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# **Demystifying Corporate Inertia Towards Transition to Circular Economy: A Management Frame of Reference**

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## Demystifying Corporate Inertia Towards Transition to a Circular Economy: A Management Frame of Reference

### Abstract

We examine corporate inertia towards circularity transition using organisational case studies, observations, and qualitative interviews with business executives. The study explores how the values and beliefs of business leaders and managers promote or inhibit internal and external stakeholder engagement to enable transition to circular business models. We focus on four large UK food companies, conducting interviews with 11 senior managers. Rather than a lack of awareness of the circular economy (CE), the results demonstrate that business leaders are not persuaded by the short- to medium-term business case for a CE. There is misalignment between values and beliefs of business executives and the circularity values and goals of their organisations. The misaligned values and beliefs inhibit relevant stakeholder engagement for transitions to a CE with responsibility shifted to civil society and public institutions. Management commitment to circularity transitions are at best a sophisticated form of circularity greenwashing. The study further suggests a general lack of collective disposition to foster collaborations with sectoral and supply chain partners to engender circularity transitions due to the absence of any standard systems for CE performance indicators. Circularity education and training play a positive mediatory role in changing negative assumptions, including the promotion of managers' engagement with other relevant stakeholders to build synergies and strategies for CE systems. The findings contribute to understanding the dynamics of corporate inertia regarding transitions to CE and highlight the relevance of aligning the personal values and beliefs of top management with organisational, sectoral, and supply chain partners' values and goals.

**Keywords:** circular economy, values and beliefs alignment, top management commitment, stakeholder engagement, circularity education

## 1. Introduction

Circular economy (CE) espouses a mutual connection between economic and environmental issues (Ghisellini et al., 2016; Genovese et al., 2017) that can engender sustainable development (Lin & Zheng, 2016). However, there are fundamental challenges to its adoption as a business model (Oghazi & Mostaghel, 2018), and this issue deserves further attention by researchers. Undoubtedly, the combined effect of industrial capitalism and high population growth over the last century is manifested in rapid natural resource depletion with an attendant deleterious impact on the climate and the environment (Meadows et al., 2005). The popular linear economic model, which relies on take-make-dispose pattern (extract resources, make products, use them, and discard them) to create economic growth and prosperity, has proven to be unsustainable in the long term (Ghisellini et al., 2016; Ormazabal et al., 2018; Korhonen et al., 2018).

Conversely, CE is ‘an industrial system that is restorative or regenerative by intention and design and replaces the ‘end-of-life’ concept with restoration (Ellen MacArthur Foundation {EMAF}, 2013, p. 7). By cycling materials and energy back into the production system, ‘the value of products, materials and resources are maintained in the economy for as long as possible, and the generation of waste is minimised’ (European Commission, 2015:2). The CE model represents a paradigm shift from the linear economy model (EMAF, 2015; Stec & Zwolinski, 2018; Kusi-Sarpong et al., 2015) with the potential to contribute to minimising the rate of global natural resource depletion and resolving environmental sustainability challenges (Urbinati et al., 2017; Genovese et al., 2017; Korhonen et al., 2018; Ghisellini et al., 2016) for sustainable business development (Schoenherr, 2012). However, such an elaborate potential to facilitate the efficient and regenerative use of natural resources has not translated into a widespread adoption of a CE principles-based business model due to a myriad of challenges.

Currently, the notion of CE remains a highly debated concept, and in some cases, it is overtly questioned in academia and practice (see Korhonen et al., 2018; Geissdoerfer et al., 2017; Millar et al., 2019). One area of tension is the argument that a CE can lead to economic growth when it is generally acknowledged that a pure regenerative version of a CE is incompatible with the idea of maximising growth (Fellner et al., 2017; Schroeder et al., 2019). The idea that growth is not compatible with sustainable outcomes is therefore a major limitation of the CE concept (Millar et al., 2019). CE is further accused of being superficial (Skene, 2017) and built on unclear and weak conceptual foundations (Korhonen et al., 2018). Some of the criticisms emanate from the discipline of entropic analysis of economics in ecological economics that was spearheaded by Georgescu-Roegen over three decades ago (Georgescu-Roegen, 1986). It is also described as the thermodynamic limits of CE by both Korhonen et al. (2017) and in J Martiner Alier’s work (Alier, 1992) and is also captured in political ecology discourse (Savini, 2019; M’Gonigle, 1999) among others. In a nutshell, an open system loses energy in any economic endeavour that cannot be recycled (Alier, 2009; Korhonen et al., 2017).

Of special interest to this article is the need to research beyond the headline barriers and inhibitors to unravel the underlying factors influencing the hesitant organisational culture towards circular business model adoption. Drawing on the need to further engender stakeholder engagement to promote CE (Salvioni & Almici, 2020; Borrello et al., 2020; Sehnem et al., 2019), the aim of the current study is to explore the role of values and beliefs of business leaders and managers that promote or inhibit internal and external stakeholder engagement to facilitate collective action for

corporate transitions to a circular business model. Research evidence indicates that top management commitment and willingness to engage with the CE debate and discourse will promote or inhibit finding holistic solutions and strategies for the adoption and success of a circular business model (Pheifer, 2017).

Indeed, the drivers of CE adoption transcend the direct internal strategic and operational factors of the organisation as applicable to digital technology adoption, for instance (Yang et al., 2021), to include environmental protection and societal imperatives as core drivers (Hazen et al., 2017; Ilić & Nikolić, 2016). Another distinctive feature of CE adoption is the lack of a standard system to measure performance indicators (Su et al., 2013) relative to the straightforward alternative of the operational drivers of digital technology adoption, which are easily measured from the resultant measurable problem-solving approach as the adoption process (Raisinghani & Meade, 2005). Additionally, CE is characterised by high short-term cost and low short- to medium-term economic benefits (Shahbazi et al., 2016) as opposed to the rate of economic returns on the implementations of digital technology, for instance.

These factors and attributes serve as pointers to the uniqueness of the CE context compared to other business models and approaches. As a reflection of CE model's distinctiveness, Govindan & Hasanagic (2018, p. 300) in a systematic review identified eight-issue clusters of barriers to CE implementation, namely, 1) 'governmental' (lack effective policies and performance assessment systems), 2) 'economic' (weak financial and economic incentives), 3) 'technological' (limited environmentally friendly technology), 4) 'knowledge and skills' (lack of reliable information and skills to the enterprise and the public), 5) 'management' (lack of top management support), 6) 'questioning CE' (not yet persuaded), 7) 'culture and social' (lack of consumer enthusiasm for reused products), and 8) 'market' (lack of standards for refurbished products, less consumer acceptance, lack of take-back mechanisms). Juxtaposing the relatively broad scope of CE drivers and the distinctive barriers on organisational dynamics and stakeholder engagement imperatives presents a novel context for further research regarding understanding CE model transitions.

The basic assumptions concerning business leaders' and managers' values and beliefs of CE are important to corporate changes but also critical for internal and external stakeholder engagement to facilitate circularity transitions. Indeed, top management values and beliefs regarding CE have implications for corporate receptiveness or inertia towards the adoption of a circular business model (Korhonen, 2018). Thus, further insight into business executives' values and beliefs will complement the extant scholarship (Broman & Robert, 2017; Ehrenfeld, 2000; Korhonen et al., 2004; Merli et al., 2017) on top management commitment and support and stakeholder engagement within the context of CE transitions. Therefore, we seek to explore and expand the frontiers of CE research by theorizing and empirically testing how the values and beliefs of business leaders and managers align or misalign with the vision and goals of organisational circularity to enable or inhibit corporate transitions to CE using the analysis of organisational case studies, observations, and qualitative interviews. Theoretical and empirical insights on the underlying values and beliefs that inform CE dispositions of business leaders and managers and their alignment or misalignment with the circularity values of their respective organisations and those of other relevant external stakeholders could provide important pointers to build holistic strategies and solutions with multiple stakeholders to advance global circularity and the general sustainability agenda.

