

How sustainable entrepreneurs balance business and saving the world

A multiple case study of tensions and management strategies of circular business ventures in Finland

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Abstract

The world is facing numerous environmental and social challenges, including climate change and the depletion of natural resources. In order to create a more sustainable future, the concept of circular economy has been raised as an alternative to the current linear 'take, make, waste' economy. In the creation of such an economic system, sustainable entrepreneurs and their ventures that aim to slow, close, or narrow resource loops act as key drivers. Despite the potential, circular economy has been slow to gain traction and impact the wider economic sphere.

This study aims to shed light on this problem by looking at the implementation of circular business models, and the tensions that emerge in the case companies' quest to create so-called triple bottom line value, in other words, as they strive to meet their social, environmental, and economic goals. Such tensions are continuously present in an organization with hybrid goals, which leads companies having to face and manage these tensions regularly. Understanding the tensions and how they can be managed, can accelerate our transition to a circular economy.

This thesis focuses on identifying tensions emerging in circular business ventures through a business model lens and then seeking to understand what are the key strategies the leaders of these circular ventures use to manage the tensions. The thesis aims to provide structure to these tensions and the management strategies and business model innovations, by connecting these to the three key elements of a business model: value proposition, value creation and delivery system as well as value capture. It provides an understanding of tensions occurring and recurring in building a circular venture of any circular core mechanism: closing, narrowing, or slowing resource circles. Finally, the thesis gives an overview of opportunities and gaps as well as future research areas.

Keywords circular economy, sustainable entrepreneurship, circular business models, tensions, management strategies

Table of Contents

1. Introduction	5
1.1. Background	5
1.2. Research questions and objectives	7
1.3. Structure of the thesis	8
2. Literature review	10
2.1. Circular economy	11
2.1.1. Definition of circular economy	11
2.1.2. Critique of circular economy	14
2.2. Circular business models	16
2.2.1 Business models	16
2.2.2. Circular business models	18
2.2.3. Key elements of circular business models	21
2.3. Sustainable entrepreneurship	23
2.3.1. Definition of sustainable entrepreneurship	24
2.3.2. Why sustainable entrepreneurship is hard	25
2.4. Tensions	27
2.4.1. In the pursuit of hybrid goals	27
2.4.2. Tensions in the context of circular businesses	28
2.4.3. Managing tensions	31
2.5. Theoretical framework	35
3. Methodology	39
3.1. Research philosophy and design	40
3.2. Research context	41
3.3. Methods and data collection	43
3.2.1. Multiple case study	43

3.2.2. Interviews	44
3.2.3. Documentation	45
3.2.4. Data analysis	45
3.2.5. Evaluation of the study and ethical concerns	48
4. Findings	51
4.1. Introducing the cases	51
4.2. Tensions in circular business models	54
4.2.1. Steering the market to circularity	54
4.2.2. Creating a new market for circular products	58
4.2.3. Unfavorable facts and beliefs about used products	60
4.3. Management strategies in circular business models	62
4.3.1. Expertise and education	62
4.3.2. Sustainable financing	64
4.3.3. Product research and development and co-creation	66
4.3.4. Sustainability	68
5. Discussion	72
5.1. Reviewing the research question and objectives	72
5.2. Implications of the research	76
5.3. Advancing circular economy through circular business models	79
6. Conclusions	80
6.1. Limitations of this study and future areas of research	82
6.2. Possibilities for future research	83
References	85
Appendix	92
Interview guide	92

List of Figures

Figure 1. Theoretical framework of this thesis.....	36
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List of Tables

Table 1. Summary of tensions and their management strategies.	37
Table 2. Selected case companies.....	42
Table 3. Preselected codes.....	46
Table 4. My data analysis plan.	48
Table 5. Tensions and management strategies found in case companies according to key elements in business models.....	75

1. Introduction

1.1. Background

The world is facing numerous environmental and social challenges, including climate change, and the depletion of natural resources. The necessity to align our economy with sustainability has been widely discussed since the Bruntland Commission in 1987, where a desire to create “*development that meets the needs of the present without compromising the ability of future generations to meet their own needs*” was published (Hockerts & Wüstenhagen, 2010). As humanity, we are facing the largest uncertainty of our lifetime, which comes with a scale and timespan that is difficult and almost impossible to predict: The decrease in natural and social capital may have non-linear consequences (Hockerts & Wüstenhagen, 2010).

The concept of circular economy has gained significant attention from scholars (Gregson, 2015; see also Stahel, 2016; Bocken et al., 2016 and 2019; Geissdoerfer et al., 2017 and 2018), and practitioners in various industries as well as government agencies and policymakers (European Commission, 2015) as one potential solution to create a more sustainable future. The circular economy is a systemic approach to economic growth that aims to keep resources in use longer, with the means of closing, narrowing, or slowing resource, material and energy loops (Geissdoerfer et al., 2017).

The shift towards a circular economy requires a fundamental change in the way businesses operate. Sustainable business models, with circular business models as a sub-category (Bocken et al., 2014; Geissdoerfer et al., 2018) have been developed to achieve sustainable impact while maintaining an economically viable business. These business models aim at generating impact on social and environmental grounds, in addition to creating economic value. Sustainable entrepreneurs of circular businesses are particularly well positioned to develop circular business models to drive this change, offering systemic approaches that impact not only the business itself but the entire ecosystem around the business from suppliers to customers and other stakeholders.

Another key element in accelerating change toward a more sustainable future is sustainable entrepreneurship. In fact, some scholars argue that sustainable entrepreneurship is the only way of challenging the status quo (Wells 2008) and highlight its role in creating sustainable innovations (Schaltegger & Wagner, 2011). Others state that the role of sustainable ventures is essential in advancing systemic change in collaboration with the market incumbents (Hockerts & Wüstenhagen 2010, see also Geels, 2011).

A circular economy requires complete reorganization (Stahel, 2016, Ellen MacArthur Foundation, 2013), but such systemic change needs smaller niches that are strong enough to challenge the current regime (Geels, 2011). Today we still have a limited understanding of how industries should reorder their activities (Gregson et al., 2015, p. 224). Despite the expectations laid upon the circular economy and sustainable entrepreneurship, systematic change has been slow to gain traction (Stahel, 2016) and its actual implementations are still limited (Gregson et al., 2015). Sustainable innovations often start in niches and therefore struggle to create new markets or penetrate existing ones (Lüdeke-Freund, et al. 2017).

Scholars have noted the shortcomings of circular economy implementations. In their recent article, Corvellec, Stowell & Johansson (2022) call for a modest pathway toward circularity, that should be concrete, inclusive, and transparent regarding its goals, and achievements, but also its challenges regarding its impact on economic, social, and environmental changes. Without such a concretizing approach, the circular economy risks not turning “*well-intended efforts to reorganize production, consumption, and more generally material flows in ways that are more respectful of planetary boundaries and that work in favor of sustainability.*” (Corvellec, Stowell & Johansson, 2022).

As Geissdoerfer et al. (2017) note, realizing a circular economy will take action on several fronts: research and innovation are needed at social, technological as well as commercial levels. The authors emphasize the importance of business model innovation in improving the lagging implementation of sustainable solutions. To further the implementation of a circular economy, Bocken et al. (2016) suggest similarly that future research should

provide deeper empirical insights into the complexities of actual circular business model innovation processes. Creating a successful circular business model requires a deep understanding of the interplay between the factors that contribute to the triple bottom line (Elkington, 1997), meaning the creation of economic, environmental, and social value. Circular businesses often face challenges in terms of scalability, profitability, and market acceptance, which can be interpreted as paradoxes (Smith & Besharov 2019) or tensions (Morales, 2020; Davies & Chambers, 2017) that are inevitable within such a hybrid organization (Davies & Chambers, 2017). As Cohen and Winn (2007) note, companies are not perfect optimizers. Therefore, it is important to recognize the tensions that exist within circular businesses and investigate how companies manage such tensions.

In this thesis, I will identify tensions that occur in the business models of four circular ventures in Finland. I will study the strategies used by the leadership of these circular ventures to manage the tensions. Drawing on literature covering circular ventures, with a focus on sustainable entrepreneurship and circular business models, as well as tensions and their management strategies, I will investigate what kinds of tensions occur and how these tensions are managed at the case companies. Through this research, I aim to pave the way to a more resource-efficient future.

1.2. Research questions and objectives

This thesis aims to provide insights into the tensions and strategies to manage such tensions within circular ventures. The focus is on circular ventures as they represent niche innovations with a circular business model, that aim to transform an industry. Such a study is needed to accelerate the implementation of a circular economy as it provides concrete insights that may help sustainable entrepreneurs design their circular business models in a way that makes them more resilient to these tensions. The following two research questions have been formulated for this study:

RQ1: What are the underlying tensions in the context of the three key elements of a business model in circular ventures?

RQ2: What are the strategies that emerge in circular ventures to manage tensions present in their business model?

The research questions of this thesis focus on tensions and strategies to manage tensions at circular ventures. The empirical research will be carried out through a multiple case study approach, focusing on circular business ventures in Finland that have a circular business model and sustainability goals in addition to economic goals. Through an extensive literature review of tensions and strategies to manage such tensions as well as a multiple case study, this thesis will provide insights into making circular ventures more resilient, with the objective of supporting the growth of circular businesses and, more generally, the transition to a circular economy. The findings of this thesis will provide valuable insights for sustainable entrepreneurs, policymakers, and researchers that promote the circular economy and design circular business models.

1.3. Structure of the thesis

Following the introductory part, this study is structured into six parts: literature review, research context, methodology, empirical findings, analysis and discussion, and conclusions.

In the first section, literature review, I aim to provide an overview of the literature relevant to this research, namely circular ventures with a focus on circular business models and sustainable entrepreneurship, as well as the research topic of tensions occurring in the business model and strategies to manage such tensions. With an extensive review of this literature, I will construct a theoretical framework to analyze the tensions occurring in the key mechanisms of circular business models and the management strategies and business model innovations occurring to solve such tensions. The theoretical framework offers an analytical tool for describing, comparing, and analyzing the tensions and strategies in the business models of the circular economy case companies analyzed.

In the second section, research context, I will outline the relevant contextual information to position the reader into the context of this thesis. Then, in the third section, data, and

methodology, I focus on data and methodology, outlining the methodological approach and research design of this research, as well as discussing the data collection and methods used in the analysis. I briefly present each case selected for the multiple case study. I end this section by discussing the limits and ethical considerations of this study.

In the fourth section, empirical findings, I present the results of the multiple case study. After this, in the fifth section of analysis and discussion, I cover the analysis of the results as well as a further discussion of the most important insights gathered from the empirical study. The results are put into the theoretical context presented in the section considering the literature review. I also include a discussion of the implications and limitations of the research. Finally, this thesis concludes in the last section with a summary of the main practical and theoretical implications and contributions as well as recommendations for further research.

2. Literature review

In this chapter, I aim to provide a comprehensive overview of the existing academic literature on the research topic and the relevant theoretical concepts. I will first define the circular economy as the system-level alternative to the current linear 'take, make, waste' economy. Second, I will look at business models, focusing on those that contribute to the circular economy. Third, I will highlight the role of sustainable entrepreneurship in the creation of the circular ventures that drive the system-level transition to circular economy. Fourth, I will discuss tensions that may arise from the hybrid goals present in circular ventures as well as the strategies to manage such tensions. Finally, at the end of this chapter, I will synthesize the aforementioned themes and build a theoretical framework to guide the empirical part of the thesis.

Circular economy is an alternative economic system that provides a potential solution for finding ways to continue making business within the planetary boundaries (Ellen MacArthur Foundation, 2020). In this thesis, circular economy is a wider context in which the business ventures we look at are operating. Circular economy presents the desired, more sustainable direction for the businesses. The circular ventures I study in this thesis are trying to contribute to the creation of circular economy through their own action.

Looking at circular business models helps us understand what circular ventures do and what kind of ecosystem the venture operates in. The research focuses on circular ventures as sustainability innovations often emerge from niches (Lüdeke-Freund, 2017). In a similar vein, Hockerts and Wüstenhagen (2010) recognize that in the early stage of the sustainability transition, smaller ventures are more likely to pursue sustainability-related goals. Small companies are more flexible, and they don't have the risks or the burden of previous decisions and investments compared to incumbents (Hockerts & Wüstenhagen, 2010). Such ventures or niches are essential drivers of system-level change, as they shake the current regime and influence market incumbents to change (Hockerts & Wüstenhagen, 2010; Geels, 2011).

Understanding the differences between traditional and circular business models will help contemplate the tensions unique to circular ventures. Similarly, including sustainable entrepreneurship as a fundamental characteristic of circular ventures will help understand the tensions that may arise in circular ventures. Sustainable entrepreneurship is needed to accelerate the systemic transition and unlock innovations. Focusing on ventures rather than incumbents, is an opportunity to contemplate new and radical innovations, as incumbents can't put all their efforts into such new business models. Moreover, the concept of sustainable entrepreneurship gives a tool to understand the underlying background of the entrepreneur, and the motivation and goals inherent in sustainable entrepreneurship. In addition, the theories of system-level change will help understand why sustainable entrepreneurship is needed in order to create new regimes and how sustainable entrepreneurship in itself is hard and a potential launchpad of tensions within the business model.

2.1. Circular economy

2.1.1. Definition of circular economy

Circular economy is widely considered a key strategy for achieving sustainable development and creating a more resilient and sustainable future (Ellen MacArthur Foundation, 2020; Stahel, 2016; Blum, Haupt, & Bening, 2020). Having become a significant concept of sustainable economics over the past decade (Skene, 2018), some authors view circular economy as a potential new sustainability paradigm (Geissdoerfer, et al. 2017; Schröder et al., 2019). Circular economy is a regenerative, system-based approach to economy (Ellen MacArthur Foundation, 2013; Geissdoerfer, et al. 2017), built on the principles of reducing, reusing, and recycling resources, in order to minimize waste and keep materials and products in use for as long as possible (Stahel, 2016). The circular economy is achieved by intention and design (Ellen MacArthur Foundation, 2020), with emphasis on long-lasting design, maintenance, repair reuse, remanufacturing, refurbishing, and recycling (Geissdoerfer, et al. 2017). The concept as such is not new despite its rapid growth in academic interest in the past 10 years (Geissdoerfer, et al. 2017) as it has been developed since the late 1970s (Ellen MacArthur Foundation, 2013).

In the literature, the circular economy is often juxtaposed with the traditional linear economy (Stahel, 2016; Reike et al., 2018, p. 247). According to Ellen MacArthur Foundation (2023), linear economy, or 'take, make, waste' economy, is *“a system where resources are extracted to make products that eventually end up as waste and are thrown away. Products and materials are generally not used to their full potential in a linear economy and, as the name suggests, always move in one direction – from raw material to waste.”* Stahel (2016) argues that the linear economy is driven by the motivation to do bigger, better, faster, and safer, creating a system where natural resources are turned by companies into materials and products, where the company makes money by selling more. The linear economic system has been considered to accelerate some of the greatest threats of our time: climate change and biodiversity loss (Ellen MacArthur Foundation, 2013). From the business model perspective, the core difference between linear and circular economy is that in linear economy, the manufacturer gives away the responsibility to reuse, recycle or otherwise manage the end-of-life of the materials and products to the buyer (Stahel, 2016). In circular business models, this responsibility stays at the manufacturer, as these business models aim to support material flow (Bocken et al. 2016).

Contrary to operating on a 'take, make, waste' basis, in circularity products are refurbished instead of producing a virgin product (Reike et al., 2018). Some scholars, such as Stahel (2010 and 2016) make a distinction between linear, circular, performance, and looped economies. In his view, circular economy and performance economy are different in their basic business logic: in the former, the materials are being reused, whereas in the latter goods or services are being used through a rental service. However, many scholars today view rental services as a key element of circular economy as they are essentially materials, goods, and services being circulated. As Stahel (2016) notes, the circular economy as a term has *“developed to mean both materials being recycled but also the objects themselves being recycled or reused – giving the responsibility of end-of-life to the manufacturer”*.

The key shifts between linear and circular economy happen on the *material* level – from fast to slow, and on the *customer* level – from consumer to user (Lazarevic & Valve, 2017), as well as on the *responsibility* level – with manufacturers becoming responsible in designing products that can be reused and taking care of their after-use too (Stahel, 2016).

The term 'circular' has been borrowed from nature, where one could argue that circularity is a basic way of operating (Stahel, 2016). Many of the definitions of circular economy highlight efficient or perfect use of materials, where waste would be minimized (Stahel, 2016; Geissdoerfer, et al. 2017; Lazarevic & Valve, 2017). Drawing on the definitions presented by Ellen MacArthur Foundation (2013, 2020), Geissdoerfer et al. (2017), and Stahel (2016), in this thesis we define circular economy as a *regenerative system that minimizes resource inputs and seeks to keep materials and products in use as long as possible by reducing, reusing and recycling*.

