

# Northumbria Research Link

Citation: Yawar, Sadaat and Kuula, Markku (2021) Circular economy and second-hand firms: Integrating ownership structures. Cleaner Logistics and Supply Chain, 2. p. 100015. ISSN 2772-3909

Published by: Elsevier

URL: <https://doi.org/10.1016/j.clscn.2021.100015>  
<<https://doi.org/10.1016/j.clscn.2021.100015>>

This version was downloaded from Northumbria Research Link:  
<http://nrl.northumbria.ac.uk/id/eprint/49189/>

Northumbria University has developed Northumbria Research Link (NRL) to enable users to access the University's research output. Copyright © and moral rights for items on NRL are retained by the individual author(s) and/or other copyright owners. Single copies of full items can be reproduced, displayed or performed, and given to third parties in any format or medium for personal research or study, educational, or not-for-profit purposes without prior permission or charge, provided the authors, title and full bibliographic details are given, as well as a hyperlink and/or URL to the original metadata page. The content must not be changed in any way. Full items must not be sold commercially in any format or medium without formal permission of the copyright holder. The full policy is available online: <http://nrl.northumbria.ac.uk/policies.html>

This document may differ from the final, published version of the research and has been made available online in accordance with publisher policies. To read and/or cite from the published version of the research, please visit the publisher's website (a subscription may be required.)



# Circular economy and second-hand firms: Integrating ownership structures

Sadaat Ali Yawar<sup>a,\*</sup>, Markku Kuula<sup>b</sup>

<sup>a</sup>Newcastle Business School, Northumbria University, Department of Marketing, Operations and Systems, City Campus East, Newcastle upon Tyne NE1 8ST, United Kingdom

<sup>b</sup>Aalto University School of Business, Department of Information and Service Management, Logistics, Runeberginkatu 22-24, Helsinki, Finland



## ARTICLE INFO

Handling Editor: Kannan Govindan

### Keywords:

Circular economy  
Second-hand firms  
Ownership structures  
Sustainable business models  
Sustainability

## ABSTRACT

Sustainable management of materials and resources provides sustainable solutions that form the basis for a circular economy (CE). However, there is limited empirical research that represents the effects of business models on the triple bottom line of sustainability and ultimately contribute to the implementation of CE systems. Therefore, in this study, we aim to explore the role of second-hand firms with different ownership structures and their specific impact in promoting CE. A multiple case study based on semi-structured interviews was conducted in Finland. Findings show that ownership structures and the underlying motivations determine the societal legitimacy and transparency of the second-hand firms that in turn contribute to reducing the environmental burden and improving societal well-being locally. Similarly, results reveal that collaborative approaches among second-hand firms and other stakeholders might improve the circular flow of products and materials, ultimately contributing to the implementation of CE. The main contribution of this study is that it highlights the role of second-hand firms and their ownership structures on the implementation of CE systems at the local level and therefore moves away from traditional business models where production firms are usually the unit of analysis.

## 1. Introduction

Circular Economy (CE) aims to achieve a balance between the three dimensions of sustainability, i.e., economy, environment, and society (Johansson and Henriksson, 2020). Previous research argues that CE is a holistic approach that reduces environmental and social burdens by using and conserving material and resources judiciously (Korhonen et al., 2018, Govindan and Hasanagic, 2018). CE is defined as economic systems that ultimately aim for sustainable development and are dependent on business models that operate at micro (products, companies, consumers), meso (eco-industrial parks) and macro levels (city, region, nation and beyond) (Geng and Doberstein, 2008, Kirchherr et al., 2017). The definition emphasises the broad scope of CE in promoting sustainability at different levels within society. It indicates that CE, by restoring and regenerating resources, results in the formation of sustainable ecosystems and communities (Geissdoerfer et al., 2017, Murray et al., 2017) and improves the overall well-being of societies at global, regional, and local levels (Geng et al., 2009, Stahel, 2013). Therefore, CE is one way of operationalising the three core dimensions of sustainability (Sauvé et al., 2016, Merli et al., 2018).

It is argued that a harmonious relationship between natural and economic systems is critical in improving product and process efficiencies through resource conservation, ultimately contributing to regional and local development (Stahel, 2016, Zhu et al., 2010). In essence, CE argues for linking societal well-being with resource efficiency and sound economic systems (Johansson and Henriksson, 2020, Stahel, 1982, 2013). Further, previous studies have argued for the introduction of sustainable and circular business models that focus on recovery of materials and reduction of waste (Lewandowski, 2016, Manninen et al., 2018) as an alternative for the implementation of CE systems. However, sustainable business models aiming towards the implementation of CE require a change in organisational processes that is driven by the ownership structures. Some studies have linked ownership structures in CE to leasing activities and its impact on the economic performance of the manufacturing firms (Ferasso et al., 2020, Zhao and Jagpal, 2006). However, very few operational and practical examples are available of sustainable business models that apply the concept of reuse (Bradley et al., 2020, McIntyre and Ortiz, 2016) and link it to the ownership structures in the CE literature.

Ownership structures of organisations determine the circulation of products within and beyond the supply chains. Stakeholders (including managers, top management, CEOs, and firm owners) form

\* Corresponding author.

E-mail addresses: [sadaat.yawar@northumbria.ac.uk](mailto:sadaat.yawar@northumbria.ac.uk) (S.A. Yawar), [markku.kuula@aalto.fi](mailto:markku.kuula@aalto.fi) (M. Kuula).

an integral part of organisational structures and are critical actors in implementing CE systems within society (Ghisellini et al., 2016, Wang et al., 2014). Owners have greater control over the decision-making process and therefore shape the underlying motivations of the firms accordingly which then might influence the implementation of sustainability. Further, ownership structures are critical in shaping sustainability perceptions in line with the demands raised by stakeholders and therefore also influences the accountability and transparency of the firms' operations (Aguilera, 2005, Alrazi et al., 2015, Stål and Corvellec, 2018). Further, Mascarenhas (1989) argues that managerial behaviour within each ownership structure is unique and therefore putting ownership structures at the centre of analysis can reap insights into the strategies and functioning of second-hand firms and their contribution to CE.

Therefore, second-hand firms that sell used products and in principle use the "reuse" concept of CE are rarely at the centre of analysis despite their relevance to CE systems. Further, researchers have mostly used higher level constructs such as the development of eco-industrial parks while exploring the role of CE in sustainable systems (Geng and Doberstein, 2010, Yuan et al., 2006,) wherein studies focusing on economic and ecological dimensions dominate and the social dimension of sustainability is often overlooked (Masi et al., 2018, Moreau et al., 2017). Based on the above observations, in this study we explore the role of second-hand firms and their ownership structures and assess their impact on implementing a CE agenda at the local level. In doing so, we seek to answer the following question:

How do second-hand firms and their ownership structures impact the implementation of CE systems?

We consider second-hand firms as sustainable business models for two reasons. Firstly, they generate social value that contributes to the development of equitable societies (Evans et al., 2017, Lüdeke-Freund et al., 2018, Reike et al., 2018), especially when operating at the local level. Secondly, these firms are socially conscious organisations that take sustainability concerns of societal stakeholders (NGOs, governments, communities, civil society actors and the ultimate consumers) seriously, and therefore, strive towards developing sustainable societies, which the CE aims for (Evans et al., 2017, Pandey and Gupta, 2008).

