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Transitioning to the circular economy — Shifting from a technical to a cultural perspective

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Abstract: This chapter adopts a cultural perspective to the circular economy (CE) by exploring the role of cultural factors in the CE transitions. We consider the concept of culture to be a key factor affecting the shift to the CE. However, culture is a multidimensional concept and takes on different meanings depending on the context. In this paper, cultural perspective refers to human interactions in a society. Based on 68 interviews, we reach three conclusions. First, a change in values in general towards the CE is necessary. Second, the change in attitude seems to be emerging slowly; therefore, raising awareness about the CE is a key priority for stakeholders who need more information to enable their culture's movement toward the CE. Finally, cooperation and solidarity are key success factors in the shift to the CE. Our book chapter contributes to understandings of the cultural aspects of the CE by identifying the individual decision maker's role; however, it is vital to keep in mind that these individuals are operating within a complex policy environment and

that the CE transitions require the inclusion of wider groups of actors than is acknowledged in the current, rather polarized CE transition.

1. Introduction

The circular economy (CE) aims to create a system that enables the circulation of resources in society without the creation of waste. As the MacArthur Foundation (2021) defines it, the CE "is based on three principles: designing out waste and pollution, keeping products and materials in use, and regenerating natural systems."

The previous literature on the CE tends to focus only on the creation of economic prosperity while simultaneously considering environmental quality. This was a key finding from the review of CE definitions by Kirchherr, Reike, and Hekkert (2017). They further note that although a shift from the current linear economy to the CE would require a systemic change, the role of social and cultural aspects in this transition is seldom discussed in definitions of the CE. Geissdoerfer et al.'s (2017) review focuses on the comparison between the CE and sustainability, and they notice a lack of attention paid to social aspects in the literature (cf. Murray, Skene, and Haynes 2017). Furthermore, the CE review by Sarja et al. (2021) highlights the need for more studies on human action in the CE.

In order to start addressing this gap, this paper offers a cultural perspective on CE transitions. The cultural dimension refers to human interactions in a society (Bidney 1944). We argue that the concept of culture is a key factor within CE transitions. Like the CE model itself, culture is a multidimensional concept that takes on different meanings depending on the context. Traditionally, culture has been defined as consisting of multiple elements related to human behaviour in groups, organisations and societies. Thus, in the traditional definition proposed by Tylor (according to Peterson 1979), culture consists of the knowledge, beliefs, art, morals, law,

customs and habits expected from the members of a society. In this paper, we use the cultural perspective to address individuals and their interactions in the Finnish societal context.

The research question we address in this paper is: What is the meaning of cultural factors in the CE transitions? We base our chapter on a large sample of qualitative interview data. In our findings, we focus on the cultural catalysts of and obstacles to CE implementation. Our paper contributes to the narrow field studying the cultural CE by illustrating the vital role of this dimension of CE transitions.

In the next section, we cover the theoretical background of our work, namely the CE framework and its cultural dimension. In the methods section, we present our research approach: the interviews and their analysis. In the results section, we consider the cultural aspects emerging from our data. The main theme of our results is the need for change, and this need is discussed from three perspectives: values and attitudes, awareness and knowledge about the CE, and cooperation and solidarity in the CE. We end our paper with a discussion of our results and offer ideas for future research.

2. Theoretical background

2.1 The concept of the circular economy

The CE concept was introduced in order to address the environmental problems caused by the current linear economy. The linear economy can be described as a 'take–make–dispose' system (Gregson et al. 2015; Ellen MacArthur Foundation 2013a), wherein raw materials are converted into final products and, in the end, disposed as waste (Elia, Gnoni, and Tornese 2017; Sauvé, Bernard, and Sloan 2016). The system is based on the existence of "large quantities of easily accessible resources and energy" (Ellen MacArthur Foundation 2013b, 26). As Sauvé, Bernard, and Sloan (2016, 53) describe it, "the circular economy aims to decouple prosperity from resource consumption." Although the CE model tackles global environmental problems, according to the Ellen MacArthur Foundation (2015), it also maintains opportunities for economic growth and job creation.