As most barriers to circular business model adoption are institutional in nature, there are ample grounds for approaching further CE research from a management perspective. Seeking further insight into the managerial dynamics of CE is in line with the recommendation of Korhonen et al. (2018, p. 544) to study the basic assumptions concerning the 'values, societal structures, cultures,

underlying world-views and the paradigmatic potential of circular economy'. It is also important to point out that Korhonen et al. (2018) argued for research that focused on management because the extant CE scholarship mainly considered the practical and technical levels of the actual physical flows of materials and energy in production, supply and consumption schemes. Admittedly, a well-balanced understanding of CE from both technical and management perspectives could well position it as an engine to propel a new paradigm shift for sustainable development (Geissdoerfer et al., 2017; Circle Economy, 2018; Prieto-Sandobal et al., 2018). Thus, researching corporate inertia within the context of CE from a management perspective fills a research gap and has the potential to direct future research enquiries.

Based on the above premise, the study seeks to answer the following pertinent research questions:

1. What are the underlying assumptions, values, beliefs, and perceptions of business leaders and managers that hinder, slow down, or derail transition to circular economy?
2. How do the underlying assumptions, values, beliefs, and perceptions of business leaders and managers align with the circularity vision and goals of organisational, sectoral, and supply chain and institutional actors, and how does this help promote collective action to engender stakeholder engagement towards holistic circularity solutions and strategies?
3. How can the corporate worldviews, assumptions, and perceptions of business leaders and managers be changed in such a way as to promote the alignment values and beliefs to facilitate internal and external stakeholder engagement towards circular economy?

Based on the analysis of data from four large organisations within the food industry selected for an in-depth qualitative study, we contribute to the existing knowledge by extending understanding of the rationale behind corporate barriers to circularity through demonstrating a widespread misalignment between the individual values and beliefs of business executives and the corporate circularity values and goals of their respective organisations. Thus, beyond the perception of a lack of awareness of CE, the results of the study demonstrate business leaders are not persuaded by the short- to medium-term business case for CE. Also, the results suggest that the misaligned values and beliefs inhibit the relevant stakeholder engagement for transition to CE, as responsibility is shifted to civil society and public institutions. Thus, top management commitment to circularity transitions could at best be described as a sophisticated form of circularity greenwashing rather than a real paradigm change. This theoretical contribution presents a potent means of informing the discourse on institutional and social factors (for soft drivers and barriers, see, De Jesus & Mendonca, 2018) that derail or slow down circularity adoption. A further contribution is made to existing knowledge on the role of stakeholder engagement and CE through the finding that the misaligned values and beliefs inhibit relevant internal and external stakeholder engagement, as responsibility is shifted to other stakeholders based on executives' recurrent viewpoint that civil society and public institutions rather than businesses are the most influential drivers of transitions to circularity. The results further suggest a general lack of any collective disposition to foster collaborations with sectorial and supply chain partners to engender circularity transitions due to the absence of a CE standard system for performance indicators in supply chains. It was also established that circularity education and training over and above creating awareness to cover models to implement CE at the corporate level and within supply chains play a positive mediatory role of changing negative assumptions to promote managers' engagement with other relevant stakeholders to build synergies and holistic strategies for CE systems. These theoretical contributions reveal the hidden culture (values, norms, and beliefs) behind the existing notion that there is a hesitant organisational culture hindering adoption of the circular business model (Kirchherr et al., 2018).

By inference, business leaders and managers do not consider businesses (themselves) as one of the main active actors alongside civil society and public institutions when it comes driving corporate transitions towards circularity. Thus, the impetus for adoption of the curricular business model has not changed from the archetypal altruistic and coercive motives of stakeholder pressure on businesses to become more sustainable. These findings contribute to our understanding of the dynamics of corporate inertia regarding transitions to a CE framework, and they highlight the growing relevance of aligning the personal values, norms, and beliefs of business executives with the values and goals of organisational, sectorial, and supply chain partners on CE to engender thoughtful dialogue and commitment to discourse and stakeholder collaboration towards circularity transition. The aggregated contribution of this article advances management knowledge on the influence of institutional, social, and executive values and beliefs on the potential to engender stakeholder engagement between business leaders and other relevant stakeholders to promote CE research and practice.

The remainder of the paper is structured as follows: Section 2 presents a background to key debates and discussions regarding CE and highlights the theoretical discussion on CE, covering drivers and inhibitors of the circular business model adoption from a management perspective. Section 3 covers the research methods, including a description of the interview process. Section 4 then details the study results and offers a discussion based on the data analyses as well as the study implications and areas for future research. Section 5 provides concluding remarks.

## **2. Research background and literature review**

### **2.1 Circular economy: critical viewpoints and perspectives**

The genesis of the CE concept is traced to diverse scientific and semi-scientific fields such as industrial ecology (Graedel, 1996; Lifset & Graedel, 2002), industrial symbiosis (Chertow & Ehrenfeld, 2012), product-service systems (Tukker, 2015), cradle-to-cradle design (Braungart, McDonough & Bollinger, 2007; McDonough & Braungart, 2003), and biomimicry (Benyus, 1997). Therefore, it is not surprising to find different definitions of CE. Indeed, Kircherr et al. (2017) drew on 114 different definitions to finally describe CE as ‘an economic system that is based on business models which replace the ‘end-of-life’ concept with reducing, alternatively reusing, [and] recycling [...] materials in production/distribution and consumption processes, [...], with the aim to accomplish sustainable development, which implies creating environmental quality, economic prosperity and social equity, to the benefit of current and future generations’ (Kirchherr et al., 2017, pp. 224–225). This article adopts this description as a working definition of CE.

Despite there being no consensus on what CE is, it is unsurprising that criticisms of this concept relate more to the socio-economic aspects that are almost totally absent in CE research and discourse (Friant, 2020; Schroeder et al., 2018). Whereas Moreau et al. (2017) indicated that CE is further limited in terms of engaging with the institutional and social disposition requirements for CE transitions, Padilla-Rivera et al. (2020) confirmed the need to address the social imperatives of implementing CE. Most of these proponents and critics appear to espouse the viewpoint that for CE to have a meaningful impact, it ought to transcend being transformative in terms of technology (closing the loop or buying green technology), but it must reshape socio-economic relations (Moreau et al., 2017). A critical evaluation of these criticisms appears to suggest that CE in its dominant form currently could be accused of a sophisticated form of circularity greenwashing rather than a real paradigm change. Such ambiguities and tensions might precipitate corporate inertia and constrain actors from participating in circularity transitions (Borrello, 2020). It is

common knowledge that if managers and entrepreneurs perceive CE as a discourse they can use to maintain the status quo, then they will most likely adopt it.

Secondly, other CE scholars contend that the aim of CE is to extend the lifetimes of products to minimise resource exploitation and consumption, and hence they have focussed on key inhibitors to circularity transitions (see Hoffman & Bazerman, 2007; De Jesus & Mendonca, 2018; Kirchherr et al., 2018). These inhibiting factors include financial constraints, resistance to change, unfavourable perceived consumer behaviour (Hoffman & Bazerman, 2007); technical, institutional, and social barriers (De Jesus & Mendonca, 2018); and a lack of consumer interest and awareness as well as a hesitant organisational culture (Kirchherr et al., 2018). Notably, whereas Mokhtar et al. (2019) found that transformational and transactional leadership styles are important drivers of the reverse supply chain performance of suppliers, Goebel et al. (2012) reported that organisational culture influences the extent to which social and environmental factors are considered in supplier choice. A lack of top management support was reported as the key management issue inhibiting circularity transition (Govindan & Hasanagic, 2018). In contrast, Maranesi & De Giovanni (2020) reported that there is a sense of readiness on the part of companies to incorporate CE into their corporate strategy. Could this contrasting trend point to a misalignment of the values and beliefs of top management and the values and goals of organisational circularity, or is it a case of sophisticated circularity greenwashing? It is also important to draw attention to the difference and connection between the personal values of top management and the organisational values, as these affect organisational culture and corporate and operational decision making (Guth & Tagiuri, 1965).

The ongoing debate highlights the importance of continuous internal and external stakeholder engagement as a way forward to achieve the expected contribution of CE (Salvioni & Almici, 2020). The work of Borrello et al. (2020) highlights the need for a wider stakeholder debate on CE practice, implementation, and research to recognise the ideological differences, establish shared approaches to information collection, and share CE principles and practices. Undoubtedly, the lack of top management support will not promote internal (top management and other staff) and external (companies and their sectoral, supply chain, governmental, and civil society actors) stakeholder collaboration and engagement towards circularity transitions.