The main contribution of this study is that it brings the role of ownership structures and their underlying motivations into the CE debate. We show that CE implementation is directly affected by ownership structures and indirectly influenced by the legitimacy, transparency and accountability issues. Similarly, we argue that the duality expressed by NGO owned second-hand firms (philanthropy and improved economic performance through market presence) and the dominant logic of managing ecological and economic issues in municipally run second-hand firms is an outcome of ownership structures. Further, we illustrate that economic motivations take precedence over the sustainability issues in the absence of legitimacy and accountability in privately owned second-hand firms. We strengthen the argument that collaborative approaches and multi-stakeholder engagement play a critical role in the implementation of CE locally.

The article is organised as follows: Firstly, a literature review is presented wherein the connections between CE, sustainable business models, second-hand firms and ownership structures is highlighted. It is followed by the presentation of methodology describing the data collection and analysis methods. In the final sections, findings and discussion are presented followed by the limitations and future research avenues.

## 2. Literature review

Detailed explanations on the origins and development of CE are provided in the previous literature (see Geissdoerfer et al., 2017, Murray et al., 2017). The principal argument in these studies is that CE derives

its origins from the ideas of general system theory (Boulding, 1966, Von Bertalanffy, 1950), and is built on concepts such as industrial ecology and environmental economics. A substantial amount of literature on CE emphasises the relationship between environmental ecology and the economic systems (Ghisellini et al., 2016). Geng and Doberstein (2008) argue that economic and natural systems interact with each other and therefore sensible use and reuse of natural materials and resources at various levels in the ecosystem results in robust economic systems (Johansson and Henriksson, 2020, Urbinati et al., 2017).

Previous studies have argued about the similarities between CE and other concepts such as industrial ecology, closed loop supply chains and reverse logistics and highlight their emphasis on implementing the 4Rs i.e., reduce, reuse, recycle and recover to improve ecological efficiency and resource conservation (Ghisellini et al., 2016, Kalmykova et al., 2018, Lüdeke-Freund et al., 2019). Reuse is considered to be one of the basic principles of CE (Ghisellini and Ulgiati, 2020) and it represents the importance of reducing the exploitation of virgin raw materials and resources (Govindan et al., 2015, 2018, Zink and Geyer, 2017,). "Reuse" is defined as the use of material or product for its intended purposes in its original form over multiple cycles (Ghisellini and Ulgiati, 2020, Marcos et al., 2021). It is argued that reuse of components reduces greenhouse gas emissions (Minunno et al., 2020). Similarly, firms engaging in the reuse business also create employment and contribute positively to GDP at the local level (Geng et al., 2009, Ghisellini and Ulgiati, 2020). More recently, the 6Rs framework (return, reuse, repair, recover, refurbishing and remanufacturing) has been applied to CE systems, integrating product modularity and waste reduction with three dimensions of sustainability thereby creating a closed loop for resource and material flow (Ghisellini and Ulgiati, 2020, Reike et al., 2018). Consequently, resource use is a critical component in CE as it ensures regenerating, capturing and retaining value from products that have already undergone usage (Bradley et al., 2020, Hopkinson et al., 2020). It encourages sustainability by emphasising better and minimal use of existing and available resources and implementing new methods of reuse (Ghisellini et al., 2016) that should improve societal well-being (Fehrer and Wieland, 2020, Johansson and Henriksson, 2020).

In recent years, many researchers have emphasised the social dimension of sustainability and argued for the inclusion of societal well-being as an important pillar in implementing CE systems (Fehrer and Wieland, 2020, Miles and Gold, 2021) thereby broadening the scope of CE. Masi et al. (2018) in their recent review on CE literature highlighted that the social dimension of sustainability is not well represented despite a focus on "systems thinking" in CE. Stahel (2016) argues that sustainable business models engaging in reuse and recycling provide a better understanding of CE implementation. However, Birkin et al. (2009) argue that new sustainable business models should be able to respond to the sustainability issues that are prevalent in society. Therefore, researchers argue that future studies involving sustainable business models should not only exhibit a circular flow of materials and resources, but also effectively represent the development of human capital at a local and global level and link it to the implementation of CE systems (Korhonen et al., 2018, Schröder et al., 2020). Schaltegger et al. (2016) defines sustainable businesses as the ones that keeps their economic, social and natural capital intact and operate beyond the organisational boundaries by adding, sustaining or delivering the value of the products to the ultimate stakeholders by capturing the economic value. This definition discusses the circularity of the products and inclusion of business models that go beyond the typical focal firm organisations producing goods and services. Based on the analysis of business models, Lüdeke-Freund et al., (2019) classify them into six major types and argue for the consolidation of these circular economy-based business models. Among them, they mention that reuse and redistribution models are those wherein the ownership of the product is transferred from the initial user to the second-hand user in commercial settings and improves both environmental and

economic performance. Below, we provide the linkages between sustainable business models such as second-hand firms, their ownership structures and link it to CE.

### 2.1. Linking second-hand firms, ownership structures and circular economy

Stahel (2016) argues that ownership structures are key determinants in the circulation of products within CE systems. A meta-analysis conducted by Sánchez-Ballesta and García-Meca (2007) found that ownership structures and governance systems affect the functioning of the firms. Similarly, Liu and Bai (2014) argue that a firm's composition determines its behaviour towards the development of CE systems and further emphasises that inefficient organisational and ownership structures act as an impediment in the implementation of CE systems. Also, ownership structures of organisations are driven by underlying motivations (Wang et al., 2014) and the philosophies of individual managers and organisations. For example, the approach of organisations that focus on economic rationalisation towards sustainability is different from the ones where sustainability is inherent in corporate philosophy. Similarly, it is argued that underlying factors such as institutional context determine the functioning of ownership structures and influences the sustainability activities taken up by the firms (Darnall and Edwards, 2006).

Reike et al. (2018) places second-hand firms in the reuse category and defines them as those systems where ownership structures are involved in bringing products back into the economy after their initial use. Second-hand firms are perceived as business models that capture, maintain and restore value and create profit by selling the used products at the local level. The emergence of second-hand firms and their respective supply chains globally is a change that has shifted the focus towards used goods and necessitated the ways of reusing the products and resources (re-use loop) thereby effectively reducing the overall burden on the environment (Rogers et al., 2010, Svensson, 2007). Second-hand firms allow for the retention of product in the ecosystem for a longer time and therefore decrease the usage of virgin material and resources and reduce the related costs of product disposal (Urbinati et al., 2017). This is in line with the requirements of stringent legislation promoting the extension of product life cycles, thereby reducing disposal costs incurred through incineration and landfills (Urbinati et al., 2017). It is argued that apart from the positive environmental impacts, there are also societal implications of second-hand firms as they fulfil the needs and aspirations of those aiming to improve their living standards (Rogers et al., 2010, See Beh et al., 2016). Further, second-hand firms engage in the redistribution of goods locally and globally and in doing so, they contribute positively to the respective economies while providing sustainable solutions. It is interesting to note that at the local level, second-hand firms maintain and conserve the original value of the product and transfer the same value by selling it to consumers who crave, but do not have the capacity to buy high quality branded products that are expensive, thereby providing them an opportunity to improve their lifestyles.

Based on the arguments presented above, we contend that second-hand firms facilitate the flow of used goods and the related information between the firms and the communities. Besides, second-hand firms retain and maintain value and create profit by selling the used products. Therefore, by applying the concept of reuse, we consider second-hand firms as business models that will improve our understanding about what Reike et al. (2018) calls the slowing down and dematerialisation of the loops that act as an enabler in the implementation of CE.

