As contributions, it provides empirical evidence of both approaches and brings insights into them and their strategies.

The majority of tensions emerge due to differences between external actors (performance). There are two main discrepancies: price and collaboration. In the former, circular garments have higher prices, placing them at a disadvantage with customers than fast fashion. Circular fashion has a high level of sustainable-circular quality due to practitioners' philosophy on it. It requires a high investment, resulting in costly garments. These results are different from Daddi et al. (2019), where low quality exists due to circular practices affecting competitiveness. Thus, this suggests that circular practices do not implicitly affect quality. The second prominent tension is collaboration (start and development), mainly due to multiple perspectives, goals, visions, etc. Regarding belonging, learning, and organizing tensions, they have minimal incidence and seem to only appear in linear companies.

On the other hand, instrumental and integrative strategies solve the tensions. However, very few instrumental strategies arise compared to the greater number of integrative type. The latter's significant number could affirm Calic et al. (2020) proposal, which suggests that solutions based on sustainability constraints come from a paradoxical mindset (ambidexterity). Nonetheless, the findings differ from Daddi et al. (2019), Stubbs (2019), and Van Bommel (2018), since solutions involve combinations of both strategies. Coincidences only exist with Van Bommel (2018) regarding the management of performance tensions through the integrative approach. The above confirms Schad, Lewis, Raisch, and Smith (2017), who state that tension solutions management depends on the environment. Integrative strategies include certifications, labels, risk analysis, among other sustainable-circular tools to identify all concerning adequate CBM development. Storytelling using transparency makes the proposal attractive, in addition to considering the great environmental and ethical interests and values of customers and new generations. Moreover, parties are employed in practically in practically all value creation to slow, narrow, close the loop,

solve price tensions, establish contracts by cooperation level (for collaboration tensions), and create novel solutions. Hence this proves Henry et al. (2020) findings of companies starting as circular and their high capacity to find novel solutions to be as circular as possible.

Prominently, circular fashion retailers do not exclusively sell garments, and their clothing has a high quality. Its activities range from circular fabrics development to clothing selling, mainly through rental models. By doing this, retailers fulfill their vision of garments total circularity. Consequently, to achieve the circularity target (high), CMB inherently requires other actors' collaboration, and to facilitate it, fashion retailers develop an ecosystem (business or innovation). Hence it would be more appropriate to call the CBMs as Circular Ecosystem BMs. Collaboration occurs in three levels: micro-client, meso-organizations, and macro-government. Development strategies include complementarities and personal contact, leading to innovation that creates value for all parties. In this way, these retailers have transformed their usual position to a proactive one, becoming an ecosystem key leading figure (orchestrator), changing and impacting their sector, and even others. Therefore, circular innovation requires and embraces ecosystems, as identified by Brown, Bocken, and Balkenende (2020), Konietzko et al. (2020), and Zucchella and Previtali (2018).

Coincidences and differences are inferred between approaches. First, they converge in the alliances with external actors. However, the collaborative perspective is bases on people, organizations, and the creation and preservation of relationships, prioritizing them for loop success. Through the paradoxical lens, tensions can arise in relationships due to a clash of ideologies, values, etc. Nevertheless, it considers other sources (e.g., technologies); these could emerge internally as externally, and partnerships could be a solution. Second, proactive solutions that tend to innovate are sought. Although under ecosystem collaboration, the principal means are cooperation and complementing between parties to create new value. While paradoxical management uses contradictions knowledge (not omitting them), encouraging creativity to come to complete solutions (Smith & Tracey, 2016). Hence, one works from conflicts, while in the other, they are not implicitly necessary (Donaldson & Preston, 1995) since it is relationship-centered for asset sharing.

