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A Just Transition to Circular Economy



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CHAPTER 2

Current just transition to the circular economy: main drivers and barriers

Chapter 2. Current just transition to the circular economy: main drivers and barriers

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Abstract

This chapter presents an overview of the main barriers and drivers to a just CE transition. Data collection has been performed by means of a search in the Scopus database. The search with the keywords "barriers and drivers", "Circular Economy", and "just transition" has identified 34 articles. It is interesting to point out that the timeframe of the published articles is short as the identified literature concentrated in the last five years. The main results show that different kinds of barriers and drivers exist for each actor of socio-economic ecosystems. Despite this, policymakers can play a critical role in defining appropriate policies to better exploit the existing opportunity (drivers) and address the main challenges (barriers). Therefore, the analysis of the main barriers and drivers to a just CE appears to be very important for providing helpful feedback to the policymakers that can be used to inform the definition of proper and effective measures, policies, and incentives.

Keywords: Circular Economy, Barriers, Drivers, Just Transition, Fairness, social impacts

This chapter aims to develop an outline of the main barriers and drivers to the transition towards a just CE with the purpose of providing useful knowledge about the factors that influence negatively and positively the implementation.

2.1 Introduction

The concept of CE has emerged as a pivotal societal shift in our approach to production and consumption, aiming to minimize environmental impacts, foster economic resilience and innovation and promote sustainable practices throughout the entire product life cycle (Galindo-Martin et al., 2021; Knäble et al., 2022). As the discourse on CE has evolved, there is a growing recognition that the transition towards a CE must not only address environmental concerns but also embrace a holistic perspective that includes social justice considerations (Purvis et al., 2023). This recognition has given rise to the concept of a "just transition," emphasizing the need to ensure that the transition to a circular economy has to be equitable, inclusive, and socially just (Ghisellini et al., 2021; Kirchherr et al., 2017; Mies and Gold, 2021; Pansera and Genovese, 2021;).

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Specifically, the shift to circular practices has the potential to disrupt traditional industries, impact employment structures, and create new economic opportunities. This necessitates a careful examination of the social consequences to avoid exacerbating existing inequalities.

The concept of a "just transition" recognizes that certain individuals, communities, or industries may disproportionately bear the burdens of this transformation. Workers in industries undergoing substantial changes, for instance, might face job displacement, and communities dependent on certain economic activities may experience adverse effects. Addressing these challenges requires proactive policies and measures to ensure that the transition is fair, inclusive, and considers the well-being of all stakeholders. By aligning environmental, economic, and social objectives, we can create a sustainable and resilient future where the benefits of circular practices are shared equitably across society.

Until now, the literature on the CE has mainly focused on enhancing comprehension of the CE concept and model, its origins, its definition (Henry et al., 2020; Uvarova et al., 2023), the incorporation of this new model into corporate practices (Ghisellini et al., 2023; Centobelli et al., 2020; Lüdeke-Freund et al., 2018), and, only lately, its broader societal implications (Calisto-Friant et al., 2020). However, social issues arising from the CE transition cannot be delayed, necessitating urgent action from policymakers, global society (Luthin et al., 2023), as well as scholars and academics (Valencia et al., 2023; Ghisellini et al., 2021). Put differently, there is a call to enhance the theoretical and practical framework of CE, broadening its discussion to include the social impacts of its transition (Luthin et al., 2023). More in general, it is important to underline that a just transition in the circular economy involves intentional efforts to integrate social equity into policy frameworks, business strategies, and community engagement. This includes providing support and opportunities for retraining and upskilling workers affected by industry shifts, creating inclusive business models, and considering the broader societal impacts of circular initiatives.

Based on the above, this chapter aims to shed light on the drivers and barriers to a just transition to CE through a systematic literature review. Hence, the findings of this chapter could be used by academics, policymakers and practitioners to facilitate a fair transition to circularity by proposing potential solutions for each obstacle.