## 3. Research setting and methodology

A qualitative study using a case study approach was considered appropriate to address the research question. Further, for this study,

a case study approach was important as we were exploring the “why” and “how” questions that would be helpful in testing the existing notions and creating knowledge (Yin, 1994, 2003) in the field of CE. Multiple inductive case studies were conducted since it allowed us to obtain varying amounts of information as we aimed at getting more detailed insights. Moreover, a multiple case studies approach reduces observer bias and improves the external validity of the research (Voss et al., 2002). While maintaining the balance in the number of case studies, we selected six studies to capture the depth, variabilities and complexities of the research question (Eisenhardt, 1989, Yin, 1994, 2003). Purposive sampling was used to select the case studies. The unit of analysis was individual organisations that operated second-hand firms in Finland. Finland was chosen for this study due to the presence of vibrant second-hand firms operating at the local level that facilitate the reuse of the products in a developed country (Korsunova et al., 2021, Sihvonen and Turunen, 2016).

The sample was carefully selected based on a previous understanding of CE research. For example, only firms that had a strong market presence, captured significant market share, and are well known to the customers were included in the study. We included only one big private player since it was operating in multiple locations while the rest of the private players were operating on a smaller level. We excluded the smaller for-profit firms as they had limited recognition among Finnish consumers and did not contribute significantly to the local economy. We revisited the research question several times before we reached the research question specific to this study as is done in typical case study related research. Below, we illustrate the details of individual case studies in Finland that were important market players and formed the sample of our study.

### 3.1. Cases description

The sample in this study consists of three types of second-hand firms that can be classified as consumer-to-business-to-consumer (C-to-B-to-C) type, wherein the buying and selling occur between secondary, tertiary, or nth buyers and sellers respectively through a bricks-and-mortar shop. The ownership of the firms differed from each other. In total, six cases were chosen that represented different ownership structures. The sample consisted of stores owned by NGOs (four cases represented as firm N1, N2, N3 and N4 respectively). Each of these NGOs were private, voluntary organisations and non-profit making entities that operated locally and internationally (Vakil, 1997). Further, the sample consisted of second-hand shops owned by a private owner (one case represented as firm P). Private organisations were non-voluntary, profit-making organisations that are owned by an individual or by a group. Similarly, one case represented as firm M was owned by the local municipality and had an elected board that engages in decision-making. All the selected firms in the sample had different control and ownership structures and sold used clothes, toys, furniture, household and electronic items and sports equipment. The number of stores owned by each firm differed and therefore the number of employees and the turnover of the companies varied. All these firms operated locally and internationally. We excluded the second-hand firms that operated explicitly through social networking sites such as Facebook or Twitter since similar studies on electronically operated C-to-B-to-C firms in Finland were recently undertaken by Sihvonen and Turunen (2016). Therefore, only those second-hand firms that owned bricks-and-mortar shops and showrooms were included for this study. The details of the cases are described in Table 1.

### 3.2. Data collection

As a first step, an interview protocol was prepared, which contained all the questions relevant to the collection of primary data as well as details about the second-hand firms (see Appendix 1). The

**Table 1**  
Details of the case studies.

Name	Ownership	No. of stores	No. of employees	Turnover (Mil. Eur.)	Activities	Mission/Motivation
Firm N1	I-NGO	11	565 (permanent and temp.)	9.6	Collection, sorting and sales	Philanthropy, sustainability
Firm N2	I-NGO	29	500, 130 (in-store), 60 (voluntary), 30 (admin)	8.0	Collection, sorting and sales	Philanthropy, sustainability
Firm N3	I-NGO	16	260 (Permanent and temp.)	13.2	Collection, sorting, and sales	Philanthropy, sustainability
Firm N4	I-NGO	25	400, 110 workers in flea markets	4.3	Collection, sorting, and sales	Philanthropy
Firm M	Local Municipality	6	300 (Permanent and temp.)	6.5	Collection, sorting, sales, refurbishment	Promote sustainable economy
Firm P	Private	2	8 permanent employees	0.9	Collection, sorting, refurbishment, sales	Business and sustainability and commercial

six semi-structured interviews (one with each organisation) were conducted between January and April 2018. Instead of multiple interviews, which in this case would have taken months to confirm, we relied on using various sources of data collection to ensure the validity of the research. As a part of the data collection, a preliminary analysis of the firms' websites was performed to obtain corporate reports and findings. Site tours, in-depth observations, and other sources of information such as brochures, press releases, blogs and videos were used to increase the validity of the data and research. This analysis was followed by detail interviews with the organisations that lasted for 60–90 min. Information from these multiple sources provided insights into various sustainability issues that the firms were carrying out. Field notes were taken to ensure that minor details were also available later for the data analysis. To improve the validity and reliability of the research and to derive meaningful inferences from the multiple data sources, a data triangulation was carried out (Barrat et al., 2011; Eisenhardt, 1989). Interviewees were mostly CEOs, head of operations and the proprietor of the company who were working for many years in the organisation, directly handling the business processes and who had extensive knowledge about the operations of the firms.

### 3.3. Data analysis

The processes of data collection and analysis were carried out simultaneously to ensure that relevant data was used to address the research question. It helped in making adjustments and clarifying the construct validity of the study. To obtain in-depth insights into the findings, we carried out “within” as well as a “cross-case” analyses. It allowed us to compare and contrast the patterns and themes emerging from the review of the cases. The interviews were tape recorded and transcribed. We developed the coding scheme through an iterative process where initially a deductive process was adopted to develop the codes based on the extant literature on CE (e.g. reuse, waste reduction, greening, community service). Similarly, based on the emergent coding scheme (Stemler, 2000), some codes were derived inductively as a process of the field research and during the process of data analysis (e.g. transparency, accountability, stakeholder involvement). During the content analysis, both open and axial coding was followed. To avoid subjectivity bias, and to improve the inter-rater reliability, interviews were transcribed and coded by both the researchers of this study (Campbell et al., 2013). Mutual consultations were carried out between the researchers to agree on a final set of constructs that were relevant to this study (Seuring and Gold, 2012).

## 4. Results/findings

Based on the data analysis, major findings of this study can be divided into two parts: a) the role of ownership structures and their underlying motivations and b) the role of collaborations in implement-

ing CE systems. We will discuss each in detail and make connections between them to present a holistic view of the findings. In doing so, we show ownership structures and the underlying motivations of second-hand firms indirectly affecting the CE implementation via legitimacy, transparency and accountability and the direct effect of collaboration among the second hand firms on the implementation of CE systems. Below, we will elaborate on each finding in detail.

### 4.1. The role of ownership structures, underlying motivations and CE implementation

Our results revealed a common sustainability thinking among the owners of all types of second-hand firms except the ones owned privately. The top management showed concerns for the reuse and recovery of material and stated these concerns as one of the reasons for running the second-hand business at the local level. However, on a more refined level, we found that underlying motivation and the ownership structures played a critical role in determining the sustainability initiatives.