The current study extends the findings of prior works by exploring the rationale behind corporate inertia towards circularity transitions which earlier research suggested is partly attributable to the lack of any commitment by top management (Liu & Bai, 2014; Sihvonen & Partanen, 2016), and this study is the first to investigate what contributes to such a lack of commitment to a supposedly laudable business model. We argue that corporate inertia transcends the prevailing viewpoint of the lack of awareness of CE (Trianni & Cagno, 2012; Rizos et al., 2016; Govindan & Hasanagic, 2018) and the lack of top management support (Liu & Bai, 2014) and extends to consider the misalignment between the values and beliefs of business executives and the circularity values and goals of their organisations. This is because business leaders are not persuaded by the short- to medium-term business case for CE. Indeed, Shahbazi et al. (2016) underscored the 'high short-term costs versus low short-term financial and economic benefits' associated with circularity transitions as a problem and disincentive to business leaders. The current study further extends the findings of existing studies by suggesting that the misaligned values and beliefs inhibit relevant stakeholder engagement for transitions to CE, as responsibility is shifted to other stakeholders to detract from a real paradigm change to a CE business model. We further suggest a general lack of collective disposition to foster collaborations with sectoral and supply chain partners to engender circularity transitions due to the absence of any CE standard system for performance indicators in supply chains.



## 2.2 Circular economy and corporate inertia: a theoretical perspective

CE can be regarded as a system which is restorative or regenerative by intention and design (EMAF, 2013). It aims to close material loops by shaping the end-of-life concept (Bocken et al., 2016), prioritising regenerative resources (Circle Economy, 2018; EMAF, 2013), incorporating digital technology (Veleva & Bodkin, 2018), rethinking current business models (Heyes et al., 2018; Ünal et al., 2018; Pieroni et al., 2019; Tunn et al., 2019), and promoting collaboration among industries and sectors to create shared value (BITC, 2018). In a nutshell, CE seeks to overcome the take-make-dispose linear pattern of production and consumption by establishing a circular system in which the value of products, materials, and resources is maintained in the economy for as long as possible (Merli et al., 2018).

CE as a paradigm of sustainable development is seen as a new business model that is expected to lead to a more sustainable development and harmonious society (Zhijun & Nailing, 2007; Ness, 2008; Europesworld, 2014; Naustdalslid, 2014; Geng & Doberstein, 2008; Mathews & Tan, 2011). The systematic decline of the traditional linear system to support the fulfilment of human needs is caused by the basic design and mode of operation of society to follow a ‘take-make-dispose’ pattern (Broman & Robèrt, 2017). Consequently, it has proven to be unsustainable in the long term (Ghisellini et al., 2016) and hence the emergence of alternative economic models such as the CE model. The change of paradigm and transition to CE has been driven mainly by environmental, economic, and business considerations. The first and most compelling factor is the increasing pressure to mitigate negative environmental impacts, such as resource scarcity, which causes price volatility and exposes business stakeholders to the risk of supply dependence (McKinsey & Company, 2011; EMAF, 2013a; Esposito, Tse & Soufani, 2017; Circle Economy, 2018). Institutional factors, such as public sector and government support, also play an important role through the rule of law to boost and enhance CE business practices (Dong et al., 2016). For example, establishing subsidies and taxation that reinforces and minimises the risks for the creation of sustainable business models and penalizes those that are not (Witjes & Lozano, 2016) has been a typical driver of circularity transition.

From an economic point of view, there is empirical evidence highlighting that CE could generate cost savings by reducing waste and energy costs (Liu & Bai, 2014; Ghisellini et al., 2016; Murray et al., 2017). It could also lead to business growth (due to an increase in profits) and new value creation via innovation (World Economic Forum, 2014; Linder & Williander, 2015). Regarding innovation and new CE business models, technology development based on CE principles is also viewed as an excellent driver and enabler (Lacy & Rutqvist, 2016). In addition to facilitating the development of cleaner solutions for economic growth, tools such as information- and resource-sharing platforms are seen to enable cooperation regardless of time and place (EMAF, 2013; Circle Economy, 2018). From an organizational perspective, the potential benefits of circular business models could improve the brand reputation of businesses that adopt such a framework (Geng et al., 2012) as well as differentiate themselves from their competitors (Linder & Williander, 2015). It is important to reiterate that the concept of CE is also highly criticised on the basis of ideological differences, and, in some cases, its efficacy to deal with the prevalent challenges of the linear

economic model is strongly and openly challenged (Korhonen et al., 2018; Geissdoerfer et al., 2017; Millar et al., 2019).

### **2.3 Barriers to circular economy: current situation**

Despite some positive narratives about and evidence of the significant drivers and enablers associated with a CE framework, there still seems to be no widespread adoption of circularity as the most preferred business model. Research evidence points to a myriad of challenges, including financial constraints, resistance to change, and unfavourable perceived consumer behaviour (Hoffman & Bazerman, 2007); technical, institutional and social barriers (De Jesus & Mendonca, 2018); a lack of consumer interest and awareness; and a hesitant organisational culture (Kirchherr et al., 2018). The lack of financial capability (Ilić & Nikolić, 2016; Rizos et al., 2016) and support (Xue et al., 2010) for transitioning to circular business models have been found to be major inhibitors. There is also considerable economic uncertainty due to the difficulty of measuring the long-term benefits of CE (Bechtel et al., 2013), exacerbated by the high costs of new technologies (Gumley, 2014), which serves as a barrier to adopting circularity.

Another strand of research highlights the lack of knowledge and information about a CE as hindering the identification, assessment, and implementation of CE business models (Trianni & Cagno, 2012; Rizos et al., 2016). Regarding institutional barriers, the extant literature indicates industry policies still favour a linear model of economic growth (Gumley, 2014). For instance, transporting some particular waste is often challenging depending on the national context (Bechtel et al., 2013), and the people in charge of changing policies are usually unaware of CE and its potential benefits (Xue et al., 2010; Ilić & Nikolić, 2016). Moreover, in the EU, Japan, and the USA, as opposed to China, CE is used as a tool to design bottom-up environmental and waste management policies, thus dramatically reducing its priority and impact on their political agenda (Ghissellini et al., 2016).

From a supply chain perspective, being multidisciplinary concept, CE often involves multiple stakeholders, and therefore, there is a lack of network support and suitable partners to advance towards circularity business models (Wooi & Zailani, 2010). This challenge persists because of the intense industrial focus on linear models (Suocheng et al., 2007; Gumley, 2014). Other researchers have shown there is still a lack of awareness on the value of green supply chain practices, leading to inefficient communication and collaboration along the chain to meet circular chain principles (Rizos et al., 2016). A number of CE scholars have also drawn attention to barriers to circular business models from an organizational perspective in order to indicate that a vertically structure in an organization hinders innovation and collaboration within the organization and presents a high-risk perception of management towards CE (Liu & Bai, 2014). Such centralised and bureaucratic organisations are characterised by a reduced ability to create a common understanding and the lack of any ability to easily change mind-sets from short-term to long-term systems thinking (Bechtel et al., 2013) like a CE framework.

Against the backdrop of the reported significant drivers and enablers of CE and the myriad of barriers inhibiting the adoption of a circularity business model that have been highlighted, this study extends the findings of existing studies by exploring why the introduction of CE principles over a reasonable period has not yet reached a tipping point. We extend prior studies (Kannan & Hasanagic, 2018; Aloini, et al., 2020) that identified various inhibitors to adoption by unravelling

remote contributing factors that are the causes rather than the symptoms that are evident in the lack of adoption of CE business models. The current study achieves this objective through revealing that the underlying assumptions, values, beliefs, and perceptions of business leaders and managers are not only misaligned with organisational-stated CE goals but also challenge the common lack of awareness of CE suggested in the literature (Wynstra et al., 2000; De Mattos et al., 2018; Aloini et al., 2015; Hussain & Malik, 2020). We show that, as a complement to and extension of prior studies on barriers to CE adoption (Kannan & Hasanagic, 2018; Aloini et al., 2015; Hussain & Malik, 2020), business executives are very much aware of CEs but are not persuaded by the short- to medium-term business case. We further indicate that business leaders are not isolated from the larger societal political debate surrounding CE prospects and uncertainties (Korhonen et al., 2018; Geissdoerfer et al., 2017; Millar et al., 2019). This study further suggests there is an emerging phenomenon of circularity greenwashing to counteract the organisational pressure driven by consumers' environmental awareness (see Singh et al., 2019; Singhal et al., 2019; Ilić & Nikolić, 2016) and general public awareness of CEs and sustainability (Bhatia & Kumar, 2019; Salim et al., 2019). There are ample grounds to suggest that increased consumer and general public awareness juxtaposed with unconvincing economic case and misaligned values and beliefs form the perfect grounds for circularity greenwashing to maintain the status quo.