2.2 Material and Methods

To evaluate the current state of research in the areas under investigation, this paper employs a Systematic Literature Review (SLR) methodology. In particular, a rigorous SLR is instrumental in generating robust knowledge about the existing body of literature in a specific research domain, contributing to the identification of research trends, paths and potential future research (Massaro et al., 2016; Petticrew and Roberts, 2006). As recommended by Tranfield et al. (2003), we adopted a manual filtering, which offers a reproducible process that helps reduce bias in the findings. In contrast to automated filtering, this method enables authors to transparently review and synthesize all relevant contributions, focusing on both quantitative and qualitative aspects.

We defined a research protocol to select information sources and tools for studying and analysing the contributions, as well as to discuss and investigate the results (Petticrew and Roberts, 2006). In line with other studies (Feng et al., 2017; Massaro et al., 2016), we conducted both bibliometric and content analyses to ensure the accuracy of the findings from the selected studies.

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Following established SLR guidelines (e.g. Easterby-Smith et al., 2015), our methodology comprises five different steps (**Figure 2.1**). More in detail, the initial step for a rigorous SLR is the formulation of research questions (Massaro et al., 2016), while the second one entails the creation and application of an SLR protocol. This protocol facilitates the identification of information sources to be utilized, the establishment of inclusion/exclusion criteria for paper selection, and the determination of the methods and tools to be employed during the exploration and synthesis of the selected articles (Petticrew and Roberts, 2006).

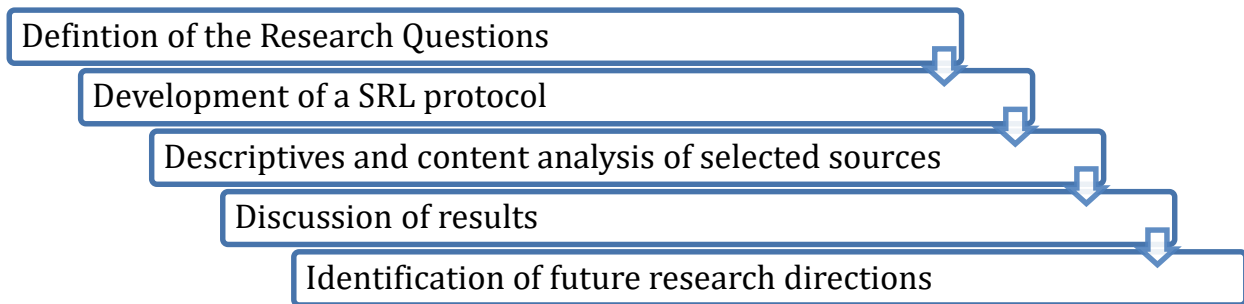


Figure 2.1: Main steps of our methodology

Regarding the third phase, we performed an SLR and a bibliometric analysis to improve the accuracy of the results obtained from the literature review (Secundo et al., 2020).

Based on the analyses carried out, we critically discussed the results obtained and identified a research agenda able to guide and inspire future research.

In the following section, the main steps of the SLR will be thoroughly explained.

2.2.1 Main steps for the paper selection

With regard to the paper selection, it is worth underlining that we decided to select papers from the Scopus database as it is the largest one and provides comprehensive scientific, technical, and social science materials across all relevant scientific literature (e.g. Thelwall, 2018; Waltman, 2016). Afterwards, we employed a search string that offers wide coverage to minimize the risk of excluding pertinent studies. The paper selection was realized until September 2023. This approach allows for a comprehensive understanding of the evolution of the relationship between CE, just transition and their related drivers and barriers to its implementation. In particular, we linked key search terms like "Circular Economy", "CE", "just transition", "fair transition", "barrier*", and "driver*" using boolean operators AND/OR. The asterisk in the search string represents truncation, enabling us to retrieve all relevant studies, regardless of term variants (e.g., "barrier" and "barriers").

Based on this strategy (**Figure 2.2**), we selected an initial sample of 34 English-language contributions published until September 2023. Furthermore, to narrow the focus on contributions closely aligned with the investigation's subject matter, two researchers independently analysed the 34 papers extracted from Scopus. A third researcher was consulted in cases of uncertainty (Cannavacciuolo et al, 2023). This analysis was based on the entire content

of the papers rather than just the abstract or specific sections. If a paper did not simultaneously address the concepts analysed, it was excluded from the sample. Following this process, 24 papers were ultimately selected, and three researchers collaborated to categorize the papers within the final sample.