In the case of NGO owned second-hand firms, we found that the ownership structures, i.e., the board of directors of the NGOs, are selected because of their proximity to religious organisations that are driven towards philanthropy and welfare of society in general. For example, NGOs that owned second-hand firms stressed that they believe in social well-being and creating sustainable communities as this is rooted in their organisational philosophy. Due to this belief, the owners usually put sustainability as their core operations strategy. They further stressed that sustainability for them is comprehensive and is not only restricted to environmental issues but also extends to the creation of just and equal societies, generating employment and contributing to the local economy. To achieve this, ownership of these organisations promotes sustainable supply chain operations that include systematic collection, restoration and sale of used goods to the ultimate customer. The owners argue that by engaging in sustainable operations, they not only recirculate the products but also create jobs at end node in the supply chains. Such systematic collection and sale of used goods indicate that second-hand firms have evolved over the years as successful sustainable business models that play an essential role in circulating the used products, improving the local economy, and ultimately contributing to local sustainability. Therefore, deep-rooted philanthropy and doing societal good motivates the NGOs to operate second-hand firms at the local level. Further, the owners of NGO shops believed their organisations enjoyed higher levels of ethicality and trust in comparison to other similar firms. The following quote from an NGO (Firm N1) describes the role of ownership structures and underlying motivation in promoting sustainability initiatives like CE:

*As an NGO run organisation, we have a strong emphasis on ethicality in our operations and therefore, both environmental and social issues that contribute to the well-being of the society dominate our philosophy. We commit to international humanitarian missions already, and now we want to help in whatever ways we can to the local populations. As an NGO owned firm, we have the responsibility to act responsibly and improve sustainability.*

The ownership structures in municipally owned second-hand firms is composed of board members appointed by the municipal authorities who drive the sustainability agenda of these organisations. For example, the appointment of directors for municipally owned second-hand firms is made by the local city council that has representation from different political parties and social organisations. Therefore, the sustainability initiatives that are taken up by the municipally appointed board members are driven by local sustainability agendas that are in turn influenced by social and political issues at a local level unlike the philanthropic motivations of NGO owned second-hand firms. The owners of municipality owned second-hand firms emphasise that the underlying motive is to serve the local society, but their organisational philosophy is to increase the use of used goods, minimise the reuse of material and resources and prolong the product life cycle. Therefore, sustainability is mostly concentrated towards minimising the environmental impact with a lesser emphasis on the social dimension of sustainability. The following quote from Firm M underlines the view of municipally owned second-hand firms:

*"We are municipally run second-hand firms, and therefore, the focus is more on issues related to the local population. Presently, we are focusing on environmental issues and to some extent on social ones. We want to reduce landfills and other related issues that affect sustainable growth."*

Finally, we found that in privately owned second-hand firms, since the ownership is restricted to private individuals, economic motivations take precedence over sustainability initiatives. For example, second-hand firms run by private individuals usually keep a low profile and do not have a clear view of sustainability. It is partly because there are no stakeholders involved in privately owned organisations, the owners show little concerns towards the sustainability issues. However, the private owners emphasise that their relatively low profile does not prevent them from actively engaging in selling the reused products, and therefore contributing to overall sustainability and the implementation of CE systems. The following statements from an owner (Firm P) sum up the individual motivations for engaging in sustainability initiatives

*"Second-hand firms like ours (i.e., private ones) do the business of used goods purely to earn some money, but we also think about environmental issues that are at the back of our mind. We could dump the trash somewhere but do not do that and instead pay personally to dispose the products to landfills. As a private second-hand firm, I do not have much to contribute, but I do think about sustainability and doing well to society. At least I am providing jobs to a couple of other people".*

#### 4.2. Importance of collaboration in CE implementation

Our study shows that the level of collaboration among the second-hand firms and other related stakeholders is an important determinant in driving sustainability initiatives that apply to CE also. We found that collaboration among different type of second-hand firms varied. For example, one case study (Firm N4) revealed that they collaborate with a state-owned research and development centre to innovate technologies and methods that could reclaim the cotton fabric from used and old clothes. Such collaborative efforts for innovative purposes are essential to reduce the consumption of raw material and resources and prolong the product life cycle of used products. However, our findings show limited collaboration between the local government and

NGOs that run second-hand firms. For example, municipalities offer logistics support in the form of providing spaces in urban localities to the NGO run second-hand firms to install their containers for the collection of used products. Beyond the above-mentioned collaborative approach, we did not come across any other collaboration between the second-hand firms and other relevant stakeholders. For example, NGO and municipally run second-hand firms have a rare exchange of information or ideas between them. Each organisation works independently and has its organisational strategy to improve the flow of used products in the firms and contribute to sustainability.

In the case of municipally owned second-hand firms, we found that there was no particular collaboration with other second-hand firms, but communication and information sharing was common among the similar stores owned by the municipality. However, we also found that the local government has exempted the municipally owned second-hand firms from the payment of value added tax as in the case of NGO owned second-hand firms. Further, since there is a considerable influence of local municipality on these stores, they get logistical support from the local municipality to find spaces to run the stores. Similarly, it is seen that these second-hand firms negotiate with other stores in the city to act as inventory or collection points for the used goods.

Similarly, privately owned second-hand firms (Firm P) mentioned difficulties in collaborating with other similar businesses. The owner asserts that there is no support from the state to promote the private company and no local players want to cooperate with them. Therefore, these firms almost carry out all the operations ranging from investing in inventory to buying the products and paying for disposing of the waste to the landfill. The following statement by Firm P describes the level of collaboration among the second-hand firms:

*We know that similar second-hand firms are operating in our area, but we rarely talk to each other or work with them. Sometimes, we exchange some product, but it is not a regular practice.*

## 5. Discussion

Based on the findings, we argue that the underlying motivations, organisational philosophies and the ownership structures of the respective second-hand firms determine their sustainability strategies and therefore ultimately influence the CE implementation. At the local level, it is seen that increasing the number of second-hand firms that behave as commercial entities is critical in circulation of used products and contributes to the local economy. The reasons for the proliferation of second-hand markets in the Finnish markets is dependent on two factors, i.e., legitimacy and transparency. Both factors are driven by underlying motivations and the organisational philosophy of the individual organisation. For example, NGO run organisations work towards promoting their own beliefs that are sometimes rooted in religious philosophy and therefore their underlying motivation is built on philanthropy, ethics, and community service at local and international level. Such motivations driven by the organisational philosophy end up in building the societal legitimacy of the NGO run firms (Blood, 2005). The societal legitimacy of NGO based firms is based on the reputation they acquire due to their work, i.e., building sustainable societies at the international and local level (Stefanini, 1995). Such reputation is sometimes reported by the NGOs themselves or spread through media and social networking sites that get instant recognition from the local population. Therefore, NGOs planning to expand their second-hand business at the local level will strive towards acquiring and maintaining similar levels of societal legitimacy and transparency. For example, to ensure a high level of transparency in their operations, NGO based second-hand firms engage in internal and external accountability measures that include auditing by professional auditors, relevant government authorities or through self-regulation, evaluation

and assessment (Ebrahim, 2003) respectively. Such efforts to improve societal legitimacy and transparency in their operations are the precedents for expanding the second-hand business locally, because the local populations look for these attributes when they go shopping for used goods. Besides, it can be argued that a well organised administrative structure, expertise, and knowledge in running sustainable organisations internationally also serves as a factor in proliferation of NGO run firms locally. Therefore, the expansion of NGO owned firms results in creating sustainable societies. For example, through collection and sale of used goods, they ensure the recirculation of the products. Similarly, by creating jobs (these firms employ rehabilitated youth in their operations) and boosting the economy through the sale of used goods, they address the issues related to all three dimensions of sustainability at the local level (Stahel, 2016).