Therefore, it can be said that these approaches are complementary. Then, to answer the research question, it is next described how both support CBMI achievement: by using an ecosystem collaboration lens, this helps with actors identification to support CBM development, since proper loop management requires the participation of various parties. So they are vital for value creation, even more, where innovation becomes essential to achieve the circularity target or higher levels of it due to resource constraints. Complementarities usage benefits this while syntonizing the parties under a common purpose. Likewise, businesses can enrich their social sphere, since it is fostered a mindset based on links to create value and innovation for all parties, triggering strategies, and tools to achieve and strengthen them. However, even in relationships, conflicts can arise due to contradictory demands. Contradictions are not only relational but also have different origins and can emerge at any time and section of the CBM. Therefore it requires such a mindset that can find solutions to them. Thus, the paradoxical management approach enables an ambidextrous mindset, which employs contradictions knowledge and analysis to lead strategies development that produces complete, even novel solutions. Finally, this demonstrates the importance of embracing both lenses since their nature and combination enhance and multiplies innovation opportunities before the expected complexities in CBMs development.

Recommendations

The following implications can be derived from analysis results and insights. First, developing a culture of combined approaches: paradoxical management and ecosystem collaboration through complementarities. Since there are greater possibilities of success in light of circular challenges, companies that are considering transition or are already in it could greatly benefit from this culture at all organizational levels, mainly in managers who lead the changes. It is also advisable in businesses with low or intermediate circularity levels, interested in expanding their impact. Second, improve/broaden the circular innovation spectrum. Companies and organizations can exploit this combined approach to improve aspects not wholly solved, such as the price or the leasing model's complete penetration into the market. Similarly, to drive circularity to markets with limited access to it, such as the pyramid base. It may represent an opportunity to embrace complete sustainability by strengthening the social impact (beyond fair trade), and which the literature usually reports almost absent in environmental-circular businesses. Finally, specialists (consultants, universities) could include this combined approach in their corresponding

methodologies/frameworks. The government can also rely on it to propel policies where there are still CE challenges. For example, to benefit circular fashion producers/sellers to lessen price tensions or the likelihood of losing sight of too innovative products.

Limitations

Although this work contributes to understanding CBMI achievement, the methodology has limitations, restricting the results' generalization. The study only considered experts from the Netherlands, most of them belonging to a single industry. Likewise, most interviewees started with CBMs or are part of them and have a high circularity level. Furthermore, the sample is small and only considered one round. The usual standard is three rounds (Hsu & Sandford, 2007). Other actors also contribute to CBMs development, such as employees and suppliers, and did not form part of the sample.

On the other hand, regarding the specific sector, the design of the questions related to tensions was open. In other words, asking for particular tensions was not emphasized (such as the leasing challenges), since it was chosen to give freedom to the interviewees to mention the tensions they most considered. Moreover, the work aim was not centered on the identified sector, so the theoretical framework did not consider the corresponding information.

Future research

New avenues of research may emerge based on this work. On the one hand, the enrichment of results (sector and circular level studied) could be done with a sample made up of more experts that also include not considered actors and conducting the standard number of rounds. It is also convenient to extend the research to companies that have been transformed from linear to circular, with a particular interest in those that achieve high circularity levels. It could consider various industrial sectors as well as in different nations. Regarding transition, another route could be a longitudinal study to observe the transition stages and the scaling of the circularity levels in more detail.

REFERENCES

Aagaard, A., & Ritzén, S. 2020. The critical aspects of co-creating and co-capturing sustainable value in service business models. ***Creativity and Innovation Management***, 29(2): 292–302.

Adler, M., & Ziglio, E. 1996. ***Gazing Into the Oracle: The Delphi Method and Its Application to Social Policy and Public Health***. United Kingdom: Jessica Kingsley Publishers.

Adner, R. 2016. Ecosystem as structure: an actionable construct for strategy. ***Journal of Management***, 43: 39–58.

Andriopoulos, C., & Lewis, M. W. 2009. Exploitation-exploration tensions and organizational ambidexterity: managing paradoxes of innovation. ***Organization Science***, 20(4): 696–717.

Bastein, T., Roelofs, E., Rietveld, E., & Hoogendoorn, A. 2013. ***Opportunities for a Circular Economy in the Netherlands***. https://www.tno.nl/media/8551/tno-circular-economy-for-ienm.pdf.

Belk, R. 2014. You are what you can access: sharing and collaborative consumption online. ***Journal of Business Research2***, 67(8): 1595–1600.