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Subsequently, we conducted a descriptive and content analysis by calculating various variables (e.g., distribution of articles per year, citation indexes, top journals) and conducting an in-depth examination of the selected papers. This analysis allowed for the critical discussion of the results, leading to the formulation of a research agenda.

The descriptive analysis involved a comprehensive overview of the selected articles. Specifically, we considered the following viewpoints for this analysis:

- temporal evolution;
- top publication journals;
- the most influential authors;

2.3 Results

The final sample of papers includes 24 contributions for which a bibliometric analysis was performed to provide a general overview of the investigated topic. In particular, in this section, the results of the SLR are thoroughly discussed and organized into the following sections:

1. Bibliometrics

- Papers per year
- Papers per source
- Citations per year and top-cited papers

2. Content analysis of the sources

2.3.1 An overview of the selected papers: a bibliometric analysis

As depicted in Figure 1, the first paper in our sample concerning the analysis of barriers and drivers to CE and just transition implementation was published in 2018. In accordance with this, it is possible to claim that the time span is relatively short, proving that it is a quite recent topic dealt with in literature. Additionally, it is worth underlining that there is still a positive trend in the number of papers published, although there is not yet a strong increase in studies on these themes, showing that they are still underexplored. Despite this, this positive trend of publications indicates a growing interest among scholars in the analysis of drivers and barriers to a just CE transition, underscoring the novelty and relevance of this research area.

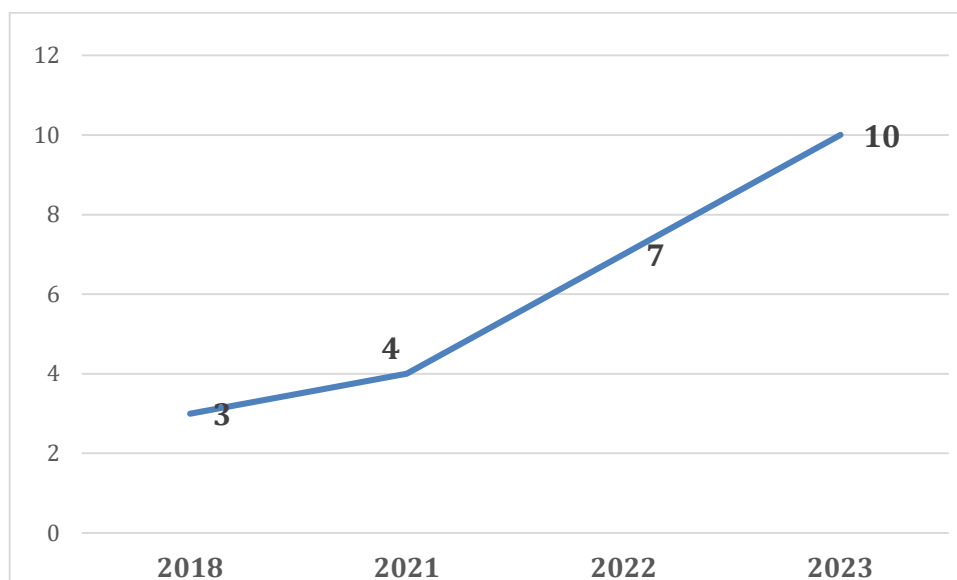


Figure 2.2 Papers trend publication over time

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As presented in **Table 2.1**, the publications in our sample span across various disciplines and are published in a diverse range of journals. Specifically, the fragmentation within the scientific community concerning drivers and barriers to a just transition becomes apparent when examining the journals in which articles from our sample are published. Notably, only 3 out of 14 journals have published more than one article related to this topic. These include the *Journal of Cleaner Production*, with four articles, followed by *Sustainability* and *Ecological Economics*, with three articles and two papers, respectively. It is evident that these journals offer diverse perspectives on these topics, with a particular focus on the environment, business and sustainability. This indicates that the concept of the just transition is explored from various angles.

