



# 10

## Coopetition for a Circular Economy: Horizontal Initiatives in Resolving Collective Environmental Challenges

Linnea Harala , Leena Aarikka-Stenroos ,  
and Paavo Ritala 

### Introduction

Under increasing pressure from stakeholders to accelerate the transition to more environmentally friendly ways of doing business (Geissdoerfer et al., 2017; Martín-de Castro, 2021), companies have started shifting their focus to sustainable solutions and a circular economy (CE). To advance CE initiatives and business models, companies often join forces with diverse external stakeholders (Bocken & Ritala, 2021; Konietzko et al., 2020), including their competitors (Martín-de Castro, 2021). The systemic nature of CE transition also requires competitors to enter the paradoxical relationship of *coopetition* (simultaneous competition and

---

L. Harala (✉) · L. Aarikka-Stenroos

Unit of Industrial Engineering and Management, Faculty of Management and Business, Tampere University, Tampere, Finland

e-mail: [linnea.harala@tuni.fi](mailto:linnea.harala@tuni.fi)

P. Ritala

School of Business and Management, LUT University, Lappeenranta, Finland

collaboration), which can be fraught with tension if not managed properly (Fernandez et al., 2014; Tidström et al., 2018). Competitors possess similar interests and capabilities in markets and technologies (Ritala & Hurmelinna-Laukkanen, 2009). Therefore, they are particularly well-positioned to engage in initiatives that can enhance industry-level practices and standards (Mione, 2009), including those facilitating environmental sustainability (e.g., Manzhynski & Figge, 2020; Volschenk et al., 2016). Thus, cooperation initiatives are crucial for advancing a CE, as horizontal collaboration in industries enables collective action challenges to be addressed and system-level outcomes to be achieved, both of which are vital for advancing a circular transition (Bowen et al., 2018; Manzhynski & Figge, 2020; Thomas & Ritala, 2021). Extant research has indicated that cooperation may advance a variety of CE outcomes, such as industrial symbiosis, recycling, innovation and setting new industry standards (Bowen et al., 2018; Brown et al., 2019; Jacobsen, 2006; Volschenk et al., 2016). However, the phenomenon of cooperation for a CE has been neither systematically addressed nor empirically studied. This study addresses this gap by providing empirical insights from a multiple-case study of cooperation for a CE.

The increasing emphasis on cooperation for a CE can be viewed as part of a broader trend in which firms need to collaborate with various stakeholders to accelerate the transition towards a sustainable CE (Aarikka-Stenroos et al., 2021; Gonzalez-Porras et al., 2021; Kujala & Sachs, 2019; Kujala et al., 2019), a situation which highlights the need for stakeholder engagement. Stakeholder engagement refers to the practices adopted by an organisation to involve stakeholders positively in its activities (Greenwood, 2007), and the analysis of stakeholder engagement is based on the aims, activities and impacts of stakeholder relationships (Kujala et al., 2022). Stakeholder engagement is especially important for companies in terms of sustainable development initiatives, as, for instance, circular-oriented innovation requires intensive collaboration between companies (Brown et al., 2021). This chapter focuses on the special characteristics of competitors as stakeholders and analyses the stakeholder engagement activities which are especially relevant to engaging competitors to collaborate for a CE. The similarities among competitors regarding their objectives and positioning in relation to

different CE challenges can even simplify the management of these collaborative activities. However, the tensions inherent in collaboration between competitors (Gnyawali & Charleton, 2018; Tidström et al., 2018) can affect stakeholder engagement activities in CE contexts.

In this chapter, coopetition is understood as the simultaneously competitive and collaborative relationship between two or more organisations within the same value-chain position, or, in other words, between horizontal actors (Ritala et al., 2014). Coopetition, in general, has been discussed in the management literature in multiple contexts, and various advantages have been demonstrated (Bouncken et al., 2015), including the sharing of risks and costs, resource efficiencies and expanding current markets and creating new ones (Ritala et al., 2014). However, much of the coopetition literature has focused on the question of how companies secure private benefits from coopetition in addition to joint benefits (e.g., Gnyawali & Charleton, 2018; Ritala & Hurmelinna-Laukkanen, 2009). When studying coopetition in terms of the grand challenges, the outcomes must be considered beyond both individual organisational benefits and the immediate benefits of a particular competitive relationship (Crick & Crick, 2020; Manzhynski & Figge, 2020). Recently, more research has emerged on how coopetition can advance environmental sustainability, and this research has addressed, for example, logistics, shared green reputation, recycling and procurement (Christ et al., 2017; Meehan & Bryde, 2015; Rivera et al., 2017; Volschenk et al., 2016). Only a few recent studies have linked coopetition and a CE and suggested that a CE requires coopetition (Hirvensalo et al., 2021; Narayan & Tidström, 2020). Therefore, we need a comprehensive view of coopetition for a CE, as such a view is lacking. Furthermore, empirical insights are required to understand the dynamics of horizontal collaboration—coopetition—to advance a CE.

To address the identified research gaps of coopetition for a CE, the first research question is as follows: *How do coopetitors organise to advance a CE?* This question aims to explore the various ways of organising coopetition to address collective environmental challenges and create an understanding of the various approaches to organising coopetition that suit different situations and purposes. The second research question—How can competitors be engaged as stakeholders in coopetition

for a CE?—explores how to steer this paradoxical relationship with stakeholder engagement. The third research question—*What are the contributions of coopetition to a CE?*—improves the understanding of how coopetition can promote a CE.

This chapter contributes to the limited understanding of coopetition in CE research. We develop new knowledge through an exploratory multiple-case study of horizontal collaboration for advancing a CE. We present and analyse 12 exemplary empirical cases on coopetition for a CE from various industries, such as retail, forestry, brewery, construction and manufacturing, in Finland. These cases showcase different levels of collaboration and competition as well as various types of stakeholder engagement. The empirical insights provide a comprehensive review of organising coopetition for a CE and extensive insights into stakeholder engagement for coopetition. This extensive multiple-case study allows us to identify patterns of coopetition for a CE and gives profound insights into the collaboration dynamics among competitors contributing to a CE. This study uses the stakeholder engagement literature to broaden the understanding of coopetition relationships and thus contributes to the intersection of coopetition, stakeholder engagement and CE literature.

This chapter is structured as follows. After the introduction, we discuss the theoretical background to the study, focusing on coopetition and stakeholder engagement for a CE. We then explain the methodology of our exploratory multiple-case study, followed by the study findings. Finally, we discuss the contributions of the theory, implications for practitioners, limitations and future research, followed by a brief conclusion.

## Theoretical Background

The theoretical background for the study is at the interface of coopetition and stakeholder engagement research to advance a sustainable CE. First, competition is discussed as a form of collaboration, after which the second section presents coopetition as a CE setting. The last section discusses engaging competitors as stakeholders.

## Coopetition as a Form of Collaboration

Coopetition refers to relationships in which two or more organisations are simultaneously involved in both cooperative and competitive interactions (Bengtsson & Kock, 2000). Coopetition occurs between horizontal actors, that is, companies with the same value-chain position (Ritala et al., 2014). According to the seminal perception of coopetition, competitors create a bigger pie together (i.e., create more value), and through competition, the pie is divided (i.e., value is captured) among the actors in the coopetitive relationship (Brandenburger & Nalebuff, 1996); thus, in coopetition, companies aim for better or more encompassing outcomes together than those possible for individual companies to achieve alone (de Resende et al., 2018). The essence of coopetition is the realisation of collective goals and a joint understanding that a rising tide lifts all boats (Mathias et al., 2018).

Typical drivers for companies to enter coopetitive relationships include improving efficiency by sharing resources and knowledge (Bengtsson & Kock, 2000, 2014). Synergies achieved by coopetition catalyse various collaborations among companies (de Resende et al., 2018). Because competitors within the same industry have common challenges and similar objectives, their resources and capabilities are often relevant to each other (Gnyawali & Park, 2011), which drives the formation of coopetition relationships (Bengtsson & Raza-Ullah, 2016; Gnyawali & Park, 2011). A common vision and shared goals stemming from mutual objectives and complementary needs are necessary for coopetitive relationships to succeed (Bengtsson & Kock, 2000; Planko et al., 2019).

Coopetition relationships are most often viewed in a dyadic setting, and the literature has provided many means for managing such relationships (for a review, see Bengtsson & Raza-Ullah, 2016). However, when coopetition occurs in a network or an ecosystem or horizontally within industries, the relational dynamics change because the influence of a single company on the coopetition-partner selection is more limited than in dyadic coopetition (Choi et al., 2010; Czakon & Czernek, 2016; Hannah & Eisenhardt, 2018). Furthermore, trust-building mechanisms in coopetitive arrangements differ depending on the number of actors and their commitment to collective activities (Czakon & Czernek,

2016), and the balance between cooperation and competition can be increasingly challenging as the number of actors increases (Hannah & Eisenhardt, 2018). Collective system building also requires close cooperation between competing companies through information sharing and resource pooling, which introduces additional risks (Planko et al., 2019). However, such risks can be mitigated by various governance structures, such as using a neutral intermediating or orchestrating actor (Pinnington et al., 2021; Ritala et al., 2009).

## Coopetition Enabling a Sustainable CE

Although a vast majority of coopetition studies have focused on the economic profitability of the relationship, recent research has discovered that coopetition serves multiple purposes which extend far beyond purely financial measures, for example when competitors address environmental sustainability and CE challenges together. A CE—‘an industrial economy that is restorative by intention and design’ (Macarthur, 2013, p. 14)—can be seen as a systemic phenomenon which underscores the need for collaboration among multiple actors (Aarikka-Stenroos et al., 2021; Harala et al., 2023), including horizontal actors, to gain an industry-wide commitment to promote CE initiatives. A sustainable CE refers to a CE that considers simultaneously the environmental, social and economic aspects of sustainability (Velenturf & Purnell, 2021). Collaboration among competitors can deliver positive outcomes on the macro-level for society as well as on the micro-level for individual companies (Manzhynski & Figge, 2020). Thus, presumably coopetition for a CE can also deliver positive outcomes on the micro- and macro-levels which are complementary. The micro-level lens allows us to assess the business model benefits for individual companies (e.g., Bocken & Ritala, 2021), while the macro-level lens helps to explain the system-level impact of advancing a CE. Most of the literature on coopetition outcomes has focused on economic profitability on the micro-level (e.g., Bengtsson & Kock, 2000; Gnyawali & Park, 2009, 2011; Ritala, 2018; Ritala et al., 2014). However, when aiming for collective system-level outcomes in advancing sustainability and a CE through coopetition, environmental

and societal issues must also be considered (Manzhynski & Figge, 2020). The viability of co-competition to advance sustainability depends on the perspectives of the stakeholders involved in it (Manzhynski & Figge, 2020), as co-competition to advance environmental sustainability does not only bring benefits but also entails risks (Planko et al., 2019). The risks of co-competitive relationships, for example, opportunistic behaviour, do not disappear even though co-competition aims to advance sustainability (Hahn & Pinkse, 2014).