Additionally, the study responds to the call for further research to build on the limited prior studies on CE from a stakeholder engagement perspective (Salvioni & Almici, 2020). Thus, the current study interrogates the interplay between business leaders' values and beliefs and relevant stakeholder CE vision and goals for the promotion of collective action to engender stakeholder engagement towards holistic circularity solutions and strategies. Although CE education has been suggested as an important element to promote circularity transitions (Moktadir et al., 2018; Tura et al., 2019), this study builds on the need for education with a specific prescription for the provision of education beyond creating CE awareness. The study suggests the need for CE education covering specific CE business models that can guarantee market success in the short- to medium-term and offer re-orientation to envision CE as a source of competitive advantage (see Arthur & Yamoah, 2019 for an example of environmental quality attributes explored as a business strategy) and a form of cooperation with relevant industry, institutional, and supply chain stakeholders.

### 3. Research Methodology

The choice of materials and methods is informed by the study objective to discover the worldviews, assumptions, values, perceptions, and cultures of business leaders and managers that are hindering, slowing down, or derailing the transition towards CE. Thus, taking a cue from Hall's (1976) cultural iceberg model, which posits that the visible or conscious part of a culture is analogous to the tip of an iceberg, a case study and qualitative interviews are the approaches we adopted in our attempt to unravel a hidden/invisible corporate culture. Four notable large organisations within the food industry (*not named because of confidentiality*) in England, UK, were selected, with three (3) representing the private and one (1) the public sector respectively as case study organisations for this in-depth qualitative study. The selection of food industry stakeholders (producer/manufacturer, retailer, hospitality and food service provider, and food sector public entity) for this study was informed by the proceeding imperatives. According to Waste and Resources Action Programme (2017), the UK loses at least 10 million tonnes of food with an estimated retail value of £17 billion annually. Thus, food waste has significant environmental, social, and economic implications in the UK (Slorach et al., 2020). Based on the magnitude of food waste and its associated impacts, resolving and/or minimising food waste has become a key challenge for the food system in the quest for the adoption of CE principles (Närvänen et al., 2020). Meanwhile, there is an indication of a growing interest in factoring food waste management practices into policy formulation in the UK grocery retail sector (Filimonau & Gherbin, 2017). Given the above premise, the UK food industry and major food sector stakeholders were chosen as context and sample respectively to examine underlying precursors to corporate inertia towards circularity transition within the context of the food industry in the UK.

Multiple sources of data collection were employed for the analyses. This included archival historical reports on corporate culture and sustainability, personal observation notes by researchers as part of the environmental and corporate social responsibility team of the two large organisations for three months, and eleven in-depth interviews with senior management staff holding a job role in a CE, and/or corporate strategy and organisational culture. Interviewing exclusively staff in a management position was a deliberate screening condition for participants from both the private and public sector organisations since there is recognition in the academic literature that adoption of circular business models requires senior management awareness and readiness to envision and capture the business implications of this sustainable development transition (Merli et al., 2018). Out of the eleven senior staff participants for the in-depth interviews, four were females and seven males; see Table 1.

Participant	Company / Food Sector	Job Role	Gender	Age group	Work experience
Participant 1	Company A/Public Entity	Environmental Planning Specialist	F	41-50 years	14 years
Participant 2	Company A / Public Entity	Managing Director	M	35-40 years	9 years
Participant 3	Company B / Hospitality and Food Service	Operations and Logistics Manager	F	25-30 years	6 years
Participant 4	Company B /Hospitality and Food Service	Food Service Manager	M	35-40 years	8 years
Participant 5	Company C / Production and Manufacturing	Senior Quality Control Manager	M	35-40 years	11 years
Participant 6	Company C / Production and Manufacturing	Improvement Manager	Male	30-35 years	10 years
Participant 7	Company C / Production and Manufacturing	Manufacturing manager	Male	25-30 years	6 years
Participant 8	Company D / Wholesale and Retail	Operations Manager	Female	35-40 years	6 years
Participant 9	Company D / Wholesale and Retail	Warehouse supervisor	Male	25-30 years	10 years
Participant 10	Company D / Wholesale and Retail	Operations Manager	Male	30-35 years	12 years
Participant 11	Company D / Wholesale and Retail	Regional sales manager	Male	25-30 years	8 years

**Table 1: Participant profiles**

Semi-structured interviews were employed to enable interviewees to reflect what they really thought about the research subject of corporate inertia within the framework of CE. An interview guide covering some background and open-ended questions as well as topics and images were deployed for reference and supporting material respectively (see Appendix 1). The questions asked were varied and unordered according to their relevance at each of the interview sections, and sometimes, new questions were asked as a follow-up as inspired by the insights provided by the interviewees from previous questions and responses. The flexibility provided by this method allowed the interviewees the leeway to reflect on earlier responses and offered the most convenient way for them to reinforce or alter their views (Bryman, 2016). This approach enabled the capture of highly insightful and profound interaction and engagement.

Semi-structured interviewing, which is a suitable method for gathering data about the paradigm stage of any concept, was particularly appropriate in this case, that is, investigating CE, since the

aim was to ask about values, beliefs, behaviours, or emotions, as recommended by Bryman (2016). Given the complex nature of such research (Bryman, 2016) within the context of CE, which requires a rethinking of the whole system of human activity (Yuan et al., 2006), probing and specifying questions were employed during the interviews. While at the beginning, fairly open-ended general questions were employed, vignette questions were introduced progressively to extract richer insights (Mason, 2002). The interviews lasted between 45 and 90 mins and were recorded, transcribed verbatim, and coded according to dominant themes. The participants were also followed up through personal conversations, thus allowing for further contextualization of the interview data by analysing documents such as organisational reports, policy documents, and researcher observational notes. The concepts of reliability and validity in qualitative research are referred to as credibility. Lincoln and Guba (1985) argued that ensuring the credibility of a study is one of the most important factors in establishing its trustworthiness. Accordingly, a number of processes were undertaken to ensure the credibility of the interviews and the overall research. Firstly, the process of transcribing and capturing notes was managed with great detail and attention to ensure an accurate reflection of the participants' accounts was being captured. As a means to improve the validity and credibility of the data, participants were also given the opportunity to review the notes and results (Easterby-Smith et al., 1991). Moreover, and in line with Lincoln & Guba (1985) and Erlandson et al. (1993), prolonged engagement was undertaken between the researchers and the participants from across the case study organisations as a means to assist in establishing credibility. The prolonged engagement allowed the researchers to gain sufficient understanding of the organisations, whilst also allowing the researchers to engage and establish rapport with members from the case study organisations.

Additionally, Pandey & Patnaik (2014) highlighted the role of triangulation in enhancing the credibility in qualitative research. Triangulation is used to ensure an account is rich, robust, comprehensive and well developed, and the use of multiple data sources can help aid a deeper understanding (Merriam, 1995). Accordingly, for the purposes of this research, methods triangulation (Denzin, 1978; Patton, 1999) was adopted; this is the form of triangulation due to the selection of different forms of data collection, which in this case, included organisational reports, policy documents, organisational published materials, and researcher observational notes. Non-interview data, such as internal documentation and strategy documentation, allowed the researchers to gain insights into the organisational processes and ways of working as well as identifying the extent to which CE features in the overall organisational strategy for the case companies.

Data analysis for the study followed a content analysis protocol (Janker & Mann, 2018). Thus, the thematic analysis of the interview transcripts and field notes was undertaken using computer-assisted qualitative data analysis software (CAQDAS), specifically, NVivo. Verbatim quotations were included in the content analysis since these quotations were the most appropriate way to reveal how participants expressed meanings and experiences in their own words. Data collected from the multiple sources (archival data, observation notes, and in-depth interviews) were compared and contrasted by way of triangulation. Farmer et al.'s (2006) study was also drawn upon to diligently explore the transcripts of the in-depth interviews from the case study organisations to crosscheck and reinforce quotations with relevant supporting documents. After collecting, coding, and analysing the data, a conceptual framework and final discussion were structured based on the main categories and their interrelationship, as identified through axial and selective coding

(Bryman, 2016). The resulting conceptual framework is inspired and supported by Hall's (1976) cultural iceberg model and Korhonen et al.'s (2018) context of unit of analysis.