As a term, the circular economy is strongly connected with business (Geissdoerfer, et al. 2017). At the core of the circular economy is the idea of generating economic growth through other means than producing and buying a virgin product (Lazarevic & Valve, 2017). Circular business models intend to form a business logic that contributes to a transition to sustainability (Ellen MacArthur Foundation, 2020). According to Bocken et al. (2016, p. 309), business model strategies that focus on slowing, closing, and narrowing resource loops contribute to a circular economy. Organizing our economy to last within our planetary boundaries requires adaption on many fronts. Some authors like Schröder et al. (2019) allude to the inevitable creative destruction, an industrial structural change, in their thinking about current extractive linear sectors such as those dependent on fossil fuels.

As having the potential to reduce waste, cost, and pollution, increase revenues as well as manage risk (Ellen MacArthur Foundation, 2020), circular business models are prominent to have a positive environmental and social impact. Some estimates say that up to 70% of European greenhouse gas emissions could be reduced by a circular economy, while the European workforce would grow by 4 % (Stahel, 2016). Hence it is not surprising that

the circular economy has received a lot of attention from policymakers, such as the European Circular Economy package (European Commission, 2015), academics, and businesses (Geissdoerfer, et al. 2017 and 2018; Bocken et al. 2016).

Despite the positive perspectives given by both industry and academics, the question of how the shift towards this type of low-carbon economy has advanced is debatable. In the next chapter, I will present some of the critique circular economy has received, and outline some of the reasons why many view the circular economy as too wide and complex to become a reality.

2.1.2. Critique of circular economy

Despite its potential, the circular economy has been slow to replace the current linear economy which has led to critical voices (Stahel, 2016). Circularity and its effect on sustainability have been questioned (Geissdoerfer et al., 2017): Blum, Haupt, and Bening (2020) show two cases where increased circularity led to worse performance in terms of environmental sustainability. Some critics even say the circular economy has been “*mythologized as circular waste-free, and sustainable*” (Valenzuela & Böhm 2017).

The allusion to nature has been defeating its purpose: arguably, nature operates in short cycles, not extended lifetimes as would be the purpose in some cases of the circular economy. In addition, nature can be viewed as sub-optimal, not optimal, and eco-inefficient, instead of eco-efficient (Skene, 2018). There has been an abundance of various definitions of the circular economy created, and as a result, the term has developed over time and might be taken differently depending on the recipient (Kirchherr et al., 2017).

Some of the reasons for its limited impact are related to a lack of familiarity and fear of the unknown (Stahel, 2016) as well as the difficulty to assess the impact: a product will not contribute to the circular economy unless first used once, and then recirculated after a certain period of time. It is essential to contemplate, whether the product will reach 90%

material circularity in 10 years or within just two, particularly if this transition accounts for the economic costs or negative environmental impact (Blum, Haupt & Bening, 2020). Circular economic activities should be measured according to their impact on economic, environmental, and social sustainability (Blum, Haupt, Bening, 2020), but there is uncertainty in units of analysis and metrics (Schröder et al. 2019). This is slow and hard to measure (Corvellec, Stowell, and Johansson, 2022) and has caused companies to have difficulties in measuring the actual circularity of their business model, too (Veleva et al., 2017).

Despite its potential, the operationalization of circular economy has been slow and hard to realize as the implementation of circular business models hasn't been without its challenges. More traditional business cases have taken space from sustainability and circularity objectives (Bocken et al. 2019). Some scholars say that companies lack the capabilities to implement circular economy business innovation (Pieroni et al. 2021). Others view some companies incapable of translating circular economy into business operations (Khan et al., 2021, p. 1).

Furthermore, implementing any new solution will almost certainly involve trade-offs. To contemplate the practical world of circular ventures, it is essential to understand *“how entrepreneurs can develop and manage their business models in order to achieve and retain economic viability through providing ecological and social benefits”* (Lüdeke Freund et al. 2017.)

The circular economy has been criticized for not having significantly impacted policy, organizational, and consumer levels (Corvellec, Stowell, and Johansson, 2022). The uncertainty related to both the impact and implementation is, in many ways, due to unclear system boundaries, and the difficulty to predict both the waste being generated and used as material as well as how to govern this (Schröder et al., 2019).

The circular economy has been criticized in terms of its social and environmental consequences (Corvellec, Stowell & Johansson, 2022). In particular, the social impact has been claimed to have been neglected (Blomma & Brennan, 2017), and excluded

entirely (Geissdoerfer et al., 2017) or has a lack of integration into social aspects of sustainability (Murray et al. 2015). The impact on working conditions, the polarization of power as well as the complex nature of the political and economic systems in creating new jobs and new ways of working has been under scrutiny (Schulz, Hjaltadóttir & Hild, 2019). The discussion on the social aspects has been limited: reference has mostly been made to job creation, thus ignoring the consequences of changing lifestyles through a shared economy or the influence of one's well-being (Geissdoerfer, et al. 2017). As many circular economy activities would be easier to realize in a city, circular economy risks are related to widening the gap in urban and rural areas. As Schröder et al. (2019) note, the social dimension of the circular economy is hard to assess. It would be important to understand, whether the circular business contributes to *"inequality, power relations in corporate value chains, the role and rights of consumers, users, and citizens (and how to protect them), and the distribution of resources and exploitation of labor"* (Schröder et al. 2019, p. 1).

2.2. Circular business models

In this thesis, I am interested in circular ventures as my goal is to investigate companies with a circular business model since their foundation. Circular ventures have circular business models, which are practical manifestations of circular economy (Bocken et al. 2019). Ultimately, the present research on tensions and their management strategies in circular business models leads to understanding how sustainable entrepreneurs balance business and saving the world. Thus, the contribution of this thesis should help the transition to circular economy. Therefore, this and the following section will focus on two defining areas of interest in circular ventures: circular business models and sustainable entrepreneurship.

2.2.1 Business models

The business model is a relatively young concept, that started to become popular among scholars and practitioners around 15 years ago, during the dot-com hype and the e-commerce era (Lüdeke-Freund et al. 2017), due to the potential of new business models

these technologies and platforms created. Recently, attention has shifted to business models that contribute to social and ecological value creation, in addition to economic value (see Joyce et al. 2016; Bocken et al. 2019; Geissdoerfer et al. 2018). Business model innovation has been viewed as essential in seeking these values through business activities (Lüdeke-Freund, 2010).

There exist many definitions of a business model, with widely accepted concepts provided by Osterwalder and Pigneur (2010) as well Johnson et al. (2008) as well as theoretical definitions provided by Teece (2010) and Zott and Amit (2007, 2008, cited in Lüdeke-Freund et al. 2017). In general, a business model is defined as a representation of how a business creates and delivers value, or the logic of organizational value creation (Lüdeke-Freund et al. 2017). Teece (2010) defines the concept as follows “*A business model describes the design or architecture of the value creation, delivery and capture mechanisms employed. The essence of a business model is that it crystallizes customer needs and ability to pay, defines how the business enterprise responds to and delivers value to customers, entices customers to pay for value, and converts those payments to profit through the proper design and operation of the various elements of the value chain*” (Teece 2010, p. 179). According to Osterwalder and Pigneur (2010), “[a] business model describes the rationale of how an organization creates, delivers, and captures value.” Both of these definitions focus on the three core mechanisms around value: value proposition, value creation and delivery, and capture, which are often perceived as central in business model literature (see also Bocken et al. 2014). These mechanisms are further defined in the following section focusing on the key elements of a circular business model.

Many scholars view the business model as a broader phenomenon than the mere organization, connecting the business to the external world: often, the definitions are based on the assumption that business models are systemic and dynamic in nature, and they involve complex relationships and interdependencies of various stakeholders (see Massa & Tucci, 2013). When investigating business models, academics have highlighted the activities of both the business itself and also its ecosystem, including partners and customers as being central to the business model (Zott & Amit, 2010).

Business models and the various tools developed to describe these activities, such as the business model canvas developed by Osterwalder and Pigneur (2010), have different functions. These tools allow understanding, sharing, analyzing, and managing companies and their business models (Lüdeke-Freund et al. 2017; Osterwalder et al. 2005), with emphasis on descriptive and analytical functions (Lüdeke-Freund et al. 2017). Despite the attempts to conceptualize the dynamic nature of a business, Massa and Tucci (2013) view the simplicity of the business model canvas as making it difficult to accurately describe the dynamic aspects. Some scholars, such as Zott & Amit (2010) have proposed wider system perspectives to support business model innovation, where ecosystem aspects play a key role. One such element is the addition of complementarities in the business model (Zott & Amit, 2010), where the goal is to bundle the service or product with the offerings of partners.

This kind of system perspective could be useful in the design of circular business models, where value creation is more dependent on external partners than in the traditional linear economy. As identified by Rosa, Sassanelli, and Terzi (2019), product-service systems or PSS are the most common manifestations of circular business models in practice (cited in Morales, 2020).

It has also been challenging to assess the sustainability impact of business models. Several authors (Geissdoerfer et al. 2018; Bocken et al. 2016) and policymakers (European Commission, 2023; Ellen MacArthur Foundation, 2013) have sought to address this by providing business models for sustainability and circularity. In the following sections 2.3.3. and 2.3.4., I will look at such circular business models closer.

2.2.2. Circular business models

As the private sector is increasingly confronted with environmental and social issues (Hockerts & Wüstenhagen, 2010), a more systemic approach to meet the challenge of creating triple bottom value has emerged: the development of sustainable business models. However, despite its innovation potential, business models have been little used

in the context of sustainable entrepreneurship (Lüdeke-Freund et al. 2017). A business model helps to develop and manage business models to reach economic viability while growing the creation of ecological and social value (Lüdeke-Freund et al. 2017). Ultimately, sustainable and circular entrepreneurs must commercialize their innovations and succeed in mass markets to gain relevant scale and impact (Cohen & Winn, 2007; Lüdeke-Freund et al. 2017).

As opposed to the linear, ‘take, make, waste’ economy, the circular economy aims at minimizing the “*consumption of resources by recycling materials and/or energy after the use phase to avoid leakage out of the system*” (Ellen MacArthur Foundation, 2013). As we previously saw in the chapter about the circular economy, businesses with a circular business model focus on closing, narrowing or slowing, and extending material loops (Bocken et al. 2016; Geissdoerfer et al. 2017). Therefore, in circular business models, materials are seen as slow materials, that form a part of a circle over a long period of time, customers are seen as users instead of one-time consumers (Lazarevic & Valve, 2017), and the product life cycle extends to the disposal and after-life of the product (Stahel, 2016).

One cannot discuss circular business models without discussing sustainable business models, as the two concepts are strongly intertwined. Some scholars (Bocken et al. 2016; Geissdoerfer et al., 2018) view circular business models as a class or a particular strategy of sustainable business models. Following this thought, sustainable business models as a tool to integrate sustainability into business logic (Geissdoerfer et al. 2018) is a key element of circular business models too. Sustainable business models differ from traditional business models in their potential to provide market access for radical and sustainability-driven innovation, either by creating a new market or connecting to existing markets (Lüdeke-Freund et al. 2017). As such, circular business models can be considered sustainable business models, which in addition to creating sustainable value, pro-actively managing multiple stakeholders, and thinking about the long-term perspective, also aim at providing solutions for the circular economy, thus developing a circular, loop-like value chain (Geissdoerfer et al. 2018).

In their article about product design and business model strategies for a circular economy, Bocken et al. (2016) outline six circular business model strategies to slow and close loops. These have been since adopted by a wide variety of circular economy toolkits by policymakers, such as Circular Business Model Innovation Toolkit as part of European Union Horizon 2020 project “Transition from Linear to Circular” (European Union Horizon 2020, 2019). Bocken et al. (2016) divide the circular business model strategies in two, according to the focus on slowing or closing loop:

Business model strategies for slowing loops

- *Access and performance model.* Providing the capability or services to satisfy user needs without needing to own physical products.
- *Extending product value.* Exploiting residual value of products – from manufacture, to consumers, and then back to manufacturing – or collection of products between distinct business entities.
- *Classic long-life model.* Business models focused on delivering long-product life, supported by design for durability and repair for instance.
- *Encourage sufficiency.* Solutions that actively seek to reduce end-used consumption through principles such as durability, upgradability, service, warranties, and reparability and a non-consumerist approach to marketing and sales (i.e., no sales commissions).

Business model strategies for closing loops

- *Extending resource value.* Exploiting the residual value of resources: collection and sourcing of otherwise “wasted” materials or resources to turn these into new forms of value.
- *Industrial Symbiosis.* A process-oriented solution, concreted with using residual outputs from one process as feedstock for another process that benefits from geographical proximity of businesses.

2.2.3. Key elements of circular business models

As seen above, many of the definitions of a business model (Teece, 2010; Lüdeke-Freund et al. 2017; Bocken et al. 2014) focus on three core mechanisms that are also referred to as the pillars or key elements of a business model (Geissdoerfer et al. 2018). In order to understand and analyze circular business models, it is necessary to further examine these key mechanisms concerning circular economy. Geissdoerfer et al. (2018) provide a useful analysis of how each business model element (value proposition, value creation and delivery as well as value capture) is related to sustainability dimensions of economic, environmental, social, and protection of future generations (Lozano, 2008, cited in Geissdoerfer et al. 2018).

Value proposition

The first key mechanism, value proposition, is widely considered a significant element of a business model. Osterwalder and Pigneur (2010) define value proposition as the combination of products and/or services that create value for the target customer segments. Bocken et al. (2014) define value proposition as a part of the product-service system developed by a business, its customers, and existing customer relationships.

When looking at the value proposition in circular business models, the economic dimension is similar to what the value proposition would look like in traditional business models (see Bocken et al. 2014). However, taking the environmental and social dimensions into account, the value proposition extends to minimizing natural resource depletion and maximizing product and service value for society. Finally, the value proposition in the circular business model should encapsulate the capacity to address economic, environmental, and social concerns (Geissdoerfer et al. 2018). According to Davies and Chambers (2017), value propositions are underexplored as a focus of sustainable entrepreneurs.

Value creation and delivery system

The second key mechanism, value creation and delivery, relate to the key organizational activities which develop the market offering, including resource acquisition, channel management, as well as partner management (Bocken et al. 2014). Geissdoerfer et al. (2018) discuss a value delivery system rather than value delivery and see the economic dimension as “incentives for actors in the supply chain to extend product use and return disposal to the value system”. In terms of environmental dimension, value creation, and delivery system should be complemented in an eco-efficient manner from production to logistics. The social dimension includes being proactive towards stakeholders in the closed loops.

Geissdoerfer et al. (2018) include the protection of future generations to the element of value creation and delivery to include both “incremental and radical changes in the system level to ensure long-term partnerships”. Arguably, this element of value creation and delivery system is where circular business models differ the most from linear economy business models, as the perspective is more system- and stakeholder-oriented than focusing on direct stakeholders.

Value capture

Finally, the third element, value capture, refers to the cost structure and revenue streams, which encapsulate a wide range of different monetization and value creation goals (Osterwalder and Pigneur, 2010).

In terms of environmental dimension, Geissdoerfer et al. (2018) focus on increased material efficiency as value capture is seen as a “*reduced environmental burden by extracting more value from less natural resource consumption*”. The social dimension of value capture involves increasing environmental consciousness on the value of products. The final dimension, protection of future generations involves “*preparation of current production systems to be made ‘perfect’ circular economy in the future*” (Geissdoerfer et al. 2018).

In circular business models, the key elements of the business model need to become circular to “*achieve optimal sustainability performance within the Circular Economy*” (Geissdoerfer et al. 2018). However, as Lüdeke-Freund et al (2017) point out, measuring the assumed positive sustainability effects of business models is not without its challenges, particularly in terms of leveraging business model innovation and managing the business model’s contribution to the desired sustainability outcome. In fact, the authors state that in most cases “*the assumed positive effects will be related rather indirectly to the respective business model*”. Thus, they provide three functions that serve sustainable entrepreneurs for sustainability-oriented business model assessment:

- Systematic performance tracking to control the (non-)attainment of an organization’s sustainability goals
- Systematic information provision to adapt business models, support ex post and longitudinal analyses as well as strategic planning
- Comparisons of alternative business models and their ecological, social, and economic bottom lines. (Lüdeke-Freund et al. 2017).

Despite its potential to support the market entry of sustainable innovations or even being a potential sustainability innovation itself, there is still a lack of theory on how multiple forms of value in sustainable development can be measured (Davies & Chambers, 2017). The need to assess impact applies to circular businesses, too. Taking the circular economy into practice is not without its challenges. There is a need for further operationalizing circular business models and testing various circular business innovating tools (Bocken et al. 2019).

2.3. Sustainable entrepreneurship

In this section I will focus on another key characteristic of circular ventures: sustainable entrepreneurship. Schaltegger & Wagner (2011) see sustainable entrepreneurs as essential in the creation of sustainable innovations. With the increasing pressure to transition to an ecologically and socially sustainable economy, many authors view entrepreneurship as an accelerating force for solving sustainability problems (see York and Venkataraman,

2010; Schaltegger & Wagner, 2011). Others view entrepreneurship uniquely positioned for developing a more sustainable economy (Pacheco et al., 2010; Muñoz and Dimov, 2015).