The CE has recently attracted increasing research attention. Thus, the literature offers multiple definitions for the term (e.g., Schöggl, Stumpf, and Baumgartner 2020). To illustrate, some of these definitions are gathered in Table 1 and analysed in the following section. At the core of the concept is circulation, which entails the long-term use of products, components and materials (Ellen MacArthur Foundation 2015). The whole concept of 'waste' or 'end-of-life' is no longer needed (Ellen MacArthur Foundation 2013b; Kirchherr, Reike, and Hekkert 2017). In the CE, the system is restorative and regenerative (Ellen MacArthur Foundation 2021; Geissdoerfer et al. 2017; Murray, Skene, and Haynes 2017), which means that the impacts on the environment are at a minimum. Furthermore, central to the concept is the R framework. Based on Kirchherr, Reike, and Hekkert (2017), the 3R framework—reduce, reuse and recycle—is most commonly used. However, the literature also discusses the R10 framework—refuse, rethink, reduce, reuse, repair, refurbish, remanufacture, repurpose, recycle and recover (Potting et al. 2017). The aforementioned definitions highlight the economic and environmental dimensions while also integrating sustainable development (Kirchherr, Reike, and Hekkert 2017; Korhonen, Honkasalo, and Seppälä 2018; Prieto-Sandoval, Jaca, and Ormazabal 2018), social equity (Kirchherr, Reike, and Hekkert 2017) and human well-being (Murray, Skene, and Haynes 2017) as part of the CE.

Table 1 Examples of CE definitions

References	Definition
Desing et al. (2020, 7-8)	"The Circular Economy is a model adopting a resource-based and systemic view, aiming at taking into account all the variables of the system Earth, in order to maintain its viability for human beings. It serves the society to achieve well-being within the physical limits and planetary boundaries. It achieves that through technology and business model innovation, which provide the goods and services required by society, leading to long term economic prosperity. These goods and services are powered by renewable energy and rely on materials which are either renewable through biological processes or can be safely kept in the technosphere, requiring minimum raw material extraction and ensuring safe disposal of inevitable waste and dispersion in the environment. CE builds on and manages the sustainably available resources and optimizes their utilization through minimizing entropy production, slow cycles and resource and energy efficiency."
Ellen MacArthur Foundation (2013a, 7)	"A circular economy is an industrial system that is restorative or regenerative by intention and design...It replaces the 'end-of-life' concept with restoration, shifts towards the use of renewable energy, eliminates the use of toxic chemicals, which impair reuse, and aims for the elimination of waste through the superior design of materials, products, systems, and, within this, business models."
Geissdoerfer et al. (2017, 759)	"...a regenerative system in which resource input and waste, emission, and energy leakage are minimised by slowing, closing, and narrowing material and energy loops. This can be achieved through long-lasting design, maintenance, repair, reuse, remanufacturing, refurbishing, and recycling."

Kirchherr, Reike, and Hekkert (2017, 224)	"A circular economy describes an economic system that is based on business models which replace the 'end-of-life' concept with reducing, alternatively reusing, recycling and recovering materials in production/distribution and consumption processes, thus operating at the micro level (products, companies, consumers), meso level (eco-industrial parks) and macro level (city, region, nation and beyond), with the aim to accomplish sustainable development, which implies creating environmental quality, economic prosperity and social equity, to the benefit of current and future generations."
Korhonen, Honkasalo, and Seppälä (2018, 39)	"Circular economy is an economy constructed from societal production-consumption systems that maximizes the service produced from the linear nature-society-nature material and energy throughput flow. This is done by using cyclical materials flows, renewable energy sources and cascading1-type energy flows. Successful circular economy contributes to all the three dimensions of sustainable development. Circular economy limits the throughput flow to a level that nature tolerates and utilises ecosystem cycles in economic cycles by respecting their natural reproduction rates."
Murray, Skene, and Haynes (2017, 371-377)	"By circular, an economy is envisaged as having no net effect on the environment; rather it restores any damage done in resource acquisition, while ensuring little waste is generated throughout the production process and in the life history of the product. ... The Circular Economy is an economic model wherein planning, resourcing, procurement, production and reprocessing are designed and managed, as both process and output, to maximize ecosystem functioning and human well-being."
Prieto-Sandoval, Jaca, and Ormazabal (2018, 618)	"...circular economy as an economic system that represents a change of paradigm in the way that human society is interrelated with nature and aims to prevent the depletion of resources, close energy and materials loops, and facilitate sustainable development through its implementation at the micro (enterprises and consumers), meso (economic agents integrated in symbiosis) and macro (city, regions and governments) levels. Attaining this circular model requires cyclical and regenerative environmental innovations in the way society legislates, produces and consumes."