Table 2.1 Journals per N° of published articles and citations

Journals	Number of papers per journal	Citations
Journal of Cleaner Production	4	371
Sustainability (Switzerland)	3	29
Ecological Economics	2	150
Business Strategy and Development	1	5
Circular Economy and Sustainability	1	8
Field Actions Science Report	1	1
Forest Policy and Economics	1	22
Journal of Responsible Innovation	1	12
Local Environment	1	4
Production Planning and Control	1	29
Renewable and Sustainable Energy Reviews	1	114
Resources, Conservation and Recycling Advances	1	19
Socijalna Ekologija	1	0
Sustainable Chemistry and Pharmacy	1	4

The remaining 11 journals have each published just one article, although in some cases, these articles have received a high number of citations. For instance, *Renewable and Sustainable Energy Reviews* published, in 2021, one article that garnered 114 citations, and *Production Planning and Control* published an article in 2018 that received 29 citations.

Table 2.2 provides a list of the top ten most cited papers and their respective citations per year (CPY). CPY is calculated by dividing the total number of citations by the number of years since the author or journal started publishing papers. In general, it is worth emphasizing that the most influential authors are Neves and Marques (2022), who published their contribution in the *Journal of Cleaner Production*, followed by a paper authored by Kirchherr et al. (2018) in the *Ecological Economics* journal. Moreover, to enhance the evaluation of authors' citation trends, it is crucial to take into account the Citations Per Year (CPY). This is because studies published more recently, as highlighted by Dumay (2014), naturally have had less time to accumulate citations. Consequently, this temporal factor can introduce bias into potential findings.

Authors	Year of publication	Title	Journal	Citations	CPY
Neves S.A.; Marques A.C.	2022	Drivers and barriers in the transition from a linear economy to a circular economy	Journal of Cleaner Production	341	170,5
Kirchherr J.; Piscicelli L.; Bour R.; Kostense-Smit E.; Muller J.; Huibrechtse-Truijens A.; Hekkert M.	2018	Barriers to the Circular Economy: Evidence From the European Union (EU)	Ecological Economics	150	30
Mutezo G.; Mulopo J.	2021	A review of Africa's transition from fossil fuels to renewable energy using circular economy principles	Renewable and Sustainable Energy Reviews	114	38
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	Production Planning and Control	29	5,8
Silvestri C.; Silvestri L.; Forcina A.; Di Bona G.; Falcone D.	2021	Green chemistry contribution towards more equitable global sustainability and greater circular economy: A systematic literature review	Journal of Cleaner Production	23	7,7
Bastos Lima M.G.	2022	Just transition towards a bioeconomy: Four dimensions in Brazil, India and Indonesia	Forest Policy and Economics	22	11
Ho O.T.-K.; Gajanayake A.; Iyer-Raniga U.	2023	Transitioning to a State-Wide Circular Economy: Major Stakeholder Interviews	Resources, Conservation & Recycling Advances	19	19
Pactwa K.; Woźniak J.; Dudek M.	2021	Sustainable social and environmental evaluation of post-industrial facilities in a closed loop perspective in coal-mining areas in Poland	Sustainability (Switzerland)	15	5

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Tan, J.; Tan, F. J.; Ramakrishna, S.	2022	Transitioning to a circular economy: A systematic review of its drivers and barriers.	Sustainability (Switzerland)	14	7
Pansera M.; Genovese A.; Ripa M.	2021	Politicising Circular Economy: what can we learn from Responsible Innovation?	Journal of Responsible Innovation	12	4

Table 2.2 most influential authors

2.3.2 Content analysis of the selected papers: Drivers and barriers to the just CE transition

The typical economic model of "take-make-use-dispose" needs to urgently be replaced by new socio-economic paradigms able to reduce the environmental and social harmful effects (Ghisellini et al., 2016; Murray et al., 2017). This linear economic model mainly focuses on output production without considering issues related to natural resource utilization, greenhouse gas emissions, and waste generation, substantial contamination and pollution of water, air, and land (Ho et al., 2022). Moreover, such a traditional model has been proven inadequate in supporting sustainable development (Ghisellini et al., 2023; Ghisellini et al., 2016).