2.3.1. Definition of sustainable entrepreneurship

Sustainable entrepreneurship is defined by scholars such as Muñoz and Dimov (2015) and Dean and McMullen (2007) as the pursuit of a profitable business with positive social and environmental impact. Scholars are increasingly interested in ventures that balance economic viability with environmental and social impact (Smith & Besharov, 2019; Hall, Daneke & Lenox, 2010; Hockerts & Wüstenhagen, 2010). Sustainable entrepreneurship seeks to create value for all stakeholders, including customers, employees, communities, and the environment, and intends to operate in a way that does not deplete natural resources or harm the environment. This makes the complex interrelationship of various factors a key characteristic of sustainable entrepreneurship (Muñoz & Dimov, 2015).

In the literature, the definitions of sustainable entrepreneurship often go beyond the mere organization, and look at the phenomenon as a part of a larger system and through its ability or desire to influence the current market (Muñoz & Dimov, 2015; Lüdeke-Freund et al., 2017; Hockerts and Wüstenhagen, 2010). Bridging the gap between niche and mass markets for sustainability innovation is one of the core challenges for sustainable entrepreneurs (Lüdeke-Freund et al., 2017).

A distinctive characteristic of sustainable entrepreneurship is the intention of the entrepreneur. Schaltegger and Wagner (2011) define sustainable entrepreneurship by its vision for transforming the industry. The desire to impact an entire market or system is often the original idea or motivation for sustainable entrepreneurs (Hockerts & Wüstenhagen, 2010). According to Schaltegger and Lüdeke-Freund (2013), the three differences between a traditional business case and a sustainable business case are:

- The company has to realize a (mainly) voluntary activity with the intention to contribute to the solution of an ecological and/or social problem,

- The activity must create a positive business effect,
- A clear and logically convincing argumentation must exist that deliberate management or entrepreneurial activity has led to both the intended ecological or social effect and the economic business effect.

2.3.2. Why sustainable entrepreneurship is hard

Despite the need for sustainable entrepreneurship as a vehicle for systemic transition to circular economy, there might be tension or even contradiction in the relationship between circularity and commercial value (Morales, 2020). To understand the reasons behind the difficulty in succeeding in sustainable entrepreneurship, it is necessary to look at the goals of sustainable entrepreneurs themselves. Sustainable entrepreneurs drive change to tackle societal challenges. These stem from environmental problems, climate change, depletion of biodiversity, and overconsumption of fossil fuels (Geels, 2011). These are complex, systemic phenomena that take time to change. Therefore, the success of sustainable entrepreneurship is defined by systemic change.

To achieve a significant sustainability impact, sustainable entrepreneurs must interact with and influence market incumbents, according to Hockerts and Wüstenhagen (2010). They propose a co-evolution model where both small and large companies are needed to transform industries toward sustainable development. Sustainable ventures launch sustainability innovations, and market incumbents follow suit to build business value. However, the model has limitations as ventures tend to get stuck in their high-quality niche, while incumbents tend to lower sustainability standards in response to cost pressures (Hockerts & Wüstenhagen, 2010.)

Another theory related to the transformation made possible by sustainable entrepreneurship is provided by Geels (2011) and his multi-level perspective (MLP), which addresses the transitions in socio-technical regimes. Startups, which are often run by idealist entrepreneurs (Hockerts & Wüstenhagen, 2010), are well-positioned to define a vision and start making their worldview true (Geels, 2011). According to MLP, startups

or niches create instability in the current regime, thus creating space for other niches to emerge and potentially become a new socio-technical regime. Despite not being originally created for sustainability transitions, the MLP provides a useful framework to project the trajectory needed for the circular economy to emerge.

Looking at circular ventures more closely, it can be seen that their circular business models necessitate a wider system-oriented focus, instead of contemplating the organization itself (Bocken et al. 2019). Transitions and systemic change are complex phenomena that happen over a long period of time. A similar transition is required for the circular economy to emerge (Ellen MacArthur Foundation, 2013). In Geels' (2011) view, sustainability transitions have a few special characteristics, that make sustainability transitions about interactions between technology, policy, power, politics, economics, and business markets as well as culture, discourse, and public opinion.

- 1) Sustainability transitions are goal-oriented (Smith et al., 2005 in Geels, 2011), and address persistent environmental problems. As these goals are often collective goals, requiring several actors to act for the same purpose, private actors are not easily incentivized to address the collective good (sustainability).
- 2) This commonality has another implication: sustainable solutions don't necessarily offer clear benefits for the user. As a consequence, it is unlikely that environmental innovations replace existing systems without changes in taxes, subsidies, and regulatory frameworks.
- 3) Finally, sustainability transitions are most needed in industries currently dominated by large players, such as transport, energy, and agri-food. Geels (2011) and Hockerts and Wüstenhagen (2010) highlight the importance to involve large companies to drive the change, they might help the innovations to break through thanks to their capabilities, scale, and resources.

The necessary systemic approach to reversing global social and natural problems has been difficult to implement. As radical and sustainable innovations often start in a niche, their innovators often find it challenging to penetrate existing mass markets – or create an entirely new one (Lüdeke-Freund et al., 2017).

Cohen and Winn (2007) examine market failures, that have led to a lack of systemization. First, the benefits of natural capital depletion are privatized, and the costs are often externalized. In addition, it is hard to measure the real cost of the consequences which leads to natural capital often being undervalued by society. In a similar vein, Hockerts and Wüstenhagen (2010) see the consequences as hard to measure since they can be non-linear. According to Cohen and Winn (2007), there is also asymmetry in terms of information on natural and social capital depletion. Finally, Cohen and Winn (2007) point out that in practice, companies are often not the perfect optimizers, as they are in theory. The system-level transition requires focusing on many things, but sustainable entrepreneurs often have the resources to focus on only a single issue (Hockerts & Wüstenhagen, 2010).

Lüdeke-Freund et al. (2017) view the main challenge of sustainable entrepreneurs as scaling radical innovations from a niche to mass markets, while still maintaining their economical, social, and environmental value creation. Bocken et al. (2019) propose that to ensure the integrity of sustainability expectation and avoiding negative side effects, circular business model innovation should be used to assess a company's sustainability.

2.4. Tensions

2.4.1. In the pursuit of hybrid goals

The success of circular business models should be measured based on their impact on economic, environmental, and social sustainability (Blum, Haupt & Bening, 2020). This pursuit for triple bottom line value has led to companies pursuing incompatible goals on many fronts with competing expectations (Smith & Besharov, 2019). With such hybrid goals, the notion of tensions in the value creation process is omnipresent (see Davies & Chambers, 2017; Lüdeke-Freund et al. 2017; Smith & Besharov 2019).

The academic discussion addresses tensions in varying ways. In the circular economy literature, tensions are recognized as one of the reasons behind the lack of

operationalization of circular economy, and contributing to diluting sustainability or circularity goals to pursue economic goals (see Bocken et al. 2016). However, in the literature concerning sustainable business models, the tensions in value creation, including how these hybrid tensions should be managed, are not a common topic (Lüdeke-Freund et al., 2017). This is in contrast with the hybridity literature, where such tensions and hybridity debates are commonplace, and contestation and tension are viewed as a norm in sustainable entrepreneurship (Davies & Chambers, 2017). Scholars interested in sustainable entrepreneurship such as Schaltegger et al. (2016) and Bocken et al. (2016) discuss the creation of various forms of value, without connecting the discussion to hybridity literature (Davies & Chambers, 2017).

2.4.2. Tensions in the context of circular businesses

Circular ventures have to deal with tensions emerging from circularity and sustainable entrepreneurship. Davies and Chambers (2017) highlight external interactions as an important source of tensions. Circular economy assumes a new kind of consumer culture but leaves aside the temporality and spatiality in which consumption occurs (Corvellec, Stowell, and Johansson, 2022). The internal world of circular ventures is also characterized by tensions: Smith and Besharov (2019) argue that sustaining hybridity involves persistent challenges, including conflicts over identity. Muñoz and Dimov (2015) emphasize that the attitudes, values, and beliefs of the sustainable entrepreneur may endanger the viability of the sustainable venture design and create tension between making an economically good business vs. a sustainable business. The typical focus of a sustainable entrepreneur on a single issue may lead to the entrepreneur getting obsessed with that problem and even resulting in negative behavior when matching individual and collective goals of sustainable development (Hockerts and Wüstenhagen, 2010).

Smith and Besharov (2019) draw on paradox literature and describe tensions occurring in organizational hybridity as paradoxical frames that occur due to the hybrid nature of social and business missions. The authors define paradoxical frames as “*cognitive understandings of dual elements as contradictory and interdependent*”, where the dual elements are at the same time contradictory or conflicting and synergistic and in

cooperation. In their longitudinal case study of a social-business hybrid organization, Smith and Besharov (2019) observed such paradoxical frames for instance in the question of hiring operators based on disadvantage or skills, or in the decision to grow a business in a location with a greater social need or where there is more business infrastructure.

Examples of paradoxical frames include:

- leaders who value both social and business missions,
- leaders who value only one mission leave the organization,
- leaders perceive interdependence and synergies as well as distinctions and contradictions between social and business missions, and
- leaders communicate both interdependence and distinctions of dual missions to a stakeholder who emphasizes only distinctions. (Smith & Besharov, 2019.)

Morales (2020) investigated paradoxical tensions in circular business models in his multiple case study, and states that circularity and commercial value can be contradictory. Being paradoxical, the tensions can't be suppressed and should be managed to ensure the overall survival of the company. In his research, the author found three streams of literature related to the paradoxes inherent to circular business models, and complemented these with his own empirical research on paradoxes in circular business models (Morales, 2020.)

The first stream of literature chosen by Morales (2020), *corporate sustainability* includes the paradox of simultaneously advancing economic, environmental, and social targets in different temporal (short and long term) as well as spatial fronts (company level and societal level). Morales (2020) offers the example of exploitation versus conservation of resources, where the first strategy could maximize shareholder value in the short term, but stakeholder value could be maximized in the long run with the latter alternative. Second, Morales (2020) identifies *servitization* as a stream of paradoxes that includes those related to increasing revenue from services, where the unpredictability of costs make it hard to forecast revenues. The author provides another example by Kohtam (2020) in customizing value proposition vs. efficiency in the production process (cited in Morales, 2020). Finally, the tensions under the third stream, *circular economy*, refer to

the paradoxes where creating value out of waste materials and applying eco-design produce the main paradoxes. Here Morales (2020) refers to previous studies that have found contradictory design strategies or paradoxical outcomes of a design strategy. Through an example by Daddi et al. (2019, cited in Morales, 2020) Morales shows that a case company in the textile sector relying on secondary raw materials was thus limited from creating commercial value in specific markets. There might be tension or even contradiction in the relationship between circularity and commercial value.

Morales (2020) found six more tensions in his research on circular companies. These paradoxes are strongly linked to the nature of circular economy of closing, narrowing, or slowing loops, the negative impact of using waste as a resource or balancing costs of labor-intensive activities such as sourcing, pre-treatment and value extensions of materials.

Davies and Chambers (2017) contribute from the perspective of hybridity literature to investigate tensions in sustainable companies that are set out with hybrid goals since their foundation. Tensions rise as sustainable entrepreneurs are following parallel business models in hybrid organizations as a result of contrasting or misaligned goals. The authors recognize nine tensions that occur in relation to the key elements of a business model: value proposition, value creation and delivery as well as value capture. (Davies & Chambers, 2017.)

In the value proposition mechanism, the tensions underline the focus on niche market and niche product in a community vs. growing the client-base to mainstream customers and being more commercially focused. In the value creation and delivery mechanism, Davies and Chambers (2017) suggest that tensions occur particularly in contact with external stakeholders, such as banks not giving loans due to not understanding the business case or seeing similar sustainable ventures as having the same mission (seeing them as partners) vs. treating them as competitors. Finally, in the value capture mechanism, Davies and Chambers (2017) recognize a wide range of potential value creation goals, leading to sustainable entrepreneurs needing to develop business models that ensure commercial viability while allowing scaling impact of the company long-term.

Failure to manage these tensions may lead to difficulties in the operationalization of the circular business model (see Bocken et al. 2016), sometimes characterized as mission drift, where the economic value is prioritized over social and ecological values (Ebrahim et al., 2014, cited in Davies & Chambers, 2017). Organizations need to sustain hybridity over time, however, there is not yet an in-depth understanding of which processes support best coping with such recurring tensions. Companies with competing expectations from outside and continuous internal tensions must navigate through them (Smith & Besharov, 2019). In the following chapter, we will review some of the key management strategies and business model innovations identified in the literature that helps circular businesses face the multitude of tensions within their operations.

2.4.3. Managing tensions

Structured flexibility and guardrails

Drawing on the paradox literature, Smith and Besharov (2019) suggest a model of *structured flexibility* to manage the tensions that they define as paradoxical frames. As described above, following the organizational theory of Smith and Lewis (2011), paradoxes are viewed as both contradictory and synergistic at the same time (Morales, 2020; Smith & Besharov, 2019). In their literature review, Smith and Besharov (2019) discuss on one hand organizational-level strategies, structures, and practices to manage the tensions, and on the other hand group and individual dynamics of hybridity. The authors then propose their own concept, entitled structural flexibility, to describe how companies sustain hybridity over time. In line with the findings from their 10-year longitudinal empirical study, Smith and Besharov (2019) highlight the importance of addressing conflict over time, as in hybrid organizations the tensions exist persistently (see Davies & Chambers, 2017).

Despite the complex nature of paradoxical frames, Smith and Besharov (2019) see that they can ultimately lead to experimenting with practices and encouraging innovative and creative thinking. First, as competing demands are seen as dynamic and uncertain (Smith

and Tushman, 2005; Miron-Spektor, Erez, and Naveh, 2011, cited in Smith & Besharov, 2019), leaders tend to revisit and reinterpret the relationship between dual elements, inviting new points of connection and distinction. Second, the presence of paradoxical frames requires accepting contractions between competing demands, thereby facilitating the addressing of such tensions, instead of avoiding them (Miron-Spektor et al., 2017, cited in Smith & Besharov, 2019). Finally, as leaders accept contradictions, they tend to be able to move forward rather than getting stuck with permanently solving the problem (Luscher and Lewis, 2008, cited in Smith & Besharov, 2019).

By structural flexibility, Smith and Besharov (2019) mean the continuous adaptation of meanings and practices, in addition to having a certain amount of stable organizational structures. In their view, reinterpreting the dual missions in a company with contrasting goals enables the organization to recognize and collectively debate recurring tensions and stay committed to both missions in the long term. Structured flexibility is enabled by a concept called *guardrails*, which include organizational structure, leadership expertise, and external stakeholder relationship in relation to each mission. As such, guardrails prevent drifting and guide organizational practices toward ensuring each mission is equal to the rest. Leaders experiment and continue to shift meanings until they “*bump against the guardrails, making leaders aware that their adaptations emphasize one side of the hybrid to the detriment of the other*” (Smith & Besharov, 2019).

Similarly, to Davies and Chambers's (2017) business model innovations to manage tensions, Smith and Besharov (2019) encourage hybrid organizations to treat the tensions as hybrid and dual, and address the paradoxes through the interaction of stable and adaptive approaches. As mentioned above, paradoxical frames facilitate adaptive enactment by first inviting leaders to revisit and reinterpret dual elements, second, by inviting leaders to accept conflicts rather than try to solve the tensions for good, and third, encouraging leaders to deal with “*workable certainties*” (Smith & Besharov, 2019)

Management strategies

In his exploration of tensions in circular business models, Morales (2020) found three streams of tensions in the literature as well as six tensions based on his empirical study presented above. Similarly, to structural flexibility proposed by Smith & Besharov (2019), Morales (2020) highlights the flexibility and fluidity of organizational decisions as key to coping with tensions.

For the paradoxes related to the first stream, *corporate sustainability*, management strategies such as strategic sensitivity, collective commitment, and resource fluidity, as well as ambidexterity in terms of exploitation and exploration in different markets are identified as fitting for the first tension of addressing social, ecological and economic targets in different temporal and spatial arenas. For the paradox of creating value for some stakeholders and not others, stakeholder management is suggested. What comes to contrasting financial vs. non-financial performance, it is suggested to include reflectivity, structured decision-making, and target setting as a management strategy as well as put new governance structures in place. With the tension of staying legitimate vs. innovating new business models, Morales (2020) suggests two management strategies, engaging simultaneously in multiple markets while embracing multiple objectives, limitations, transparency, consistency, and interaction with like-minded actors. Finally, in the fifth and final tension derived from the corporate sustainability literature, sustainability in controversial industries where the main economic activity is perceived as unsustainable, projection and mythmaking are referenced as management strategies.

For paradoxes related to the second stream, *servitization*, Morales (2020) found out several management strategies many of which highlight co-creation and customer interaction as key in enabling characteristics for the service that would help cope with these tensions. Many of these management strategies are related to the product-service system (PSS), where co-creation and special characteristics related to customer centricity of PSS are highlighted. Another characteristic of management strategies in this category is that many of them emphasize shared understanding between departments, cross-

boundary routines, and personnel as well as training and information sharing within the organization. (Morales, 2020.)

Finally, what comes to the paradoxes derived from the literature concerning *circular economy*, such as applying eco-design, value allocation, and the use of secondary raw materials vs. quality of the final product, the literature highlights a unified approach including operational, tactical and strategic actions, investments in sourcing technologies (separation and improvement of waste) as well as highlighting circularity profile and obtaining environmental certifications. (Morales, 2020.)