To achieve the collective system-level outcomes required to advance a CE, co-competitive relationships must involve multiple companies or organisations. For example, co-competition is required to establish joint standards (de facto or de jure), frameworks and institutions at the industry level (Mione, 2009; Ritala et al., 2009). According to previous research (e.g., Czakon & Czernek, 2016; Della Corte & Aria, 2016), in *network co-competition*, actors seek to join a network, are invited to join a network or establish a network together (Czakon & Czernek, 2016). In *collective horizontal co-competition*, all or most of the major competitors in an industry collaborate, for example, to develop a new idea, technology or standard collectively, while simultaneously competing in other areas of business (Choi et al., 2010). Therefore, co-competition initiatives for a CE might include both industry-wide endeavours and more targeted co-competition projects by a limited number of industry actors. In the latter case, co-competition might be a way for an actor to (competitively) differentiate itself from the rest of the field in terms of CE contributions, while the former case might help the whole industry increase its viability and legitimacy.

The literature linking co-competition to sustainability is nascent, albeit developing; however, studies have, to date, argued that there are potential benefits in various areas, such as collective action problem-solving (Bowen et al., 2018), logistics (Christ et al., 2017; Limoubpratum et al., 2015), recycling (Volschenk et al., 2016), sustainable procurement (Meehan & Bryde, 2015) and the application of co-competition strategies to sustainability at the corporate level (Christ et al., 2017). In addition to this research discussing co-competition for sustainability, two very recent studies have suggested that co-competition plays an important role in a CE. Hirvensalo et al. (2021) showed co-competitive relationships in circular city ecosystems, whereas Narayan and Tidström (2020) studied

the operationalisation and optimisation of coopeitition using tokens to support CE transition. However, this initial stream of research needs a more thorough understanding of various forms of coopeitition for a CE, which is contributed by this study. To provide a basis for this study, the previous studies addressing coopeitition in the environmental sustainability or CE context are presented in Table 10.1. This table does not list all studies conducted on horizontal collaboration but, rather, those in which coopeitition has been explicitly studied as a relationship between simultaneously competing and collaborating actors (Bengtsson & Kock, 2000).

## Engaging Competitors as Stakeholders in a CE

In this study, we focus on competitors as stakeholders to be engaged through coopeitition for a CE. Traditionally, competitors are regarded as *unintended stakeholders*, not engaged deliberately, with coercive powers enabling them to influence the focal organisation in either harmful or beneficial ways (Bacq & Aguilera, 2022). However, when employing coopeititive strategies for a CE, competitors are more likely *intended stakeholders*, and referring to Bacq and Aguilera's (2022) analysis, such 'coopeititors' can become *empowered stakeholders*, sharing the same goals or mission. Thus, when analysing coopeitition for a CE from a stakeholder's perspective, competitors can be viewed as each other's stakeholders, with joint interests and objectives, as the collaboration benefits the industry as a whole (Rivera et al., 2017). What distinguishes competitors as stakeholders from non-competitive actors is the potential that tensions between competitors will persist despite their common interests (for a discussion, see Ritala & Hurmelinna-Laukkanen, 2009; Gnyawali & Charleton, 2018). Therefore, competitors as stakeholders represent an interesting setting in which they might possess conflicting motivations and goals while sharing both an 'intended' and an 'empowered' stakeholder relationship.

Stakeholder engagement can be understood as the 'aims, activities and impacts of stakeholder relations in a moral, strategic, and/or pragmatic manner' (Kujala et al., 2022, p. 4). Similar categorisations of the



**Table 10.1** Synthesis of previous research on competition in the environmental sustainability or CE context

Authors (year), Research type	Horizontal actors collaborating	Environmental sustainability focus	Insights on competition for sustainability and CE
Hirvensalo et al. (2021), Case study	Circular city ecosystem	Circular city development	Competition-related tensions arise in a circular city development in public or private partnerships and ecosystems
Narayan and Tidström (2020), Conceptual study	CE ecosystem	Circular business models	A strategy combining cooperation and a blockchain to direct the transition to CE models
Manzhynski and Figge (2020), Case study	Focal firm and competing firm	Assessment of environmental sustainability outcomes	The connection of organisational and societal outcomes of cooperation. Cooperation for sustainability can be assessed from firm, resource and societal perspectives
Planko et al. (2019), Case study	Dutch smart grid industry	Sustainable development through technology	Cooperation strategy for sustainable development at the network level. Cooperation enablers in sustainability technology development

(continued)

Table 10.1 (continued)

Authors (year), Research type	Horizontal actors collaborating	Environmental sustainability focus	Insights on competition for sustainability and CE
Bowen et al. (2018), Inductive examination	12 oil sand companies in Alberta	Industry self-regulation for environmental issues	Organising rules determining collaborative or competitive relationships in industry self-regulation for collaborative collective action is more effective for smaller-scale issues than larger-scale issues
Stadtler (2018), Case study	Two multi-company cross-sector social partnerships (from Egypt and Jordan) in education	Sustainability-related tensions	Cooperation in the interface of social and economic goals is of paradoxical nature, and competition can positively impact cross-sector social partnerships
Christ et al. (2017), Case study	Australian wine industry	Sustainability in logistics	Cooperation strategy for corporate-level sustainability. There is no fixed relationship between improving carbon performance and increasing competitiveness

Authors (year), Research type	Horizontal actors collaborating	Environmental sustainability focus	Insights on competition for sustainability and CE
Rivera et al. (2017), Panel data analysis	Collective voluntary environmental programme in Costa Rica	Environmental programme	Higher levels of cooperation within communities for shared green reputation are more likely in seashore localities with lower income inequality and/or more businesses
Melander (2017), Literature review	External collaborations in green product innovation	Green product innovation	By developing green products, companies can reduce environmental costs and create new opportunities in new markets in collaboration with partners
Volschenk et al. (2016), Case study	South African wine industry	Recycling	Cooperation can create socio-environmental value. While socio-environmental value is a public benefit and cannot be appropriated by competitors, it can act as a catalyst for value creation for cooperating firms

(continued)

Table 10.1 (continued)

Authors (year), Research type	Horizontal actors collaborating	Environmental sustainability focus	Insights on competition for sustainability and CE
Limoupratum et al. (2015), Survey	Thailand newspaper industry	Sustainable logistics distribution	Managers strongly believe in competition to achieve sustainable logistics' distribution, which results in significant economic, social and environmental improvement
Meehan and Bryde (2015), Case study and survey	UK social housing sector	Sustainable procurement	Collaborating social housing organisations takes holistic considerations of sustainable procurement to support the importance of connecting the planet, people and profit in the sector
Hahn and Pinkse (2014), Conceptual study	Cross-sector partnerships	Governance for global environmental issues	The effectiveness of cross-sector partnerships in governing global environmental issues depends on whether competitive forces at the firm level are aligned with the collective benefits of partnerships

Authors (year), Research type	Horizontal actors collaborating	Environmental sustainability focus	Insights on coopetition for sustainability and CE
Pelozo and Falkenberg (2009), Case study	Multiple firms and NGOs	Corporate social responsibility	Collaboration with either multiple firms and/ or multiple NGOs can deliver better performance in corporate social responsibility issues than collaboration between a single firm and an NGO

contents of stakeholder engagement have been presented in the literature with terms such as purposes, reasons and incentives substituting *aims*. Stakeholder engagement *activities* are referred to as steps, practices, approaches, levels and methods, whereas related terms for *impacts* include outcomes, implications and contributions (Kujala et al., 2022; Novoa et al., 2018; Sachs & Kujala, 2021; Shackleton et al., 2019). This chapter follows the most recent way of organising stakeholder engagement contents (Kujala et al., 2022), namely into the aims, activities and impacts of stakeholder relationships.

When engaging competitors as stakeholders to advance a CE, stakeholder engagement should be analysed from a macro-level perspective rather than a focal organisation perspective (for stakeholder engagement levels, see, for example, Gonzalez-Porrás et al., 2021). The seminal work of Freeman (1984) presents stakeholder engagement at three levels, starting from the rational stakeholder identification level, proceeding to the procedural stakeholder communication level and finally reaching the transactional stakeholder involvement or dialogue level. Stakeholder engagement comprises integrative stakeholder engagement, examining stakeholder relationships, communicating with stakeholders and learning with and from stakeholders (Freeman et al., 2017; Sachs & Kujala, 2021). These also link to the means of trust building and value creation in cooperative relationships, which makes cooperative relationships interesting settings for analysing stakeholder engagement. In cooperative relationships, active learning over time by partners deepens trust and cooperation (Hannah & Eisenhardt, 2018), and competing companies have to share information and pool resources to enable collective system building in close collaboration (Planko et al., 2019). According to stakeholder engagement research, relationship development is an ongoing process that advances over time (Freeman, 1984; Greenwood, 2007), which, again, provides fruitful ground to focus on cooperation through stakeholder engagement lenses.