#### 4. Findings and Discussion

The initial emerging themes were captured for each participant; this method places emphasis on the key aspects of each account. Data that held similar meanings were then categorised, eventually leading to the identification of broader themes across each of the participant's data sets, as reflected in the analysis summary provided in Table 2.

Themes and Sub-themes	Brief description of themes and sub-themes	Frequency of reference to the sub-themes
<b>Conflicting priorities</b>	<b>This theme emerged from the data which related to the conflicting organisational priorities, whereby management felt CE was often at the expense of either one's personal goals and development and at the expense of organisational priorities, such as organisational targets or profits.</b>	
a) Organisational profits	Managers felt that despite the commitments to environmental causes, profitability and organisational growth were their priorities and main purpose.	13
b) Cost	There was a dominant impression that CE would be a costly approach for organisations to implement.	9
c) Lack of direct benefits	Managers failed to see the direct benefits of CE and often felt the benefits were too "intangible" and difficult to measure .	11
d) Reversal of personal socioeconomic development	Individuals believed that by opting for CE principles, although the society would benefit, this would be at the expense of one's own personal social economic development and progression.	9
<b>Internal pressures</b>	<b>The research findings highlighted that implementation of a CE was being hindered due to internal organisational pressures and that much of the value and benefits were external rather than internal.</b>	
a) Lack of CE related data and information	Managers cited a lack of specific data and information when it came to realising the value a CE may bring to the organisation. In addition	8

	to not knowing what information was required, managers felt the data was in silo and, in order to really understand the benefits of a CE, a more holistic and complete view of the data was required	
b) Lack of technical skills	It was evident that managers were uncomfortable with the idea of discussing CE-related matters, and much of this was due to the lack of technical skills and understanding of how CE can affect or influence their operations.	11
c) Time consuming	This was particularly evident for operational managers, who highlighted that in a busy operational environment, there simply was not the time to change and introduce new ways of working to satisfy CE initiatives in the workplace.	10
<b>Mindset and awareness</b>	<b>This theme referred to how managers felt CE was interpreted differently in general, and that it was not mainstream and there was a lack of awareness.</b>	
a) Public and politicians lack of awareness	Managers highlighted that CE principles were not necessarily mainstream and much of this was due to a lack of public awareness or publicity for this approach as well as a lack of endorsement and true commitment from politicians.	8
b) Recycling myths	The managers often referred to myths associated with recycling to CE and often referred to both terms interchangeably.	5
c) Wasteful culture	This referred to excessiveness in terms of both manufacturing and consumption. Managers emphasised that until the notion of “having more is better than having less” is not reversed, it would be difficult for organisations and consumers alike to fully personify and embody CE.	9
d) Dichotomic viewpoints	Regional, political, and stakeholder related differences made it difficult for managers to envision a unified CE approach. Managers felt CE either meant so much to so little to people, be it across countries as well as internally, within same organisations.	11
e) Conceptualisation vs Operational	This subtheme referred to how CE made more conceptual sense to managers than it did operationally, whereby they felt it would always work on paper but not always in reality.	6



<b>Education as a transformational vehicle</b>	Managers felt the only real way to transition towards CE is to educate not just businesses but also politicians and the public as a whole.	
a) Driver of change	This referred to the fact that education is a means to drive change at all levels, be it in schools or businesses or for politicians.	14
<b>Stakeholder responsibility</b>	This theme addressed the issue of the identity of two main sets of stakeholders, the public institutions and the civil society, who can assist in the paradigm shift towards CE.	
a) Public institutions	This referred to the influence and role of public institutions in driving CE through their regulatory and coercive power which makes them capable of leading changes.	12
b) Civil society	This referred to the ability of society to accelerate a shift towards CE through their consumption choices.	9

Table 2: Thematic analysis findings

Thus, these superordinate themes reflected the leading managing directors' or experienced managers' perceptions of CE over the 11 accounts. These themes were subsequently organised into a coherent and clear structure in conjunction with appropriate quotations that revealed their perceptions and narratives of CE. Through this process of qualitative thematic analysis, the data were analysed until new insights or themes were no longer observed in the data across all the case study organisations. This process is referred to as data saturation, and it was reached in this research, as the point came where similar comments and themes were repetitively gleaned from the interview data (Guest et al., 2006). Accordingly, the superordinate themes of 'Conflicting priorities', 'Internal pressures', 'Mindsets and awareness', 'Education as a transformational vehicle' and 'Stakeholder responsibility' were gleaned from the data, thus reflecting the underlying assumptions, attitudes and values of participants relating to CE adoption. It was evident through the data that the managers in general felt there were conflicting priorities about and a general reluctance to adopt CE at the expense of profits.

In addition to costs, they felt there was a lack of direct benefits in pursuing a CE based on the fact that the benefits were either too difficult to measure or were overtly intangible, which meant there was little impetus internally for them to pursue this course of action. Moreover, the data also highlighted many of the internal pressures which restricted or hindered the adoption of CE. For instance, there were many occasions where the participants highlighted the lack of technical skills as well as the limited in-house data and information to engage with CE initiatives. A key and dominant theme was also concerning the mindsets and awareness of CE across a divergent set of stakeholders. It was evident that many of the managers felt, firstly, that economic benefits would always outweigh any environmental benefits for them and that the purpose of a business was to make a profit. Secondly, it also seemed that many of the managers acknowledged that CE on paper was a sound proposition but that, operationally, there were many challenges associated with it.

Many of the managers highlighted the importance of raising awareness through various means including education.

Non-interview data were also used to triangulate the findings and to further consolidate and confirm the key themes that were derived from the participant interview data. Table 3 outlines the key empirical materials that were analysed for the purposes of this research.

Empirical materials	Media	Explanation
Documents	Electronic/paper	<ul style="list-style-type: none"> <li>• corporate culture and sustainability reports</li> <li>• Ellen MacArthur Foundation Report (2015) Towards a Circular Economy: Business Rationale for an Accelerated Transition Communications Strategy</li> <li>• reflections from participation in activities</li> </ul>
Websites	Electronic	<ul style="list-style-type: none"> <li>• organisational websites</li> <li>• corporate social responsibility aims</li> <li>• mission statements</li> </ul>
Observations	Electronic/paper	<ul style="list-style-type: none"> <li>• field notes and images from on-site observations</li> </ul>

Table 3: Non-interview data sources

It was evident that at least two of the case companies' websites had no mention of CE within their organisations' corporate social responsibility sections. Interestingly, when discussing the concept of CE, the participants from these organisations placed emphasis on there being a lack of information or awareness of what CE was internally within the organisation. An organisation's culture is often highlighted through its espoused values and is often represented through values, behaviours, and norms, and through the publicly stated mission and vision, which are often found displayed through marketing channels, on social media, and on an organisation's website. Therefore, analysing the organisation's website and the lack of wider, more strategic engagement with CE indicated why there may have been a lack of information and awareness of what CE is internally within the organisation. Conversely, analysing another organisation's website assisted in triangulating and developing the "recycling myths" sub-theme. One of the consistent findings in the data was how the term 'circular economy' was often misinterpreted and conflated with the concept of recycling. This was also evident from the corporate social responsibility section of the website of one of the case companies. Despite them referring to the term 'circular economy', the narrative preceding this on the website was related predominately to recycling with terms such as 'recyclable', 'recycled', and 'recycle' used on multiple occasions in the same section. This supports the narrative from the interview data, in which key stakeholders often assumed 'circular economy' and 'recycle' to be synonymous.

Two of the four companies' corporate culture and sustainability reports placed further emphasis on the dichotomic viewpoints held between stakeholders internally within the organisation. The

reports outlined detailed plans and commitment towards CE, which conflicted with the viewpoints held by the operational managers who were interviewed. For instance, while the corporate culture and sustainability reports highlighted a clear and unambiguous commitment towards CE activities, across the organisation, operational managers in the same organisations were unaware and not convinced of its actual application, thus consolidating the theme of "conflicting priorities" and the subthemes of "dichotomic viewpoints" and "conceptualisation vs operational" emphases of CE.