A significant amount of tension found in the empirical study by Morales (2020) were related to the circular economy, many of which highlight the tension of using waste as a resource and the design, aesthetic, logistics, and cost-related challenges this brings up. One case brought up by Morales (2020) identified the strategy of improving the quality of the secondary raw materials and the sorting procedures (Daddi et al., 2019). Indeed, related to the tensions found in the empirical study, Morales (2020) found many management strategies related to product development and design as well as improving material flows, modularity, sourcing, and logistics to cope with these tensions. In addition, the management strategies identified included approaches to building a network of collaborators and expanding value from product to system.

Business model innovations

Davies and Chambers (2019) recognize business model innovation as useful in trying to implement changes to manage tensions in organizations. In particular, they consider business model innovation beneficial in “*analyzing, structuring, planning, and communicating in the face of the increasing complexity of organizational configurations and activities.*” Davies and Chambers (2017) categorize their business model innovations according to the key mechanisms of a business model: value proposition, value creation, and delivery as well as value capture.

What comes to the business model innovations related to value proposition, the authors propose promoting how sustainability improves product quality, targeting higher quality-focused customers that can bear a higher price as well as engaging multiple stakeholders in developing an emotional stake in the enterprise. Davies and Chambers (2017) suggest that hybrid companies should tailor value propositions to different stakeholders to avoid creating confusion.

For the second mechanism, value creation, and delivery, Davies and Chambers (2019) derive three business model innovations, exploiting sustainability in partners to overcome resource shortages, keeping customers and sustainable entrepreneurship close i.e., through directly selling online as well as working collaboratively with like-minded competitors to give the impression of size and negotiation power.

Finally, in the third mechanism of value capture, common components of business model innovations include following low debt, slow, asset-based growth strategies, and linking sustainable impact directly to commercial success.

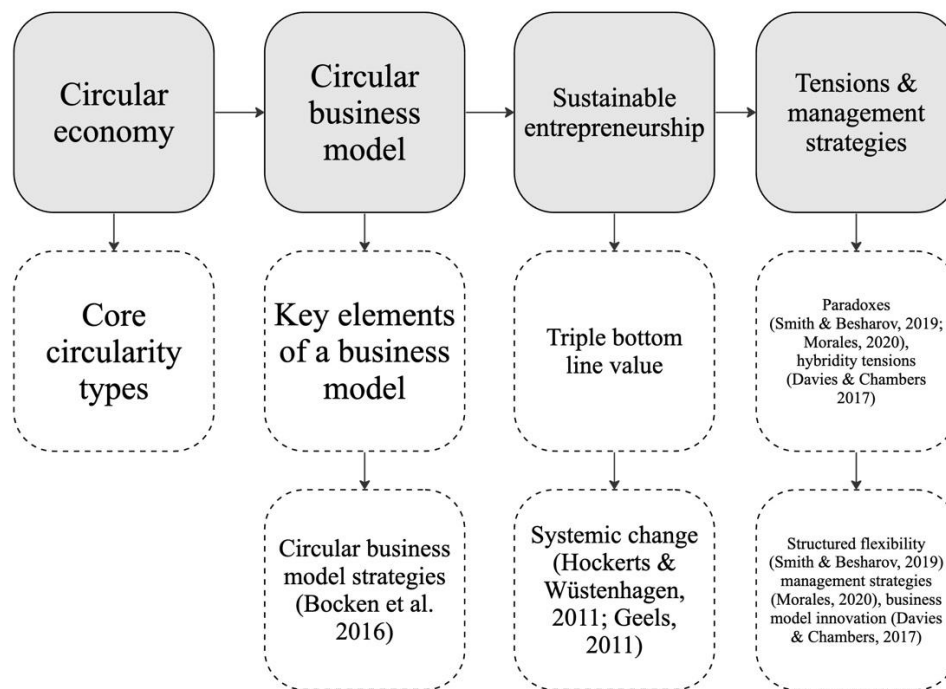
2.5. Theoretical framework

This thesis is based on the realization that we need to change our ways of making business to build a sustainable future. In this section, I will present the theoretical framework developed based on the literature discussed above.

The theoretical framework serves as a guide for the data collection and for the analysis of the empirical data collected for this research. It aims to provide a perspective from which the tensions that occur in the circular economy-based business models as well as the ways to manage these tensions can be described and analyzed. My goal is to find patterns in the empirical data and compare those against the discussions found in the literature review. The theoretical framework connects the key concepts of this thesis: circular economy, circular business models, sustainable entrepreneurship as well as tensions and

management strategies. These concepts and their relationships can be seen in Figure 1 below.

Figure 1. Theoretical framework of this thesis.



Taking a business model perspective, this thesis aims to understand how circular ventures manage tensions in their business models. Through multiple case analysis, I explore the business models presented in the selected circular ventures. The theoretical framework shall be used to contemplate first the business models and the underlying tensions within it, and second, the management strategies through which the businesses alleviate the tensions. In the Table 1. below I have summarized the tensions and management strategies found in the literature (Smith & Besharov, 2019; Morales, 2020; Davies & Chambers, 2017). These findings will guide my analysis of the empirical data as I seek to validate the theory and contribute to it through my own research.

Table 1. Summary of tensions and their management strategies.

Key element of a business model	Summary of tensions / paradoxes	Management strategies / Business model innovations
Value proposition	<p>Simultaneously address multiple desirable but conflicting economic, environmental and social outcomes in different temporal (e.g. short and long term) and spatial arenas (e.g. firm level and societal level) and being community-oriented.</p>	<p>vs. Focusing on being commercially focused and creating economic value.</p> <p>Organizational-level strategies, structures, and practices to manage the tensions. Strategic sensitivity, collective commitment and resource fluidity. Ambidexterity: exploitation and exploration in different markets.</p>
	<p>Developing more sustainable products from waste materials that affect the the design and esthetics of used products.</p>	<p>vs. Focus on quality, convenience and value for mainstream consumers.</p> <p>Promote how sustainability improves product quality, Investments in sourcing technologies (separation and improvement of waste).</p> <p>Co-creation and agile innovation methodology for PSS development.</p>
Value creation & delivery system	<p>Sustainable sources of supply, partners and financing to match the demand.</p>	<p>vs. Taking advantage of convenience and cost.</p> <p>Resource shortages can be overcome through exploiting sustainability in partners. Reducing proximity between customers and the sustainable entrepreneurs can subvert traditional channel chains. Digital tracking and display of flows. Developing pre-sorting skills for personnel.</p>
	<p>Forming a community with like-minded entrepreneurs and stakeholders on a similar mission.</p>	<p>vs. Creating value for other stakeholders and destruction for others and partnering with direct competitors.</p> <p>Managing stakeholders, working collaboratively with like-minded competitors to get the impression of size and negotiation power.</p>

Value capture	Financial performance and distributing profit to beneficiaries.	vs.	Re-investing profit in business development.	Linking sustainable impact directly to commercial success.
	Balancing costs in labor-intensive activities and in managing resistance from supply chain actors.	vs.	Creating revenue.	Alternative governance structure and homogenous sourcing. Establishing long-term collaborations and expanding value proposition from product to system.

Source: Adapted from Smith and Besharov (2019), Morales (2020) and Davies and Chambers (2017).

3. Methodology

In this section, I aim to explain the methodology used in the empirical study of this thesis. First, I re-state the research questions and elaborate on the importance of conducting this study. Second, I provide research context for the reader. Third, I introduce the reader to my research philosophy and the qualitative tradition I am following in this thesis. Fourth, I will further describe how the case companies were identified for the multiple case study, and how I sought to gain information from the key informants of these case companies. After describing the cases on a general level for the reader, I explain my plan for the data analysis, and finally, evaluate the thesis from its design choices and ethical standpoints.

At this point, I want to briefly remind the reader of the purpose of this research in seeking to understand how sustainable entrepreneurs balance business and saving the world. In the multiple case study of circular ventures, the goal of this study is to answer the following research questions:

RQ1: What are the underlying tensions in the context of the three key elements of a business model in circular ventures?

RQ2: What are the strategies that emerge in circular ventures to manage tensions present in their business model?

The importance of this study is, on one hand, tied to its wider context in seeking solutions for aligning our economy with sustainability. As we are facing the largest uncertainty of our lifetime facing a transition that we cannot predict (Hockerts & Wüstenhagen, 2010), we need solutions such as circular business models and sustainable entrepreneurship, that can accelerate the change towards a more sustainable future (see Stahel, 2016; Bocken et al. 2016; Schaltegger & Wagner, 2011). However, the circular economy has been slow in gaining traction (Stahel, 2016; Gregson, 2015), and hence the phenomenon of tensions and how they are managed in circular ventures is of interest. Therefore, on the other hand this study is important as it connects the phenomena of sustainable entrepreneurship and tensions to the normative concepts of circular economy and circular business models and

seeks to explore ways in which sustainable entrepreneurs of circular ventures manage the tensions.

Outside of the academic and general contribution of this study, the topic is relevant from a personal perspective, as it is a phenomenon that I have been fascinated by for years. Both during my studies and from my experience working in early-stage business ventures, I have developed a curiosity about how a venture can be tied to a certain vision, and in particular, a sustainable one. Furthermore, the concept of circular economy is interesting to me, as the circular ventures operating with a circular business model already operate in a circular economy, despite the wider economic system being linear. Therefore, already at the conceptual level, there exists a strong tension between circular economy and linear economy, and this makes analyzing tensions and the management strategies in this context interesting.

3.1. Research philosophy and design

As the nature of this thesis is exploratory, it calls for a qualitative approach: it implies a larger question of “how” something is happening (Yin, 2018). In this thesis, the goal is to understand how sustainable entrepreneurs balance business and saving the world, in other words, how circular ventures manage the tensions occurring in their business model. The research philosophy is based on constructivist ontology, where reality is socially constructed by an individual or group. The epistemological starting point is therefore based on a subjectivist view, as reality is constructed through personal interpretation (Eriksson & Kovalainen, 2008).

With a qualitative study, there exist many ways of designing the research process (Eriksson & Kovalainen, 2008). In my case, I follow a multiple case study design presented by Yin (2018). These exemplary cases presented in the research aim at providing a deep understanding of the research phenomenon (Yin, 2018). Eisenhardt (1989) suggests that a researcher must decide on the right number of cases, and that the ideal number is somewhere between four to ten cases. With fewer cases, “*it is often difficult to generate theory with much complexity*” (Eisenhardt, 1989). Even though my

goal is not to formulate a new theory based on the data, but rather, I seek to validate the existing literature and provide example cases, I still aim to keep myself open as a researcher to the findings in the data. Therefore, I have decided to investigate four cases to ensure certain generalizations will be possible. Moreover, Yin (2018) suggests that selected cases should help answer the research questions. As I explain in detail in chapter 3.2., the selected cases are chosen to represent different kinds of circular business models to ensure that sufficient information is gathered related to tensions and management strategies.

As I take a subjectivist position that views reality being constructed through one's own interpretation, and as tensions as a phenomenon fit this interpretation, I focus on interviews as my primary data. For the data analysis, I adopt an abductive-deductive approach that allows me as a researcher to exemplify the existing theoretical background through the multiple case study and provide empirical validity, but also to be guided by the data towards to most relevant tensions and management strategies that emerge, and thus contribute to existing theory. (Langley & Abdallah, 2011).

3.2. Research context

In this thesis I aim to exemplify how tensions and their management happens in circular ventures that are run by a sustainable entrepreneur. All the cases selected conform to the definition of circular economy by Ellen MacArthur Foundation (2020) and Geissdoerfer, et al. (2018), the definition of sustainable entrepreneurship by Hockerts & Wüstenhagen (2010), and the three main differentiators between traditional and sustainable entrepreneurship by Schaltegger and Lüdeke-Freund (2013) as well as the definition by Geissdoerfer et al. (2018) about circular business models. All the cases are run by their founder, a sustainable entrepreneur.

Choosing similar cases is in line with Yin's (2018) suggestion to follow a replication logic in selecting the cases. However, as long as the ventures matched the criteria related to sustainable entrepreneurship and circularity, maximizing the difference in circular

business models was found useful for this research. The cases were selected to represent various types of core circular economy mechanisms of closing, narrowing, or slowing loop (Geissdoerfer et al. 2018). Furthermore, to ensure variety in the multiple case study, the selected ventures represent four different kinds of circular business model strategies outlined by Bocken et al. (2016). With all the cases having activities that seek to combine creating a viable business as well as creating social and environmental impact, all the cases are also by definition integrated hybrids (Davies & Chambers, 2017).

In order to increase the contribution of the selected cases for the research questions, all the case companies are relatively new – they are founded between 2016 and 2021. Nevertheless, the cases have significant differences in the stage of their venture: two are past scaling, one is entering scaling now, and the last one is still in bootstrap mode, in the early days. In addition, to promote further comparability, the cases were selected from a single country, Finland. However, it is notable that both the size of the company and industry varied in the selected sample. As this is an explorative study where the case companies investigated intend to exemplify and bring new insights to the theoretical framework, I decided to limit the case companies to four cases, in order to be able to analyze the tensions and answers to these in their business model more closely. These companies are presented in more detail in Table 2 below.

Table 2. Selected case companies.

Pseudonym	Size	Main activity	Industry	Business model approach	Core circularity approach (Geissdoerfer et al. 2019)	Circular business model strategy (Bocken et al. 2016)	Interviewee	Interview length
Food Industry Producer	S	Manufacturer	Restaurant / food industry	Use food waste to create new ingredients	Closing	Industrial Symbiosis	CEO	46 min
Restaurant Industry Service Provider	S	Service provider	Restaurant / food industry	Digital deposit system for reusable products	Narrowing	Access and performance	Founder	34 min
Agricultural Industry Re-manufacturer	M	Manufacturer	Agriculture	Agricultural products out of industrial side streams	Closing	Extending resource value	Founder	45 min
IT sector re-manufacturer	L	Retail	IT sector	Refurbishing electronics	Slowing	Extending product value	Founder	46 min

Following what Yin (2018) suggests, three exploratory discussions were held in the research design phase of this thesis. This pilot phase included discussing with sustainable entrepreneurs, all of which had a background in building circular economy businesses.

The main data collection was then carried out through a multiple case study approach, focusing on sustainable ventures that have a circular business model.

In order to understand the circular venture and its background, we selected companies where the founders are still active operationally in the companies. The operationally active founders have sufficient background and a broad understanding of the company for the purposes of this research. We interviewed founders who are currently in the leadership of the company. This was crucial to capture some relevant tensions arising from the phenomenon of sustainable entrepreneurship.

3.3. Methods and data collection

3.2.1. Multiple case study

As suggested by Yin (2018), a multiple case study serves well to validate theoretical discussion empirically. The cases, therefore, present exemplary cases of how sustainable entrepreneurs manage tensions occurring in the business model of their circular venture. Following Eisenhardt's (1989) suggestion of choosing at least four cases as well as Yin's (2003) thinking that the selected cases should be chosen to answer the research questions, the selected four ventures to represent different business maturity levels, different core mechanisms of circularity (closing, narrowing, slowing loops) (Geissdoerfer et al. 2018, as well as different circular business model strategy: access, expanding product, expanding material as well as industrial symbiosis. In this sense, my research conforms in particular with one of the four general strategies for analyzing case studies presented by Yin (2018). My study is in line with the strategy of "*relying on the theoretical propositions*", where the theoretical framing leads to the case selection.

Both research questions are answered by drawing from the empirical research based on a multiple case study consisting of semi-structured interviews with the CEOs or founders of a circular business venture as well as triangulation of webpages and online materials to understand the strategies to cope with tensions in the business model. Triangulation is

a recommended strategy by Yin (2018) to improve the validity of the qualitative research method.

3.2.2. Interviews

Interviews were selected as the main data collection method, due to the method's suitability for the research philosophy and the research questions of this thesis. Interviews allow the researcher to focus on the main research topics (Yin, 2018). In order to gain insights into tensions and to understand the strategies to manage the tensions, the CEOs and founders of the case company were interviewed. The research sample included four founders, who are currently in a leading operative role at their circular venture.

To ensure the privacy of the circular ventures and their business models, it was agreed with the interviewees that their names and companies would be pseudonymized in this study. The general information about the case companies selected can be seen in Table 2 in section 3.2. above.

The interviews were formulated as semi-structured, giving the researcher opportunity to ask further questions on a topic or theme that emerged in the interview. Semi-structured interviews serve to highlight the perceptions and meanings of the interviewees (Tuomi & Sarajärvi, 2009), which is suitable for the ontological-epistemological approach of this thesis.

Each interview lasted from 45 minutes to an hour, and they were conducted in Finnish. The questions were designed to gain a basic understanding of the business, its background, the tensions recurring in the business, and the strategies to manage tensions whenever they occur. The original interview plan as well as the translation into English can be found in Appendix.

The interviews were recorded with the permission of the participants. A consent form and sufficient information about the privacy policy of this research were shared before the

interview with each participant, and they agreed to and signed the consent before the interviews began. After the interviews, the interviews were transcribed in Finnish. Furthermore, data were collected from web pages and other online sources to allow for triangulation with interview data (Yin, 2018).