Bocken, N. M. P., de Pauw, I., Bakker, C., & van der Grinten, B. 2016. Product design and business model strategies for a circular economy. ***Journal of Industrial Production Engineering***, 33(5): 308–320.

Bocken, N. M. P., Schuit, C. S. C., & Kraaijenhagen, C. 2018. Experimenting with a circular business model: Lessons from eight cases. ***Environmental Innovation and Societal Transitions***, 28: 79–95.

Brandenburger, A. M., & Nalebuff, B. J. 1996. ***Co-opetition: A revolutionary mindset that combines competition and cooperation in the marketplace***. Boston, MA: Harvard Business School Press.

Brown, P., Bocken, N., & Balkenende, R. 2020. How Do Companies Collaborate for Circular Oriented Innovation? ***Sustainability2***, 12(1648): 1–21.

Bryman, A., & Bell, E. 2015. ***Business Research Methods***. Oxford University Press.

Calic, G., Hélie, S., Bontis, N., & Mosakowski, E. 2018. Creativity from paradoxical experience: a theory of how individuals achieve creativity while adopting paradoxical frames. ***Journal of Knowledge Management***, 23(3): 397–418.

Calic, G., Shevchenko, A., Ghasemaghaei, M., Bontis, N., & Ozmen, Z. 2020. From sustainability constraints to innovation: Enhancing innovation by simultaneously attending to sustainability and commercial imperatives. ***Sustainability Accounting, Management and Policy Journal***.

Chertow, M. R. 2000. Industrial symbiosis: Literature and Taxonomy. ***Annual Review of Energy and the Environment***, 25(1): 313–337.

Chesbrough, H. 2006. ***Open business models: How to thrive in the new innovation landscape***. Harvard Business Press.

Christensen, C. M. 1997. ***The Innovator's Dilemma: when New Technologies Cause Great Firms to Fail***. Harvard Business School Press.

Circle Economy. 2019. ***The Circularity Gap Report: an analysis of the circular state of the global economy***. https://assets.website-files.com/5d26d80e8836af2d12ed1269/5dea43f562f8ac3e3113fe51_ad6e59_ba1e4d16c64f44fa94fbd8708eae8e34_compressed.pdf.

Czaplicka-Kolarz, K., Stanczyk, K., & Kapusta, K. 2009. Technology foresight for a vision of energy sector development in Poland till 2030. Delphi survey as an element of technology foresighting. ***Technological Forecasting and Social Change***, 76(3): 327–338.

Daddi, T., Ceglia, D., Bianchi, G., & Dutra, M. 2019. Paradoxical tensions and corporate sustainability: A focus on circular economy business cases. ***Corporate Social Responsibility and Environmental Management***, 26: 770–780.

Dalkey, N., & Helmer, O. 1963. An Experimental Application of the DELPHI Method to the Use of Experts. ***Management Science***, 9(3): 351–515.

De los Rios, I. C., & Charnley, F. J. S. 2016. Skills and capabilities for a sustainable and circular economy: the changing role of design. ***Journal of Cleaner Production***, 160: 109–122.

de Meyrick, J. 2003. The Delphi method and health research. ***Health Education***, 103(1): 7–16.

De Pádua Pieronia, M., Pigosso, D. C. A., & McAloone, T. C. 2018. Sustainable qualifying criteria for designing circular business models. ***25th CIRP Life Cycle Engineering (LCE) Conference***. Copenhagen, Denmark: Procedia CIRP 69.

Delbecq, A. L., van de Ven, A. H., & Gustafson, D. H. 1976. Group techniques for program planning : a guide to nominal group and delphi processes. ***Journal of Applied Behavioral Science***, 12(4).

Dmitriev, V., Simmons, G., Truong, Y., Palmer, M., & Schneckenberg, D. 2014. An exploration of business model development in the commercialization of technology innovations. ***R & D Management***, 44(3): 306–321.

Donaldson, T., & Preston, L. . 1995. The stakeholder theory of the corporation: concepts, evidence, and implications. ***Academy of Management Review***, 20: 65–91.

Elo, S., & Kyngäs, H. 2008. The qualitative content analysis process. ***Journal of Advanced Nursing***, 62(1): 107–115.