Data from the research observations as well as the field notes highlighted how, operationally, the emphasis was predominantly on productivity, output, and profits at the expense of circular activities and initiatives. The findings from the observations resonated with and consolidated the themes / sub-themes of "conflicting priorities", particularly "organisational profits", "cost", "lack of direct benefits", and "time consuming". For instance, one of the company's production and distribution sites engaged in recycling and waste recovery activities through operating cardboard and plastic balers on site. Utilizing cardboard balers can assist with CE, as cardboard packaging can be turned into packaging products, thus achieving a closed-loop process within days of collection. However, the need to insert cardboard and plastic separately was often overlooked by operational staff or store staff, who would return waste and packaging from stores. This was largely attributed to time constraints, a lack of awareness, and a desire to 'pass the problem on' to others in the organisations. As a result, it was evident during the observations that materials were not being separated and correctly disposed of by colleagues, often leading to a mixture of material; the combination of materials was causing waste and disrupting the next steps of the recycling process. This can also be seen in Figure 1.

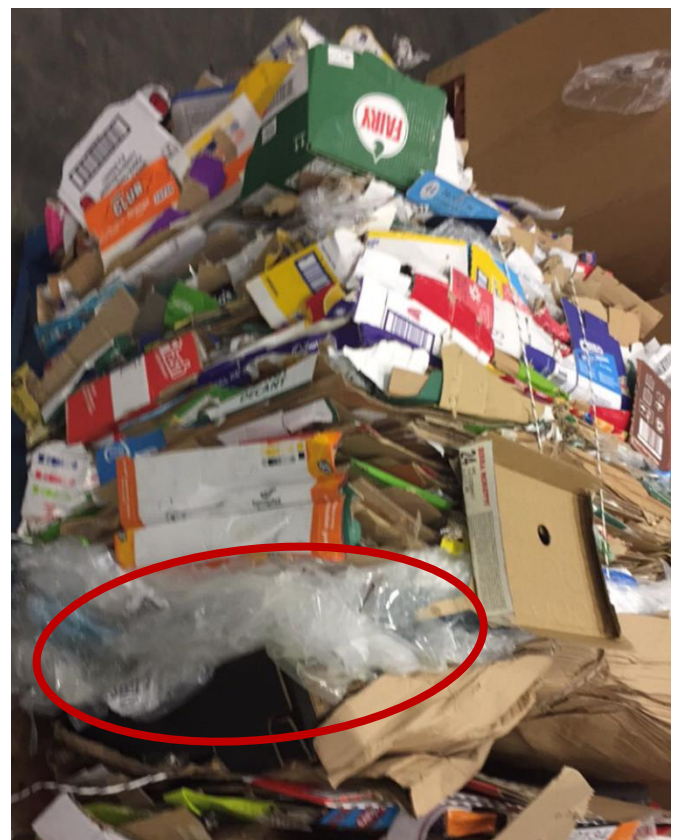


Figure 1: Images from researchers' onsite observations (Source: authors)

Observation field notes also highlighted that during periods of high demand, the warehouse aisles would become very congested; however, the focus could still be on high volume picking, whereby operational staff and pickers would continue to stack pallets high, which often led to spillages, tipping of pallet loads, and ultimately, waste. This, in turn, led to profitability and organisational growth being placed as key priorities in operational settings at the expense of recovering losses and waste. Other insights from the researchers' observations also helped consolidate the thematic findings for this research, such as an incident when a senior operational manager urged warehouse pickers to be more resourceful with their pallet shrink wraps, as it was expensive to procure more. However, despite this being due to cost savings, the move to reduce shrink wrap usage was circulated and communicated as a sustainable, environmental initiative. Although that was an indirect outcome of this initiative, it again outlined that cost savings was a major impetus and driver for behavioural change. Thus, articulating the cost saving of circular initiatives is imperative for their uptake, which further supports the "conflicting priorities", "internal pressures", and "mindset and awareness" themes from the interview data.

#### ***4.1 Conflicting Priorities: Circular economy transition inhibitors***

The analyses revealed pointers and actions that suggest and/or reinforce corporate assumptions that CE practices are incompatible with socio-economic progress. This section presents views and discusses findings on assumptions, values, beliefs, and perceptions on CE. In this regard, and according to the insights provided by the participants, there is a general assumption and perception that CE practices are incompatible with socio-economic progress. Thus, the perceived lack of any direct connection between CE and corporate profitability has been identified as one of the main thoughts hindering, slowing down, and derailing transitions to this economic model. A participant (the Managing Director for the private sector organisation), for instance, responded to our in-depth interview enquiry into CE, and she mentioned the following:

*"I think that people believe that their well-being is at risk(...). People do not want to give up their well-being. They do not want to give up travelling by plane. They do not want to give up travelling in an elevator or by car. So, it seems that we are going to renounce the rights that we have been acquiring as a society; it seems that we are going to go backwards, and nobody wants to go backwards. I do not believe so. But I think that is the way it is perceived."*  
(Managing Director Participant 1)

The viewpoint that circular business model adoption does not have a direct socio-economic development impact at the organisation and personal levels appears to have a strong influence on the economic benefit uncertainty associated with a CE. There is research evidence supporting the view that the difficulty of measuring the long-term benefits of CE (Bechtel, Bojko & Vöölkel, 2013) has resulted in the perception of economic uncertainty associated with circular business models.

In a similar vein, another managing director opined that *"if circular economy is promoted from the environmental departments, people or companies perceive it as a social issue (^^^); it's like you do it for the good of others, for the good of the environment, and not because that is going to bring you some economic benefits"* (Operations and Logistics Manager Participant 2).

Such opinions, perceptions, and beliefs regarding circularity inhibition appear to persist even at the corporate level despite the fact that the extant literature indicates otherwise. Several empirical

studies have shown potential savings due to cost reductions accruing from circular business models (Liu & Bai, 2014; Ghisellini et al., 2016; Murray et al., 2017); growth in profit margins and the possibility of creating new value through innovation (World Economic Forum, 2014; Linder & Williander, 2015). These prohibitive perceptions of the reality can also be linked to the lack of information and knowledge about the CE concept (Trianni & Cagno, 2012; Rizos et al., 2016). Both participants (managing directors of the private and public sector organisations) agreed that one of the main barriers to CE is the huge lack of knowledge and information on the concept.

#### **4.2 Internal pressures**

This is supported further by one of the operational managers (Participant 8), who emphasised time and uncertainty around its value are also factors impeding the adoption of CE. He stated:

*“In our busy environments, a common barrier is time to research and see the actual value of implementing CE. You can’t just overlook the effort required in rearranging and organising your workforce. CE, I believe, will involve changing ways of working, which ultimately impacts production. Besides, we can’t ignore the internal impact on and value to an organisation. While from an environmental point of view, it adds value, organisationally, it may add value in one part of the business, but take it away from another.”*

The manufacturing manager emphasised the internal organisation pressures, the time required, and the associated commitments in terms of reorganising ways of working as potential barriers to its implementation of a CE. Similarly, the improvement manager (Participant 6) also highlighted the organisational priorities:

*“To be frank, when you are exploring new sustainable ways of working, or circular economy-related principles, from my experience, it comes down to whether it makes ‘organisational sense’ first. If it does, then you’ll find commitment from the seniors.”*

He highlighted how sustainable approaches were viewed by his organisation, considering an economic benefit was associated with it. In line with the extant literature, the supervisor believed the prerequisites for CE adoption lie in access to appropriate information or data and having technical knowhow. Rizos et al. (2016) also specifically highlighted the limited financial resources and the lack of technical skills as key barriers impeding the implementation of a CE for organisations. This was further emphasised by the Improvement Manager (Participant 6) when he stated, *“If you require maintenance of your machinery, you called the engineers; if you require your systems upgrading, you call the IT guys; but if you need information regarding how effective your circular economy initiatives are, who do you even call? I know nobody in my warehouse would have a clue!”*

This further highlights the point made regarding the lack of technical knowledge and skills to successfully interpret and understand CE-related implications in operational settings. Conversely, and on a more positive note, an Operations Manager (Participant 10) made the point of utilising a CE as a means of positively positioning themselves from competitors. She stated:

*“Does it give us a financial gain? Maybe not overnight, but probably yes in the long term; however, it’s about morally, doing the right thing isn’t it? If you want to lead the way, then we must move away from leading only on market share or profits but also lead on how we are positively impacting the environment. I do believe a circular economy can help one achieve that.”*

Despite the fact that the Operations Manager referred to doing the right thing, she still alluded to leading the way and how it can create a competitive edge if an organisation is able to fully embody and implement CE initiatives.