3.2.3. Documentation

Triangulation was used to ensure the validity and sufficiency of the empirical findings (Yin, 2018). The interview transcripts and other written materials, such as websites and online resources were used to analyze the main activities, and interactions with the customers and suppliers as well as the benefits and challenges of having a circular business model. The thick descriptions thus derived helped to understand the tensions recurring in the business and how these tensions are managed in the circular ventures.

The interviews served as the main source of data and documentation was used to support evidence found in the interviews.

3.2.4. Data analysis

Eriksson and Kovalainen (2008) point out that the collection and analysis of qualitative data can be done at the same time. In the data analysis part, the interview transcriptions in Finnish were first coded and then analyzed. However, already during the collection of the data some analysis was performed. In addition, the analysis proceeded in an iterative manner that involved going back and forth between the data and the theory (Braun & Clarke, 2006). For this thesis, the examples from the interviews were translated into English.

The coding was performed based on the theoretical framework of tensions and management strategies presented in the literature review. The theory guided both the data collection as well as the data analysis (Yin, 2018). This is in line with Yin's (2018) view that the use of theory is beneficial for presenting exemplary case studies. As I am

particularly interested in finding tensions that occur at the level of the key mechanisms of a business model, I used codes derived from the theory on business models. In particular, I leveraged three key elements of business models according to several scholars such as Teece (2010), Lüdeke-Freund et al. (2017), Bocken et al. (2014) and Geissdoerfer et al. (2018), find tensions and management strategies related to these. A similar approach to studying tensions has been performed by Davies and Chambers (2017) to analyze tensions in hybrid organizations. Therefore, the analysis depended on mostly a deductive method, as it was inspired by the existing theory on tensions and management strategies found in business models (Braun & Clarke, 2006).

To ensure a systematic approach, I used a software designed for qualitative analysis called Atlas.ti to code and analyze the data. In the coding phase, the tensions and their management strategies were coded according to the main business model mechanism they were related to. The preselected codes that formed my coding scheme can be seen in Table 3 below. In addition, I created codes for tensions and management strategies that exist at a company level and cannot be considered a smaller part of a certain part of a business model.

Table 3. Preselected codes.

Phenomenon	Color code	Area of mechanism	Business model mechanism
Tensions	Orange	Customers / Partners	Value proposition
	Yellow	Product / service	
	Blue	Market / ecosystem	Value creation & delivery
	Light green	Activities / Resources / Channels	
	Turquoise	Finance / Costs	Value capture
	Bright green	Sustainability	
Management Strategies	Brown	Customers / Partners	Value proposition
	Pink	Product / service	

	Dark blue	Market / ecosystem	Value creation & delivery
	Grey green	Activities / Resources / Channels	
	Dark green	Finance / Costs	Value capture
	Black	Sustainability	

First, I analyzed each case individually before moving onto cross-case analysis. This helped me as a researcher to attain a deep understanding of each case before moving to compare the cases. As examples of circular ventures, the cases presented differences in their mode of circularity (Geissdoerfer et al. 2018) and circular business model strategy (Bocken et al. 2016), the individual case analysis allows me to find unique features in each case company before analyzing the cases together and making findings on a more general level (Yin, 2018).

Second, in the cross-case analysis, I moved to compare the cases selected for the multiple case study. In this part, I sought to compare the cases in order to find similarities and differences. Third, I performed a thematic analysis based on the findings of the cross-case comparison (Braun & Clarke, 2006) and the results of the coding the data. I selected the themes that I as a researcher recognized as important themes considering the research questions – thus, it is important to note my active role as an interpreter of the data (Braun & Clarke, 2006).

In this phase, I reviewed the data in tandem with the existing theory that I had presented in the literature review. Finally, I sought to identify similarities and differences between the cases and the existing theory. I verified if the emerging patterns fit into the existing theory and sought to link them as empirical examples for the literature. As such, the data analysis I performed conforms with Yin’s (2018) technique of cross-case synthesis for analyzing cases in a multiple case study. According to Yin (2018), such a synthesis that brings evidence from more than one case supports finding stronger emerging patterns.

Table 4. My data analysis plan.

Step 1	Step 2	Step 3	Step 4
Within-case analysis	Cross-case comparison	Thematic analysis	Find patterns and compare and link to existing theory
Thoroughly familiarize myself with each case to gain a deep understanding and find unique features of each case before moving to compare the cases.	Compare the cases in order to find similarities and differences.	Determine the main themes that raise from the coded data and cross-case comparison.	Define patterns and identify similarities and differences to existing theory.

3.2.5. Evaluation of the study and ethical concerns

Yin (2018, p. 42–44) provides four criteria for judging the quality of research designs. Out of these, three apply to my research design as the criteria of internal validity is meant for explanatory or causal studies and not descriptive or exploratory studies. Next, I will discuss the three criteria, construct validity, external validity as well as reliability to evaluate my research design. (Yin, 2018, p. 42–44.)

Construct validity means identifying the right operational measures for the concepts being studied (Yin, 2018, p. 42). In the context of case studies, Yin (2018, p.43) suggests tactics such as using multiple sources of evidence and having key informants review the draft case study report. I have sought to increase construct validity in my research by using triangulation to gather information and verify certain aspects of the interviews. However, I did not have the key informants review the draft due to time constraints and the difficulty of justifying the need for that during the process.

For external validity, Yin (2018, p. 43) suggests using replication logic in multiple case studies. In my case, I selected four circular ventures with several similarities: they are all founded after 2016, they all operate with a circular business model, and they are all Finnish. However, there were intended differences in terms of their circular business model strategy: two cases could be categorized as a slowing loop and the other two as a closing loop strategy (Bocken et al., 2018, p. 313). In addition, replication logic was increased by the systematic coding that allowed me to analyze all the cases in the same

way. The coding scheme was adopted based on the three key elements of business models according to several scholars such as Teece (2010), Lüdeke-Freund et al. (2017), Bocken et al. (2014) and Geissdoerfer et al. (2018).

The final criterion, reliability means the familiar test of another researcher performing the same research with the same research design and reflecting on if they would be getting the same results (Yin, 2018, p. 46). Some of the tactics suggested by Yin (2018, p. 43) for case studies include using case study protocol, developing a case study database as well as maintaining a chain of evidence. In my research, I documented all the steps and outlined the methods I used to collect and analyze the data. I provided a thorough theoretical background for my research and described the cases selected for the research in a clear and justified way.

Eriksson and Kovalainen (2008, p.68–72) outline elements of good scientific practice. The first elements, ethical guidelines, and ethical review boards, have been considered in this thesis in reading ethics-related materials presented at the master's thesis seminar as well as familiarizing myself with the ethical guidelines provided by the university.

What comes to relations with and responsibilities towards research participants (Eriksson & Kovalainen, 2008, p. 70), I followed carefully the basic rules of responsibility in a way that I clearly communicated schedules, times of the interviews, interview questions, and how this research is going to be published to the interviewees. I considered this particularly important as I, as a researcher, am getting someone else's time and learning things about the company that they don't normally share with external people.

The two following elements, voluntary participation, and informed consent, are closely related (Eriksson & Kovalainen, 2008, p. 71). In the case of my thesis, aspects related to bringing any harm, anonymity as well as privacy, and confidentiality (Eriksson & Kovalainen, 2008, p.72–73) were also related to this discussion. I provided the interview consent together with the privacy notice in advance for the interviewees and all participants signed the consent electronically before the interview. We also discussed the contents of the consent, such as voluntary participation, at the beginning of each interview. As a researcher, I also wanted to ensure that the interviewee understood how

the pseudonymization will look like, so I provided all the participants with an example of how the company will be referred to in the thesis. I considered this important as similar companies with the same business model are still very few and by describing their business model, a reader could easily guess which company is in question.

Finally, to discuss the last three elements mentioned by Eriksson and Kovalainen (2008, p.68–72), I have sought to keep my professional integrity as a researcher by documenting each step well and following a clear logic in the qualitative research. I have also not been guilty of silencing other academics or plagiarism. I have frequently referenced the relevant sources in the scientific conversation related to my research and cited other researchers and scholars.

4. Findings

In this section, I will present the findings as a result of my four-step data analysis. First, I will briefly present each case to describe the key elements of their business models. Then, I will present the tensions and management strategies found in the interviews, keeping the research questions in focus for each corresponding section. I will use a thematic approach, described in the methodology section, to focus on the main tensions and management strategies emerging from my analysis, and mirror these findings to the existing theory presented in the literature review.

4.1. Introducing the cases

Restaurant Industry Service Provider

The value proposition of the Restaurant Industry Service Provider centralizes around a service that enables restaurants to sell take-away food in non-disposable packaging, in other words, the company has developed a system for durable to-go containers that aim to reduce the use of disposable containers and waste. The case company's essential value creation and delivery mechanisms include the constant flow of durable containers that create data as they circulate in and out of restaurants. Through this data platform and software system, the case company is able to secure a turn-key solution for restaurants to eliminate the use of disposable food containers. The value capture in relation to financials and costs is based on volume-based partnership contracts. What comes to the sustainability value, the company has performed a service life cycle analysis to ensure that once scalable, their solution will reduce the amount of waste and CO₂ as their business grows.

The Restaurant Industry Service Provider can be categorized as a part of slowing loop circular business models (Geissdoerfer et al. 2018) that focus on access and performance as their circular business model strategy (Bocken et al. 2016). Such a business model can be defined as “*providing the capability or services to satisfy user needs without needing to own physical products*” (Bocken et al. 2016).

IT Sector Re-manufacturer

The value proposition of the IT Sector Re-manufacturer is based on refurbishing and selling consumer electronics. The case company's main focus is direct sales to consumers, which are realized mostly through the company's own website. The value creation and delivery mechanisms are ensured by the know-how of refurbishing electronics and owning the entire funnel from purchasing used electronics to selling them through their own platform. What comes to the value capture, each piece of electronics sold has a margin that brings earnings to the company. In terms of sustainability value, the case company views reducing e-waste as their key sustainability mechanism. The impact of each refurbished piece of electronics sold to CO2 emission reduction has been validated by external auditors, and the case company's product sales is thus directly linked to sustainability gains.

The business model of the IT Sector Re-manufacturer can similarly to the previous case be viewed as a slowing loop circular model (Geissdoerfer et al. 2018), but in their case of refurbishing electronics, the circular business model is about extending product value (Bocken et al. 2016). This business model can be defined as “*Exploiting residual value of products – from manufacture, to consumers, and then back to manufacturing – or collection of products between distinct business entities.*” (Bocken et al. 2016).

Food Industry Producer

The value proposition of the Food Industry Producer focuses on creating a new product or ingredient for the food industry, based on the side streams that are underutilized today. In their vision, the customers that sell them the side stream ingredients could be the same that purchase the ingredients created out of these side streams. As the food producers need to both get rid of the difficult-to-recycle side stream materials and reduce food waste, while producing tasty food products, the case company sees themselves as tapping on both potentials. Looking at the value creation and delivery mechanisms, the case company aims to minimize logistics and ensure the effectiveness of the circular loop. In the long

run, they envision that the production should happen where the food production happens. Therefore, the Food Industry Producer is looking to develop and commercialize the technology that they now use to produce the side stream ingredients. From the longer-term vision perspective, the value capture is two-fold: first, the case company helps food producers to get rid of the waste that is difficult to recycle or resell as such, and second, their solution can be implemented at the food producer's own factories to produce ingredients out of side streams that will then be used again to produce new food. Sustainability-wise the value creation is ensured by reducing food waste and ensuring industrially produced vegetarian or vegan food tastes better through the ingredients produced.

The longer-term approach of The Food Industry Producer to develop a technology and an industrial solution is a closing loop circularity strategy (Geissdoerfer et al. 2018) that operates based on industrial symbiosis (Bocken et al. 2016). This circular business model strategy can be defined as *“A process-orientated solution, concerned with using residual outputs from one process as feedstock for another process, which benefits from geographical proximity of businesses”* (Bocken et al. 2016).

Agricultural Re-manufacturer

The value proposition of the Agricultural Re-manufacturer is formed by producing fertilizers and agricultural dressings out of side streams coming from forestry and agriculture. The key elements of value creation and delivery are ensured by the expertise of creating new products out of a wide variety of different side stream materials and masses coming from other industries. The value capture mechanism is otherwise similar to the products created with a linear model, but in some cases, the Agricultural Re-manufacturer gets paid for helping another company to get rid of some waste material that the case company can then use in their production. Sustainability value is ensured by using the side stream materials and creating products that are better for the soil and the environment.

This fourth and final case presents a second case of a closing loop circular strategy (Geissdoerfer et al. 2018), and their business model can be characterized as extending resource value (Bocken et al. 2016). Extending resource value is defined as “*Exploiting the residual value of resources: collection and sourcing of otherwise “wasted” materials or resources to turn these into new forms of value*” (Bocken et al. 2016). The main difference between Agricultural Re-manufacturer and Food Industry Producer’s circular business model strategy can be found in the value creation and delivery mechanism: while the Agricultural Re-manufacturer collects a wide variety of residual materials and focuses a lot on logistics, the Food Industry Producer aims to build their closing loop solution to one food producer at the time, and work in symbiosis with the local food producer.

4.2. Tensions in circular business models

In this section, I will focus on the tensions found in the circular business models of the case companies investigated. As a reminder, the research question guiding the analysis is the following:

RQ1: What are the underlying tensions in the context of the three key elements of a business model in circular ventures?

To answer this question, I will focus on three main areas of tensions that emerged from the interviews and reflect these on the existing literature. Through a thematic approach, I seek to emphasize the most important themes related to the research question. The interviewees used terms such as “complex”, “problems”, “challenging”, “frustrating” as indicators of a paradox or tension. As such tensions were plentiful, the thematic approach allows me as a researcher to select the most relevant tensions, and provide a detailed analysis based on the selected main themes: steering the market to circularity, creating a new market for circular products and unfavorable facts and beliefs about used products.

4.2.1. Steering the market to circularity

In this section, I will focus on the tensions related to the theme of steering the market to circularity. This theme of the external forces that steer the environment in which the

circular ventures operate, came up frequently in all the interviews. The tensions regarding the market are fundamental in the discussion about circular economy, as they are apparent already in the dichotomy of linear vs. circular economy. Circular ventures investigated already operate with a circular business model, however, the rest of the world still mostly operates in a linear economy and leverages linear business models. I have selected two sub-themes of 'law and regulation support linear economy' and 'competitors hold onto linear models' to structure the tensions found for this theme, as these sub-themes were frequently mentioned in the interviews.

Law and regulation support linear economy

Much of the tensions related to how the market is being steered comes from legislation and regulation by the EU and the local governments. New, more sustainable business models, such as those related to the circular economy, are strongly advocated by organizations such as the EU (see European Commission 2023) as well as locally in Finland by entities such as Sitra (see Sitra, 2023). Despite of what is being said on the surface, the cases show that there is tension between what is being said and what is being done in terms of steering the market towards circular economy, as evidenced by the following interview quote:

“It is absolutely unbelievable that in public speeches there’s talk about Finland being an exemplary country for nutrient recycling and a recycling society, but then our ministry makes such a law that is so completely against it. And this, in my opinion, is a very central factor in this transition. You can say anything you want in public, but if the practice is like this, then there is no progress.” – Agricultural Re-manufacturer

All the cases presented a need to advocate or lobby for better laws and regulation to support the emergence of circular business models. The current regulation was mostly perceived as working against circular economy and for linear economy. Nevertheless, out of four cases, only two said that they are active in lobbying: the Restaurant Industry Service Provider and the Agricultural Re-manufacturer have both sought collaboration with the relevant ministries and other organizations. The Food Industry Producer didn't

have the resources in their small team. The IT Sector Re-manufacturer said they would simply waste their time, as they are so small compared to the army of lawyers at big technology companies that work against circular economy.

“All big companies, from tech giants to big retailers and telecom operators, have lobbied for the same regulation, which strongly prevents recycling.” – IT Sector Re-manufacturer

This imbalance of power in impacting the laws and regulation came up in all the interviews, whether the company was actively seeking a role in politics or not.

While the EU was regarded as a key actor that should enable circular economy through regulation, the amount of complex regulation that is mostly supporting linear economy was raised in three interviews. This is illustrated by the example from IT Sector Manufacturer below:

“In the United States it is much easier, since there is not really as much regulation as in Europe, that is at least one disadvantage of the circular economy itself. You have to navigate an old regulation that prevents [circular economy] from happening.” – IT Sector Re-manufacturer

Despite regulations causing a lot of tensions in the circular ventures investigated, some regulations related to waste were seen as positive by the Food Industry Producer as well as Restaurant Industry Service Provider. In these cases, the product provided by the case company was seen as one solution that could help others comply with the regulations:

“Everyone brings up CSRD [Corporate Sustainability Reporting Directive], it is brought up everywhere, that in order to reach the goals of Paris everyone is giving it attention in their operations.” – Food Industry Producer

“Our product is an easy solution that reduces the amount of packaging waste and increases reuse. As such it also makes it possible to reach these goals set by the EU.” – Restaurant Industry Service Provider

Competitors hold onto linear models

A big part of the tensions related to steering the market were seen as related to other players: those with a linear business model, those with lower sustainability standards and those who see circular economy as a threat. Related to regulation, competitors may use their market power to steer the market in a way that is most beneficial to them. The market incumbents want to hold on to what has been theirs, as otherwise, it would be risky for their existing business. Many interviewees used the words such as “structures”, “preferred models” or “support” when talking about the ecosystem that creates tensions for them, as illustrated by the interview quotes below:

“In Europe all consumers pay a tax related to their phone for the local copyright organization. Those that sell new phones, have managed to get such tax for the used phones market as well, as they don’t want to be the only ones paying. As a result, we might pay the tax several times for the same [refurbished] phone” – IT Sector Re-manufacturer

“Those that operate with an linear business model, will try to hold onto it as long as possible” – Agricultural Re-manufacturer

“This type of [circular] model is not yet preferred, instead, all structures and support still favor linear models from fossil sources” – Agricultural Re-manufacturer

Another finding related to competition that emerges in the interviews is direct competitors that don’t share the same standards. In all the cases investigated, the product or the industry is still relatively new, which means that there are no standardized qualities of a circular product. In addition, communicating about circularity provokes tensions, as the understanding of different mechanisms in circular business models and their relation to sustainability is relatively low. This makes it possible for linear competitors to focus on dismissing the value of circularity in their marketing.