Stakeholder engagement has also been recognised as relevant in the context of CE and sustainability (e.g., Gonzalez-Porrás et al., 2021; Hörisch et al., 2014; Kujala et al., 2019; Marjamaa et al., 2021; Salvioni & Almici, 2020). Hörisch et al. (2014) identified three challenges faced in managing stakeholder relationships in sustainability

management: strengthening the particular sustainability interests of stakeholders, creating mutual sustainability interests based on stakeholders' interests and empowering stakeholders to act as intermediaries for sustainable development. These challenges can be addressed through regulation, education and sustainability-based value creation for stakeholders (Hörisch et al., 2014). In addition to contributing to organisations' business goals, comprehensive stakeholder engagement can support the transition to a CE and enhance economic, social and environmental sustainability through improving stakeholder relationships as well as creating timely awareness of sustainability-related issues (Salvioni & Almici, 2020). In turn, the push for a CE transition can improve stakeholder engagement because the CE can enable and boost stakeholder collaboration (Kujala et al., 2019). A recent study by Marjamaa et al. (2021), conducted in the Finnish context, indicated that stakeholders share an interest in promoting a sustainable CE while pursuing their own CE interests, which provides a strong foundation for studying stakeholders' engagement in coopetition for a CE in Finland.

## Methodology

### Research Design and Case Sampling

To create the much-needed understanding of coopetition for a CE (Christ et al., 2017; Manzhynski & Figge, 2020), we conducted an exploratory and qualitative multiple-case study (Yin, 2003, 2018). A qualitative research strategy was chosen because it enables the understanding of complex real-life situations (Hirsjärvi et al., 2009). An exploratory approach was chosen due to its suitability for studying emerging topics (Corbin & Strauss, 2008) and to address the lack of understanding of coopetition for a CE (Table 10.1). Given the lack of empirical evidence on deploying coopetition strategies to promote a CE, a multiple-case study with numerous cases across multiple industries was undertaken, and the chosen design allowed us to identify patterns across competition cases for a CE. A multiple-case study design strengthens

the generalisability of the findings and reduces unexpected vulnerabilities in the selected cases while enabling a cross-case analysis (Yin, 2003). The cases in this chapter refer to various industry-wide initiatives, networks, projects, platforms and systems. These cases were chosen through maximum variation sampling in different industries which are especially relevant for a CE, for example, retail, construction, plastic and textiles. Typical case sampling per industry was used to identify the most typical cooperative initiatives for a CE within these industries in Finland (Patton, 1990, 2002). Selecting typical case sampling (Patton, 1990) within these relevant industries fulfilled the research objectives of describing and illustrating what is typical in cooperation for a CE.

The cases were selected through a pre-study, including extensive expert interviews and discussions, news articles and internet sources. In the initial case identification, 15 potential cases were tracked and initially analysed, of which 12 were chosen to provide variation. As understanding of cooperation for a CE in Finland is scarce in practice and in theory, industry experts were interviewed to identify what is typical regarding the cooperative activities performed to promote a CE in various industries in Finland. The 12 cases were all selected from Finland to diminish variation in geographic context and related institutions. Conducting research in the CE context in Finland is justified, as the Finnish government aims to strengthen the country's role as a pioneer in CE and Finland has a strategic programme to promote such an economy (Finnish Ministry of Environment, 2021). Selecting a broad set of 12 cases allowed us to compare numerous cases, detect similarities and differences in them, theorise them and thus identify generalisable patterns explaining cooperation for a CE. The cases span business and society, including the retail, construction, plastic and textile industries, as well as industrial cases. Cooperation in all of the selected cases has happened within the last five years. The selected cases also capture different levels of success: most are ongoing success cases, while in some, collaboration has ceased (see Table 10.2) because, for example, cooperative stakeholders have not been sufficiently engaged. However, we do not want to categorise the cases as complete successes or failures, as collaboration can be seen as dynamic and a continuum rather than a category (e.g., Ingstrup et al., 2020). Thus, we believe that ceased cases are



fruitful for examining what went wrong in stakeholder engagement and revealing what would have been required to foster coopetition. Four cases were chosen as primary cases as we had an opportunity to study them particularly closely through interviews, expert discussion and secondary sources. Table 10.2 presents an overview of the studied cases and their data sources across the various industries; the primary cases are marked in bold.

## Data Collection and Analysis

In the pre-study, primary data, such as expert interviews and discussions, enabled the identification of the most relevant and typical cases of coopetition for a CE from various industries in Finland. Most cases included one or two main expert interviews or discussions, which were then complemented with secondary data or supplementary interviews. Interviews were conducted during 2019 and 2020. Secondary data included presentations, a lecture, internet sources, news articles, information booklets, brochures, theses and a report, which were used to triangulate the primary data from interviews. Some of the cases were sourced closely, including more interviews and secondary data, while others were regarded as more complementary and sourced mostly through secondary data sources. Four cases were sourced particularly closely, as they were regarded as primary cases in terms of presenting various industries and different types of coopetition settings. These cases are marked in bold in Table 10.2. Data analysis was initiated by inductively identifying patterns from the data with data-driven coding and sorting the data into tables (Gibbs, 2018). First, within each case, the collaborating horizontal actors, coopetition settings, rationale for coopetition and contribution to a CE were identified, analysed and sorted into tables. Following this, the cross-case analysis identified similarities as well as differences across the cases, which enabled us to identify more theorised patterns and categorise the cases. The initial inductive data analysis was followed by multiple deductive analysis rounds on the basis of the stakeholder literature regarding, for example, the aims, activities and impacts of stakeholder relationships in coopetition initiatives for a CE. To ensure the research

Table 10.2 Overview of the cases and data sources across industries

Case	Industry	Overview on stakeholder collaboration for CE within cases ( <i>ongoing/ceased collaboration</i> )	Data sources
<b>No more free plastic bags for consumers</b>	Retail	Consumer store retailers reduce plastic usage by not giving out free plastic bags to consumers. ( <i>ongoing</i> )	Interviews: Senior Expert, Senior Expert (2) News articles (4) internet sources (3) Report (1)
'Ham trick' (Kinkkutomppu)	Retail	The 'Ham trick' is grocery retailers' and recycling operators' joint act for gathering consumer cooking fat for renewable fuel production. ( <i>ongoing</i> )	Interview: Chief Advisor (1) Internet sources (3) News article (1)
<b>Beverage package recycling system</b>	Brewery and retail	The brewery industry, retail industry and other horizontal stakeholders collaborate to run the beverage package recycling system in Finland. ( <i>ongoing</i> )	Interviews: Director, Manager, CEO, Chief Advisor, CEO, Senior Expert, Senior Expert (7) Internet sources (6) News articles (4) Information booklets (3) Presentations (2) Thesis (1)

Case	Industry	Overview on stakeholder collaboration for CE within cases ( <i>ongoing/ceased collaboration</i> )	Data sources
'Material market place' (Materialilitori)	Construction and waste management	The construction and waste management industries use the 'marketplace for materials' platform to facilitate the exchange of side streams and waste between companies and organisations. ( <i>ongoing</i> )	Interviews: Senior Expert, Senior Expert (2) Internet source (3) Presentation (1)
'The land bourse' (Maapörssi)	Construction	The construction industry uses the platform to recycle surplus soil and demolition materials to fulfil the needs of companies or individuals. ( <i>ongoing</i> )	Interview: Head of Sustainability & Business Development (1) Internet source (2) Presentation (1)
Loop Rocks	Construction	The construction industry promotes resource efficiency for stones and other building masses through the platform developed by the company NCC. ( <i>ceased</i> )	Interview: Head of Sustainability & Business Development (1) News articles (2) Internet source (2) Presentation (1)

(continued)

Table 10.2 (continued)

Case	Industry	Overview on stakeholder collaboration for CE within cases ( <i>ongoing/ceased collaboration</i> )	Data sources
New Plastics Center (NPC)	Plastic	Companies performing R&D for plastics address the challenges of plastics, e.g., creating knowledge about new materials, through innovation, product development and networking. ( <i>ongoing</i> )	Expert discussions: Ministry of the Environment representatives (2) Internet source (4) News article (1) Presentation (1)
PLASTin	Plastic	Research organisations and companies utilising plastic improve the recycling rate of plastics in collaboration. ( <i>ongoing</i> )	Interview: Head of CE (1) Internet sources (3)
Telaketju network	Textile	A network to advance textile recycling and reuse; it includes, for example, textile companies, charity organisations, recycling operators, municipalities and research organisations. ( <i>ongoing</i> )	Internet sources (4) Thesis (1)

Case	Industry	Overview on stakeholder collaboration for CE within cases ( <i>ongoing/ceased collaboration</i> )	Data sources
<b>Circular Economy Service Platform (CEP)</b>	Forestry	Forestry industry companies, recycling operators and research organisations enable the creation of new business from industrial waste and side streams through a digital platform. ( <i>ceased</i> )	Interviews: Head of CE, Chief Advisor, Director, CEO, Manager, Manager, Associate Professor (7) Internet sources (5) Presentations (3) Thesis (1) Information booklet (1) Report (1)
Material-efficiency commitment	Multiple	Various industries (e.g. the food industry) are committed to engaging companies to decrease environmental impact and increase profitability. ( <i>ongoing</i> )	Interviews: Senior Expert, Senior Expert (2) Internet source (1)
Energy-efficiency agreement	Multiple	Various industries (e.g. the industrial sector, energy and service sectors, property sector and municipal sector) engage actors in enhancing energy efficiency. ( <i>ongoing</i> )	Interviews: Senior Expert, Senior Expert (2) Internet source (3)

quality, data triangulation was performed using different data sources, and the collected data were handled carefully, which included recording and transcribing the interviews.

## Findings

Our cross-case analysis revealed four categories of cooperation for a CE: agreements for industry standards, pre-competitive R&D and knowledge sharing, platforms and reverse logistics systems. These categories, their cooperation characteristics, the collaborating stakeholders within cases, stakeholder engagement for cooperation and contribution to a CE are further explained in Table 10.3 and the following sections.

### Agreements for Industry Standards Supporting a CE

Having competitors involved in industry-standard settings refers to building the groundwork for a more competitive environment for industry; that is, when the entire industry develops, the horizontal industry actors benefit from the improved competitive environment as well. When competitors collaborate on technical or other industry standards, they set up the rules, norms and practices in their shared environment and therefore make it clear how and under what conditions firms are allowed to compete. In the CE context, this is particularly important work, as it creates equal operating conditions for the entire industry, which allows companies to compete and differentiate among themselves while improving particular CE goals and the sustainable development of a particular industry more widely.