Schöggl, Stumpf, and Baumgartner (2020) show in their review a significant growth in the number of CE studies from 2016 onwards. Our analysis takes a closer look and highlights five aspects of the previous literature (especially Schöggl, Stumpf, and Baumgartner 2020; Merli, Preziosi, and Acampora 2018; Ghisellini, Cialani, and Ulgiati 2016). First, context-wise, the previous studies have focused on either China or Europe (Merli, Preziosi, and Acampora 2018). Second, the previous studies can be divided into three different levels: macro, meso and micro. Macro-level studies address the CE in a city, region or country (Merli, Preziosi, and Acampora 2018; Ghisellini, Cialani, and Ulgiati 2016). In these studies, the focus has been mostly on its socio-economic dynamics (Schöggl, Stumpf, and Baumgartner 2020; Merli, Preziosi, and Acampora 2018; Ghisellini, Cialani, and Ulgiati 2016). In the meso-level literature, attention is paid to industrial parks (Merli, Preziosi, and Acampora 2018; Ghisellini, Cialani, and Ulgiati 2016). Last, the micro-level articles discuss topics related to individual companies or consumers (Ghisellini, Cialani, and Ulgiati 2016). The third aspect of the previous literature is theme: the focus has been on practical ways to implement the CE, including tools and methods (Schöggl, Stumpf, and Baumgartner 2020;

Merli, Preziosi, and Acampora 2018; Ghisellini, Cialani, and Ulgiati 2016). Fourth, despite the fact that there is a large number of previous CE studies, their topics have not varied significantly. Both Schöggl, Stumpf, and Baumgartner (2020) and Merli, Preziosi, and Acampora (2018) notice that most studies have an environmental focus. Schöggl, Stumpf, and Baumgartner (2020) even state that the majority of previous studies focus on recycling, and Merli, Preziosi, and Acampora (2018) mention that waste management is a typical research topic. Fifth, as we have shown above, the CE is often discussed in relation to its economic and environmental dimensions. Many researchers point out that the social and cultural aspects of CE are seldom studied (Schöggl, Stumpf, and Baumgartner 2020; Merli, Preziosi, and Acampora 2018; Geissdoerfer et al. 2017; Kirchherr, Reike, and Hekkert 2017; Murray, Skene, and Haynes 2017), and therefore more focus on them is needed.

2.2 Cultural perspectives on the circular economy

In the previous section, we show that existing CE research tends to focus on its economic and environmental dimensions. In contrast, we are interested in its less studied cultural dimension. The cultural dimension covers the aspects of human interactions in a society. Due to this nature, it is often also called the sociocultural approach. For example, Warner (2010) explains that the sociocultural dimension consists of changes in the societal demographic structure and its values and beliefs. Brennan and Sisk (2014, 45-46) list "demographic trends, cultural considerations, literacy levels, social infrastructure, consumer confidence, and religious beliefs" under the concept. Yüksel (2012) adds to these items lifestyle and level of education. In the following, we first discuss the concept of culture in general, and then we discuss the CE from the point of view of its sociocultural dimension.

Traditionally, culture is an umbrella term describing multiple aspects of human behaviour in groups, organisations and societies. The concept has been under study and debate for decades (or even centuries, if we start with the anthropologies), and authors across different disciplines have offered varying definitions. In a traditional definition proposed by Tylor (according to Bidney 1944), culture is a "complex whole which includes knowledge, beliefs, art, morals, law, customs and any other capabilities and habits by man as a member of society," viewed specifically from an anthropological perspective. Peterson (1979) elaborates that the discussion of culture has focused

especially on four elements: norms, values, beliefs and expressive symbols. While culture is much debated across disciplines (particularly amid the social sciences) (Bennett 2015), there seems to be a somewhat general agreement that culture is created by people as members of societies and communicated, largely via language use (Bidney 1944), but also through other artefacts and values, both visible and invisible, that serve to label our behaviour. We create the culture, and in turn culture defines us and the ways we live in certain contexts. Through culture we derive assumptions about what is acceptable, justified or morally good. For example, culture can provide legitimate foundations for what is considered a legitimate agreement, solution or practice in a certain context (see for example, Park 2005).