4.2.2. Creating a new market for circular products

In the case companies analyzed, there are significant differences in whether the venture is seeking to create an entirely new product and market, or if the case company is focusing on making a product with an existing need and a market but producing from secondary raw materials. In both approaches, there are tensions related to creating a new market, but in the latter where the only new thing is the use of recycled materials, the tensions relate mostly to existing direct competitors with a linear product. Cases fitting to this category are the IT Sector Re-manufacturer and Agricultural Re-manufacturer. In the former, there are no direct competitors, but the market needs to be created for the entirely new product. The cases relating to this are the Food Industry Producer as well as Restaurant Industry Service Provider.

The nature of tensions in creating a new market also depends on whether the company sells direct-to-consumers or to other businesses. From the case companies analyzed, it seems that with consumers, one needs to do much more educative work to get them on board.

Existing linear products have market share

In the cases of Agricultural Re-manufacturer as well as IT Sector Re-manufacturer, their core products have been available in the market for a long time, produced of virgin materials. In these cases, they don't need to focus on creating a new market as such but create a market and awareness for the same product made of circulated materials. Both cases mention the fierce competition with linear products as well as the general expectation that a product produced from circular sources should be cheaper.

“People just don't know that there is a place where you can get a phone and that the phone is a high-quality one.” –IT Sector Re-manufacturer

Interestingly, the two other cases, Food Industry Producer and Restaurant Industry Service Provider, whose products have not existed before, they don't talk about tensions related to existing linear models.

Creating a new way of operating around circularity

The Restaurant Industry Service Provider and the Food Industry Producer both have products that, as such, have not previously existed in either linear or circular form. This creates tensions between educating customers versus finding the right customer groups that understand what the product is about.

“But then it's also with these industrial players, sometimes not everyone understands or doesn't somehow... Maybe ‘understand’ is the wrong word, but they don't think... The traditional linear model supports that I buy the raw material and put it in the product. There are customers with whom this [our circular approach] does not fit, for whom this does not open or who do not understand why they should do this.” – Food Industry Producer

All the case companies present a circular business model that at the time of founding the company, has been first of its kind in Finland. Creating a new way of operating includes tensions related to finding the right product, right customers and the right partners to work with, while staying true to the social and environmental goals of the business. The following quote from the Restaurant Industry Service Provider illustrates the tension well:

“Doing this project in general is a trade off in itself: when you bring a new product to the market, and you have to do a lot of free piloting at the beginning and the pricing has been low. Then you also need the big chains [as your client], because this is a new way of working.” – Restaurant Industry Service Provider

4.2.3. Unfavorable facts and beliefs about used products

One important theme of tensions that emerges from the interviews is centered around used products, and the different perceptions that exist regarding using secondary materials in production or refurbishing products. The only case where these tensions are not present is the Restaurant Industry Service Provider, as they are not trying to create a product from recycled materials, but rather create a new solution around recyclable products.

Opportunity costs

In the other three cases, however, the factual information about the opportunity costs related to using secondary materials, produces tensions in the business model. Circular economy involves the often costly burden of separation and pre-sorting materials (Ellen MacArthur Foundation, 2013), which may account for a large part of the costs in a circular business model. Similarly, Bocken et al. (2016) outline, that companies that capture new forms of value through reduced material costs, potentially increase labor and logistics costs. A similar tension is mentioned in the empirical study by Morales (2020) as balancing costs in labor-intensive activities.

All the three cases working with creating a new product out of existing materials, mention that the cost structure is balanced by helping other companies get rid of their waste materials. This keeps the material acquisition costs relatively low, while the majority of costs are generated in the production phase, including handling the recycled material and producing the circular products. Despite cheaper material, only certain products present an opportunity significant enough to pursue:

“Paradoxically, in order to be profitable to recycle the device, the original price of the device should be relatively high, because Europe also has so expensive labor.”

– IT Sector Re-manufacturer

This had led the IT Sector Re-manufacturer to focus on certain kind of higher-end consumer electronics only and has created tension between minimizing the labor costs

while re-manufacturing electronics that can't be differentiated from virgin electronics by quality.

In the case of the Food Industry Producer, their entire product strategy is built to avoid both the financial and the environmental cost of logistics that is often an issue in a circular economy (Morales, 2020). Therefore, despite now producing locally in Finland, they are planning to license their technology of making the product to local food factories around Europe.

“The bigger goal is that it doesn't make sense in the long run to transport the remains of tomatoes from Spain and make a product out of them. We should take our solution to the customer locally.” – Food Industry Producer

Negative beliefs about used products

In all the three cases where the business model is based on using secondary products, mentions about consumers' or other businesses' negative perceptions and beliefs regarding using “waste” as material are frequent. The belief that used cannot be as good as new, seems to persist strongly. In addition, these beliefs seem to be connected to certain consumer groups and people representing different generations. Moreover, for certain purposes, such as for work or as a gift, there is still a lot of resistance according to the interview.

In both cases where similar virgin products already exist, the IT Sector Re-manufacturer as well as the Agricultural Re-manufacturer, the customers' beliefs have led to influence both the pricing of the product as well as its quality. First, as both case companies get much of their materials as secondary side streams from other companies, or as used, the price point of the re-manufactured product is expected to be lower. In addition, the quality of the product is questioned frequently, and therefore both companies need to focus on reaching at least the same, or even higher quality.

4.3. Management strategies in circular business models

Following the analysis of tensions, in this section I will focus on the management strategies found in circular business models. The research question that guides the analysis is the following:

RQ2: What are the strategies that emerge in circular ventures to manage tensions present in their business model?

As in the previous section, I use thematic analysis to present the most relevant themes of management strategies that answer the research question. While I seek to elaborate on the management strategies related to the business model, I will use the term management strategy (Morales, 2020) as opposed to the term business model innovation, which is another term used in the literature (Davies & Chambers, 2017). I have selected the term management strategies due to its direct relationship to tensions. Moreover, in the presentation of the findings I aim to relate the management strategies to the relevant tension, keeping in mind the second research question.

4.3.1. Expertise and education

Building an expert position

One way in which the case companies seek to manage the tension of steering the market or creating a new market is the desire to build thought leadership, expert position, and negotiation power for the company. All the case companies used words such as “set an example”, “inspiration” as well as “we are the first to do this” to describe their position in their own industry, but also in society at large. These terms allude to changing the market and inviting others to follow.

The case companies regard society as an important stakeholder that they want to influence. As mentioned, in two cases, the Restaurant Industry Service Provider as well as the Agricultural Re-manufacturer, lobbying is regarded as an effective way to have an

impact. The others focus on product development and building leverage in the market through “the best product”. All the case companies recognize that now is the time that much of the relevant EU regulation is being created and that such regulation will set the pace for change in the upcoming years. Therefore, either actively following and adapting or actively contributing to the creation of these regulations can be regarded as one part of this strategy of building an expert position.

In addition, the case companies recognize that as being one of the early companies adopting a circular business model in their industry, they should have an impact on stakeholders and community and share the best practices with the market. Different ways of influencing the market are evidenced in the following:

“We created, or, in practice, I created this kind of reporting method in our early years and it is now called a regeneration report, i.e. renewability reporting. The most important result of this is that our [the company’s] result is very strongly carbon negative - - the report has received a lot of attention since then, for example, several of these large forest industry companies have quoted these figures in their own responsibility reports.”
– Agricultural Re-manufacturer

“We have also been involved with the Ministry of the Environment, or I have participated in some of their working groups or circular economy groups related to the Green Deal. We have been involved in guiding the circular economy in Finland.” – Restaurant Industry Service Provider

Building an expert position is strongly related to having the experts that can act as thought leaders. In all the cases, the founders of the companies have become the public voice advocating for certain changes in the market, or commenting circular economy or the market of a used product more widely. The founders were senior experts in their field already before founding the company in the cases of Agricultural Re-manufacturer as well as Food Industry Producer. In the case of the Restaurant Industry Service Provider, some members of the founding team had such positions, while others didn’t. In the case of IT Sector Re-manufacturing, the founders were serial entrepreneurs, but they didn’t

have an explicit history in circular economy or in the field of refurbishing electronics. In the literature, leadership expertise is mentioned as one important organizational guardrail that helps structured flexibility to emerge in managing tensions (Smith & Besharov, 2019).

Education

Another management strategy referenced frequently is education towards customers, partners, stakeholders, ministries, and the wider society. As one of the first companies in their field operating with a circular business model, the case companies have felt the need to educate the ecosystem about the safety, cleanliness, and the quality of their product as well as the production process. This management strategy is linked to the tension regarding unfavorable facts and beliefs about circular products.

Another subject, on which the companies have been educating their audiences from a different angle is the circular business model. All the case companies have measured the emissions of the product lifecycle or the total emissions of their operations. These results have been used internally to build the operations sustainably, but also externally to show the market and the competitors that this is a better way of making business and that there is a business case in pursuing a more sustainable way of doing business.

4.3.2. Sustainable financing

Getting revenue from day one

All those cases that focus on building a new product based on secondary materials or refurbishing an existing product, have been able to receive revenue from day one. These cases include the Agricultural Re-manufacturer, the IT Sector Re-manufacturer as well as the Food Industry Producer. This management strategy tackles in particular the tensions produced by competitors as well as existing linear products. The case of the Restaurant Industry Service Provider is different, as their product or their market has not

existed before: in the interview, it becomes apparent that they have needed to focus on other things than revenue first in order to build the system around their product.

Two cases, the IT sector Re-manufacturer as well as Food Industry Producer have had to split the business model in two: while one part is focusing on selling the current product, the other is focusing on building more scalable operations and technology. In such a business model, the first part finances the second part to some extent.

“At the moment, we split the business model in two. The current production finances some operations and, at the same time we are negotiating these business models like these partnerships, so that's what we have on the table every day.” – Food Industry Producer

Venture capital to secure growth

Three out of four cases have raised venture capital in order to build the business. These cases include the Food Industry Producer, the IT Sector Re-manufacturer as well as the Restaurant Industry Service Provider. All three cases mention that their current way of operating wouldn't be possible without the investors. Only the Agricultural Re-manufacturer doesn't mention investors at all.

By getting venture capital, the case companies seek to manage the tensions related to opportunity costs, where the opportunity is big enough in the long run to secure this type of financing, but it will require time and resources to build a scalable business. By raising capital, the case companies have been able to focus on product research and development. In addition, marketing and branding come up as significant investments in cases with venture capital. The role of the investors is regarded as crucial in providing the possibility to build a working model for a future concept that will have a solid business model once the market has been built for it. This importance is highlighted by the following:

“There are also a lot of investors who only invest in companies of this type based on this value base, including us, and it is very important for a company at this stage.” – Food Industry Producer

“If you operate in a circular economy without a market that already exists, you have to build it and you have to invest a lot in its development and acceptance. By no means can you say - that the fact that we have wanted to do this way of working – that this is somehow financially in line with the financial goals.” – Restaurant Industry Service Provider

4.3.3. Product research and development and co-creation

Focus on product research and development

All the cases mention the focus on product research and development as core to their success. The case companies want to make their product as easy to use as possible, or as good quality as possible. This strong focus on product development can be seen as a management strategy to the tension regarding the beliefs about used products, but it is also related to competitors, their linear products as well as creating a new way of operating.

As no other company has exactly the same business model in the same industry, all the cases emphasize the importance of research and development. The case companies have had to themselves create new systems, operations, new technology, custom software and hardware solutions.

"When these are partly new types of solutions, we don't have ready-made technology or ready-made equipment, so you can't order a certain kind of package from the store. On the other hand it has its advantages. It's a challenge, but it's an advantage for us in that we can then take the role of developing those solutions, but it requires more work in strong collaboration with our partners.” – Food Industry Producer

In addition to product development, another trait of the management strategy of product research and development is the strategic choices the case companies make that guide the

product. In three interviews making good business strategic choices is highlighted. Only the Agricultural Re-manufacturer does not mention the importance of strategic choices.

In the literature, Morales (2020) mentions two similar management strategies: a unified approach, including operational, tactical and strategic actions, through which the tensions of applying eco-design and value allocation between stakeholders are being managed, as well as strategic sensitivity.

Partnerships and community

One of the management strategies mentioned in the literature is about working with like-minded competitors, that gives the impression of size and negotiation power (Davies & Chambers, 2017). In the interviews, both the IT Sector Re-manufacturer as well as Agricultural Re-manufacturer mention that they have been collaborating with similar companies on a similar mission to inspire and learn from one another. In both cases, it becomes apparent that they are convinced of the benefits of a larger community that believes in the same way. This is evidenced by the comments made by the IT Sector Re-manufacturer:

"It's absolutely impossible to survive it as a single player in any case, so it's better to embrace the fact that there will be some players who will then help one another to move forward so that we are seen more like a big ecosystem" – IT Sector Re-manufacturer

"We would like it to inspire, that is, if we manage to grow even bigger, then over time, we can also inspire competition in the industry, which in turn helps, for example, to create the kind of regulation in Europe that changes in a more environmentally friendly direction" – IT Sector Re-manufacturer

However, the Restaurant Industry Service Provider and Food Industry Producer view partnerships in a different way, from a more product design-oriented point-of-view. In both cases, co-creation is highlighted as a way to find out the right customer-centric ways to build the customization and complexity needed for their product. Reflecting back on

the literature, the business of both Restaurant Industry Service Provider and Food Industry Producer can be described as product-service systems where the role of co-creation and customer centricity is emphasized (Morales, 2020).

“Our goal is that perhaps, the one from whom the raw material is obtained, and the one to whom the product ends up, that perhaps they are one and the same. It depends on the business model. Partnerships are of course the most important stakeholder group.” – Food Industry Producer

4.3.4. Sustainability

Direct link from product sales to sustainability gains

In the literature Davies and Chambers (2017) argue that linking sustainable impact directly to commercial success is one of the common business model innovations to manage tensions in hybrid organizations.

This is apparent in the cases as well, as creating ecological value is the aim of all the cases. Some cases, such as the IT Sector Re-manufacturer as well as Agricultural Re-manufacturer have managed to align sustainability goals to their business model in a way that it already produces significant revenue. In all cases, the major sustainability impact comes from their circular business model: when operating in a circular economy, balancing is easier as making business is tied to sustainability gains.

As it is important to understand how the link between product sales and sustainability is linked, I will briefly describe each case from a sustainability perspective. In the case of Food Industry Producer, they are able to take wet waste materials that come from the food industry as a side stream. These edible wet waste materials are difficult to be used for anything else. In addition, in their own production, they don't produce any additional waste. For the Agricultural Re-manufacturer, the use of side streams follows a similar logic: with each new circular fertilizer, they have recycled a certain amount of nutrients

and masses from side streams. In the case of IT Sector Re-manufacturer, each new device they sell means less brand-new devices sold and less e-waste produced. Finally, for the Restaurant Industry Service Provider, their business model is based on creating reusable packaging for restaurants and thus reducing the amount of waste being created from disposable containers.

All the case companies said they have calculated the impact of how much each core business activity saves in CO2 emissions, or somehow measure the impact of their entire operations. This measurement of impact is seen as important throughout the cases as the companies are mission focused. It is clear that the case companies otherwise wouldn't do what they do.

“If every revenue automatically brings positive externalities, then you don't have to balance so much. Instead, you can just do business and then automatically there are other good things for society - - It is enough internally that we look at revenue because it automatically means that carbon dioxide emissions decrease.” – IT Sector Re-manufacturer

Being mission-driven as an asset

All the cases put ecological values first. The companies are mission-driven to sustainability and all of them highlight that they wouldn't risk ecological value for the sake of making more economic value. This is evidenced by the thorough the aforementioned measurements all the companies have been performing to ensure the sustainability of their actions as well as the comments, that emphasize the importance of advancing sustainability.

“Today for us ecology is number one that guides everything we do.” – Agricultural Re-manufacturer

“Ultimately, saving the world and these solutions in the big picture is what gets first. If

not, then the customer doesn't get produced, we can announce that now we can't deliver.
– *Food Industry Producer*

Two cases, the IT Sector Re-manufacturer and Agricultural Re-manufacturer highlight the fact that they can recruit better hires and be aligned as an employee community with the sustainability mission. This helps them in a situation where tension is being created in the face of creating a new market and operating in a way that no other company has done before.