The cases categorised as agreements to set new industry standards, in which the actors in certain industries have committed to joint goals, are the material-efficiency commitment, the energy-efficiency agreement and an initiative by retailers to not hand out free plastic bags to consumers. These cases illustrate how horizontal actors from various industries enter cooperative relationships through agreements and commitments to set new industry standards. The motivation for companies to join these

**Table 10.3** Collaborating stakeholders, stakeholder engagement for competition and contribution to a CE of the cases

Case	Collaborating stakeholders	Stakeholder engagement for competition (aims, activities and impacts of stakeholder relations)	Contribution to the CE
<p>No more free plastic bags for consumers</p>	<p>Consumer store retailers</p>	<p><b>Aims:</b> Reduce single-use plastic bags</p> <p><b>Activities:</b> The green deal agreement initiated in 2016 from major Finnish retail chains' voluntary agreement to reduce plastic bag usage by charging a fee for single-use plastic bags. During 2017, most retail chains in Finland stopped giving free plastic bags. In 2019, an EU directive banned giving out free plastic bags</p> <p><b>Impacts:</b> No more free plastic bags are provided at the sale of goods or products in Finnish retail stores</p>	<p>Reducing the use of single-use plastic bags. The amount of single-use plastic bags consumed annually declined from 71 plastic bags per Finn in 2017 to 63 plastic bags per Finn in 2019</p>

(continued)

Table 10.3 (continued)

Case	Collaborating stakeholders	Stakeholder engagement for cooperation (aims, activities and impacts of stakeholder relations)	Contribution to the CE
Material-efficiency commitment	Various industries (e.g., food & packaging and retail)	<p><b>Aims:</b> To improve material efficiency in various industries through voluntary commitments</p> <p><b>Activities:</b> Motiva set up voluntary commitments between the ministries and sectoral industry associations. Each company from the sector joins the commitment by making its own commitment and determining the best methods that can be used to reach the targets. Motiva arranges joint meetings and activates the knowledge-sharing of the companies committed to collaboration</p> <p><b>Impacts:</b> Boosting companies' profitability and reducing their environmental impact</p>	Decreased environmental impact and improved material efficiency. For example, the Finnish food retail sector's aim is to reduce food by 13% and improve the recycling rate from 74 to 78% during their commitment period of 2019–2021



Case	Collaborating stakeholders	Stakeholder engagement for cooperation (aims, activities and impacts of stakeholder relations)	Contribution to the CE
Energy-efficiency agreement	Various industries (e.g. energy and service sectors, property sector and municipal sector)	<p><i>Aims:</i> The voluntary agreements facilitated by Motiva aim to meet the international energy-efficiency obligations without legislation</p> <p><i>Activities:</i> When companies join the agreement, they get a chance to receive government aid for energy-efficiency investments. Companies are engaged in co-development and share best practices through the agreement</p> <p><i>Impacts:</i> During the energy-efficiency agreements of 2008–2016, 667 companies and 132 municipalities participated and implemented over 21,000 energy-efficiency measures. The energy-efficiency agreement period for 2017–2025 extends the previous period</p>	The agreements promote the efficiency of energy consumption in the energy and service sectors, property sector and municipal sector. The energy-efficiency agreements of 2008–2016 reduced carbon dioxide emissions by 4.7 million tonnes a year. Finland's annual energy consumption decreased by 16 TWhs by the end of 2016

**Pre-competitive R&D and knowledge-sharing for CE: Growing the value creation and capture potential**

(continued)

Table 10.3 (continued)

Case	Collaborating stakeholders	Stakeholder engagement for cooperation (aims, activities and impacts of stakeholder relations)	Contribution to the CE
New Plastics Center, (NPC)	Companies utilising plastic, research organisations and industry associations	<p><b>Aims:</b> NPC aims to promote the innovation and product development of biomaterials and strengthen the collaboration and networks required for developing and implementing new materials</p> <p><b>Activities:</b> NPC is a business-oriented knowledge network launched in 2019, bringing different actors together to enable company-based plastic development projects through collaboration. Research organisations participate in the companies' projects, providing knowledge on plastics, plastic streams and plastic usage</p> <p><b>Impacts:</b> The NPC network strengthens biomaterial expertise, collaboration and R&amp;D in the plastics industry in Finland</p>	Addressing the challenges of plastics through innovations and new materials, product development and networking and developing new materials

Case	Collaborating stakeholders	Stakeholder engagement for cooperation (aims, activities and impacts of stakeholder relations)	Contribution to the CE
PLASTin	Plastic industry actors, research organisations	<p><i>Aims:</i> The PLASTin-project aims to build collaboration within the plastics cluster in Finland to promote the creation of new knowledge and improve business opportunities based on plastic recycling</p> <p><i>Activities:</i> The co-innovation project is coordinated by CLIC Innovation and engages plastic industry companies and research organisations in collaboration. The project is funded by Business Finland for 2020–2022. During the project, new knowledge is created about recycling processes and technologies (sorting, pre-treatment, mechanical and chemical treatment and reject handling)</p> <p><i>Impacts:</i> The PLASTin project was established to support plastic industry actors in developing systemic and environmentally optimised recycling concepts</p>	Improving the recycling rate of plastics and creating new business opportunities from the plastics challenges in Finland

(continued)

Table 10.3 (continued)

Case	Collaborating stakeholders	Stakeholder engagement for co-creation (aims, activities and impacts of stakeholder relations)	Contribution to the CE
Telaketju	Textile companies, recycling operators, waste centres, municipalities, charity organisations, research organisations	<p><b>Aims:</b> Telaketju aims to build a forum for creating new and strong industry engaged in multidisciplinary collaboration</p> <p><b>Activities:</b> Telaketju is a collaboration network forwarding textile recycling and conducting research and advancing knowledge on the CE of textiles. Telaketju engages a wide variety of stakeholders to advance knowledge creation. The Telaketju network is based on one ongoing and multiple completed research projects that have all contributed to the development of the CE of textiles</p> <p><b>Impacts:</b> Telaketju network has provided knowledge (research publications, presentations, media releases) through its six research projects. Telaketju has engaged approximately 100 companies, recycling and waste operators, research and charity organisations and municipalities to collaborate within the multiple Telaketju projects initiated in 2018</p>	Promoting the sustainable production, usage and circulation of textiles through collaboration and knowledge creation

Case	Collaborating stakeholders	Stakeholder engagement for competition (aims, activities and impacts of stakeholder relations)	Contribution to the CE
<p><b>Platforms enabling CE business models: Matching supply and demand among competitors</b> Circular Economy Service Platform (CEP)</p>	<p>Forestry industry companies, recycling companies and research organisations</p>	<p><b>Aims:</b> The aim of CEP was to enable the creation of new businesses from industrial waste and side streams by serving as a customised platform with different services <b>Activities:</b> The utilisation of researched knowledge, a third-party project leader with a strong operational role, the equal involvement of all stakeholders and consideration of conflicting personal chemistries among stakeholders were aspects identified as necessary for the launch and usage of CEP, but these activities were not applied sufficiently, as CEP did not reach its aims <b>Impacts:</b> The launch of the platform was not successful, and the project was ceased</p>	<p>If the platform had become operational, the CE contribution could have been increasing the utilisation of the scattered side streams of the forestry industry</p>

(continued)

Table 10.3 (continued)

Case	Collaborating stakeholders	Stakeholder engagement for cooperation (aims, activities and impacts of stakeholder relations)	Contribution to the CE
Materiaalitori	Construction industry, waste management industry	<p data-bbox="244 560 322 927"><b>Aims:</b> Materiaalitori aims to promote the utilisation of waste and side streams by providing a platform for matching the supply and demand of these recycled materials</p> <p data-bbox="344 560 524 927"><b>Activities:</b> The platform is administrated by a third-party actor, Motiva. The platform matches companies searching for different materials with those having excess side streams or waste. In addition, various service providers can be found through the platform. The use of the platform is free of charge and open to all stakeholders in the industry</p> <p data-bbox="524 560 598 927"><b>Impacts:</b> Materiaalitori promotes resource efficiency and creates industrial symbiosis by facilitating the exchange of waste and side streams among companies</p>	<p data-bbox="244 170 404 512"><b>Materiaalitori facilitates industrial symbiosis.</b> For example, solely in the Uusimaa region, 39 announcements of major volumes of different waste or side-stream materials (e.g., glass, metal, concrete, soil, construction and demolition waste) were given during 2021 through Materiaalitori</p>

Case	Collaborating stakeholders	Stakeholder engagement for cooperation (aims, activities and impacts of stakeholder relations)	Contribution to the CE
Maapörssi	Construction industry	<p><i>Aims:</i> Maapörssi aims for profitable business through offering a recycling service for surplus excavation material</p> <p><i>Activities:</i> Spreading awareness of the existence and usage possibilities of the platform over time. The platform requires registering and Maapörssi charges users upon registering to the system, which can promote trust for the platform as it corresponds with conventional market logic</p> <p><i>Impacts:</i> Construction companies can save on excavation and transportation costs by recycling surplus material through the Maapörssi platform. Maapörssi creates a profitable business from a CE solution</p>	Maapörssi enables recycling surplus soil and demolition materials for the needs of companies or individuals through a digital platform

(continued)

**Table 10.3** (continued)

Case	Collaborating stakeholders	Stakeholder engagement for cooperation (aims, activities and impacts of stakeholder relations)	Contribution to the CE
Loop Rocks	Construction industry	<p><b>Aims:</b> Match the supply and demand for soil and rock between construction sites through an online marketplace, Loop Rocks</p> <p><b>Activities:</b> The online marketplace launched in 2017 in Finland matched supply and demand between construction sites through an open, free-of-charge platform and a mobile app. Loop Rocks could not engage the necessary stakeholders (users and external investors), and NCC shut down the platform in 2019, as it did not reach the profitability targets</p> <p><b>Impacts:</b> Loop Rocks enabled more efficient handling of rock and soil between construction sites but did not create a long-term impact as the platform was closed in 2019</p>	<p>The contribution could have been improving the resource efficiency for building masses by preventing the masses from being sent to landfill, if the platform had gained a significant user base instead of its closure</p>
Reverse logistics systems for circular operations Kinkkumtempu	<p>Grocery retailers, food companies, recycling operators, associations and Neste company</p>	<p><b>Improving competitors' resource efficiency</b></p> <p><b>Aims:</b> Gather the consumer cooking fats during Christmas time and refine them into renewable diesel</p> <p><b>Activities:</b> The Chemical Industry Federation's initiative to gather cooking fat engages various organisations, including grocery retailers, food companies and recycling operators. Approximately 300 collection points all over Finland (grocery stores, gas stations and recycling locations) gather cooking fat, which Neste utilises in the production of renewable diesel</p> <p><b>Impacts:</b> The collaboration performed for the annual Kinkkumtempu benefits the companies' marketing and boosts their sustainability image. In addition, gathering cooking fat for reuse enables R&amp;D to find new solutions</p>	<p>Gathering consumer cooking fat and reusing it for renewable fuel production. During Christmas 2020, approximately 240,000 households recycled their cooking fats, resulting in 55 tonnes of fat to be refined into renewable diesel through the Kinkkumtempu collaboration</p>