Culture is not only multidimensional as a concept but is also able to be perceived at different levels of societies. Culture can be perceived, for example, at the national, regional, industrial, subcultural, organisational, departmental, functional, and team levels, which are always interactively influencing one another (Alvesson and Berg 1992). National cultures are characterised as powerful constructions (Stevenson 1997) marked by complexity (Fang 2015). They are often summarised by simplifications, such as having 'collectivist' or 'individualistic' orientations. However, within national cultures there are multiple other cultures, such as those of ethnic minorities or regions (Bauman and May 2001). Within organisation studies, the concept of organisational culture is extensively used and debated. In the classic definition, organisational culture involves visible artefacts, partly visible values and underlying, invisible core assumptions (Schein 1990). Organisational culture can powerfully influence the performance of organisations and the human action within them (Warrick 2017), but it can also shape individual experiences (Longman et al. 2018). However, organizational culture is not a coherent whole, but several subcultures have been identified within organisations (Sackmann 1992).

According to the discussion above, culture forcefully influences any processes of change in our societies, including societal and organisational transitions towards the CE. In existing literature, cultural factors are noted by some authors as a prerequisite for change towards the CE in organisations, though they are not explored in detail. For example, Salvioni and Almici (2020) suggest that the CE requires change in corporate culture that also engages stakeholders. Also, Kirchherr, Reike, and Hekkert (2017) identify organisational culture as one of the main barriers in

transitions towards the CE. Despite these mentions, there is scant explicit research on the cultural element of the CE.

Previous CE studies use the term social CE, as the CE is often connected to sustainability, which includes economic, environmental and social elements. Therefore, in the following section we use the term social CE and highlight four aspects of it based on previous studies. First, the social aspects of the CE are studied from a rather limited perspective and are often connected with the economic dimension. For example, Geissdoerfer et al. (2017) state that the only social aspects of the CE that are studied include job creation and efficient tax systems (see also, D'Amato et al. 2017). In addition, Geissdoerfer et al. (2017) and Schöggl, Stumpf, and Baumgartner (2020) point to previous CE studies on shared economy. Taking a closer look, Kirchherr, Reike, and Hekkert (2017) found that such studies often discuss social wellbeing.

Second, social CE studies tend to focus on consumers. For example, Coderoni and Perito (2020) consider consumers' acceptance of purchasing waste-to-value food. Bovea et al. (2018), in turn, analyse consumers' perception of product labels, along with CE icons and their symbolization of the CE, while Nainggolan et al. (2019) research consumers and their household waste sorting habits. Although there are some studies on consumers and the CE, Schöggl, Stumpf, and Baumgartner (2020) encourage further research, particularly into consumption patterns and behavioural aspects. This approach is studied in this book (see Chapters 7 and 9).

Third, previous CE reviews have recognised the role of collaboration in CE transitions. Geissdoerfer et al. (2017) highlight that, in order to succeed in implementing the CE, there is a need for stakeholder cooperation. D'Amato et al. (2017) and Schöggl, Stumpf, and Baumgartner (2020) share this focus on cooperation, as they note that the greening supply chain (i.e. collaboration in the supply chain) is a rather common CE research topic. In their recent reviews on the CE, both Schöggl, Stumpf, and Baumgartner (2020) and Sarja, Onkila and Mäkelä (2021) raise CE collaboration as an area deserving future research.

Fourth, inspired by the lack of research on the social dimension of the CE, Padilla-Rivera et al. (2021) dig deeper into this field via a literature review, finding 60 studies addressing it. Content-wise, the studies cover three thematic areas: labour practices and decent work; society (including human rights); and product responsibility. Inside these larger themes, the most covered subthemes

are: employment; social inclusion; sharing economy; participation and local democracy; and health and safety.

3. Materials and methods

3.1 Interviews

Our empirical material consists of 68 interviews with 71 Finnish CE experts (see Appendix for interview data). The experts represented both public and private organisations (see Table 2). The public organisations included ministries, cities and regional councils. These organisations are the key promoters or stakeholders of the CE in Finland. The titles of the interviewees varied from directors and managers to advisors. Other interviewees represented different types of private manufacturing and service organisations and industrial federations. These organisations are considered CE front-runners in Finland. The size of the private organisations varied from start-ups to large multinational companies. In these organisations, the interviewees were typically CEOs or other directors. Both women and men were interviewed. The duration of the interviews varied between 27 and 100 minutes. The interviews were either conducted face-to-face, often at the interviewee's location, or via the internet using either Zoom or Skype.