EMF, McKinsey, & S. 2015. ***Growth within: A circular economy vision for a competitive Europe***. https://www.ellenmacarthurfoundation.org/assets/downloads/publications/EllenMacArthurFoundation_Growth-Within_July15.pdf.

Evans, S., Vladimirova, D., Holgado, M., Van Fossen, K., Yang, M., et al. 2017. Business model innovation for sustainability: towards a unified perspective for creation of sustainable business models. ***Business Strategy and the Environment***, 26: 597–608.

Expense Reduction Analysts. 2020. Fashion brands begin trialling circular economy business models. ***Expense Reduction Analysts***. https://au.expensereduction.com/news/fashion-brands-begin-trialling-circular-economy-business-models/.

Frankenberger, K., Weiblen, T., Csik, M., & Gassmann, O. 2013. The 4I-framework of business model innovation: A structured view on process phases and challenges. ***International Journal of Product Development***, 18(3/4): 249–273.

Gassmann, O., Frankenberger, K., & Csik, M. 2013. ***The St. Gallen Business Model Navigator***. https://managementmodellensite.nl/webcontent/uploads/Magische-driehoek-businessmodel-innovatie-Engelstalig.pdf.

Geissdoerfer, M., S., Bocken, N., & Hultink, E. 2017. The Circular Economy – A new sustainability paradigm? ***Journal of Cleaner Production***, 143(1): 757–768.

Ghisellini, P., Cialani, C., & Ulgiati, S. 2016. A review on circular economy: the expected transition to a balanced interplay of environmental and economic systems. ***Journa of Cleaner Production***, 114: 11–32.

Grubb, M. 2004. Technology innovation and climate change policy: An overview of issues and options. ***Keio Economic Studies***, 41(2): 103–132.

Guldmann, E., & Huulgaard, R. D. 2019. Circular Business Model Innovation for Sustainable Development. In N. Bocken, P. Ritala, L. Alberada, & R. Verburg (Eds.), ***Innovation for sustainability: Business transformations towards a better world***: 77–93. Cham, Switzerland: Palgrave Macmillan.

Hahn, T., Figge, F., Pinkse, J., & Preuss, L. 2017. A Paradox Perspective on Corporate Sustainability: Descriptive, Instrumental, and Normative Aspectse. ***Journal of Business Ethics***, 148: 235–248.

Hartman, F. T., & Baldwin, A. 1995. Using Technology to Improve Delphi Method. ***Journal of Computing in Civil Engineering***, 9(4).

Haskins, C. 2006. Multidisciplinary investigation of eco-industrial parks. ***Systems Engineering***, 9(4): 313–330.

Hazen, B. T., Mollenkopf, D. A., & Wang, Y. 2017. Remanufacturing for the Circular Economy: An Examination of Consumer Switching Behavior. ***Business Strategy and the Environment***, 26: 451–464.

Henry, M., Bauwens, T., Hekkert, M., & Kirchherr, J. 2020. A typology of circular start-ups: An Analysis of 128 circular business models. ***Journal of Cleaner Production***, 245.

Hernández-Ortega, B., & Franco, J. L. 2019. Developing a new conceptual framework for experience and value creation. ***Service Business***, 13: 225–248.

Hockerts, K. 2015. How Hybrid Organizations Turn Antagonistic Assets into Complementarities. ***California Management Review***, 57(3): 83–106.

Hsu, C.-C., & Sandford, B. A. 2007. The Delphi Technique: Making Sense of Consensus. ***Practical Assessment, Research, and Evaluation***, 12(10).

Iansiti, M., & Levien, R. 2004. ***The keystone advantage: What the new dynamics of business ecosystems mean for strategy, innovation, and sustainability***. Boston, MA: Harvard Business School Press.

Jaakkola, E., Helkkula, A., & Aarikka-Stenroos, L. 2015. Service experience co-creation: conceptualization, implications, and future research directions. ***Journal of Service Management***, 26(2): 182–205.

Jacobides, M. G., Cennamo, C., & Gawer, A. 2018. Towards a theory of ecosystems. ***Strategic Management Journal***, 39: 2255–2276.