“I would argue that for employees it is increasingly a very important aspect that companies do something more meaningful than a disposable economy.” – *IT Sector Re-manufacturer*

“We get much better people who are interested in our mission, and better employees.”
– *Agricultural Re-manufacturer*

The importance of the common value base is also highlighted in the following example by the Agricultural Re-manufacturer, as they describe the fusion that originally led to the creation of the current company:

“[The fusion] was strongly based on our values, we talked a lot about the value base. In the end, in the merger, the numbers were just technology and numbers.” – *Agricultural Re-manufacturer*

While being mission-driven is an important strategy to manage many tensions occurring in the circular ventures, such as the tension of creating a new way of operating around circularity, there are little similar management strategies in the literature. In the longitudinal research by Smith and Besharov (2019) they found that the social enterprise they researched managed paradoxical tensions through structured flexibility. To borrow the terminology by Smith and Besharov (2019), sustainability could be seen as an important guardrail in the circular ventures investigated: as such, it “prevents drifting and guides organizational practices toward ensuring each mission is equal to rest” (Smith &

Besharov, 2019) In his literature review concerning corporate circular economy, Morales (2020) mentions a unified approach including operational, tactical and strategic actions to manage the tensions related to applying eco-design as well as highlighting circularity profile. However, based on the interviews, the fundamental common value base centralized around the sustainable mission is an important valuable asset for the case companies that might help them overcome tensions of any kind.

5. Discussion

In this chapter, I will discuss the main findings presented in the previous chapter in relation to the three key mechanisms of business models, presented in the literature. In addition, I will discuss the practical, societal and theoretical implications of this research. These implications are related to market readiness, systemic change as well as managing tensions in the emergence of circular economy. Finally, in the last section of this chapter, I return to my initial motivation to understand how business goals can help reach social and ecological goals. The findings and implications of the thesis will serve as the basis of the wider contribution and my recommendations that I will outline in the last section.

5.1. Reviewing the research question and objectives

Next, I will review the research questions and objectives by analyzing the tensions and management strategies in the context of the three key elements of a business model and mirroring these to the theory. These tensions and management strategies are summarized in Table 5 at the end of this section.

Value propositions

Two of the cases, the IT Sector Re-manufacturer as well as Agricultural Re-manufacturer, has similar value propositions: The core product was created out of waste materials and sold directly to the market. The Food Industry Producer has this value proposition at the moment too, as they currently already sell the ingredient, they produce out of the food producer side streams. However, as their longer-term target is to license the technology and this first phase and the value proposition exist merely to build and validate the concept together with partners as well as finance the research and development, the value proposition can be regarded as different. Finally, in the fourth case, the value proposition is unique: The Restaurant Industry Service Provider sells restaurants their service that enables the restaurants to eliminate waste and sell take-away food in reusable containers.

The tensions most related to the value proposition mechanism are law and regulation supporting linear economy as well as negative beliefs about used products. Value propositions in circular businesses connect the product-service system to its customers, and existing customer relationships (Bocken et al. 2014). As such, value propositions in circular business models should enable the creation of economic, environmental and social value (Geissdoerfer et al., 2018).

The related management strategies that emerge in the cases include building an expert position to steer and influence the regulation and the market as well as educating customers and the ecosystem. Looking at the management strategies against the literature presented on sustainable entrepreneurship and systemic change, neither of the management strategies helps the circular venture to get out of the niche on its own. Becoming an expert and a thought leader with influence requires external validation. Moreover, educating customers and the ecosystem becomes easier the more expert the company's representatives are. Such management strategies are time-consuming to build as they require both expertise and external validation of this expertise.

Value creation and delivery system

Value creation and delivery include areas such as activities, resources, and channels as well as the market and ecosystem. All these need to be aligned with the value proposition (Davies & Chambers, 2017). All the cases conform with Geissdoerfer et al.'s (2018) proposition to use a value creation and delivery system to describe the systematic nature of this mechanism for a circular business model, as this mechanism is often more complex in circular models than in linear ones.

The tensions emerging include law and regulation supporting linear economy, competitors that hold onto linear models, and creating a new way of operating around circularity. These tensions depict well the difficulty in balancing activities for the triple bottom line when most of the market is not: until a more systemic transition to circular economy happens, the companies that focus on building economic value based on linear

business models will be at a more advantageous position, unless some other factors in the external environment support the circular business models.

These other factors can be invited to emerge by finding the right partners and customers to start with. The management strategies for the tensions occurring in the value creation and delivery system include forming partnerships and community, focusing on product research and development and co-creation, and finally, being mission-driven as an asset. With these strategies, circular ventures can seek to create the right balance between finding customers and partners and producing triple bottom line value.

Value capture

Value capture refers to the cost structure and revenue streams (Osterwalder and Pigneur, 2010). Geissdoerfer et al. (2018) view value capture in circular businesses as extracting more value from less natural resource consumption, which applies to all the cases analyzed. All the cases seek to link their economic goals to improving sustainability, which is regarded as the most significant management strategy by Davies and Chambers (2017) in their article regarding managing hybridity.

In the case companies, law and regulation to support linear economy is an important tension related to this mechanism too. In addition, existing linear products that have market share, as well as opportunity costs, are some of the key tensions related to value capture.

Not surprisingly, all three management strategies emerging related to value capture have to do with the financial sustainability of the company. These include getting revenue from day one, raising venture capital to secure growth as well as directly linking product sales to sustainability gains. Three out of four cases have both gained revenue from day one as well as raised capital to accelerate the growth of the company. What comes to linking product sales to sustainability gains, all the cases had calculated the emissions of their operations and mentioned the direct link between doing their core business and reducing waste or emissions. For the value capture, knowing that the more economic value they

create, the more sustainability impact the company does is not only beneficial, but also practical for the case companies, as they can focus on building the business.

Sustainability

One key management strategy deserves its own discussion. Sustainability provides a fundamental common value base for all cases and is summarized in Table 5 below as its own key element of the circular business model. Being on a meaningful mission is an asset that helps these circular ventures to manage tensions at the company-level and within different mechanisms of their business models. With sustainability as their number one goal, the circular ventures manage many kinds of tensions, and even manage to attract other companies to join them, investors to invest as well as new hires to join. As suggested by Davies and Chambers (2017) hybrid organizations should align their business goals to their sustainability goals. This is in accordance with Lüdeke-Freund's (2017) suggestion that the attainment of sustainability goals of a business model should be systemically tracked and measured.

Table 5. Tensions and management strategies found in case companies according to key elements in business models.

Key elements in circular business models	Tensions	Management strategies
Value proposition: - Product / service - Customers	Law and regulation support linear economy Negative beliefs about used products	Building an expert position Education
Value creation and delivery system: - Activities / Resources / Channels	Law and regulation support linear economy	Partnerships and community

- Market / Ecosystem	Competitors hold onto linear models Creating a new way of operating	Being mission-driven as an asset Focus on product research and development and co-creation
Value capture: - Finance / Costs - Sustainability	Law and regulation support linear economy Existing linear products have market share Opportunity costs Any tensions	Getting revenue from day one Venture capital to secure growth Direct link from product sales to sustainability gains Sustainability helps the circular ventures to manage tensions of any kind and serves as a significant asset in the business model as a whole.

5.2. Implications of the research

Market readiness

The first implication of this research is related to understanding market readiness for circular business models. By this, I mean the overall readiness of the market to start working with circular business models. As many tensions found were related to the need to steer the market or create a new market, it can be concluded that the markets where circular ventures operate are still quite immature for circularity.

The implications can be seen at legislative, societal as well as industrial levels. On the legislative level, many tensions emerge from current regulation as they are more favorable

to linear business models. However, there are already advocates for circular economy that work in favor of circular business models: two of the case companies already found regulations related to waste beneficial for their circular business and they use the pressure created by the legislation to sell their solution. Moreover, two case companies had taken a successful active role in lobbying for better laws in Finland. This implies that such a role can be taken, and it can be beneficial for the company.

On the societal level, the implications relate to the need of funding and supporting the emergence of circular business models if we want to advance circular economy. Circular business models require a lot of work before getting revenue from a product. Even if the company is able to charge something already at the beginning of its journey, circular ventures may need to secure external funding from venture capitalists, banks, or governmental sources to be able to build a scalable solution that has been tested enough to start growing. This implies that to enable the systemic transition to circular economy there needs to be such funds available and investors have to recognize circular business models as essential for creating triple bottom line value.

On the industrial level, it seems that some industries are more advanced to accommodate circular business models than others. This implies that the ecosystems and networks and support systems to enable circular economy have to be created for a particular market or industry. In addition, despite all the cases presenting companies that have built their circular business model as the first company in Finland, some cases benefitted from having a similar business model as existing linear business models. Even though this means that there are more direct competitors, it also shows that there is a already market for the product. Circular business models can leverage other assets such as their material efficiency, managing costs and sustainability to compete with those with a linear model.

Systemic change

Another implication of the research relates to the systemic change that is required for circular economy to emerge. Reflecting on the literature on systemic change, both Hockerts and Wüstenhagen (2010) as well as Geels (2011) recognize the importance of

market incumbents in contributing to the wider change. This same need for systemic change happens on a micro level of a single circular venture: even if circular ventures can build their business in the niche, they need to attract wider customer segments and bigger clients to gain market share. Succeeding as a circular venture requires a wider system-oriented focus (Bocken et al., 2019). The market incumbents, on the other hand, need such circular ventures to test and build circular business models that could work for them.

The cases investigated in this thesis also highlight the importance of co-creation and partnerships particularly when the business model requires building customization and systemic complexity for the product-service system. Reflecting this finding to Bocken et al.'s (2016) six circular business model strategies, such as co-creation and partnership model is necessary for most circular solutions, in particular those in industrial symbiosis with a producer or a factory.

The systemic change for circular economy needs more collaboration between circular ventures and incumbents that need to find more sustainable ways of operating. Corporations actively looking for and testing circular solutions with circular ventures will have a competitive advantage in the future.

Managing tensions in circular ventures

The final implication of the thesis is related to the academic discussion. This thesis connects the two phenomena of sustainable entrepreneurship and tensions and their management strategies to the normative concepts of circular economy and circular business models. While there is a lot of research on sustainable entrepreneurship and tensions and circular business models can be seen as one strategy for sustainable business models (Bocken et al. 2013; Geissdoerfer et al, 2018), connecting tensions to circular ventures has not been discussed extensively. Some researchers, such as Morales (2020) have performed an analysis of paradoxes in circular economy literature, but he did not narrow his research to focus on sustainable entrepreneurs and ventures. As an academic contribution, my thesis implies that investigating of tensions and management strategies is useful in seeking to empower sustainable entrepreneurs and circular ventures with the

necessary tools to drive the systemic transition to circular economy. Furthermore, by increasing the research on tensions and circular business models, we could increase the understanding of tensions related to a certain industry, as the maturity for circular economy varies significantly from one field to another.

5.3. Advancing circular economy through circular business models

Circular economy has received criticism for not having significantly impacted policy, organizational and consumer levels (Corvellec, Stowell, and Johansson, 2022). However, as evidenced by this thesis, the current legislative, societal, and industrial environments don't support circular business models enough, thus leading to tensions. The findings presented indicate that these tensions can be managed, however in order to accelerate the transition to circular economy there could exist more external support that would help circular ventures bridge the gap between niche and mass markets. Thus, I want to encourage policy makers and industrial players to reconsider their role as enabling circular economy and adapt more ways to support the success of circular business models by collaborating with circular ventures.

In the circular ventures investigated, the business models had been designed as circular since the beginning. In line with the recommendation by Lüdeke-Freund et al (2017) for sustainable organizations to systematically track and control the attainment of sustainability goals, the sustainability effects of the business model had been carefully measured in all the case companies and, in some cases, verified by external auditors. To answer the initial question of this thesis regarding how sustainable entrepreneurs balance making business and saving the world, the management strategy of sustainability (and the verified sustainability impact) stands out as a uniting force that helps manage the business model's contribution to the desired sustainability outcome.

6. Conclusions

As humanity, we are facing the largest uncertainty of our lifetime with climate change and the depletion of natural resources. The decrease in natural and social capital may have non-linear consequences (Hockerts & Wüstenhagen, 2010).

To address this challenge, the circular economy offers a systemic approach to economic growth that aims to keep resources in use longer by closing, narrowing, or slowing resource, material, and product loops, according to Geissdoerfer et al. (2017). Sustainable business models, including circular business models, have been developed to ensure sustainable impact while maintaining economic viability, as identified by Bocken et al. (2013) and Geissdoerfer et al. (2018).

However, achieving circular economy requires complete reorganization (Stahel, 2016, Ellen MacArthur Foundation, 2013). Such a systemic change needs smaller niches that are strong enough to challenge the current regime (Geels, 2011). This provides the starting point for this thesis, which aims at providing insights into the tensions and strategies to manage such tensions within circular ventures. By conducting a comprehensive literature review of the key concepts and developing a framework to analyze tensions and their management strategies, as well as conducting a multiple case study, this thesis aims to offer valuable insights for enhancing the resilience of circular ventures.

My ultimate goals as a researcher include contributing to the expansion of circular businesses and facilitating the transition towards a circular economy, as well as providing new academic discussion that connects tensions to circular ventures. My thesis contributes to these goals in two ways. First, it presents an extensive literature review that connects the research phenomena of sustainable entrepreneurship and tensions to the normative concepts of circular economy and circular business models. By doing so, I form a theoretical framework that guides the further data collection and analysis of this thesis to provide a multiple case study.

Second, in the empirical part of the thesis, I present a multiple case study of four circular ventures in Finland that all represent a different circular business model strategy, according to the categorization by Bocken et al. (2018). In the multiple case study, I seek to discover tensions related to the three key mechanisms of the circular business models the circular ventures investigated have. These key mechanisms include value proposition, value creation and delivery system as well as value capture.

In my research, I found three groups of tensions related to steering the market to circularity, creating a new market for circular products as well as unfavorable facts and beliefs about used products. In addition, I was able to identify three groups of management strategies related to these tensions: expertise and education, finance as well as research and development and co-creation. Moreover, I found one management strategy, sustainability, that does not only relate to the three key mechanisms of the business model but contributes to the resilience and integrity of the business as a whole.

Judging from the tensions related to the market, one of the three implications of this research is that the market readiness requires a lot of work from the circular business models to succeed. The current legislative, societal, and industrial environments should be developed in collaboration with experts for circularity. Another implication is that a systemic change needed for circular economy to emerge will need more collaboration between circular ventures and market incumbents. Such collaboration has a double function: first, it helps circular ventures build their product-service systems in a co-creative manner. Second, it helps incumbents to understand circular business models and help ventures build models that they can adapt to or acquire in the future. The final implication is about my academic contribution and connecting the research of tensions and management strategies to the creation of circular business models. To conclude and refer back to the original question of this thesis of how entrepreneurs balance making business and saving the world, it seems that a strong, unifying management strategy that gives the case companies the necessary structured flexibility, to borrow the term by Smith and Besharov (2019), is sustainability that acts as a north star for many of the difficult situations the circular ventures face in their early years.

6.1. Limitations of this study and future areas of research

While I sought to limit the shortcomings of this thesis in the research design, there are several limitations related to the availability of time, data, and the selected research method that I will discuss next.

One of the main limitations of this multiple case study is the number of cases. Due to the time constraints and the availability of entrepreneurs in circular ventures who are still in an active leadership position in their companies, the number of cases in this thesis is limited to four. According to Eisenhardt (1989) the ideal number of cases in a multiple case study is somewhere between four and ten, although this recommendation is intended for more inductive research approaches. All four cases were carefully chosen to answer the research question, as suggested by Yin (2018). However, the decision to include companies with different kinds of circular business model strategies limits what Yin (2018, p. 55) calls replication logic. While all the companies present Finnish circular ventures that have been founded after 2016, the cases selected for the multiple case study are more suited for a theoretical replication, than a literal replication of the research results. This, according to Yin (2018, p. 55) would mean predicting contrasting results but for known reasons.

Another limitation is related to the number of interviewees at the case company. Each case presented one interviewee and the focus of the research was to interview sustainable entrepreneurs who are in the current leadership of the company. As tensions and management strategies are complex phenomena (Smith & Besharov, 2019; Morales, 2020), such an approach has limitations in terms of getting a holistic understanding of where the tensions occur. To address this limitation, publicly available materials like webpages and other documents were used for triangulation. Nevertheless, using external communication as a source of data also has its weaknesses, as it may be biased (Yin, 2018).

Morales (2020) suggests that a study of in-depth longitudinal study should be conducted, with a focus on the identification, management, and re-emergence of specific tensions.

The interviews as a data collection method as well as the multiple case study are limited in time. Although the interviews were carefully designed to produce data on tensions and management strategies, and interviewees were selected in a way that they should know about the main elements of their company's business model, another type of research design could have grasped different kinds of tensions with more time. One possibility that was considered during the research design phase of the research was longitudinal ethnographic research, inspired by the 10-year study performed by Smith and Besharov (2019) as they investigated paradoxes in a social enterprise. However, in part due to my own time constraints and particularly those of the sustainable entrepreneurs, the ethnographic approach had to be abandoned. Another reason was the difficulty to assess whether I would get enough data from the ethnographic approach, i.e., from being present in all company meetings for a certain period of time.