In order to tackle these issues, CE emerges as an essential condition to ensure a sustainable future. This new economic model has currently gained increasing attention from policymakers, academics and organizations, leading to the development of several different definitions (Suarez-Visbal et al., 2022; Kirchherr et al., 2017). In this chapter, CE is defined as an economic model that privileges strategies aimed at achieving sustainable development by reducing, recycling, and reusing materials in value chain processes, supporting environmental quality, economic wealth and social equity (Kirchherr et al., 2017).

According to the literature, the crucial focus of CE remains mostly on value creation processes through better management of material resources and production processes, neglecting the related social impacts (Kirchherr et al., 2017; Mies and Gold, 2021; Pla-Julian and Guevara, 2019; Padilla-Rivera et al., 2020). Unfortunately, without tackling simultaneously social and environmental issues, it is not possible to achieve a truly just and inclusive CE transition (Calisto Friant et al., 2020; Schröder et al., 2020a; 2020b) where a healthful economy and a safeguarded environment can and must coexist.

In line with this, further investigations about the social dimension of the CE appear to be necessary (e.g. Henry et al., 2023; Neves and Marques, 2022; Thapa et al., 2022; Ho et al., 2023). In fact, while there is existing research and European projects (e.g. JUST2CE project) on barriers and drivers to CE, the social justice perspective is still under-explored. Therefore, in order to tackle this issue, this chapter seeks to advance our understanding of the factors that facilitate (drivers) or hamper (barriers) a sustainable, inclusive, and just CE transition through a systematic literature review.

In line with the aim of the JUST2CE project, a barrier can mean an obstacle, regulation, or circumstance hindering the establishment of a fair and sustainable circular economy and society. On the contrary, a driver is a factor that positively contributes to and enables the establishment of just and sustainable circular economy approaches, models and practices.

As shown in **Tables 2.3** and **2.4**, a list of the main drivers and barriers for each actor of the socio-economic ecosystems was identified.

In particular, focusing on organizations, it is worth underlining that financial issues were identified as a critical barrier to a just CE transition, especially for small and medium enterprises (SMEs) (Ho et al., 2023). In fact, despite the long-term positive returns from CE implementation, organizations require short-term financial availability to initiate their CE transition and, thus, incorporate circular business models. Specifically, organizations facing budget constraints and limited cash flow need financial subsidies to finance the higher upfront or initial costs of CE initiatives (Kirchherr et al., 2018). Even though public grants and funding opportunities exist, the primary obstacles to access these funds are time constraints and lack of or scant awareness about these. Moreover, existing financial

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evaluation tools show some limitations in the assessment of CE project feasibility (Ho et al., 2023), which further limits the access to public grants to businesses.

Another critical barrier for organizations is represented by a hesitant organizational culture that prevents organizational changes necessary to implement circular business models (Kirchherr et al., 2018; Calisto Friant et al., 2023). Moreover, the adoption of a traditional organizational structure posed further hurdles for CE transitions, even when there was awareness and motivation to integrate CE practices into their businesses. Specifically, traditional organizational structures characterized by silo-thinking approaches may not support collaboration among internal and external stakeholders, representing a critical lever for circularity. The lack of collaboration and knowledge sharing within an organization could further lead to an insufficient or limited understanding of CE initiatives, which could hinder the development of a CE mindset and strategies. Additionally, as the literature suggests, creating a supportive environment for top management to view CE favourably is crucial in transitioning organizations toward a just CE (Calisto Friant et al., 2021). Notwithstanding, it is worth underlining that the full understanding of CE initiatives depends on individuals' background, education level, and ages, as well as their interactions with the environment and their role within an organization or community.

As noted by Thapa et al. (2022), the just CE transition within an organization is driven by economic evaluations rather than environmental and social ones. In fact, organizations recognize economic aspects, such as financial benefits, cost savings (e.g., cost differences between reused/recycled materials and virgin materials, energy efficiency, etc.), and job opportunities as the most crucial elements underpinning the concept of CE and its implementation. Unfortunately, focusing only on economic aspects could easily lead to the failure of CE initiatives (Ghisellini et al., 2023). As suggested by Thapa et al., 2022, organizations must focus on social and environmental benefits, aligning with the concept of regeneration to support CE implementation properly.