Jacobides, M. G., Knudsen, T., & Augier, M. 2006. Benefiting from innovation: Value creation, value appropriation and the role of industry architectures. ***Research Policy***, 35: 1200–1221.

Jones, P., & Comfort, D. 2018. The Circular Economy and the Leading European Retailers: A Research Note. ***European Journal of Sustainable Development Research***, 2(2).

Jonker, J., Kothman, I., Faber, N., & Montenegro Navarro, N. 2018. ***Organising for the Circular Economy***. https://www.newbusinessmodels.info/publications/.

Jørgensen, S., & Pedersen, L. J. T. 2018. ***RESTART Sustainable Business Model Innovation***. Bergen, Norway: Palgrave Macmillan.

Konietzko, J., Bocken, N., & Hultink, E. J. 2020. Circular ecosystem innovation: An initial set of principles. ***Journal of Cleaner Production***, 253: 1–15.

Krippendorff, K. 1980. ***Content Analysis: An Introduction to its Methodology***. Newbury Park: Sage Publications.

Kuo, N.-W., & Yu, Y.-H. 1999. An Evaluation System for National Park Selection in Taiwan. ***Journal of Environmental Planning and Management***, 42(5): 735–745.

Lacy, P., Keeble, J., McNamara, R., Rutqvist, J., Haglund, T., et al. 2014. ***Circular Advantage: Innovative Business Models and Technologies to Create Value in a World Without Limits to Growth***.

Lacy, P., Long, J., & Spindler, W. 2020. ***The Circular Economy Handbook, Realizing the Circular Advantage***. London: Palgrave Macmillan.

Lewandowski, M. 2016. Designing the Business Models for Circular Economy—Towards the Conceptual Framework. ***Sustainability***, 8: 1–28.

Lewis, M. W. 2000. Exploring Paradox: Toward a More Comprehensive Guide. ***Academy of Management Review***, 25(4): 760–776.

Linder, M., & Williander, M. 2017. Circular Business Model Innovation: Inherent Uncertainties. ***Business Strategy and the Environment***, 26: 182–196.

Lockett, H., Johnson, M., Evans, S., & Bastl, M. 2011. Product service systems and supply network relationships: An exploratory case study. ***Journal of Manufacturing Technology Management***, 22(3): 293–313.

Ludeke-Freund, F., Gold, S., & Bocken, N. M. P. 2018. A Review and Typology of Circular Economy Business Model Patterns. ***Journal of Industrial Ecology***, 23(1): 36–61.

Lüdeke-Freund, F. 2020. Sustainable entrepreneurship, innovation, and business models: Integrative framework and propositions for future research. ***Business Strategy and the Environment***, 29: 665–681.

MacCarthy, B. L., & Atthirawong, W. 2003. Factors affecting location decisions in international operations: a Delphi study. ***International Journal of Operations & Production Management***, 23(7): 794.

Mathews, J., Tan, H., & Hu, M. 2018. Moving to a circular economy in China: Transforming industrial parks into eco-industrial parks. ***California Management Review***, 60(3): 157–181.

Mentik, B. 2014. ***Circular Business Model Innovation***. Delft University of Technology & Leiden University.

Miron-Spektor, E., Ingram, A., Keller, J., Smith, W. K., & Lewis, M. W. 2018. No TitleMicrofoundations of organizational paradox: the problem is how we think about the problem. ***Academy of Management Journal***, 61(1): 26–45.

Möhlmann, M. 2015. Collaborative consumption: determinants of satisfaction and the likelihood of using a sharing economy option again. ***Journal of Consumer Behaviour***, 14: 193–207.

Moore, J. F. 1993. Predators and prey: A new ecology of competition. ***Harvard Business Review1***, 71(3): 75–86.

Moore, J. F. 1996. ***The Death of Competition: Leadership and Strategy in the Age of Business Ecosystems***. Harper Business.

O'Reilly, C. A., & Tushman, M. L. 2013. Organizational ambidexterity: past, present, and future. ***Academy of Management Perspectives***, 27(4): 324–338.