### **4.3 Mindset and awareness**

Moreover, a Regional Sales Manager (Participant 11) also referred to organisational priorities but highlighted how perceptions around the quality associated with CE packaging played a role in having a less favourable opinion. He mentioned:

*“In our sector of frozen foods, you simply cannot compromise on quality. That is the golden rule, and there seems to be an impression that eco-friendly or even circular economy packaging would not be as durable. Now, we may be completely wrong in this; however, this does seem to be the overarching impression, and based on this, we would not be willing to compromise on quality.”*

He went on to say: *“I mean, take a look at McDonalds’ paper straws, for example. This is what I mean by poor quality”*.

Interestingly, there seems to be an impression that CE packaging lacks quality, and from this, it can be deduced that, perhaps, the Sales Manager is mistaking a CE for recycling, as the low quality of recycled products has previously been seen to challenge sustainability (Sue et al., 2020). However, by this, it is also evident that organisational managers may hold certain negative perceptions relating to CE, as supported by Biddle (1993), who highlighted common myths, including that of perceptions of inferior quality held by business leaders when it comes to green endeavours. Other participants also highlighted the internal organisational focus.

Further evidence of mindset related issues was also highlighted by the Managing Director (Participant 2) earlier, who stressed that a CE may not necessarily bring economic benefits to an organisation. In also acknowledging this, the Senior Quality Control Manager (Participant 5) felt CE was ‘oversimplified’, and he continued by stating:

*“Profitability is clearly the main goal for any business, and most are aware of a moral obligation to protect the environment; however, the current means available for businesses to recycle or engage in circular initiatives are costly, time consuming, and offer very little direct benefit to the business, which results in a culture of waste and lack of real commitment to recycling and re-use of materials and equipment.”*

Aside from the direct economic benefits, internal resources were also highlighted as key factors in the application of CE. A warehouse supervisor (Participant 9) stated:

*“I think information, as well as technical skills, plays a highly important role in all of this. If we can access more information which helps us understand the practical implications and the tangible benefits of moving towards circular economy, then we can confidently act in a certain way that is going to let our businesses remain competitive. The problem we have is, a lot of information is missing in this regard or is in silos, and we do not really have that internal technical knowledge which helps us understand what the real impact of going circular may be.”*

Two other interview participants who were not managing directors corroborated with the lack of knowledge and information challenge to circular business model adoption as shown by the statement from one of them presented below:

*“Although it is true that what people need is information. And another of the barriers that I forgot to mention before is precisely this. Information or knowledge (...) knowledge about what options there are and knowledge about possibilities of change, what these changes of the circular economy imply... .”* (Non-Managing Director Participant 1)

The Senior Quality Control Manager also placed emphasis on wider issues and highlighted that CE only has a chance to upscale and become mainstream by necessity not by choice, and he felt that in the Western world, they were still implementing it due to necessity rather than preference. He commented:

*“Funnily enough, in my opinion, the current champions of a circular economy style of working are 3<sup>rd</sup> world countries such as Africa. Admittedly, this method of use stems more from necessity rather than choice, but I perceive this to be a clear indicator of how this system of working can be a viable option if it were to be implemented on a national or even global scale.”*

Elaborating further, he referred to the wasteful culture of successful organisations in the developed world and believed that reversing this has become extremely difficult:

*“One of the biggest challenges will be to change the culture of waste that is manifest in both manufacturing and consumption on a global scale. Setting manufacturing quotas and quotas for primary raw materials used within the manufacturing industry can help reduce the amount of waste, will encourage manufacturers to resort to the use of secondary raw materials, and, I also believe, product design and innovation will improve drastically to either reduce waste or make it simpler to recycle the product or parts of the product. With that being said, lip service is easy, but real world application will be extremely difficult and will always face opposition especially in relation to countries whose leaders believe climate change is a “hoax” and “fake news”.*

There was strong opinion held amongst the managers that CE can mean either very much, or conversely, very little to people within the same organisation, and therefore, they felt it is not formulated and prioritised as one of a strategic goals for an organisation, so it would be difficult to implement and have a unified approach towards CE.

Additionally, the field notes taken by the researchers during the 3-month period of interaction with senior staff and professionals also showed that general awareness of CE among professionals, including those working in the environmental sector, was not satisfactory as reflected in an excerpt from the field notes presented below:

*“Generally, workers were not familiar with the circular economy. My preconceptions before visiting the organization were that most of them would be at least aware about the basics of the concept due to the environmental nature of the organization. I was wrong.”* (Researchers’ field notes)

This observation on the part of business leaders and professionals seems to be analogous to empirical findings that identified politicians’ lack of awareness about CE and its potential benefits (Xue et al., 2010; Ilić & Nikolić, 2016). The sentiments from the researchers’ field notes also seem to reinforce the notion of a bottom-up approach taken to implement CE rather than a top-down approach with full senior management commitment (Guisellini et al., 2016).

Moreover, when asked regarding why there may be a lack of public awareness of this in general, the Improvement Manager highlighted:



*“How well is circular economy marketed, for instance? On a large scale, the public are more likely to be aware of what is widely shared to them via social media, online advertisements, and or celebrity endorsements (...) Are you telling me if David Beckham did a campaign on CE that the public wouldn't be aware of what it is?”*

The Improvement Manager believed more could be done to create awareness around CE, highlighting that a lack of awareness is also a hindering factor in the wide-scale adoption of CE principles.

Another viewpoint that resonated with most participants during the in-depth interviews and with other staff during personal or informal interactions with researchers is the perception that CE is a philosophy rather than a contemporary economic model that could boost a new sustainable way of socio-economic progress. A number of statements from the in-depth interviews highlighted this:

*“It is almost more a marketing philosophy rather than something palpable that can be translated into my salary, my life and the well-being of my children. It is a future project.”* (Managing Director Participant 2)

*“The circular economy concept is fantastic on paper and offers a solution to the inevitable shortage of our natural resources. The concept is sound however real world application and implementation is another can of worms.”* (Senior Quality Control Manager, Participant 5).

This insight is clearly related to the difficulty in measuring CE's long-term economic benefits (Bechtel et al., 2013) and being able to clearly articulate the benefits to business stakeholders. According to Managing Director Participant 2 (see statement below), it is only when one is able to translate CE practices to concrete economic benefits that the concept is better understood by business leaders and managers:

*“They are aware when you are able to translate it in monetary terms, for example, the whole issue of energy efficiency, when you tell them: ‘You'll save, I do not know, X € per year’. In that case, yes ... (^^^) But ... (...) if you do not translate it into money, it's harder to let them see that this is an opportunity”.* (Managing Director Participant 2)

Another point of view that was identified as a barrier (hidden/invisible culture) hindering circularity transitions and entrenching the corporate inertia of business leaders and professionals is the perception that the current global environmental challenge is out of the control of individual businesses. This posture is underpinned by an appeal to the global scale of the environmental challenge emanating from the unsustainable linear economic model that requires a multi-sectoral and global action, and as such, a single business or a professional individual perceives that their respective actions will not have a meaningful impact. Such a predisposition is reinforced by a statement by one of the managing director participants:

*“Well, people are not aware. I think people think that this is the story of the wolf. That the wolf is coming, that the wolf is coming ... The same thing happens with climate change. I believe that people are still (...) It is not that they do not believe it. They believe it, (...), but well (...). It will not be such of a problem, right? If this is such a global problem, so big, it's not worthwhile for me to make any gesture... . I think people feel helpless when it comes to dealing with them. That is, okay, the planet's resources have been exhausted on August 1. Fuck! What a shame! But we are not willing to do anything”.* (Managing Director Participant 2)

This above viewpoint was further emphasised by another in-depth interview participant, who suggested that people, including business leaders and managers, are primed to respond to an immediate challenge rather than take actions now for a future benefit. According to this



participant, such a reaction towards CE is a natural human reaction, as the human brain is configured to deal with immediate challenges and problems rather than paying attention to remote or future challenges during lifetime. Such insight by inference highlights some of the psychological theories, such as Ainslie's theory of 'a basic tendency for humans to form temporary preferences for the poorer but earlier of two goals' (Ainslie, 2010:5-6). Thus, within the context of this study, business leaders and managers have a higher preference for the linear model of production as opposed to the circular economic model. Another human psychology theory that can be drawn on to reinforce this point is the first of the five of Sykes and Matza's (1957) categories – labelled 'neutralisation techniques' – that describe the different rationalisations that people apply to their norm-violating behaviour. The denial of a responsibility neutralisation technique, adapted to the CE context, would proffer the argument that a business and/or its leader and manager is not 'individually' accountable for global environmental challenges due to the depletion of natural resources (norm-violating behaviour). This is because factors beyond the organisation's control are operating; for example, "It's not the fault of business; businesses have no other choice than to explore resources to meet consumer needs and hence add value to shareholder investment".