6.2. Possibilities for future research

Several avenues for future research emerge on the basis of this thesis. As noted earlier, one of the main limitations of this study is related to the small number of cases due to time constraints and the unavailability of suitable interview subjects. With a stronger replication logic (Yin, 2018) in selecting very similar cases, a more inductive approach could be performed. The selected cases could be more similar in terms of their stage as a venture as well as their industry or business model. In this case, it would be possible to continue based on the finding that market readiness depends on the industry. It would also be valuable to interview several subjects from the same company – however, for this to work in practice, the leadership in circular ventures would need to be open for higher levels of involvement, as now it was difficult to get the interviews agreed upon with one subject.

Another approach for future research could include the aforementioned ethnographic study. This type of rich descriptive method may reveal more tensions and more subtle management strategies. Such an approach could also be performed at an organizational

level, researching teams or groups within the circular venture, and not solely focusing on the leadership.

As I have now taken the approach to focus on tensions found in the business models of circular ventures, similar research could be performed in other kinds of circular businesses. Future research can contribute to understanding, how incumbents manage tensions within the parts of their business that operate on a circularity basis. Another area of interest related to incumbents would be related to the necessary collaboration between ventures and larger companies. Finding out what tensions and management strategies can be found in such collaborative environments could help such partnerships form as a crucial step in the transition toward circular economy.

To conclude this thesis, a key insight from my research is that studying tensions and their management strategies in circular business models provides opportunities both in practical terms and in theoretical discussion. Sustainable entrepreneurs are uniquely positioned to drive the transition toward a more sustainable business, and circular business models offer a way to connect social and ecological value to economic value. Advancing an economy that does not deplete our natural resources, but advocates for efficiency in slowing and closing material loops can offer a way to continue economic growth but in an environmentally sustainable way. Exploring how sustainable entrepreneurs balance business and saving the world may serve as an inspiration for market incumbents and other forces in the market, thus enabling the necessary systemic change toward a better, more sustainable economic system.

References

- Blomma, F., and Brennan, G. 2017., The Emergence of circular economy: A new framing around prolonging resource productivity. *Journal of Industrial Ecology*, 21(3), 603–614. <https://doi.org/10.1111/jiec.12603>.
- Blum, N.U., Haupt, M., Bening, C.R., 2020. Why “Circular” doesn't always mean “Sustainable”, *Resources, Conservation and Recycling*, Volume 162, 2020, 105042, ISSN 0921-3449, <https://doi.org/10.1016/j.resconrec.2020.105042>.
- Bocken, N.M., Short, S.W., Rana, P. and Evans, S., 2014. A literature and practice review to develop sustainable business model archetypes. *Journal of cleaner production*, 65, p. 42–56.
- Bocken, N., Strupeit, L., Whalen, K. and Nußholz, J., 2019. A review and evaluation of circular business model innovation tools. *Sustainability*, 11(8), p. 2210.
- Bocken, N.M., De Pauw, I., Bakker, C. and Van Der Grinten, B., 2016. Product design and business model strategies for a circular economy. *Journal of industrial and production engineering*, 33(5), p. 308–320.
- Braun, V. and Clarke, V., 2006. Using thematic analysis in psychology. *Qualitative research in psychology*, 3(2), p. 77–101.
- Cohen, B., Smith, B. and Mitchell, R., 2008, Toward a sustainable conceptualization of dependent variables in entrepreneurship research. *Bus. Strat. Env.*, 17: 107-119. <https://doi.org/10.1002/bse.505>.
- Cohen, B. and Winn, M. I., 2007. Market imperfections, opportunity and sustainable entrepreneurship. *Journal of Business Venturing*, 22, 29-49. DOI:10.1016/j.jbusvent.2004.12.001.
- Corvellec, H, Stowell, A. and Johansson, N., Critiques of the circular economy. *J Ind Ecol.* 2022; 26: 421– 432. <https://doi.org/10.1111/jiec.13187>.

- Daddi, T., Ceglia, D., Bianchi, G. and de Barcellos, M.D., 2019. Paradoxical tensions and corporate sustainability: A focus on circular economy business cases. *Corporate Social Responsibility and Environmental Management*, 26(4), p.770–780.
- Davies, I and Chambers, L., 2018, 'Integrating Hybridity and Business Model Theory in Sustainable Entrepreneurship', *Journal of Cleaner Production*, vol. 177, p. 378–386. <https://doi.org/10.1016/j.jclepro.2017.12.196>.
- Dean, T.J. and McMullen, J.S., 2007. Toward a theory of sustainable entrepreneurship: Reducing environmental degradation through entrepreneurial action. *Journal of business venturing*, 22(1), p. 50–76.
- Elkington, J., 1997. *Cannibals With Forks: The Triple Bottom Line of 21st Century Business*. Capstone, Oxford.
- Ellen MacArthur Foundation, 2013. *Towards the Circular Economy*, vol. 1 (Isle of Wight). https://www.werktrends.nl/app/uploads/2015/06/Rapport_McKinsey-Towards_A_Circular_Economy.pdf.
- Ellen MacArthur Foundation, 2020. *Financing the circular economy: Capturing the opportunity*. [online] Available at: <https://www.ellenmacarthurfoundation.org/publications/financing-the-circular-economy-capturing-the-opportunity>. [Accessed: April 1].
- Ellen MacArthur Foundation, 2023. *What is the linear economy?* [online] Available at: <https://ellenmacarthurfoundation.org/what-is-the-linear-economy> [Accessed: March 29].
- Eriksson, P. and Kovalainen, A., 2008. *Qualitative methods in business research: A practical guide to social research*. London: SAGE.
- Eisenhardt, K.M., 1989. Building theories from case study research. *Academy of management review*, 14(4), p. 532–550.

European Commission, 2015. Circular Economy Action Plan. [online] Available at: https://ec.europa.eu/environment/circular-economy/first_circular_economy_action_plan.html [Accessed: March 26].

European Union Horizon 2020, 2019. Circular Business Model Innovation Toolkit. [online] Available at: <https://ec.europa.eu/research/participants/documents/downloadPublic?documentIds=080166e5c88a8834&appId=PPGMS> [Accessed: March 26].

Geels, F.W., 2011. The multi-level perspective on sustainability transitions: Responses to seven criticisms. *Environmental innovation and societal transitions*, 1(1), p. 24-40.

Geissdoerfer, M, Savaget, P., Bocken, N. and Hultink, E. J., 2017. The Circular Economy – A new sustainability paradigm?, *Journal of Cleaner Production*, Volume 143, 2017, p. 757–768, ISSN 0959-6526, <https://doi.org/10.1016/j.jclepro.2016.12.048>.

Geissdoerfer, M., Morioka, S.N., de Carvalho, M.M. and Evans, S., 2018. Business models and supply chains for the circular economy. *Journal of cleaner production*, 190, p.712–721.

Gregson, N., Cragg, M., Fuller, S. and Holmes, H., 2015. Interrogating the circular economy: the moral economy of resource recovery in the EU. *Economy and society*, 44(2), p. 218–243.

Hall, J. K., Daneke, G. A. and Lenox, M. J., 2010. Sustainable development and entrepreneurship: Past contributions and future directions, *Journal of Business Venturing*, Volume 25, Issue 5, 2010, p. 439-448, ISSN 0883-9026, <https://doi.org/10.1016/j.jbusvent.2010.01.002>.

Hockerts, K and Wüstenhagen, R., 2010. Greening Goliaths versus emerging Davids — Theorizing about the role of incumbents and new entrants in sustainable entrepreneurship, *Journal of Business Venturing*, Volume 25, Issue 5, 2010, p. 481–492, ISSN 0883-9026, <https://doi.org/10.1016/j.jbusvent.2009.07.005>.

Johnson, M. W., Christensen, C. M., and Kagermann, H., 2008. Reinventing your business model. *Harvard business review*, 86(12), 57-68.

- Joyce, A. and Paquin, R.L., 2016. The triple layered business model canvas: A tool to design more sustainable business models. *Journal of cleaner production*, 135, p. 1474-1486.
- Khan, O., Daddi, T., and Iraldo, F., 2021. Sensing, seizing, and reconfiguring: Key capabilities and organizational routines for circular economy implementation. *Journal of Cleaner Production*, 287, 125565. <https://doi.org/10.1016/j.jclepro.2020.125565>.
- Kirchherr, J., Reike, D., and Hekkert, M., 2017. Conceptualizing the circular economy: An analysis of 114 definitions. *Resources, Conservation and Recycling*, 127, 221–232. <https://doi.org/10.1016/j.resconrec.2017.09.005>.
- Langley, A., and Abdallah, C., 2011. Templates and Turns in Qualitative Studies of Strategy and Management. [https://doi.org/10.1108/S1479-8387\(2011\)0000006007](https://doi.org/10.1108/S1479-8387(2011)0000006007).
- Lazarevic, D., and Valve, H., 2017. Narrating expectations for the circular economy: Towards a common and contested European transition. *Energy Research & Social Science*, 31, 60–69. <https://doi.org/10.1016/j.erss.2017.05.006>.
- Lüdeke-Freund, F., Freudenreich, B., Schaltegger, S., Saviuc, I. and Stock, M., 2017. Sustainability-oriented business model assessment—A conceptual foundation. *Analytics, innovation, and excellence-driven enterprise sustainability*, p. 169–206.
- Lüdeke-Freund, F., 2010. Towards a conceptual framework of business models for sustainability'. *Knowledge collaboration & learning for sustainable innovation*, R. Wever, J. Quist, A. Tukker, J. Woudstra, F. Boons, N. Beute, eds., Delft, p. 25–29.
- Massa, L., and Tucci, C. L., 2013. Business model innovation. *The Oxford handbook of innovation management*, 20(18), p. 420-441.
- Morales, A.H., 2020. 'Exploring Paradoxical Tensions in Circular Business Models—Cases from North Europe', *Sustainability*, bind 12, nr. 18, 7577. <https://doi.org/10.3390/su12187577>.

Muñoz, P. and Dimov, D., 2015. The call of the whole in understanding the development of sustainable ventures. *Journal of Business Venturing*, 30(4), p. 632–654.

Murray, A., Skene, K. and Haynes, K., 2015. The circular economy: an interdisciplinary exploration of the concept and application in a global context. *J. Bus. Ethics*. <http://dx.doi.org/10.1007/s10551-015-2693-2>.

Osterwalder, A., 2004. The Business Model Ontology e a Proposition in a Design Science.

Osterwalder, A. and Pigneur, Y., 2010. *Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers*. John Wiley & Sons, Hoboken, New Jersey.

Pacheco, D. F., Dean, T. J., and Payne, D. S., 2010. Escaping the green prison: Entrepreneurship and the creation of opportunities for sustainable development, *Journal of Business Venturing*, Volume 25, Issue 5, 2010, p. 464-480, ISSN 0883-9026, <https://doi.org/10.1016/j.jbusvent.2009.07.006>.

Pieroni, M. P. P., Mcalooone, T. C., and Pigosso, D. C. A., 2021. Circular economy business model innovation: Sectorial patterns within manufacturing companies. *Journal of Cleaner Production*, 286, 124921. <https://doi.org/10.1016/j.jclepro.2020.124921>.

Parrish, B., 2010. Sustainability-driven entrepreneurship: principles of organization design. *J. Bus. Ventur.* 25 (5), p. 510–523.

Reike D, Vermeulen W J V, and 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*, Volume 135, 2018, p. 246-264, ISSN 0921-3449, <https://doi.org/10.1016/j.resconrec.2017.08.027>.

Schaltegger, S, and Lüdeke-Freund, F., 2013. Business cases for sustainability. In *Encyclopedia of Corporate Social Responsibility*, p. 245–252. Berlin: Springer.

Schaltegger, S. and Wagner, M., 2011. Sustainable Entrepreneurship and Sustainability Innovation: Categories and Interactions. *Business Strategy and the Environment*, 20, p. 222-237. DOI: 10.1002/bse.682.

Stahel, W., 2010. *The performance economy*. Springer.

Stahel, W., 2016. The circular economy. *Nature* 531, p. 435–438. <https://doi.org/10.1038/531435a>.

Schröder, P., Bengtsson, M., Cohen, M., Dewick, P., Hofstetter, J., and Sarkis, J., 2019. Degrowth within: Aligning circular economy and strong sustainability narratives. *Resources, Conservation and Recycling*, 146, p. 190–191. <https://doi.org/10.1016/j.resconrec.2019.03.038>.

Schulz, C., Hjaltadóttir, R. E. and Hild, P., 2019. Practising circles: Studying institutional change and circular economy practices. *Journal of Cleaner Production*, 237, 117749. <https://doi.org/10.1016/j.jclepro.2019.117749>.

Sitra, 2023. Kiertotalous. [online] Available at: <https://www.sitra.fi/aiheet/kiertotalous/> [Accessed: March 25].

Skene, K.R., 2018. Circles, spirals, pyramids and cubes: why the circular economy cannot work. *Sustain Sci* 13, p. 479–492 (2018). <https://doi.org/10.1007/s11625-017-0443-3>.

Smith, W. K. and Besharov, M. L., 2019. Bowing before Dual Gods: How Structured Flexibility Sustains Organizational Hybridity. *Administrative Science Quarterly*, 64(1), 1–44. <https://doi.org/10.1177/0001839217750826>.

Teece, D.J., 2010. Business models, business strategy and innovation. *Long range planning*, 43(2-3), p.172–194.

Tuomi, J. and Sarajärvi, A., 2009. *Laadullinen tutkimus ja sisällönanalyysi*. Tammi.

Valenzuela, F., and Böhm, S., 2017. Against wasted politics: A critique of the circular economy. *Ephemera*, 17(1), p. 23–60. <http://www.ephemerajournal.org/contribution/against-wasted-politics-critique-circular-economy>.

Veleva, V., Bodkin, G., and Todorova, S., 2017. The need for better measurement and employee engagement to advance a circular economy: Lessons from Biogen’s “zero waste” journey. *Journal of Cleaner Production*, 154, p. 517–529. <https://doi.org/10.1016/j.jclepro.2017.03.177>.

Wallin, J., Larsson, A., Isaksson, O. and Larsson, T., 2011. Measuring Innovation Capability – Assessing Collaborative Performance in Product-Service System Innovation. In: Hesselbach, J., Herrmann, C. (eds) *Functional Thinking for Value Creation*. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-19689-8_37.

Wells, P., 2008. Alternative business models for a sustainable automotive industry, 80–98. 2013a. *Business Models for Sustainability*. Cheltenham: Edward Elgar Publishing.

Zott, C., and Amit, R., 2010. Business model design: an activity system perspective. *Long range planning*, 43(2), p. 216-226. 105.

Yin, R. K., 2018. *Case study research and applications : design and methods*. Sixth edition. Los Angeles: SAGE.

York, J G and Venkataraman, S., 2010. The entrepreneur–environment nexus: Uncertainty, innovation, and allocation, *Journal of Business Venturing*, Volume 25, Issue 5, 2010, p. 449-463, ISSN 0883-9026, <https://doi.org/10.1016/j.jbusvent.2009.07.007>.

Appendix

Interview guide

Interview questions - in English

Business model

Q: How would you describe your business model?

Q: What are the main advantages of operating your business model compared to linear alternatives?

Q: What are the main disadvantages of operating your business model compared to linear alternatives?

Triple bottom line

Q: What kind of social, ecological and economic goals does your company have?

Q: How do you measure your contribution as a company to your sustainability goal?

Business model

Q: Describe your key stakeholders and your relationship with them.

Q: What kind of value does your company create for its stakeholders?

Circular business

Q: What kind of situations/challenges/tensions does circularity bring to your company?

Q: How do you deal with such situations/challenges/tensions?

Q: How do you deal with situations/challenges/tensions in managing a circular business?

Haastattelukysymykset - suomeksi

Liiketoimintamalli

K: Miten kuvailisit liiketoimintamalliasi?

K: Mitkä ovat liiketoimintamallisi tärkeimmät hyödyt verrattuna lineaarisiin liiketoimintamallin vaihtoehtoihin?

K: Mitkä ovat liiketoimintamallisi tärkeimmät haitat verrattuna lineaarisiin vaihtoehtoihin?

Vastuullisuustavoitteet

K: Millaisia sosiaalisia, ekologisia ja taloudellisia tavoitteita yritykselläsi on?

K: Miten yrityksessäsi mitataan näitä (kestävän kehityksen, ekologisen ja sosiaalisen tuloksen) tavoitteita?

Liiketoimintamalli: sidosryhmät

K: Kuvaile tärkeimpiä sidosryhmiäsi ja suhdettasi heihin.

K: Millaista arvoa yrityksesi luo sidosryhmilleen?

Kiertotalousliiketoiminta

K: Millaisia haasteita kiertotalous tuo yrityksellesi?

K: Kuinka käsittelet näitä haasteita?

K: Kuinka selviät kiertoliiketoiminnan johtamisen haasteista?