Osterwalder, A., & Pigneur, Y. 2010. ***Business model generation: A handbook for visionaries, game changers, and challengers***. (Hoboken, Ed.) (1st editio). New Jersy: Wiley.

Paige, J. 2020. Why fashion retailers would benefit from a circular business model. ***Retail Insight Network***. https://www.retail-insight-network.com/features/why-fashion-retailers-would-benefit-from-a-circular-business-model/.

Parida, V., Burströmc, T., Visnjicd, I., & Wincent, J. 2019. Orchestrating industrial ecosystem in circular economy: A two-stage transformation model for large manufacturing companies. ***Journal of Business Research***, 101: 715–725.

Parida, V., Rönnberg, D., Lenka, S., & Wincent, J. 2015. Developing global service innovation capabilities: How global manufacturers address the challenges of market heterogenity. ***Research Technology Management***, 58(5): 35–44.

Parida, V., & Wincent, J. 2019. Why and how to compete through sustainability: a review and outline of trends influencing firm and network-level transformation. ***International***

Entrepreneurship and Management Journal, 15: 1–19.

Pieroni, M. P. P., McAloone, T. C., & Pigoss, D. C. A. 2019. Business model innovation for circular economy and sustainability: A review of approaches. ***Journal of Cleaner Production***, 215: 198–216.

Planing, P. 2015. Business model innovation in a circular economy reasons for non-acceptance of circular business models. ***Open Journal of Business Model Innovation***, 1(11): 1–11.

Ranta, V., Aarikka-Stenroos, L., & Makinen, S. J. 2018. Creating value in the circular economy: A structured multiple-case analysis of business models. ***Journa of Cleaner Production***, 201: 988–1000.

Rathinamoorthy, R. 2019. Circular fashion. In S. Senthilkannan Muthu (Ed.), ***Circular Economy in Textiles and Apparel: Processing, Manufacturing, and Design***: 13–48. Elsevier Ltd.

Reid, N. 1988. ***The Delphi technique: its contribution to the evaluation of professional practice***. Chapman-Hall, London: Professional Competence and Quality Assurance in the Caring Professions.

Reike, D., Vermeulen, W. J. V., & Witjes, S. 2018. The circular economy: New or Refurbished as CE 3.0? — Exploring Controversies in the Conceptualization of the Circular Economy through a Focus on History and Resource Value Retention Options. ***Resources, Conservation and Recycling***, 135: 246–264.

Richardson, J. 2008. The business model: An integrative framework for strategy execution. ***Strategic Change***, 133–144.

Riege, A. M. 2003. Validity and reliability tests in case study research: a literature review with "hands-on" applications for each research phase. ***Qualitative Market Research: An International Journal***, 6(2): 75–86.

Riesener, M., Dölle, C., & Kuhn, M. 2019. Innovation Ecosystems for Industrial Sustainability. ***26th CIRP Life Cycle Engineering (LCE) Conference***, 27–32. Elsevier B.V.

Rönnberg, D., Parida, V., & Kohtamäki, M. 2016. Capability configurations for advanced

service offerings in manufacturing firms: Using fuzzy set qualitative comparative analysis. ***Journal of Business Research***, 69(11): 5330–5335.

Rosa, P., Sassanelli, C., & Terzi, S. 2019. Towards Circular Business Models: A systematic literature review on classification frameworks and archetypes. ***Journa of Cleaner Production***, 236: 1–14.

Rowe, G., & Wright, G. 1996. The impact of task characteristics on the performance of structured group forecasting techniques. ***International Journal of Forecasting***, 12(1): 73–89.

Rowe, G., & Wright, G. 1999. The Delphi technique as a forecasting tool: issues and analysis. ***International Journal of Forecasting***, 15(4): 353–375.

Ruggieri, A., Braccini, A. M., Poponi, S., & Mosconi, E. M. 2016. A meta-model of inter-organisational cooperation for the transition to a circular economy. ***Sustainability***, 8(11): 1153–1170.

Saldana, J. 2009. ***The Coding Manual for Qualitative Researchers***. London: SAGE Publications, Inc.