Case	Collaborating stakeholders	Stakeholder engagement for cooperation (aims, activities and impacts of stakeholder relations)	Contribution to the CE
Beverage package recycling system	The brewery industry, retail industry and recycling operators	<p><i>Aims:</i> Recycling beverage packages in Finland with a deposit-based recycling system. The system aims for closed-loop recycling in an energy and cost-efficient manner</p> <p><i>Activities:</i> The central actor, Palpa, is a non-profit company owned by the major companies in brewery and retail industries. Palpa administers the recycling system with an operational and objective role. The consideration of trade secrets and regulations in operations by Palpa eases the collaboration between competitors. Palpa coordinates the collaboration, reduces tensions between competitors and maintains the balance between the interests of various actors</p> <p><i>Impacts:</i> The recycling system enables cost-savings for beverage producers by organising the recycling operations efficiently, with lower costs than paying the packaging taxes from which the producers are exempt when joining a recycling system. The recycling system provides environmentally friendly image benefits for all stakeholders collaborating to enable the recycling of beverage packages</p>	The recycling system managed by Palpa enables efficient beverage package recycling in Finland. Finland has one of the highest return rates of beverage packages globally, with an overall return rate of 93% for cans and bottles in 2020

agreements and commitments stems from building positive sustainability brands and improving profitability. Companies from specific industries join to match their competitors; thus, companies can set new standards for the industry as a whole. For example, the initiative to reduce plastic bag usage by not giving out free plastic bags spread quickly among retailers before legislative constraints, because it would have been negative for a company's sustainability image to be the only retail store still following this practice. In addition, the first movers initiating these changes in their industries might gain significant sustainability brand benefits among consumers.

Regarding stakeholder engagement in cooperation, all three of the cases in question were initially based on voluntary agreements. Today, an EU directive guides retailers' plastic bag decisions. However, the material-efficiency commitment and energy-efficiency agreement facilitated by Motiva, a state-owned Finnish sustainable development company, are still voluntary for companies. Motiva motivates companies to join the energy-efficiency agreement on its webpage by stating, 'Join an agreement and increase the efficiency of your energy use—you will improve profitability, demonstrate your own responsibility and build a positive public image'. According to the senior experts interviewed at Motiva, when energy-efficiency agreements reach sufficient coverage in an industry on a voluntary basis, no legislative constraints are required. The companies that have signed up to these agreements participate in co-development and share best practices to improve energy efficiency. Regarding the cooperative aspects of the agreement, a senior expert explained that even though energy efficiency is a significant competitive factor due to cost reductions, the companies do not see it as an area in which they could not collaborate with their competitors.

Agreements for industry standards can significantly contribute to a CE. Retailers not giving out plastic bags for free has recently had a great impact in decreasing the use of plastic bags. The material-efficiency commitment aims to reduce companies' environmental impacts; for example, the food retail sector aims to reduce food waste and increase recycling rates during the commitment period. The objective is to expand the material-efficiency commitments coordinated by Motiva into other

industrial sectors. Energy-efficiency agreements enhance the efficient use of energy and thus combat climate change.

## **Pre-Competitive R&D and Knowledge-Sharing for a CE**

Pre-competitive R&D and knowledge sharing allow competitors to increase their future value creation and capture potential by developing new industry-relevant knowledge, innovation and insights by collaborating in clusters, networks or projects with the aim of jointly addressing common CE challenges. The competitive pressures in such projects are deemed generally low, given that commercial use cases are still far away and the knowledge being developed is potentially useful for and applicable to all actors' CE objectives.

Case examples of such a collaboration include the knowledge network New Plastics Center (NPC) in Lahti, the co-innovation project PLASTin and the collaboration network Telaketju. These cases engage various actors to contribute jointly to a CE. NPC and PLASTin address the challenges of plastics together with plastic industry actors and research organisations, whereas Telaketju advances the CE of textiles in a collaboration network comprising textile companies, recycling and waste operators, municipalities, charity organisations and research organisations.

The stakeholder engagement enabling collaboration among competitors in these pre-competitive R&D and knowledge-sharing cases is based on bringing various stakeholders together to advance a shared goal. In addition, conducting research enables and advances collaboration within these networks or projects, and research organisations play an essential role in these cases. A third-party coordinator may ease collaboration between competitors. A project coordinator describes their role as 'to be a sort of orchestrator because we feel that we are an objective actor'. NPC was established in collaboration with two plastic industry associations, Muoviteollisuus ry and Muovipoli Oy, which advanced the collaboration between the companies in the network by facilitating joint projects, gathering information on biomaterials and promoting networking.

The CE contributions of NPC, PLASTin and Telaketju concern advancing the CE of plastics and textiles. NPC solves plastic-related challenges through new innovations, developing new materials and products and promoting networking in the plastic industry. The PLASTin project aims to improve the recycling rate of plastics and create new business opportunities from the current plastic challenges in Finland. Telaketju promotes the sustainable production, usage and circulation of textiles.

## **Platforms Enabling CE Business Models**

Digital platform-based business models in the CE context can effectively match the supply and demand among companies that can both sell and buy excess materials and resources. Competitors typically acquire and use similar resources; therefore, CE platforms are often set up in horizontal industry settings where those selling and buying are often (but not exclusively) current or potential competitors. At best, platform models can become good businesses on their own and, at the same time, improve CE outcomes in the entire industry.

Coopetition to contribute to a CE can occur through different, mostly digital, platforms, which enable industry-wide collaboration to promote, for example, material circulation and industrial symbiosis. Some platforms are run by a particular for-profit organisation with a platform-based business model, while others are based on a broader collective effort. Materiaalitori, Maapörssi and Loop Rocks in the construction industry and CEP in the forestry industry represent industry-wide platforms in which one organisation provides the platform and the entire industry can use it. Materiaalitori and Maapörssi are up and running, whereas Loop Rocks and CEP have stopped operation.

The challenge to engaging competitors to use these platforms is fostering trust in the platform. If a particular firm provides a platform or actively participates in platform development, the competitors of the platform owner might be sceptical about using the platform or entering information into it. Companies do not want to share data regarding their proprietary business or, for example, production volumes or side-stream volumes, which might be necessary information for the efficient use

of platforms facilitating industrial symbiosis. A senior expert described the challenge of information-sharing between competitors thus: 'For example, exact waste amounts can reveal too much for competitors. Companies may want to keep the information related to core business to themselves. That is maybe where the limit is'. Trade secrets must be handled carefully on platforms which engage horizontal actors. Platforms can operate in different ways and yet facilitate successful horizontal collaboration, advancing CE outcomes. The Materiaalitori platform, provided by the Ministry of Environment and administrated by a trustworthy third party, Motiva, is free of charge and open to all industry actors. In contrast, Maapörssi is a private company providing a platform which requires registration, and registering a profile on the platform incurs a cost. Maapörssi's operation mode can promote trust in the platform because it corresponds to conventional market logic.

Platforms developed to promote a CE contribute to the CE when they achieve extensive coverage and usage in the industry. These platforms enable the circulation and reuse of materials and may thus promote resource efficiency and enable industrial symbiosis. However, the platforms themselves do not create value chains, which was regarded as a challenge for CEP in aiming for new business creation. Value chains have to exist, and a platform is a good tool to easily match the supply and demand of materials and services.

## **Reverse Logistics Systems for Circular Operations**

Reverse logistics systems often require horizontal collaboration to enable efficient operations and substantial contributions to a CE. The motivation for competing firms to engage with such initiatives lies in their 'positive-sum' nature. Competing firms can improve their own material efficiency and, at the same time, improve their CE goals and CE outcomes by enabling circular value chains for the overall industry.

Our case examples of reverse logistics systems include the beverage package recycling system and Kinkkutemppu, which engage competitors to collaborate in recycle and reuse operations. Beverage package recycling in Finland dates back to the 1950s and has developed into a

well-functioning and efficient recycling system, resulting in high return rates. Kinkkutemppu, a recently launched initiative, enables cooperation to ensure excess cooking fat can be reused and R&D can be undertaken into fat reuse.