Table 2 Types of organisations the interviewed experts represented

Public / private organisations	Organisation type	Number of interviews
Public organisations	Municipalities and regional councils	8
	Ministries and other governmental organisations	6
Private organisations	Service companies	18
	Manufacturing companies	33
	Industrial federations	3

The interviews were semi-structured. The themes covered in the interviews included the interviewee's background, CE practices in the interviewee's organisation and CE implementation in their line of business and in Finland overall. All these themes were covered in every interview, yet the exact questions used in each interview differed due to time limitations and the expertise of the interviewee. All the interviewees gave their permission to record the interview. Later the interviews were transcribed.

3.2 Analysing the data

Transcribed interviews were thematically analysed. The analysis focuses on those parts of the transcripts where the interviewees discuss the cultural aspects of the CE. In practice, this meant multiple rounds of reading and coding the interview transcripts. The program Atlas.ti was used to assist in the coding. Working from the literature on cultural perspectives, we identified the following questions, which we used in the coding:

- What was the role of values?
- What kind of cultures were mentioned?
- What was the role of attitudes?
- What was the role of education and awareness building?
- Which stakeholders were mentioned in relation to the CE?
- What kind of cooperation was performed with the stakeholders?

4. Results

The analysis of the interviews led us to identify that the discussion of the cultural dimensions of the CE circled around the change needed in order to implement it. The interviewees were unanimous in asserting that our society needs systemic change toward the CE. However, the interviewees also concurred that the change process needs to be made easy. For example, the CE was seen as an opportunity to create ways to ease daily life: thus, complicated attempts to implement the CE will not thrive. Although the need for change was recognised, many of the interviewees talked at length about the resistance to change and even the fear of change among those people less active in CE discussions. The interviewees identified that some individuals and even certain industries are reluctant to change. One example in relation to shared economy was the role of insurance companies. If you share your car and then an accident happens, does your insurance compensate you? These old habits and structures can prevent CE applications from spreading. Furthermore, the change discourse addressed three areas of interest (the change in values and attitudes, raising awareness and knowledge of the CE and cooperation and solidarity in implementing the CE). These aspects will be discussed in the following section.

First, a change in values and attitudes is needed in order to successfully transition to the CE. On this topic, the interviewees gave mixed answers. Some of the examples mentioned by the interviewees were the emergence of pro-CE and pro-environmental values among their customers and individuals in general. They also listed actions that they themselves undertook in order to promote the CE and highlighted recently adopted ways of acting greener. They also often named their company or the owners of their company as bearing values that promote the implementation of the CE. However, other interviewees mentioned that we still need a larger and wider change of values across society to truly make the CE change, and they perceived the inclusion of everybody in the change as a prerequisite for the success of such transitions. In addition, a few interviewees mentioned that there are industries and companies that do not hold sustainable values. These companies focus on profit maximisation and often see the CE only as an extra cost.

The second theme covers both the awareness and knowledge of the CE. The increase in awareness was mentioned as vital for global CE transitions to occur. Awareness refers to the general understanding of the concept of the CE. On the one hand, the concept is seen as a difficult one. The interviewees were worried about how to make consumers understand the CE and its various elements. On the other hand, they noted that awareness about these issues was already increasing. Nevertheless, they propose that consumers make their purchasing decisions based on emotions and feelings, while businesses base their decisions often only on financial considerations. Often the interviewees gave examples of the ways they raised awareness of the CE among their stakeholders, thus aiming to include them in the change. They participated in different meetings, gatherings and conferences to give speeches on the CE and to meet new people. In addition, the studied companies were members of different networks, non-profit organisations and federations (local, national and international), and each targeted general awareness of CE. Furthermore, the interviewees mentioned that occasionally they still needed to persuade customers that their product or service is a better option in comparison to a non-CE product; this was one way they increased the awareness of the customers. Knowledge of the CE is closely linked with awareness. The main difference between these two concepts is that knowledge is directly connected to the formal education system. In relation to knowledge, the interviewees were rather unanimous. It was generally held that the level of knowledge and education is high in Finland. This fact means, for example, that engineering knowledge and innovations in the CE are prolific. This was considered a potential success factor for CE implementation in Finland.