In addition, several studies show a lack of indicators able to consider and assess all three aspects of the circularity, namely environmental, economic, and social (Calisto Friant et al., 2023). In particular, as outlined by Purvis and Genovese (2023), the existing indicators and measuring systems/methods focus mostly on economic and environmental dimensions with little attention to social ones. Therefore, the development of indicators and measuring systems that are also able to consider the social dimensions of CE initiatives appears to be crucial for favouring just CE implementation.

Focusing on consumers, the main barrier is represented by the lack of customer awareness, engagement, and interest, as well as behavioural resistance (Calisto Friant et al., 2023). In particular, such a situation could hinder the adoption of eco-conscious purchasing and, thus, induce behaviour resistance, reducing the consumers' propensity to buy CE products (Papamicheal et al., 2023). In line with this, it is worth underlining the necessity of breaching social stigma around second-hand products that might further reduce people's propensity to purchase sustainable products (Ho et al., 2023). Another way to try to increase consumers' willingness to use sustainable products is to reduce the so-called green premium. Generally, according to Tan et al., 2022, it is vital to improve consumers' perceptions of sustainable alternatives and reduce the green premium to boost the implementation of a just CE transition. Consumers have to know that by buying sustainable products, they are contributing to a more sustainable future. Moreover, several studies claimed that a high level of wealth is negatively related to purchasing second-hand products as wealthier families are less inclined to recycle, re-utilize and buy products containing a percentage of recycled inputs (Neves and Marques, 2023). In this case, increasing customers' awareness and liability about environmental justice and protection appears to be fundamental.

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The lack of proper regulations and public measures is very critical in preventing the implementation of a just CE model (University Autònoma of Barcelona, 2023D2.2 of JUST2CE project; Bastos Lima, 2022; Nagarajan, 2022; Purvis et al., 2023). In particular, one of the main barriers discussed in the literature regards the implementation of CE initiatives without enough democratic participation, transparency, and citizen engagement (Calisto Friant et al., 2023; Masi et al., 2018; Schröder and Barrie, 2022; Katajamäki, 2023). This represents a significant barrier as this further exacerbates the tendency to pay greater attention to technological and practical aspects in the transition to the Circular Economy with negative sustainability implications (Pansera and Genovese, 2021) as technology cannot effectively address, for instance, the biophysical limits of the natural environment (e.g., limited natural resources, the limited capacity of the environment to receive waste and other substances emitted by human activities). On the contrary, by democratisation, citizens could better understand a variety of institutional, social, economic, cultural, political, educational, and organizational tools, innovations, and approaches that enable their inclusion and empowerment to decide about their society and the much-needed circularity transition. Specifically, initiatives promoting circularity, implemented through a top-down approach with an emphasis on technical solutions often resulted in various socio-ecological consequences, such as poor working conditions, social discrimination, and scant social interest affecting nearby ecosystems and communities. This means that public administrators should strongly consider supporting just CE transition in their policy-making processes. In particular, policymakers should enact new regulations to favour a just CE transition through social and economic incentives.