The underlying motivation and the organisational philosophy of municipality based second-hand firms are to offer sustainable solutions that will have a direct impact on local populations. The municipally owned second-hand firms are implicitly linked to the domestic sustainability agenda and therefore focus on such issues. The management of local sustainability issues is linked to the ownership structures that emerge as a result of prevailing social and political scenarios locally, i.e. municipally owned organisations are embedded in the local social and political environment. Therefore, owners of municipally run second-hand firms takes decisions that are aligned with the aspirations of the stakeholders, i.e. the local society (in this case managing environmental issues). Such alignment could lead to an improved legitimacy and transparency for their actions among the local populations. However, it is interesting to note that municipally run second-hand firms are slow in proliferation in comparison to the NGO run second-hand firms, despite enjoying higher legitimacy among the local population and possessing far more resources and capabilities at their disposal. Perhaps municipalities take a cautious approach as they are under frequent monitoring and scrutiny of local governments and society in general to meet the expectations of legitimacy and transparency. Similar observations are made by Gallo and Christensen (2011), who argue that public organisations are always under scrutiny from multiple stakeholders. Also, expansion of the municipally run second-hand firms is slow as investing in such business models requires reaching a consensus among multiple stakeholders with conflicting interests. Nevertheless, these firms help in reducing the environmental burden by maximising the used product utilisation, and postpone the exploitation of virgin resources and material, ultimately contributing to the implementation of CE systems.

The privately owned second-hand firms in this study indicate economic motivation as the main reason for their existence and therefore they focus on economic dimension while contributing to the CE implementation albeit in a milder form. Profit maximisation and surviving the market competition are the key motivations for second-hand firms owned by private individuals. Further, it is important to note that ownership is restricted to a single owner in privately owned second-hand firms and therefore the accountability and legitimacy demands for their operations received much less attention from societal stakeholders. The privately owned second-hand firms do not aim for legitimacy, and their lack of visibility in the market also allows these firms to be less transparent with their activities. Valor (2005) makes similar arguments that accountability of firms is dependent on moral values of the individuals and that it should be aligned with the economic decisions of the business. Since there is no pressure to legitimise their activities and little accountability of their business processes, the owners of these second-hand firms show fewer concerns for sustainability while aiming to expand their business operations locally. Perhaps, one way of improving the legitimacy of these private second-hand firms is to hold them accountable for their operations through state intervention. For example, if the state offers financial and logistical support to these firms, then the pressure and responsibility of building legitimacy and accountability is stronger on the individual owner. However, as of

now, privately run second-hand firms, in the absence of legitimacy and transparency concerns, contribute inadvertently towards the implementation of CE systems at the local level by promoting environmental, social and economic sustainability. Considering these observations, we propose that

- 1) *Ownership structures and the underlying motivations of individual organisations impact legitimacy, transparency, and accountability of second-hand firms at the local level and therefore contribute to the sustainability agenda, and each has a role in implementing CE systems.*

Collaborative efforts are touted as critical for an operational circular economy (Bradley et al., 2020, Geng et al., 2016). It is argued that forging collaboration between external and internal stakeholders could significantly affect the implementation of “reuse” and “recycle” concepts and therefore reduces the natural resource consumption (Bocken et al., 2018, Hole and Hole, 2020). Based on these observations, we argue that more collaborative efforts between the product manufacturers and second-hand markets could be the first step towards effective recovery and restoration of the used material. These collaborative efforts might work in certain sectors such as metal or electronics more efficiently, but it is hard or even impossible in textile or furniture industries as explained by Loomba and Nakashima (2012). Therefore, in industries where it is difficult to forge collaborative approaches, second-hand firms serve as connecting links carrying important duties relating to reuse such as collecting, selling and disposing of the resources on behalf of the manufacturers. An alternative method that is increasingly seen for the product manufacturers (e.g. textile, steel or even furniture industries) is to engage in strategies such as second-hand retailing or product take back schemes instead of investing time and efforts in collaborative approaches (Rogers et al., 2010, See Beh et al., 2016).

Collaborative effort between the private and public sector, NGOs and the civil society actors is one way of enabling the implementation of CE (Bocken et al., 2018) as it creates new ideas about saving the consumption of resources. For example, information and knowledge exchange or even joint efforts between the stakeholders could enable the emergence of new sustainable business models akin to the second-hand firms. Our findings show that local NGOs, in collaboration with state owned research and development bodies are working closely towards innovative solutions. Such initiatives have the potential to change the consumption of resources and materials and will have positive ramifications on the sustainability efforts at local and international level (Govindan and Hasnagic, 2018, Hole and Hole, 2020). For example, the unique collaborative attempt between a second-hand firm run by a NGO (Firm N4) and government research institutes to reclaim cotton fabric from used clothes will reduce the burden on farmers who are heavily reliant on natural resources such as fresh water and chemicals for cotton production in different parts of the world. Such technically practical solutions are critical in improving the product lifetime, resulting in delaying the use of virgin materials and increasing the material flows of the used products (Box, 1983, Dahlbo et al., 2017). It would be interesting to see more co-creation of products from used goods and co-evolution of the firms, as it will challenge the existing narratives of CE by shifting the focus towards the potential role of non-commercial firms such as second-hand firms in the implementation of CE. Previous research has argued that improving collaborative efforts between different stakeholders and second-hand firms is difficult to achieve and sustain, especially when ownership structures differ (Dahan et al., 2010, Rondinelli and London, 2003). However, we argue that it is easier for firms that have similar values and aims to forge collaborative partnerships. In this study, similarity among the resources and capabilities of NGO and municipally owned second-hand firms is seen, making it easier for these firms to exchange knowledge and skills towards the better implementation of

CE systems. Yet, we see that second-hand firms are reluctant to collaborate, depriving themselves of the collective benefits they could reap through such approaches.

2) Collaborative approaches among different types of second-hand firms and interventions from stakeholders such as the “state” could improve the implementation of CE systems

Many researchers argue that implementing CE systems is counter-productive and expensive since used materials when pushed towards downscaling or upscaling either require more energy resources or dissipate higher levels of energy and often exhibits inconsistency with the laws of thermodynamics (Friant et al., 2020, Sauvé et al., 2016). However, second-hand firms are unique since they are not engaged in product dismantling procedures or reprocessing procedures to convert them into other materials. Instead, the focus of these firms is preserving the value of the product by systematic collection and sale of used goods, recirculating and ensuring the circular flow of the products, ultimately contributing to the sustainable environment (Bocken et al., 2014, Dahlbo et al., 2017). Also, the second-hand firms in this study address social and societal issues in the form of local job creation (Geissdoerfer et al., 2017, Parker and Weber, 2013). Besides contributing to environmental sustainability, the sale of used articles to economically disadvantaged people at affordable prices improve their living standards (Hopkinson et al., 2018). Therefore, second-hand firms create what Murray et al. (2017) and Geissdoerfer et al. (2017) call an intra-generational environmental and social equity, i.e., equity between different people within the current generation. Besides, the proliferation of second-hand firms has created local employment and positively contributed towards the local economy. The employment has provided opportunity of social inclusion and cohesion for local people who were otherwise deprived of jobs (Padilla-Rivera et al., 2020, Miles and Gold, 2021). Therefore, second-hand firms not only reduce the burden on the environment but equally contribute towards societal well-being as argued by many CE researchers (Geng et al., 2016, Genovese et al., 2017). Further, based on the findings we can argue that different ownership structures have different ways of handling sustainability challenges and yet contribute towards the implementation of CE systems in a local context. Fig. 1 presents the framework based on the findings and the discussion above.

The findings from this study provide insights to practitioners and policy makers and encourage them to integrate second-hand markets into mainstream debates and treat them as business models that contribute towards the implementation of CE. A proactive approach by the policy makers and the institutionalisation of sustainable business models could play a critical role in CE implementation at local and global levels (Kalmykova et al., 2018). The policy makers could identify the areas of thrust, especially when it comes to collaborative and supportive approaches for the expansion of second-hand firms as this

would promote innovation resulting in efficient use of resources and the circulation of used products. Therefore, providing an institutional environment that provides a level playing field to different types of second-hand firms can contribute to the implementation of CE systems locally (Dahlbo et al., 2017, Hole and Hole, 2020). Further, managers of second-hand firms can strategise their sustainability operations by collaborating and revisiting their motivations and organisational philosophies to create sustainable societies. The theoretical contributions of this study are twofold, it enriches the existing literature at the intersection of CE and sustainable business models, and it empirically highlights the critical role of ownership structure in second-hand firms and its influence in promoting CE systems.