Finally, cooperation and solidarity was also identified as a key success factor. All the interviewees talked at length about cooperation with different parties. It was a generally held perception that one cannot bring change by working alone. Thus, solidarity did not refer here only to a sense of togetherness created through a shared orientation toward changes but also a collective responsibility to create those changes. Four typical approaches to such cooperation were identified. First, many companies cooperated through their supply chains. For example, companies needed cooperation with suppliers in order to obtain recycled material to produce their products. Moreover, they also needed to cooperate with the customers and even their customers' customers in order to close the loop and gather used products to use as new raw materials. Second, the companies cooperated in particular with other companies within their business sector. This teamwork was typical in cases where challenges to the CE were so considerable that it was not possible for an individual company to solve them. In such instances, cooperation also included that industry's federation. Third, new combinations of industries produced new cooperative partners and methods. This was especially true in the case of CE product innovations. Furthermore, cooperation with the public sector was often mentioned. For example, municipalities were often seen as important partners, as the decisions they make can be important in the CE transitions. For example, they may follow CE principles in the development of new urban areas, as was visible in our study for the city of Espoo's Kera or Tampere's Hiedanranta areas. Fourth, the companies and different organisations were eager to take part in different CE projects together with various research institutions. Similarly, the companies offered thesis projects for students from various educational institutions. While the interviewed experts emphasised cooperation, they were also able to name either companies or industries unfamiliar to such cooperation and eager to preserve their current way of operating. Their inclusion in the direction of change was seen as a prerequisite for a societal transition towards the CE.

We have summarised our results in Table 3. Each identified cultural aspect is briefly discussed from the point of view of catalysts and obstacles, along with the related inclusion features. In general, catalysts are existing visible change in values and in awareness, as well as tangible ways of cooperating. Obstacles are largely related to the kind of human action that has not yet adopted changes towards the CE. From the point of view of inclusion, however, the interviewees did not want to construct opposite views with other stakeholders, but instead stressed the need for the inclusion of all the actors within the society in the societal transition towards the CE.

Table 3 Summary on the catalysts and obstacles on cultural CE transitions

Identified cultural aspect	Catalysts	Obstacles	Inclusion
Values and attitudes	Change in pro-environmental and pro-CE values is already visible.	Large majority still does not hold very pro-environmental values.	Inclusion of the majority is a prerequisite for the CE transitions, but it is not yet happening.
Raising awareness and knowledge of CE	Awareness of CE is increasing. The interviewed experts acted as change agents and promoted the development of awareness by setting an example. The level of knowledge is high in Finland.	The concept of CE was assessed as being difficult to truly comprehend.	Awareness promotion needs to include larger audiences in CE transitions. Currently, inclusion is not happening yet.
Cooperation and solidarity in CE	Active cooperation with various stakeholders in CE among the interviewees.	Some businesses were seen as reluctant to change and therefore operating business-as-usual.	Inclusion of reluctant business is a prerequisite for CE transitions, but it is not yet happening.

5. Discussion and conclusions

In this paper, we analyse the cultural aspects that influence CE implementation in Finland. We demonstrate that while the interviewees discussed multiple issues, all of them were linked to the need for change. The interviewees recognised in particular the need for a change in values and attitudes toward the CE, awareness and knowledge of the CE and cooperation and solidarity in CE actions in Finnish society.

In our findings, three aspects drew our interest. First, it is both interesting and encouraging that the interviewees were unanimous in recognising the need for change in order to achieve the CE transitions. The unanimousness can be explained by the fact that our interviewees were either the front-runners of CE implementation or active stakeholders in it. However, the interviewees did acknowledge that such change can be frightening, as it fundamentally challenges our ways of living. This admission parallels the findings of Hobson (2020). In turn, some of the interviewees saw here an opportunity to create services that will make everyday life easier.

Second, cooperation between different parties was a dominant theme in the interviewees' answers. Indeed, none claimed that they would be able to solve or implement the CE transition by themselves. Besides traditional ways of cooperating, namely cooperation with their supply chains,

the interviewees talked about cooperation with new partners and with other, even very distant business sectors. It is possible that new business opportunities will emerge from this new cooperation.