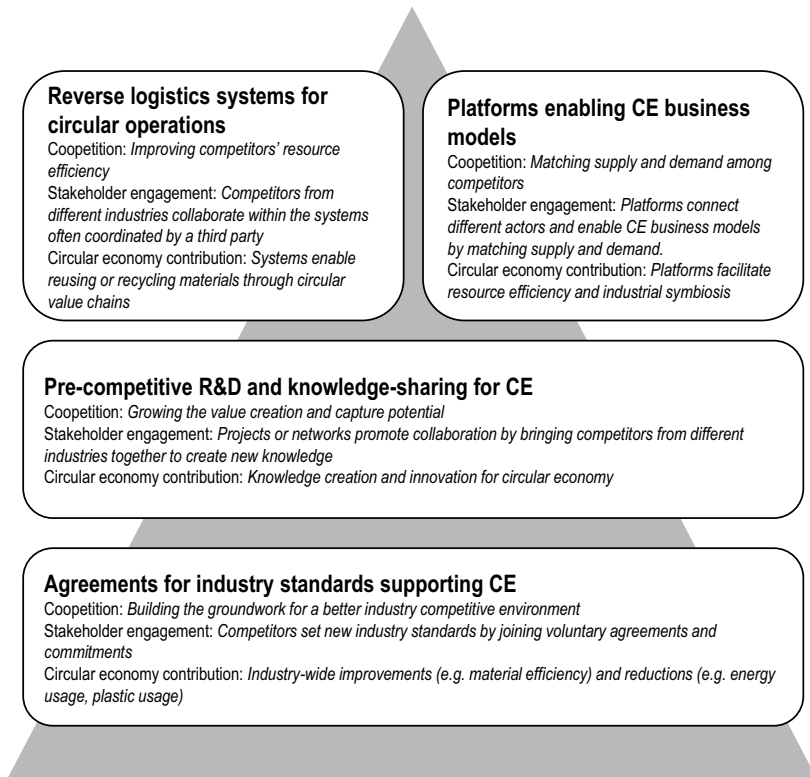
Both cases engage consumers to participate in enhancing a CE by returning their beverage packages and excess cooking fat. For companies participating in these recycling systems, collaboration benefits their sustainability image and marketing. The beverage package recycling system is guided by regulations exempting beverage producers from packaging tax when they join a recycling system and obliging retailers to accept returns if they sell beverages. There is no regulatory guidance for collaborators in Kinkkutemppu. The operations of these recycling systems engage the entire supply chain. Therefore, the value chains comprise of different actors from various industries; thus, horizontal collaboration occurs simultaneously in different industries. Stakeholder engagement activities in the Finnish beverage package recycling system include a central actor administrating and coordinating collaboration within a recycling system in which the consideration of trade secrets and regulations eases the collaboration between competitors. This third-party coordinator, Palpa, reduces the tension between competitors and maintains a balance between the interests of different actors within the system. A manager from the brewery industry described Palpa's role in the recycling system as 'mostly to operate from the recycling system's perspective and maintain the balance in a way that the system isn't based on the will of breweries or on the will of retail companies; instead, Palpa ensures that the system is as efficient as possible and consumer-friendly and that the return rates are high'.

These reverse logistics systems demonstrate significant CE contributions at the national level in Finland. In particular, the Finnish beverage package recycling system, with a return rate of over 90%, is among the most efficient beverage package recycling systems globally, enabling the recycling of plastic bottles, aluminium cans and glass bottles. During the Christmas season in 2020, Kinkkutemppu was able to collect 55 tonnes of cooking fat for use in renewable fuel production.

## Cooperation for a CE: Synthesis

Cooperation for a CE can take various forms, which have different requirements for stakeholder engagement and make different contributions to a CE. The cases were divided into four categories, demonstrating the various cooperative activities engaging competitors to advance a CE together. Figure 10.1 provides a visual synthesis of the cooperation categories we found among our cases, which we briefly elaborate on in this section.

Our findings portray cooperation initiatives both in foundational areas (industry standards and pre-competitive R&D) and at the more



**Fig. 10.1** Cooperation for a CE: main categories and contributions

applied and commercial end (reverse logistics systems and platforms). The triangular shape in the picture depicts how the groundwork for joint CE-related industry principles helps organisations to engage in joint research and, later, joint business models. Such initiatives, however, do not occur linearly; more likely, there is activity going on in all 'layers' of the industrial and economic system. In all layers, the cooperation for a CE involves many types of stakeholder engagement, which we briefly discuss below.

*Agreements for industry standards supporting CE* and resource-efficient operation modes can rapidly shift the practices and processes in an industry in a more sustainable direction when all industry actors are involved through peer pressure or, later, by legislative measures. We found evidence of agreements and commitments that enable the setting of new industry standards and may lead to co-development and the sharing of best practices to advance a CE. The agreements for industry standards are typically voluntary initiatives which companies join to match their competitors and build positive sustainability brands. However, the peer pressure from competitors to join sustainability-related agreements and commitments boosts companies' engagement in collaboration.

*Pre-competitive R&D and knowledge sharing for CE* networks and projects to increase resource circularity bring different stakeholders together with the aim, for example, of addressing plastic-related challenges, improving the recycling rate of plastics and promoting the CE of textiles. We found that conducting research and creating new understandings are important when engaging competitors to collaborate to address shared challenges. *Platforms enabling circular and resource-efficient business models* promote the circulation of materials and components and thus facilitate resource efficiency. The platforms enable the connecting of stakeholders and matching their supply and demand, thus potentially enabling industrial symbiosis. We found evidence that platforms can operate in various ways to achieve sufficient coverage in the industry. However, building trust in the platform is required to ensure sufficient coverage and usage to contribute to a CE.

The studied *reverse logistics systems* between competitors can make linear value chains more circular by enabling, for example, closed loops,



which enable more circular operations in value chains, such as recycling beverage packages and reusing cooking fat. In particular, the Finnish beverage package recycling system significantly contributes to the CE, with over 90% return rates of plastic bottles, glass bottles and aluminium cans. Third-party coordination or facilitation of collaboration is important for major national and cross-industry systems, such as beverage package recycling systems. A third-party coordinator can facilitate the consideration of trade secrets and competition regulations, which is important when competitors collaborate regarding, for example, data inputs to platforms or production volume estimation in the beverage package recycling system. Third-party coordination can reduce tensions between competitors, which enables smoother collaboration. In the beverage package recycling system, this was addressed by, for example, maintaining the balance between the interests of different actors, focusing on operations and considering trade secrets in the operations of the recycling system.

All four types of coopetition for a CE seem to benefit from third-party facilitation. Our cases indicate that such third-party facilitation between competitors should understand different institutional logics (see, for example, Ingstrup et al., 2020) and thus take into consideration the competitors' different interests and perspectives in order to engage competitors and enable feasible collaboration. Previous research has identified that implementing a sustainable CE requires coordination or intermediaries, such as academic or third-party organisations, government bodies or industry champions (see also Pinnington et al., 2021; Velenturf & Purnell, 2021). Third-party facilitation played an important role in engaging stakeholders in collaboration, particularly in the beverage package recycling system, *Materiaalitori*, *Maapörssi*, material-efficiency commitment and energy-efficiency agreement in which a third-party organisation coordinated the collaboration between competitors. For example, in the beverage package recycling system, a non-profit company, *Palpa*, was founded to enable efficient collaboration between competitors in the brewery industry, whereas a state-owned company, *Motiva*, facilitates and administrates the horizontal collaboration in the material-efficiency commitment, energy-efficiency agreement and *Materiaalitori*. Some form of third-party coordination, such as legislative

steering or academic organisations leading research projects, was identified in all cases except CEP and Loop Rocks. In the latter two platforms, one of the competing companies was in charge of the technological solutions or administration of the platform, and thus third-party coordination was not realised, which might be one reason that these platforms did not succeed in sufficiently engaging stakeholders in reaching their objectives.

## Discussion

### Theoretical Contributions

This exploratory multiple-case study analysed coopetition for a CE and identified four main categories for organising coopetition. The key findings add value to the stakeholder engagement, coopetition and sustainable CE literature by bridging coopetition and stakeholder engagement research and providing important insights to understand stakeholder engagement and coopetition in the context of a CE (Christ et al., 2017; Johanna Kujala et al., 2019; Manzhynski & Figge, 2020).

For the stakeholder engagement literature, the findings create an understanding of the characteristics of competitors as stakeholders and the stakeholder engagement activities relevant especially for coopetition (Bacq & Aguilera, 2022) and contribute to the understanding of stakeholder engagement by analysing the aims, activities and impacts of stakeholder relationships for coopetition (Kujala et al., 2022; Sachs & Kujala, 2021). We address the need for more stakeholder engagement research with a more extensive level of analysis (network level and relationship-based), unlike the current research, which focuses on the focal firm (Sachs & Kujala, 2021). Our study also addresses the research gap in the in-depth understanding of stakeholder engagement in different contexts (Kujala et al., 2022) by providing insights from coopetition and CE contexts. The study contributes to the CE literature by identifying how coopetition can contribute to a CE as it is often necessary to enable systemic changes in the latter (Geissdoerfer et al., 2017).

For the coopetition literature, this study contributes to the very limited understanding of coopetition for a CE (Hirvensalo et al., 2021; Narayan & Tidström, 2020; Volschenk et al., 2016), which lacks empirical insights. The conventional coopetition literature has identified that collaboration between competitors typically occurs in activities far away from the customer, such as R&D (Bengtsson & Kock, 2000), whereas more recent research has demonstrated that collaborative activities occur close to the customer, such as marketing and sales (Flanagan et al., 2018). This study provides empirical insights which showcase collaborative activities occurring both far away from (e.g., R&D and knowledge sharing in networks and research projects) and near (e.g., recycling beverage packages and gathering consumer cooking fat) the customer.

The findings of this study also improve the understanding of the third-party coordination and facilitation of coopetition and demonstrate the importance of a third-party coordinator or facilitator of collaboration, which has been previously identified (Kestemont & Chalant, 2013; Planko et al., 2019; Ritala et al., 2009). The benefits of such a neutral ‘orchestrator’ (Pinnington et al., 2021) can be viewed as a means to resolve the tension-laden nature of the competitors as stakeholders relationship. As our results demonstrate, such orchestration occurs through various projects, systems and collectives and, more formally, through digital platform models. In these cases, it is important to understand how legitimacy is developed in both roles, the orchestrator and the participants (Thomas & Ritala, 2021), and, more broadly, how such collective action can contribute to a CE.

## Practical Implications

Practitioners will benefit from the insights discussed in this chapter, as the findings provide valuable understanding of organising coopetition for a CE. For companies, the study demonstrates different ways in which a CE can be promoted through collaboration with competitors. The findings help companies understand what kind of coopetition is feasible for various CE objectives. Non-profit organisations or industry

associations aiming to organise horizontal collaboration within industries are offered important insights on how to engage competitors to collaborate for a CE and how this has been achieved previously. The categorisation and analysis of the cases provide an outlook on what type of cooperation has contributed to a CE previously and the key points for stakeholder engagement for each cooperation arrangement. Third-party facilitation or coordination of collaboration is important in all types of projects and schemes, but the right governance model will vary across cases; for some projects, a digital platform solution might help to scale up the CE impact, while for others, the project might focus on looser elaboration and development of industry norms and practices. In addition, the consideration of trade secrets and regulations, reducing tension between competitors, peer pressure to commit to initiatives and trust building for platform users seem to be necessary to engage competitors in collaboration to advance a CE.