Stakeholder	Barriers	Previous studies
Organizations	Financial issues/initial costs	<i>Kircheer et al., 2018; Ho et al., 2023</i>
	Extreme focus on profits and economic growth	<i>Thapa et al., 2022</i>
	Hesitant organizational culture	<i>Kirchher et al., 2018</i>
	Traditional organizational structures	<i>Ho et al., 2023</i>
	Lack of full understanding of CE or limited understanding of CE by management	<i>Ho et al., 2023</i>
	Exploitation, poor working conditions, and discrimination (based on gender, class, education, race, ethnicity, origin, belief, age, ability etc...)	<i>Purvis et al., 2023; Tapha et al., 2022; Vanacker et al., 2023; Martínez Álvarez and Barca, 2023; Meira et al., 2023; Guillibert et al., 2022</i>
	Lack of measuring systems/tools	<i>Neves and Marques, 2023; Purvis and Genovese, 2023; Pactwa et al., 2021</i>
Consumers	Lack of consumer awareness, engagement and social responsibility	<i>Kircheer et al., 2018; Papamicheal et al., 2023</i>
	Behavioral resistance	<i>Papamicheal et al., 2023</i>
	Green premiums that consumers have to pay for sustainable alternatives	<i>Tan et al., 2022</i>
	Social stigma around second-hand products	<i>Ho et al., 2023</i>
	Lack of education on circularity and holistic understanding of socio-ecological impacts	<i>Barrie and Schröder, 2023; Papamicheal et al., 2023</i>
	High level of wealth	<i>Neves and Marques, 2023</i>
Policymakers	Lack of synergistic governmental interventions	<i>Nagarajan, 2022; Purvis et al., 2023</i>
	Lack of environmental enforcement	<i>Bastos Lima, 2022; Mohamed, 2018</i>
	Hegemonic technocentric path	<i>Pansera and Genovese, 2021; Purvis et al., 2023</i>
	Top-down initiatives and lack of democratic approaches	<i>Masi et al., 2018</i>
	Lack of economic incentives and organizational policies	<i>Ho et al., 2023</i>

Table 2.3 Main barriers to a just CE transition

Table 2.4 shows the main drivers identified in the literature. Regarding organization, the collaboration/participation with internal and external stakeholders represents an important lever for a just transition. For example, collaborating with stakeholders in supply chains was deemed crucial for managing the life cycle of products and materials and extending their lifespan. Again, horizontal management practices and worker-owned cooperative production structures, where economic decisions about what and how to produce are taken inclusively and democratically, could support employees' awareness about CE transition, as well as improve their worker conditions (Calisto Friant et al., 2023; Katajamäki, 2023; Mohamed, 2018; Purvis et al., 2023; Valencia et al., 2023; van Langen, 2021; Guillibert et al., 2022).

The development of new circular business models and strategies is a relevant step that organizations must take in order to enable a just CE transition (Calisto Friant et al., 2023; Papamichael et al., 2023). In line with this, a holistic business model approach is the proper way to enable the implementation of CE practices.

Regarding consumers, an important drivers for a just CE transition is the introduction of an income tax regime for individuals purchasing products containing a substantial amount of recycled components/materials (Neves and

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Marques, 2022; Ho et al., 2023). This could represent an effective strategy for enhancing the attractiveness of such products among high-income earners. This approach not only incentivises consumers to choose items contributing to the CE but also motivates businesses to adopt innovative production processes and meet the demand for products with a significant proportion of recycled materials (Ho et al., 2023).

According to the literature, CE education is recognized as an essential driver to aid the development of a new mindset, behaviours, and willingness to use sustainable products. In general, education can be a key driver for the entire production and consumption ecosystem as it can increase sustainability awareness and knowledge among all the actors involved (Ho et al., 2023; Ibáñez et al., 2023). In line with this, several studies show that there is a positive relationship between education level and environmentally sustainable behaviours, as well as just CE implementation (Neves and Marques, 2022). Furthermore, individuals with a tertiary level of education seem to be more aware of environmental issues and, consequently, more willing to adopt environmentally friendly behaviours (Cerqueira-Streit et al., 2021). Based on this, revising the educational curricula and training activities appears necessary to address the new societal and organizational requests.

In light of this, policymakers should formulate policies targeting segments of society with lower educational levels (Gromek-Broc, 2023; Ibáñez et al., 2023). Furthermore, advancing the adoption of democratic principles could make decision-making processes more transparent and increase citizen engagement and awareness (Švarc, 2022). Financial incentives or economic bonuses for consumers and organizations could contribute to fostering a more sustainable consumption and production system (Ho et al., 2023; Mohamed, 2018).

Therefore, regulations must be defined considering social and economic motivations and specific demographic features, such as the elderly, lower educational level, and wealth status (Švarc, 2022).