Third, from the point of view of solidarity and inclusivity, our study offers mixed results. On the one hand, the dominant role of cooperation is encouraging. Our interviewees proposed that we can implement the CE and solve global environmental problems with cooperation based not only on a sense of solidarity born from a shared orientation toward change but also on a sense of collective responsibility for making the change happen. On the other hand, the interviewees were also rather unanimous that there is currently some degree of polarisation in CE implementation. There are people and organisations that promote the CE operating alongside even larger groups of people and organisations maintaining the status quo. The change towards the CE is vitally important for the survival of the planet (Ellen MacArthur Foundation 2013a), such that we do not have time and resources to lose in confrontation. However, numerous industries, organisations and individuals remain hesitant, unaware or resistant to this change, while their inclusion is a prerequisite for the societal transition to progress.

The main limitation of this study is that is based on one country, given that our aim was to study the phenomenon of the CE specifically in Finland and the interviews were conducted there. Furthermore, Finland aims to be a leading CE country (Finnish Government 2019, 2021), so we believe that it is an interesting case from a global perspective. Going forward, we encourage to study of the cultural CE globally and see the need to conduct interviews in other countries, which will provide comparisons between countries' transitions.

Besides a call to widen the geographical reach of research on the cultural elements of the CE, our study raises three main avenues for future research. First, the use of language used to discuss cultural aspects needs to be further studied. In this study, we only named the different cultural aspects that the interviewees mentioned during the interviews. We did not place particular emphasis on how the interviewees discussed these aspects. Nevertheless, it is important to consider what kinds of words we use to discuss the needed change. For example, are we enthusiastic about the upcoming change and therefore able to encourage others, or are we sceptical or even afraid of change and therefore preventing the change?

The second area for future research is the cooperation needed in CE transitions. In this research, we were only able to scratch the surface of the topic of cooperation. The interviewees talked at length on the cooperative actions that they themselves take and what their own company is doing. This focus opens two avenues: 1) The active role of individuals in promoting change through cooperation and 2) the cooperation between different types of organisations.

A third area of future research is the societal structures that either catalyse or hinder CE transitions. Although we emphasise in our chapter the key role of individuals as decision-makers, we do recognise that individuals always operate in the wider context of society. Occasionally our interviewees mentioned structural issues, such as legislation and various legal requirements or old working habits, as obstacles to CE implementation. These aspects demand a deeper analysis.

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Appendix

Table 4 The list of interviewees

Date	Code	Organisation / Position	Face-to-face / Online	Duration	Male/ Female
8.5.2019	I1	Municipality Development Project / Project Manager	Face-to-face	49 min	F
22.5.2019	I2	Environmental Service Provider A / Business Director	Face-to-face	62 min	M
3.6.2019	I3	City A / R & D Director	Face-to-face	74 min	F
7.6.2019	I4	Government Agency / Programme Director	Online	65 min	F
11.6.2019	I5	Sustainable Development Company / Leading expert	Face-to-face	81 min	M
12.6.2019	I6	IT Company / Sales Director	Face-to-face	49 min	M
13.6.2019	I7	Industry Federation A / Environmental Manager	Face-to-face	61 min	M
13.6.2019	I8	Industry Federation B / Leading Expert	Face-to-face	81 min	F
17.6.2019	I9	City B / Environmental Manager	Face-to-face	65 min	F
18.6.2019	I10	Ministry A / Senior Expert	Face-to-face	77 min	F
18.6.2019	I11	Industry Federation C / Director	Face-to-face	57 min	M
18.6.2019	I12	Ministry B / Special Advisor & Special Advisor	Face-to-face	54 min	F & F
18.6.2019	I13	City C / Sustainable Development Director	Face-to-face	54 min	M
19.6.2019	I14	Municipality Development Project / Project Development Director	Face-to-face	72 min	M
20.6.2019	I15	Regional Council A / Innovation & Future Director	Face-to-face	58 min	M
20.6.2019	I16	Ministry C / Project Director	Online	73 min	F
20.6.2019	I17	Ministry A / Head of a Unit	Online	52 min	F
24.6.2019	I18	Fund / Leading Expert	Online	74 min	M
25.6.2019	I19	City D / Environmental Expert	Face-to-face	72 min	F
8.8.2019	I20	Regional Council B / Project Manager & Development Manager	Face-to-face	78 min	M & F
23.8.2019	I21	Environmental Service Provider B / Circular Economy Specialist	Face-to-face	39 min	F
27.8.2019	I22	Construction Company / Sustainable Business Director	Face-to-face	54 min	M
20.9.2019	I23	Manufacturing company A/ Business Unit Manager	Face-to-face	55 min	F
29.10.2019	I24	Manufacturing Company B / CEO	Face-to-face	28 min	M
29.10.2019	I25	Forest Industry Company A / Director of Sustainability	Face-to-face	42 min	F
29.10.2019	I26	Energy Company A / Sales Director	Face-to-face	35 min	M
5.11.2019	I27	Energy Company B / Bio Refinery Business Director	Face-to-face	61 min	M
7.11.2019	I28	Forest Industry Company B / Business Unit Director	Face-to-face	71 min	F
11.11.2019	I29	Manufacturing Company C / Chief Marketing Officer	Face-to-face	60 min	M
12.11.2019	I30	Car Sharing Company A / CEO	Face-to-face	49 min	M
13.11.2019	I31	Car Sharing Company B / Marketing & Sales Coordinator	Face-to-face	45 min	F