Schad, J., Lewis, M. W., Raisch, S., & Smith, W. K. 2017. Paradox Research in Management Science: Looking Back to Move Forward. ***Academy of Management Annals***, 10(1): 5–64.

Sirmon, D., Hitt, M., Ireland, D., & Gilbert, B. A. 2011. Resource orchestration to create competitive advantage: breadth, depth, and life cycle effects. ***Journal of Management***, 37(5): 1390–1412.

Skulmoski, G. J., Hartman, F. T., & Krahn, J. 2007. The Delphi Method for Graduate Research. ***Journal of Information Technology Education***, 6: 1–21.

Smith, W. K., & Tracey, P. 2016. Institutional complexity and paradox theory: complementarities of competing demands. ***Strategic Organization***, 14: 455–466.

Stubbs, W. 2019. Strategies, practices, and tensions in managing business model innovation for sustainability: The case of an Australian BCorp. ***Corporate Social Responsibility and***

Environmental Management, 26: 1063–1072.

Teece, D. J. 1986. Profiting from technological innovation: implications for integration, collaboration, licensing and public policy. ***Research Policy***, 15: 285–305.

Teece, D. J. 2006. Reflections on "profiting from innovation. ***Research Policy***, 35(8): 1131–1146.

Turoff, M., & Linstone, H. A. 1975. ***The Delphi Method: Techniques and Applications***. Addison-Wesley Publishing Company.

Urbinati, A., Chiaroni, D., & Chiesa, V. 2017. Towards a new taxonomy of circular economy business models. ***Journal of Cleaner Production***, 168: 487–498.

Valkokari, K. 2015. Business, Innovation, and Knowledge Ecosystems: How they differ and How to survive and thrive within them. ***Technology Innovation Management Review***, 5(8): 17–24.

Van Bommel, K. 2018. Managing tensions in sustainable business models: Exploring instrumental and integrative strategies. ***Journal of Cleaner Production***, 196: 829–841.

van Buren, N., Demmers, M., van der Heijden, R., & Witlox, F. 2016. Towards a Circular Economy: The Role of Dutch Logistics Industries and Governments. ***Sustainability***, 8(7): 1–17.

Van der Byl, C. A., & Slawinski, N. 2015. Embracing Tensions in Corporate Sustainability: A Review of Research From Win-Wins and Trade-Offs to Paradoxes and Beyond. ***Organization & Environment***, 28(1): 54 –79.

Van Dijk, J. A. G. M. 1990. Delphi questionnaires versus individual and group interviews: A comparison case. ***Technological Forecasting and Social Change***, 37(3): 293–304.

von Malmborg, F. 2004. Networking for knowledge transfer: towards an understanding of local authority roles in regional industrial ecosystem management. ***Business Strategy and the Environment***, 13: 334–346.

Witjes, S., & Lozano, R. 2016. Towards a more Circular Economy: proposing a framework

linking sustainable public procurement and sustainable business models. ***Resources, Conservation and Recycling2***, 112: 37–44.

Woodruff, R. B. 1997. Customer value: The next source for competitive advantage. ***Journal of the Academy of Marketing Science***, 25(2): 139.

Wüstenhagen, R., & Menichetti, E. 2012. Strategic choices for renewable energy investment: Conceptual framework and opportunities for further research. ***Energy Policy***, 40: 1–10.

Yin, R. K. 2009. ***Case Study Research: Design and Methods*** (Fourth). California: SAGE Publications.

Zollo, M., Cennamo, C., & Neumann, K. 2013. Beyond what and why: Understanding organizational evolution towards sustainable enterprise models. ***Organization & Environment***, 26(3): 241–259.

Zott, Christoph, Amit, R., & Massa, L. 2011. The business model: Recent developments and future research. ***Journal of Management***, 37: 1019–1042.

Zott, C., Amit, R., & Massa, L. 2011. The Business Model: Recent Developments and Future Research. ***Journal of Management***, 1019–1042.

Zucchella, A., & Previtali, P. 2018. Circular business models for sustainable development: A "waste is food" restorative ecosystem. ***Business Strategy and the Environment***, 28: 274–285.