## 6. Conclusion

The rise of second-hand firms to cater to the demands of local markets could be due to changing consumer behaviour, the growth of social networking sites, underlying motivations, management philosophies and ownership structures of the individual businesses. These factors, along with the global trend to reduce the use of virgin material and resources and creating job opportunities, will shift the spotlight to the implementation of CE systems. CE is a concept that is still emerging, and it has the potential to provide alternatives for sustainable use of material and resources by reconfiguring the sustainable business models. Such business models would create a sustainable advantage at local, regional, national, and international level. The practical viewpoint on the functioning of business models such as second-hand firms that deal with used products and their impact on the implementation of CE systems is inadequate. Such a limited view of CE literature is contrary to the recent calls made by researchers and practitioners in CE to broaden the understanding of sustainability in global and local supply chains. Building on this gap, we exploit the observations in the CE literature, and provide empirical evidence using second-hand firms and their respective supply chains as an example to explain the implementation of CE. So far, second-hand firms are treated as outliers in the sustainability efforts especially at a local level, however, they play an essential role in taking back the products from the consumers, increasing their usage, maintaining value and recirculating them ensuring the circular flow of products. In this study, we argue that despite significant differences in the ownership structures and underlying motivations, collaborative approaches between second-hand firms and other stakeholders could pave the way for important developments in addressing sustainability concerns and in implementing CE systems at the local level. Therefore, second-hand firms can serve as tools in tackling the sustainability challenge globally and could fulfil local sustainability endeavours.

The conception and operationalisation of CE as of now is still at the initial stages of development and is in search of definitional and operational constructs. Perhaps future research should focus on exploring the impact of more unconventional sustainable business models on

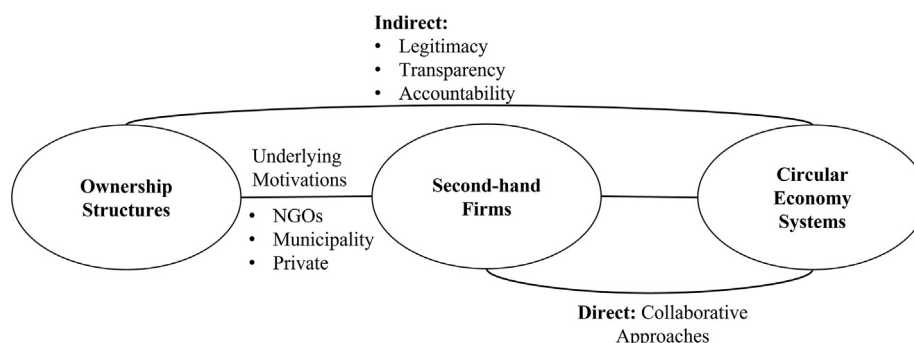


Fig. 1. Framework based on the findings and discussions.



CE, thereby adding to the existing knowledge and enriching the field of CE. It is seen that the accessibility to used products has risen over the years due to the proliferation of online markets resulting in drastic changes in the flow of used materials and resources in the ecosystems and impacting the implementation of CE systems. Therefore, the role of social networking sites such as Facebook, Twitter, eBay and various online renting sites should be investigated thoroughly as it might give more insights into the implementation of CE systems across the local and global level. A potential avenue of future research is to conduct a comparative study between traditional brick and mortar second-hand firms to the virtual second-hand markets and their respective contributions to the implementation of CE systems. Further, similar sustainable businesses such as those using a “sharing economy” model could be studied to understand its implications on CE systems. It is well understood by now that CE as a system is complex and diverse, and therefore it requires both theory building and theory testing efforts to get a better understanding of sustainability management. A rigorous discussion on consumer behaviour and different types of business models is required that would pave the way for more interdisciplinary research. Future research could do a comparative study between different “re-use” centric business models to understand their role in CE implementation.

The findings from this study are location specific and cannot be generalised, which is a significant limitation of this study. Further, the sample size used in this study is representative yet un-balanced and small and therefore a large-scale survey in various geographical areas and comparative studies of similar business models in other parts of EU and increasing the sample size could provide rich insights into the role of second-hand firms in promoting CE systems. Further, wider stakeholder involvement would have provided rich insights on ownership structures, and its linking to CE. Nevertheless, researchers could use these as preliminary findings and explore in depth the role of similar or other sustainable business models and their implications for the implementation of CE systems.

### Declaration of Competing Interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: We hereby confirm that there is no conflict of interests whatsoever for this submitted paper.

### Appendix 1

Interview guideline for the “integrating second-hand firms into the circular economy.”

#### General issues

1. Name and other details of the organization (size, employees, turnover)
2. Short description on a scale of operations
3. A brief description of the underlying motivations and philosophy
4. Ownership details

#### Questionnaire

Can you describe in detail about your business processes and operations (the collection, storing, distribution of the goods, specific product focus, global or local level, etc.)? Who are your customers and what do they specifically look at when buying used products? What is the primary purpose of your organization (profit making, non-profit motives, and philanthropy)? What other focus does the organization have?

What is the attitude of your organization towards sustainability or the circular economy in general?

What are the main social and environmental issues you address?

What is the impact of your operations?

Who drives the operations and takes decisions about implementing sustainability initiatives (top management, mid-level managers)?

What are the challenges you face in addressing sustainability issues? Who helped you in overcoming those challenges?

Is there any form of support from the top management or from a particular individual within the organization to promote new systems of sustainability such as CE?

Have you heard about CE and how do you view the circular economy, and what are your views about the role of your organization in implementing CE systems?

Based on your experiences, what are the aims you intend to fulfil when addressing sustainability issues?

Who are your competitors? What are the plans for the organization? How do you intend to stay and compete in the market and at the same time keep sustainability as the central theme?

Do you engage in collaboration with organizations and if yes, at what level?

Is there anything you want to say about the organization or the sustainability issues or even CE itself?