## Limitations and Future Research

Our study has limitations that represent pathways on how to further advance understanding of the vital role of collaboration and cooperation for a CE. We sampled cases from multiple industries in Finland, and we assume that findings are generalisable to many industrial and geographical contexts. However, as all cases are from similar institutional contexts, the findings may have been affected by certain cultural and geographical characteristics. Therefore, cooperation for a CE should also be studied in different institutional contexts. The cases in this chapter analyse collaboration between competing companies. However, insights from other competing organisations, such as NGOs, universities or public actors, collaborating to advance a CE can provide interesting results and improve the understanding of multi-actor collaboration for a CE. The importance of trust in cooperation became evident in this study, and thus further research on trust building in stakeholder relationships entailing competition could provide interesting future research avenues and important contributions to the stakeholder engagement literature.

## Conclusion

This chapter examines how coopetitors organise to advance a CE, how to engage competitors as stakeholders and the contributions of coopetition to a CE. For this purpose, we conducted a multiple-case study of coopetitive initiatives for a CE in Finland. Building on a very limited previous understanding of coopetition for a CE, we identified four main patterns across 12 cases which were categorised into agreements for industry standards, pre-competitive R&D and knowledge sharing, platforms and reverse logistics systems. Adding to the understanding of stakeholder engagement for coopetition, we identified the aims, activities and impacts of stakeholder relationships within the coopetitive initiatives. Coopetition can contribute to a CE in foundational areas when competitors are engaged to set new industry standards that support the CE through voluntary agreements and commitments as well as through pre-competitive R&D and knowledge-sharing projects and networks promoting collaboration for a CE by bringing different stakeholders together. Coopetition can also advance a CE through more applied and commercial approaches, as stakeholder engagement enables cross-industry collaboration within reverse logistics systems and platforms to connect stakeholders and match their supply and demand, facilitating the development of CE business models. Coordination that acknowledges different, even conflicting, stances, by, for example, making available third-party organisations, government bodies or academic organisations, benefits coopetition for a CE in all categories. Finally, with sufficient stakeholder engagement, including coordination of collaboration, coopetition can contribute significantly to a CE through agreements for industry standards, pre-competitive R&D and knowledge sharing, platforms, and reverse logistics systems.

**Acknowledgements** The data generation and writing of this chapter were supported by the Strategic Research Council at the Academy of Finland under the project titled ‘Circular Economy Catalysts: From Innovation to Business Ecosystems (CICAT2025)’ (grant numbers 320194 and 346626).

## References

- Aarikka-Stenroos, L., Ritala, P., & Llwellyn, D. W. T. (2021). Circular economy ecosystems: A typology, definitions and implications. In S. Teerikangas, T. Onkila, K. Koistinen & Mäkelä, M. (Eds.), *Handbook of sustainability agency* (pp. 260–276). Edward Elgar.
- Bacq, S., & Aguilera, R. V. (2022). Stakeholder governance for responsible innovation: A theory of value creation, appropriation, and distribution. *Journal of Management Studies*, 59(1), 29–60. <https://doi.org/10.1111/joms.12746>
- Bengtsson, M., & Kock, S. (2000). “Coopetition” in business networks—To cooperate and compete simultaneously. *Industrial Marketing Management*, 29(5), 411–426. [https://doi.org/10.1016/S0019-8501\(99\)00067-X](https://doi.org/10.1016/S0019-8501(99)00067-X)
- Bengtsson, M., & Kock, S. (2014). Coopetition-quo vadis? Past accomplishments and future challenges. *Industrial Marketing Management*, 43(2), 180–188. <https://doi.org/10.1016/j.indmarman.2014.02.015>
- Bengtsson, M., & Raza-Ullah, T. (2016). A systematic review of research on coopetition: Toward a multilevel understanding. *Industrial Marketing Management*, 57, 23–39. <https://doi.org/10.1016/j.indmarman.2016.05.003>
- Bocken, N., & Ritala, P. (2021). Six ways to build circular business models. *Journal of Business Strategy*, 43(3), 184–192. <https://doi.org/10.1108/JBS-11-2020-0258>
- Bouncken, R. B., Gast, J., Kraus, S., & Bogers, M. (2015). Coopetition: A systematic review, synthesis, and future research directions. *Review of Managerial Science*, 9(3), 577–601. <https://doi.org/10.1007/s11846-015-0168-6>
- Bowen, F. E., Bansal, P., & Slawinski, N. (2018). Scale matters: The scale of environmental issues in corporate collective actions. *Strategic Management Journal*, 39(5), 1411–1436. <https://doi.org/10.1002/smj.2764>
- Brandenburger, A., & Nalebuff, B. (1996). *Co-opetition*. Doubleday.
- Brown, P., Von Daniels, C., Bocken, N. M. P., & Balkenende, A. R. (2021). A process model for collaboration in circular oriented innovation. *Journal of Cleaner Production*, 286, 125499. <https://doi.org/10.1016/j.jclepro.2020.125499>
- Brown, P., Bocken, N., & Balkenende, R. (2019). Why do companies pursue collaborative circular oriented innovation? *Sustainability*, 11(3), 1–23. <https://doi.org/10.3390/su11030635>

- Choi, P., Garcia, R., & Friedrich, C. (2010). The drivers for collective horizontal coopetition: A case study of screwcap initiatives in the international wine industry. *International Journal of Strategic Business Alliances*, 1(3), 271–290. <https://doi.org/10.1504/ijbsa.2010.030427>
- Christ, K. L., Burrirt, R. L., & Varsei, M. (2017). Coopetition as a potential strategy for corporate sustainability. *Business Strategy and the Environment*, 26(7), 1029–1040. <https://doi.org/10.1002/bse.1967>
- Corbin, J., & Strauss, A. (2008). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (3rd ed.). Sage.
- Crick, J. M., & Crick, D. (2020). Coopetition and COVID-19: Collaborative business-to-business marketing strategies in a pandemic crisis. *Industrial Marketing Management*, 88, 206–213. <https://doi.org/10.1016/j.indmarman.2020.05.016>
- Czakon, W., & Czernek, K. (2016). The role of trust-building mechanisms in entering into network coopetition: The case of tourism networks in Poland. *Industrial Marketing Management*, 57, 64–74. <https://doi.org/10.1016/j.indmarman.2016.05.010>
- de Resende, L. M. M., Volski, I., Betim, L. M., de Carvalho, G. D. G., de Barros, R., & Senger, F. P. (2018). Critical success factors in coopetition: Evidence on a business network. *Industrial Marketing Management*, 68, 177–187. <https://doi.org/10.1016/j.indmarman.2017.10.013>
- Della Corte, V., & Aria, M. (2016). Coopetition and sustainable competitive advantage. The case of tourist destinations. *Tourism Management*, 54, 524–540. <https://doi.org/10.1016/j.tourman.2015.12.009>
- Fernandez, A. S., Le Roy, F., & Gnyawali, D. R. (2014). Sources and management of tension in co-opetition case evidence from telecommunications satellites manufacturing in Europe. *Industrial Marketing Management*, 43(2), 222–235. <https://doi.org/10.1016/j.indmarman.2013.11.004>
- Finnish Ministry of Environment. (2021). *Government resolution on the strategic programme for circular economy*. Finnish Ministry of Environment. Available <https://ym.fi/en/strategic-programme-to-promote-a-circular-economy>
- Flanagan, D. J., Lepisto, D. A., & Ofstein, L. F. (2018). Coopetition among nascent craft breweries: A value chain analysis. *Journal of Small Business and Enterprise Development*, 25(1), 2–16. <https://doi.org/10.1108/JSBED-05-2017-0173>
- Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Pitman.
- Freeman, R. E., Kujala, J., & Sachs, S. (2017). *Stakeholder engagement: Clinical research cases*. Springer.

- Geissdoerfer, M., Savaget, P., Bocken, N. M. P., & Hultink, E. J. (2017). The circular economy—A new sustainability paradigm? *Journal of Cleaner Production*, *143*, 757–768. <https://doi.org/10.1016/j.jclepro.2016.12.048>
- Gibbs, G. R. (2018). Thematic coding and categorizing. In *Analyzing qualitative data* (pp. 53–74). <https://doi.org/10.4135/9781526441867>
- Gnyawali, D. R., & Charleton, T. R. (2018). Nuances in the interplay of competition and cooperation: Towards a theory of coopetition. *Journal of Management*, *44*(7), 2511–2534. <https://doi.org/10.1177/0149206318788945>
- Gnyawali, D. R., & Park, B. J. (2011). Co-opetition between giants: Collaboration with competitors for technological innovation. *Research Policy*, *40*(5), 650–663. <https://doi.org/10.1016/j.respol.2011.01.009>
- Gnyawali, D. R., & Park, B. R. (2009). Co-opetition and technological innovation in SMEs: A multilevel conceptual model. *Journal of Small Business Management*, *47*(3), 308–330. <https://doi.org/10.1111/j.1540-627X.2009.00273.x>
- Gonzalez-Porrás, L., Heikkinen, A., Kujala, J., & Tapaninaho, R. (2021). Stakeholder engagement in sustainability transitions. In S. Teerikangas, T. Onkila, K. Koistinen & M. Mäkelä (Eds.), *Research handbook of sustainability agency* (pp. 214–229). Edward Elgar. <https://doi.org/10.4337/9781789906035.00021>
- Greenwood, M. (2007). Stakeholder engagement: Beyond the myth of corporate responsibility. *Journal of Business Ethics*, *74*(4), 315–327. <https://doi.org/10.1007/S10551-007-9509-Y>
- Hahn, T., & Pinkse, J. (2014). Private environmental governance through cross-sector partnerships: Tensions between competition and effectiveness. *Organization and Environment*, *27*(2), 140–160. <https://doi.org/10.1177/1086026614530996>
- Hannah, D. P., & Eisenhardt, K. M. (2018). How firms navigate cooperation and competition in nascent ecosystems. *Strategic Management Journal*, *39*(12), 3163–3192. <https://doi.org/10.1002/smj.2750>
- Harala, L., Alkki, L., Aarikka-Stenroos, L., Al-Najjar, A., & Malmqvist, T. (2023). Industrial ecosystem renewal towards circularity to achieve the benefits of reuse—Learning from circular construction. *Journal of Cleaner Production*, *389*, Article 135885. <https://doi.org/10.1016/j.jclepro.2023.135885>
- Hirsjärvi, S., Remes, P., & Sajavaara, P. (2009). *Tutki ja kirjoita (15. painos)*. Tammi.