18.11.2019	I32	Forest Industry Company C / Manager, Environmental Production Support & Responsibility Director, Strategic Partnerships & Technology	Face-to-face	45 min	M & F
19.11.2019	I33	Forest Industry Company D / VP Sustainability	Face-to-face	86 min	M
27.11.2019	I34	Environmental Technology Company A / CEO	Face-to-face	65 min	M
10.12.2019	I35	Waste Management Company / CEO	Face-to-face	62 min	M
11.12.2019	I36	Forest Industry Company C – Subsidiary / Sustainability Expert	Face-to-face	31 min	F
12.12.2019	I37	Consulting Company A / Director, Circular Concepts	Face-to-face	31 min	F
9.1.2020	I38	Financial Company / Investment Director	Face-to-face	54 min	M
17.1.2020	I39	Service Company A / CEO	Face-to-face	68 min	M
4.2.2020	I40	Manufacturing Company D / CEO	Face-to-face	52 min	M
7.2.2020	I41	Non-profit Recycling Company / CEO	Face-to-face	100 min	M
19.2.2020	I42	Biogas Company A / CEO	Face-to-face	54 min	M
24.2.2020	I43	Material Recycling Company / CEO	Face-to-face	35 min	F
25.2.2020	I44	Environmental & Property Maintenance Company / SVP, Corporate Relations	Face-to-face	57 min	M
28.2.2020	I45	Service Company B / CEO	Face-to-face	37 min	M
28.2.2020	I46	Waste Management Company / CEO	Face-to-face	37 min	M
3.3.2020	I47	Online Platform for Second-hand Items A / CEO	Face-to-face	53 min	M
3.3.2020	I48	Textile Company A / Senior Vice President, Business Concept Development	Online	65 min	F
4.3.2020	I49	Outdoor Textiles & Items / CEO	Face-to-face	48 min	M
5.3.2020	I50	Furniture Company / Sustainability Manager	Face-to-face	69 min	F
5.3.2020	I51	Interior Design Company / Strategy Director	Face-to-face	50 min	M
5.3.2020	I52	Waste Container Manufacturer / Circular Economy Specialist	Face-to-face	45 min	F
9.3.2020	I53	Textile Company B / CEO	Online	27 min	F
11.3.2020	I54	Civil Engineering Service Company / Chairman of the Board	Online	40 min	M
12.3.2020	I55	Biogas Company B / CEO	Face-to-face	68 min	F
12.3.2020	I56	Manufacturing Company E / Business Director	Face-to-face	75 min	F
12.3.2020	I57	Manufacturing Company F / CEO	Online	40 min	M
16.3.2020	I58	Online Platform for Second-hand Items B / Marketing & Communications	Online	47 min	F
17.3.2020	I59	Online Platform for Second-hand Items C / CEO	Online	55 min	M
19.3.2020	I60	Manufacturing Company G / CEO	Online	69 min	M
26.3.2020	I61	Agriculture & Forestry Machine Retailer / CEO	Online	42 min	M
26.3.2020	I62	Design Retailer / CEO	Online	47 min	M
26.3.2020	I63	Composting Company / Business Manager	Online	27 min	M
31.3.2020	I64	Manufacturing Company H / CEO	Online	37 min	M
23.4.2020	I65	Textile Company B / CEO	Online	55 min	F
5.5.2020	I66	Textile Company C / CEO	Online	41 min	F
18.5.2020	I67	Textile Company D / CEO	Online	54 min	M
28.5.2020	I68	Manufacturing Company I / Director, Sales & Management	Online	91 min	M