Table 2.4 Main drivers to the just CE transition

Stakeholder	Drivers	Previous studies
Organizations	Collaboration/Participation among different stakeholders (multi-stakeholder approach)	<i>Purvis et al., 2023; Valencia et al., 2023; van Langen et al., 2021</i>
	Adoption of CE business models and Strategies, as well as the development of social initiatives	<i>Papamichael et al., 2023; Silvestri et al., 2021</i>
	Enhancing social empowerment and worker rights and fostering horizontal management practices	<i>Thi-Kieu Ho et al., 2023; Katajamäki, 2023; Mohamed, 2018</i>
Consumers	"tax regime" that incentivises sustainable consumption	<i>Neves and Marques, 2022; Ho et al., 2023</i>
	Education	<i>Ho et al., 2023</i>
	Consumers' awareness, expectations and preferences	<i>Ho et al., 2023</i>
Policymakers	Social and environmental regulations	<i>Gromek-Broc, 2023</i>
	Advancing the democratisation of political spheres; transparent decision-making processes/citizen engagement.	<i>Schröder and Barrie, 2022; Katajamäki, 2023</i>
	Protectionist policies to support sustainable practices	<i>Kirchherr et al., 2018; Švarc, 2022</i>
	Financial subsidies	<i>Mohamed, 2018; Ho et al., 2023</i>

In a nutshell, policymakers must design policies that motivate all actors of the socio-economic systems to implement effective CE strategies, given that the transition to a just CE is contingent upon their involvement.

2.4 Concluding remarks

The circular economy has emerged as a pivotal component in various government policies, organizational strategies, and social initiatives. However, there is still a need for a deeper and more holistic understanding of the actual forms of CE implementation and the related potential impacts, especially at the social level. In fact, although some research on CE barriers and drivers exists, it has often been limited to specific contexts, countries, or industries and without employing a proper social lens for analysis.

Our contribution thus seeks to improve our understanding of the drivers and barriers to an inclusive, sustainable, and just CE transition through a social justice and sustainability perspective. In particular, the set of barriers (Table 3) and drivers (Table 4) could aid academics, policymakers, and practitioners in comprehending systemic issues hindering a just transition and in identifying possible solutions to overcome each issue.

One critical finding is the identification of three different key factors that could facilitate or hinder just CE transition and implementation through their actions and decisions, namely Organizations (private and public), consumers and policymakers.

Focusing on the results, it is possible to underline that the lack of democracy within the governance sphere (but also at the organizational level) represents a significant barrier to a just CE transition. The lack of citizen/consumer participation can be a major obstacle, given that they often possess a more ecologically holistic and socially justice-oriented understanding of circularity (Calisto-Friant, 2019). Additionally, organizations and policymakers could impose a technocentric vision of CE (Pansera and Genovese, 2021; Purvis et al., 2023). Technocentric approaches could fail to support an inclusive and sustainable transition, in particular, leading to socio-ecological impacts such as poor working conditions, social discrimination, and pollution. Democratic participation and citizen engagement involve various institutional, social, economic, cultural, political, educational, and organizational tools, innovations, and approaches that empower citizens and workers to actively shape their society and facilitate the essential transition to circularity (Calisto Friant, 2019). Hence, promoting transparent and democratic decision-making, both in the workplace and in public institutions, could ensure a fairer distribution of associated costs and benefits, as well as lead to more sustainable decisions and outcomes compared to traditional top-down governance processes (Katajamäki, 2023; Schröder and Barrie, 2022; Ho et al., 2023). Specifically, democratization and bottom-up decision-making approaches have the potential to ease the definition and implementation of crucial circular economy policies. This approach could facilitate, for instance, the implementation of labour policies to improve working conditions and income levels and reduce social discrimination (Ho et al., 2023). It may lead to new organization regulations requiring transparent disclosure of businesses' social and environmental performance. Moreover, citizen engagement in policymaking processes could lead to the definition of more appropriate redistributive policies that impose taxes on the wealthiest sectors to fund essential public services, generate employment, and cultivate economic opportunities in sustainable sectors. Finally, democratising decision-making processes within businesses is a crucial lever for improving worker empowerment, working conditions, and wages (Calisto Friant et al., 2023; Ho et al., 2023; Katajamäki, 2023; Mohamed, 2018). Such organizations often possess horizontal management practices, cooperative production structures owned by workers, and democratic governance structures rooted in bottom-up decision-making (Ho et al., 2023; Katajamäki, 2023).

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