### References

- Aguilera, R.V., 2005. Corporate Governance and director accountability: an institutional comparative perspective. *Br. J. Manag.* 16 (s1), S39–S53.
- Alrazi, B., De Villiers, C., Van Staden, C., 2015. A comprehensive literature review on, and the construction of a framework for, environmental legitimacy, accountability and proactivity. *J. Cleaner Prod.* 102, 44–57.
- Barratt, M., Choi, T.Y., Li, M., 2011. Qualitative case studies in operations management: Trends, research outcomes, and future research implications. *J. Oper. Manage.* 29 (4), 329–342.
- Birkin, F., Cashman, A., Koh, S.C.L., Liu, Z., 2009. New sustainable business models in China. *Bus. Strategy Environ.* 18 (1), 64–77.
- Blood, R., 2005. Should NGOs be viewed as “political corporations”? *J. Commun. Manage.* 9 (2), 120–133.
- Bocken, N.M.P., Short, S.W., Rana, P., Evans, S., 2014. A literature and practice review to develop sustainable business model archetypes. *J. Cleaner Prod.* 65, 42–56.
- Bocken, N.M.P., Schuit, C.S.C., Kraaijenhagen, C., 2018. Experimenting with a circular business model: Lessons from eight cases. *Environ. Innov. Soc. Trans.* 28, 79–95. <https://doi.org/10.1016/j.eist.2018.02.001>.
- Boulding, K.E., 1966. The economics of coming spaceship earth. In: Jarret, H. (Ed.), *Environmental Quality in a Growing Economy*. John Hopkins University Press, Baltimore, MD.
- Box, J.M.F., 1983. Extending product lifetime: Prospects and opportunities. *Eur. J. Mark.* 177 (4), 34–39.
- Bradley, P., Parry, G., O'Regan, N., 2020. A framework to explore the functioning and sustainability of business models. *Sustain. Prod. Consum.* 21, 57–77.
- Campbell, J.L., Quincy, C., Osserman, J., Pedersen, O.K., 2013. Coding in-depth semistructured interviews: Problems of unitization and intercoder reliability and agreement. *Sociol. Methods Res.* 42 (3), 249–320.
- Dahan, N.M., Doh, J.P., Oetzel, J., Yaziji, M., 2010. Corporate-NGO collaboration: Co-creating new business models for developing markets. *Long Range Plann.* 43 (2-3), 326–342.
- Dahlbo, H., Aalto, K., Eskelinen, H., Salmenperä, H., 2017. Increasing textile circulation – Consequences and requirements. *Sustain. Prod. Consum.* 9, 44–57.
- Darnall, N., Edwards, D., 2006. Predicting the cost of environmental management system adoption: The role of capabilities, resources and ownership structures. *Strategic Manage. J.* 27 (4), 301–320.
- Ebrahim, A., 2003. Accountability in practice mechanisms for NGOs. *World Dev.* 31 (5), 813–829.
- Eisenhardt, K.M., 1989. Building theories from case study research. *Acad. Manage. Rev.* 14 (4), 532–550.
- Evans, S., Vladimirova, D., Holgado, M., Van Fossen, K., Yang, M., Silva, E.A., Barlow, C. Y., 2017. Business model innovation for sustainability: towards a unified perspective for creation of sustainable business models. *Bus. Strategy Environ.* 26 (5), 597–608.
- Fehrer, J.A., Wieland, H., 2020. A systemic logic for circular business models. *J. Bus. Res.* <https://doi.org/10.1016/j.jbusres.2020.02.010>.
- Ferasso, M., Beliaeva, T., Kraus, S., Clauss, T., Ribeiro-Soriano, D., 2020. Circular economy business models: The state of research and avenues ahead. *Bus. Strategy Environ.* 29 (8), 3006–3024. <https://doi.org/10.1002/bse.2554>.
- Friant, M., Vermeulen, C., Salmone, W.J.V., Salomone, R., 2020. A typology of circular economy discourses: Navigating the diverse visions of a contested paradigm. *Resour. Conserv. Recycl.* 161, 104917.