- Hirvensalo, A., Teerikangas, S., Reynolds, N. S., Kalliomäki, H., Mäntysalo, R., Mattila, H., & Granqvist, K. (2021). Agency in circular city ecosystems—A rationalities perspective. *Sustainability*, 13(5), 1–16. <https://doi.org/10.3390/su13052544>
- Hörisch, J., Freeman, R. E., & Schaltegger, S. (2014). Applying stakeholder theory in sustainability management: Links, similarities, dissimilarities, and a conceptual framework. *Organization and Environment*, 27(4), 328–346. <https://doi.org/10.1177/1086026614535786>
- Ingstrup, M. B., Aarikka-Stenroos, L., & Adlin, N. (2020). When institutional logics meet: Alignment and misalignment in collaboration between academia and practitioners. *Industrial Marketing Management* (December 2019), 1–10. <https://doi.org/10.1016/j.indmarman.2020.01.004>
- Jacobsen, N. B. (2006). Industrial symbiosis in Kalundborg, Denmark: A quantitative assessment of economic and environmental aspects. *Journal of Industrial Ecology*, 10(1–2), 239–255. <https://doi.org/10.1162/108819806775545411>
- Kestemont, C., & Chalant, I. (2013). Paradoxes in collaborative innovations in networks: The challenges of coemption and the role of facilitation. *The Role of Objects in the Constitution of Collaborative Spaces*, 433(15), 473–484.
- Konietzko, J., Bocken, N., & Hultink, E. J. (2020). Circular ecosystem innovation: An initial set of principles. *Journal of Cleaner Production*, 253(119942). <https://doi.org/10.1016/j.jclepro.2019.119942>
- Kujala, J., & Sachs, S. (2019). The practice of stakeholder engagement. In J. B. Barney, R. E. Freeman, J. S. Harrison & R. A. Phillips (Eds.), *The Cambridge handbook of stakeholder theory* (pp. 227–242). <https://doi.org/10.1017/9781108123495.014>
- Kujala, J., Sachs, S., Leinonen, H., Heikkinen, A., & Laude, D. (2022). Stakeholder engagement: Past, present, and future. *Business & Society*, 61(5), 1136–1196. <https://doi.org/10.1177/00076503211066595>
- Kujala, J., Heikkinen, A., Tapaninaho, R., Marjamaa, M., & Gonzales Porras, L. (2019). Stakeholder interests in a transition towards sustainable circular economy. In H. Lehtimäki & A. K. Dey (Eds.), *Sustainable business and competitive strategies, retail industry and e-marketing* (pp. 72–83). Bloomsbury.
- Limoubpratum, C., Shee, H., & Ahsan, K. (2015). Sustainable distribution through coemption strategy. *International Journal of Logistics Research and Applications*, 18(5), 424–441. <https://doi.org/10.1080/13675567.2014.977236>

- Macarthur, E. (2013). Towards the circular economy. *Journal of Industrial Ecology*, 2(1), 23–44.
- Manzhynski, S., & Figge, F. (2020). Coopetition for sustainability: Between organizational benefit and societal good. *Business Strategy and the Environment*, 29(3), 827–837. <https://doi.org/10.1002/bse.2400>
- Marjamaa, M., Salminen, H., Kujala, J., Tapaninaho, R., & Heikkinen, A. (2021). A sustainable circular economy: Exploring stakeholder interests in Finland. *South Asian Journal of Business and Management Cases*, 10(1), 50–62. <https://doi.org/10.1177/2277977921991914>
- Martín-de Castro, G. (2021). Exploring the market side of corporate environmentalism: Reputation, legitimacy and stakeholders' engagement. *Industrial Marketing Management*, 92, 289–294. <https://doi.org/10.1016/j.indmarman.2020.05.010>
- Mathias, B. D., Huyghe, A., Frid, C. J., & Galloway, T. L. (2018). An identity perspective on coopetition in the craft beer industry. *Strategic Management Journal*, 39(12), 3086–3115. <https://doi.org/10.1002/smj.2734>
- Meehan, J., & Bryde, D. J. (2015). A field-level examination of the adoption of sustainable procurement in the social housing sector. *International Journal of Operations and Production Management*, 35(7), 982–1004. <https://doi.org/10.1108/IJOPM-07-2014-0359>
- Melander, L. (2017). Achieving sustainable development by collaborating in green product innovation. *Business Strategy and the Environment*, 26(8), 1095–1109. <https://doi.org/10.1002/bse.1970>
- Mione, A. (2009). When entrepreneurship requires coopetition: The need for standards in the creation of a market. *International Journal of Entrepreneurship and Small Business*, 8(1), 92–109. <https://doi.org/10.1504/IJESB.2009.024107>
- Narayan, R., & Tidström, A. (2020). Tokenizing coopetition in a blockchain for a transition to circular economy. *Journal of Cleaner Production*, 263(121437). <https://doi.org/10.1016/j.jclepro.2020.121437>
- Novoa, A., Shackleton, R., Canavan, S., Cybèle, C., Davies, S. J., Dehnen-Schmutz, K., Fried, J., Gaertner, M., Geerts, S., Griffiths, C. L., Kaplan, H., Kumschick, S., Le Maitre, D. C., John Measey, G., Nunes, A. L., Richardson, D. M., Robinson, T. B., Touza, J., & Wilson, J. R. U. (2018). A framework for engaging stakeholders on the management of alien species. *Journal of Environmental Management*, 205, 286–297. <https://doi.org/10.1016/j.jenvman.2017.09.059>
- Patton, M. Q. (1990). *Qualitative evaluation and research methods (Qualitativ)*. Sage.

- Patton, M. Q. (2002). *Qualitative research and evaluation methods*. Sage.
- Peloza, J., & Falkenberg, L. (2009). The role of collaboration in achieving corporate social responsibility objectives. *California Management Review*, 51(3), 95–113. <https://doi.org/10.2307/41166495>
- Pinnington, B., Lyons, A., & Meehan, J. (2021). Value-independent third-party orchestrators as catalysts of business collaboration. *Journal of Management Inquiry*, 30(4), 438–453. <https://doi.org/10.1177/1056492620959455>
- Planko, J., Chappin, M. M. H., Cramer, J., & Hekkert, M. P. (2019). Coping with coopetition—Facing dilemmas in cooperation for sustainable development: The case of the Dutch smart grid industry. *Business Strategy and the Environment*, 28(5), 665–674. <https://doi.org/10.1002/bse.2271>
- Ritala, P. (2018). Coopetition and market performance. In A.-S. Fernancez, P. Chambaretto & F. Le Roy, W. Czakon (Eds.), *Routledge companion to competition strategies* (pp. 317–325). Routledge. <https://doi.org/10.4324/9781315185644-30>
- Ritala, P., Golnam, A., & Wegmann, A. (2014). Coopetition-based business models: The case of Amazon.com. *Industrial Marketing Management*, 43(2), 236–249. <https://doi.org/10.1016/j.indmarman.2013.11.005>
- Ritala, P., & Hurmelinna-Laukkanen, P. (2009). What's in it for me? Creating and appropriating value in innovation-related coopetition. *Technovation*, 29(12), 819–828. <https://doi.org/10.1016/j.technovation.2009.07.002>
- Ritala, P., Hurmelinna-Laukkanen, P., & Blomqvist, K. (2009). Tug of war in innovation—Coopetitive service development. *International Journal of Services, Technology and Management*, 12(3), 225–272. <https://doi.org/10.1504/IJSTM.2009.025390>
- Rivera, J., Naranjo, M. A., Robalino, J., Alpizar, F., & Blackman, A. (2017). Local community characteristics and cooperation for shared green reputation. *Policy Studies Journal*, 45(4), 613–632. <https://doi.org/10.1111/psj.12156>
- Sachs, S., & Kujala, J. (2021). Stakeholder engagement in management studies: Current and future debates. In *Oxford research encyclopedia of business and management*. <https://doi.org/10.1093/acrefore/9780190224851.013.321>
- Salvioni, D. M., & Almici, A. (2020). Transitioning toward a circular economy: The impact of stakeholder engagement on sustainability culture. *Sustainability*, 12(20), 1–30. <https://doi.org/10.3390/su12208641>
- Shackleton, R. T., Adriaens, T., Brundu, G., Dehnen-Schmutz, K., Estévez, R. A., Fried, J., & Richardson, D. M. (2019). Stakeholder engagement in the

- study and management of invasive alien species. *Journal of Environmental Management*, 229, 88–101. <https://doi.org/10.1016/j.jenvman.2018.04.044>
- Stadtler, L. (2018). Tightrope walking: Navigating competition in multi-company cross-sector social partnerships. *Journal of Business Ethics*, 148(2), 329–345. <https://doi.org/10.1007/s10551-017-3579-2>
- Thomas, L. D. W., & Ritala, P. (2021). Ecosystem legitimacy emergence: A collective action view. *Journal of Management*. <https://doi.org/10.1177/0149206320986617>
- Tidström, A., Ritala, P., & Lainema, K. (2018). Interactional and procedural practices in managing cooperative tensions. *Journal of Business and Industrial Marketing*, 33, 945–957. <https://doi.org/10.1108/JBIM-06-2016-0125>
- Valenturf, A. P. M., & Purnell, P. (2021). Principles for a sustainable circular economy. *Sustainable Production and Consumption*, 27, 1437–1457. <https://doi.org/10.1016/j.spc.2021.02.018>
- Volschenk, J., Ungerer, M., & Smit, E. (2016). Creation and appropriation of socio-environmental value in cooperation. *Industrial Marketing Management*, 57, 109–118. <https://doi.org/10.1016/j.indmarman.2016.05.026>
- Yin, R. (2003). *Case study research: Design and methods* (3rd ed). Sage.
- Yin, R. (2018). *Case study research and applications*. Sage.

**Open Access** This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