- Gallo, P.J., Christensen, L.J., 2011. An empirical investigation of organizational size and ownership on sustainability-related behaviors. *Bus. Soc.* 50 (2), 315–349.
- Geissdoerfer, M., Savaget, P., Bocken, N.M.P., Hultink, E.J., 2017. The circular economy—A new sustainability paradigm. *J. Cleaner Prod.* 143, 757–768.
- Geng, Y., Doberstein, B., 2008. Developing the circular economy in China: Challenges and opportunities for achieving 'leapfrog development'. *Int. J. Sustain. Dev. World Ecol.* 15 (3), 231–239.
- Geng, Y., Sarkis, J., Ulgiati, S., 2016. Sustainability, wellbeing, and the circular economy in China and worldwide. *Economics*, 76–79.
- Geng, Y., Zhu, Q., Doberstein, B., Fujita, T., 2009. Implementing China's circular economy concept at the regional level: A review of progress in Dalian, China. *Waste Manage.* 29 (2), 996–1002.
- Genovesse, A., Acquaye, A.A., Figueroa, A., Lenny Koh, S.C.L., 2017. Sustainable supply chain management and transition towards a circular economy: Evidence and some applications. *Omega* 66 (B), 344–357.
- Ghisellini, P., Cialani, C., Ulgiati, S., 2016. A review on circular economy: the expected transition to a balanced interplay of environmental and economic systems. *J. Cleaner Prod.* 114, 11–32.
- Ghisellini, P., Ulgiati, S., 2020. Circular economy transition in Italy. Achievements, perspectives and constraints. *J. Cleaner Prod.* 243, 118360. <https://doi.org/10.1016/j.jclepro.2019.118360>.
- Govindan, K., Hasanagic, M., 2018. A systematic review on drivers, barriers, and practices towards circular economy: a supply chain perspective. *Int. J. Prod. Res.* 56 (1-2), 278–311.
- Govindan, K., Soleimani, H., Kannan, D., 2015. Reverse logistics and closed-loop supply chain: a comprehensive review to explore the future. *Eur. J. Oper. Res.* 240 (3), 603–626.
- Hole, G., Hole, A.S., 2020. Improving recycling of textiles based on lessons from policies for other recyclable materials: A minireview. *Sustain. Prod. Consum.* 23, 42–51.
- Hopkinson, P., Zils, M., Hawkins, P., Roper, S., 2018. Managing complex global circular economy business model: opportunities and challenges. *Calif. Manage. Rev.* 60(3), 71–94.
- Hopkinson, P., De Angelis, R., Zils, M., 2020. Systemic building blocks for creating and capturing value from circular economy. *Resour. Conserv. Recycl.* 155, 104672. <https://doi.org/10.1016/j.resconrec.2019.104672>.
- Johansson, N., Henriksson, M., 2020. Circular economy running in circles? A discourse analysis of shifts in ideas of circularity in Swedish environmental policy. *Sustain. Prod. Consum.* 23, 148–156.
- Kalmykova, Y., Sadagopan, M., Rosado, L., 2018. Circular economy – From review of theories and practices to development of implementation tools. *Resour. Conserv. Recycl.* 135, 190–201.
- Kirchherr, J., Reike, D., Hekkert, M., 2017. Conceptualizing the circular economy: An analysis of 114 definitions. *Resour. Conserv. Recycl.* 127, 221–232.
- Korhonen, J., Honkasalo, A., Seppälä, J., 2018. Circular economy: The concept and its limitations. *Ecol. Econ.* 143, 37–46.
- Korsunova, A., Horn, S., Vainio, A., 2021. Understanding circular economy in everyday life: Perceptions of young adults in the Finnish context. *Sustain. Prod. Consum.* 26, 759–769.
- Lewandowski, M., 2016. Designing the business models for circular economy—Towards the conceptual framework. *Sustainability* 8 (1), 43.
- Liu, Y., Bai, Y., 2014. An exploration of firms' awareness and behaviour of developing circular economy: An empirical research in China. *Resources. Conserv. Recycl.* 37, 145–152.
- Loomba, A.P.S., Nakashima, K., 2012. Enhancing values in reverse supply chains by sorting before product recovery. *Prod. Plann. Control* 23 (2), 205–215.
- Lüdeke-Freund, F., Gold, S., Bocken, N.M.P., 2019. A review and basic typology of circular economy business model patterns. *J. Ind. Ecol.* 23 (1), 36–61.
- Lüdeke-Freund, F., Carroux, S., Joyce, A., Massa, L., Breuer, H., 2018. The sustainable business model pattern taxonomy—45 patterns to support sustainability-oriented business model innovation. *Sustain. Prod. Consum.* 15, 145–162.
- Manninen, K., Koskela, S., Antikainen, R., Bocken, N., Dahlbo, H., Aminoff, A., 2018. Do circular economy business models capture intended environmental value propositions. *J. Cleaner Prod.* 171, 413–422.
- Marcos, J.T., Scheller, C., Godina, R., Spengler, T.S., Carvalho, H., 2021. Sources of uncertainty in the closed-loop supply chain of lithium-ion batteries for electric vehicles. *Cleaner Log. Supply Chain* 1, 100006. <https://doi.org/10.1016/j.clscn.2021.100006>.
- Mascarenhas, B., 1989. Domains of state-owned, privately held, and publicly traded firms in international corporations. *Adm. Sci. Q.* 34, 582–597.
- Masi, D., Kumar, V., Garza-Reyes, J.A., Godsell, J., 2018. Towards a more circular economy: exploring the awareness, practices, and barriers from a focal firm perspective. *Prod. Plann. Control* 29 (6), 539–550.
- McIntyre, K., Ortiz, J.A., 2016. Multinational corporations and the circular economy: How Hewlett Packard scales innovation and technology in its global supply chain. In: Clift, R., Druckman, A. (Eds.), *Taking Stock of Industrial Ecology*. Springer International Publishing, Cham, pp. 317–330. [https://doi.org/10.1007/978-3-319-20571-7\\_17](https://doi.org/10.1007/978-3-319-20571-7_17).
- Miles, A., Gold, S., 2021. Mapping the social dimension of the circular economy. *J. Cleaner Prod.* 321, 128960. <https://doi.org/10.1016/j.jclepro.2021.128960>.
- Minunno, R., O'Grady, T., Morrison, G.M., Gruner, R.L., 2020. Exploring environmental benefits of reuse and recycle practices: A circular economy case study of a modular building. *Resour. Conserv. Recycl.* <https://doi.org/10.1016/j.resconrec.2020.104855>.
- Moreau, V., Sahaklan, M., Van Griethuysen, P., Vuille, F., 2017. Coming full circle: Why social and institutional dimensions matter for the circular economy. *J. Ind. Ecol.* 21 (3), 497–506.
- Murray, A., Skene, K., Haynes, K., 2017. The circular economy: An interdisciplinary exploration of the concept and application in a global context. *J. Bus. Ethics* 140 (3), 369–380.
- Padilla-Rivera, A., Russo-Garido, S., Merveille, N., 2020. Addressing the social aspects of circular economy: A systematic literature review. *Sustainability* 12 (19), 7912.
- Parker, B., Weber, R., 2013. Second-hand spaces: restructuring retail geographies in an era of e-commerce. *Urban Geogr.* 34 (8), 1096–1118.
- Pandey, A., Gupta, R.K., 2008. A perspective of collective consciousness of business organizations. *J. Bus. Ethics* 80 (4), 889–898.
- Reike, D., Vermeulen, W., Witjes, S., 2018. The circular economy: New or refurbished as CE 3.0? — Exploring controversies in the conceptualization of the Circular Economy through a focus on history and resource value retention options. *Resource Conserv. Recycl.* 135, 246–264.
- Dillard, J., Rogers, D.S., Rogers, Z.S., Lembke, R., 2010. Creating value through product stewardship and take-back. *Sustain. Account. Manage. Policy J.* 1 (2), 133–160.
- Rondinelli, D.A., London, T., 2003. How corporations and environmental groups cooperate: Assessing cross-sector alliances and collaborations. *Acad. Manage. Perspect.* 17 (1), 61–76.
- Sánchez-Ballesta, J.P., García-Meca, E., 2007. A meta-analytic vision of the effect of ownership structure on firm performance. *Corporate Gov* 15 (5), 879–892.
- Sauvé, S., Bernard, S., Sloan, P., 2016. Environmental sciences, sustainable development and circular economy: Alternative concepts for transdisciplinary research. *Environ. Dev.* 17, 48–56.
- Schaltegger, S., Hansen, E.G., Lüdeke-Freund, F., 2016. Business Models for Sustainability: Origins, present research and future avenues. *Organ. Environ.* 29 (1), 3–10.
- Schröder, P., Lemille, A., Desmond, P., 2020. Making the circular economy work for human development. *Resour. Conserv. Recycl.* 156, 104686. <https://doi.org/10.1016/j.resconrec.2020.104686>.
- See Beh, L., Ghobadian, A., He, Q., Gallea, D., O'Regan, N., 2016. Second-life retailing: a reverse supply chain perspective". *Supply Chain Manage.* 21 (2), 259–272.
- Seuring, S., Gold, S., 2012. Conducting content-analysis based literature reviews in supply chain management. *Supply Chain Manage.* 17 (5), 544–555.
- Sihvonen, J., Turunen, L.L.M., 2016. As good as new—valuing fashion brand in the online second hand markets. *J. Prod. Brand Manage.* 25 (3), 285–295.
- Stahel, W.R., 2013. Policy for material efficiency—sustainable taxation as a departure from the throwaway society. *Philos. Trans. R. Soc. A* 371 (1986), 1–19.
- Stahel, W.R., 2016. The circular economy. *Nature* 531, 435–438.
- Stahel, W. R. (1982). *The product life factor*, In Orr editor. *An Inquiry into the Nature of Sustainable Societies: The Role of the Private Sector (Series: 1982 Mitchell Prize Papers)*, NARC.
- Stål, H., Corvellec, H., 2018. A decoupling perspective on circular business model implementation. Illustrations from Swedish apparel. *J. Cleaner Prod.* 171, 630–643.
- Stefanini, A., 1995. Sustainability: the role of NGOs. *World Health Forum* 16, 42–46.
- Stemler, S., 2000. An overview of content analysis. *Pract. Assess. Res. Eval.* 7, 1–6.
- Svensson, G., 2007. Aspects of sustainable supply chain management (SSCM): Conceptual framework and empirical example. *Supply Chain Manage.* 12 (4), 262–266.
- Urbanati, A., Chirioni, D., Chiesa, V., 2017. Towards a new taxonomy of circular economy business models. *J. Cleaner Prod.* 168, 487–498.
- Vakil, A.C., 1997. Confronting the classification problem: Toward a taxonomy of NGOs. *World Dev.* 25 (12), 2057–2070.
- Valor, C., 2005. Corporate social responsibility and corporate citizenship: Towards corporate accountability. *Bus. Soc. Rev.* 110 (2), 191–212.
- Von Bertalanffy, L., 1950. An outline of general systems theory. *Br. J. Philos. Sci.* 1, 134–165.
- Voss, C., Tsikriktsis, N., Frohlich, M., 2002. Case research in operations management. *Int. J. Oper. Prod. Manage.* 22 (2), 195–219.
- Wang P., Che F., Fan S., Gu C. 2014. Ownership governance, institutional pressures and circular economy accounting information disclosure: An institutional theory and corporate governance theory perspective, *Chinese Manage. Stud.*, 8 (3), 487–501.
- Yin, (1994). *Case Study Research: Design and Methods*, CA, Beverly Hills, Sage Publications
- Yin, R.K., 2003. *Case Study Research Design and Methods*. Sage Publications, Thousand Oaks, CA.
- Yuan, Z., Bi, J., Moriguchi, Y., 2006. The circular economy: a new development's strategy in China. *J. Ind. Ecol.* 10, 4–7.
- Zhao, H., Jagpal, S., 2006. The effect of secondhand markets on the firm's dynamic pricing and new product introduction strategies. *Int. J. Res. Mark.* 23 (3), 295–307.
- Zink, T., Geyer, R., 2017. Circular economy rebound. *J. Ind. Ecol.* 21 (3), 593–602.
- Zhu, Q., Geng, Y., Lai, K., 2010. Circular economy practices among Chinese manufacturers varying in environmental-oriented supply chain cooperation and the performance implications. *J. Environ. Manage.* 91 (6), 1324–1331.