This view is encapsulated in the following statement:

*"In the end, the human brain is very selective. From the moment you are born, your brain is already prepared so that you do not spend your whole life bitter because you are going to die. So, this is the same. As you know that, probably, you will not be affected, your subconscious, your brain, is already determining you, that just as you are going to die, that will happen (...), but it is able to assimilate it".* (Managing Director Participant 1)

When another participant from the private sector was asked how optimistic she was about the future based on the actions her organisation is currently taking towards a CE, she replied:

*"Oh! I am glad that you said that because I was going to say that I am very sorry about sounding that pessimistic... Yeah, I am (...) I am... I mean I only got about another 40 years on this planet so... ."* (Non Managing Director Participant 2)

The non-managing director participants from the public and private sectors were also of the view that the change towards CE will emerge out of necessity rather than out of conviction according to their statements presented below:

*"When obtaining certain materials (...), there is going to be such competition that they will be more expensive; we will have to redesign to use less. Namely, I think that there will come a time when the cost of both the resources and the disposal of waste will cause the economic model to change out of necessity, not out of conviction [...] Yes. Clearly, yes. That always happens. Until you have the problem over you, it is very difficult to get to solve it especially if it takes an effort".* (Non-Managing Director Participant 1)

*"It is in the essence of the human being. This is not new. All life, the human being has been a great predator. The empires, which we like to see on television, the Roman Empire, the Napoleonic Empire, the Spanish Empire ... all are empires created by the anxiety for power and money. And now (...) it is the same. So, the people who have the power to decide what they want are driven by this (...) and more in a capitalist culture like ours where only the economic benefit matters [...] Human nature is (<\_>) human behaviours that occur throughout history, are born of human nature itself."* (Non-Managing Director Participant 2)

The insight gleaned from this response is that companies will only respond effectively and expeditiously to the CE when the environmental and social problems associated with unsustainable corporate practices are much worse compared to the present, and the profitability prospects of businesses are seriously threatened. It can be inferred from these insights that the increasing

pressure to mitigate environmental pressures due to resource scarcity and the subsequent price volatility and risk of supply dependence (McKinsey & Company, 2011; EMAF, 2013; Esposito et al., 2017; Circle Economy, 2018) resonates with business leaders and managers. However, these critical challenges are not viewed as a corporate emergency that requires urgent transition to circular business models in the short term. It can also be suggested that the general challenge for organisational leaders to change their mindset to long-term systems thinking (Betchel et al., 2013) also perpetuates the tendency to discount future challenges by maintaining corporate inertia to circularity transitions. In summary, insights from archival documents, researchers' observation field notes, and in-depth interviews from the four senior staff of the two large organisations revealed a number of assumptions, visions, perceptions, and attitudes (invisible/hidden culture) manifested through the visible culture of respective organisations that hinder, slow down, and derail transitions towards CE.

#### ***4.4 Education as a transformational vehicle***

Further insights from the results indicated that business leaders and managers believe education acts as a transforming vehicle for positive worldviews, assumptions, and perceptions towards CE. The findings indicated education always plays a positive mediatory role between business stakeholders' unfavourable CE viewpoint, as they are influenced by the underpinning hidden/invisible culture - worldviews, assumptions and perceptions, and corporate action and the behaviours that play out in the form of corporate and organisational strategy (visible culture). Additional insight revealed unanimity among the business leaders and managers of the two large organisations that the hidden culture which influences the actions taken through the visible culture can be changed through education, although the process of change will be long and difficult. Sample sentiments that point to the key mediatory role of education are presented below. For example, when Participant 4 (Non-Managing Director 2) was asked how we could change the organisation and business leaders' and managers' unfavourable hidden culture toward the CE, he replied as follows:

*“And against that (...), only education can change it. We are talking about education that has to be implemented precisely by those who want to change against their own nature. That is, the human being has to create an education to change himself. That is a very difficult thing because the education that is given is also a reflection of the human being. We are talking about a natural instinct that is what determines social behaviours”.*

Moreover, Participant 7, a Manufacturing Manager, also emphasised the importance of education, stating:

*“You would assume education is the key? I mean, more people are now educated, and you'd expect them to be able to consider a wider scope of variables when making decisions, including the impact of one's actions on everything around us. I really feel if you have not been educated on the importance of CE, then your decision making will always be closed, silo, and naturally sceptical.”*

When Participant 3 was also asked how organisations could change their natural resource consumption patterns, which can be regarded as inherent attitudes embedded in a hidden culture, she responded with the following statement presented:

*“Well ... (^^) Let's see, there can be two ways: a long-term one, which is through education, and a shorter one, which entails public institutions' regulatory power. That is, the more polluting the products or services are, the more expensive the taxations”.*

Other participants concurred with Participants 3 and 4 with statements with that had a slightly different emphasis, such as Participant 1, who emphasised the need for education for all as follows:

*“I believe that education is indispensable. Definitely. For any process of change: within a company, within the school. In any type of area. Absolutely.”*

On the other hand, Participant 2, a managing director of an environmental public institution’s awareness campaigns, commented, *“Well, many awareness campaigns ... What we are doing? Conferences, including approaching schools, which are likely to generate the biggest impact”*.

It is interesting to observe that Participant 3 viewed education as a short-term intervention as opposed to public policy, which was considered a long-term approach. Whilst we contend that education is a long-term intervention and public policy is a short-term option, the angle of public policy and regulation influence was also popular with other participants. Participant 1 agreed with the short-term proposition of regulation to endanger a paradigm shift in her statement, as follows:

*“The short way is that the government itself (^^^), in its broad sense, becomes aware of a problem and promulgates an organic law (LO). It is much simpler to change the paradigm in this way than vice versa. The processes in reverse are much slower”*.

CE also suffers from oversimplification and misrepresentation. Researchers’ observations within the 3-month period with the four large organisations and data from the in-depth interviews identify that CE has been simplified to mean waste management, particularly recycling. This was a key response by Participants 1, 2 and 5 who opined as follows:

*“Yes. I think that it has been simplified to the field of waste, and especially thinking that the goal is to recycle. When the objective, especially the first, is to prevent, reuse, repair and then to recycle ... But I think it has been simplified too much. People think it's recycling waste.”* (Participant 1)

*“I think that the whole topic of the circular economy is being simplified by relating it to waste valorisation or recycling, so that everyone can say that they are working on something related to the circular economy, but actually, I think that little is being done.”* (Participant 2)

*“From a general standpoint, I would agree with the statement in question 2, even though I feel it is oversimplified and circular economy as a whole is, too.”* (Participant 5)

Education has been found to have a key positive mediatory role between the hidden and visible culture, as it has the potential to change those perceptions hampering the paradigm shift.

#### **4.5 Stakeholder responsibilities in the drive towards a circular economy transition**

Addressing the issue of the identity of the main actors involved in the change of paradigm towards the CE, two stakeholders were identified as being the most influential: 1) public institutions through their regulatory and coercive power, which makes them capable of leading changes, and 2) the civil society, which was understood as an actor capable of altering markets through their consumption choices.

With regard to actors driving the change, participants were asked who were the main actors who had the capacity to accelerate the change of paradigm to CE, and they provided the following responses:

- A) *“In the end, the ones who have the power, ... let’s say, of the public administration, of what they allow or do not allow, of what kind of taxes apply or not apply to one type of product or another... If you lower taxes on reused, remanufactured, recycled products, whatever they are, you are promoting a market of that type, much larger than the current one.”*
- B) *“If we were more responsible in the consumption, probably companies would change their products in the market. In other words, I believe that we are not using the strength of the (...) of the consumer to force companies (^^) to offer us more sustainable products.”*
- C) *“I think that consumers could have a lot of strength, but we are not willing to introduce changes in our habits of consumption or (...) life.”*
- D) *“Public administrations, which are the ones that have the power and the capacity to lead the rest of society. Society itself has to be directed [...] The role of public institutions on the transition towards a circular economy is imperative to its success. The transition of the public sector will have to be the forerunner to encourage the private sector to follow suit provided the success of the transition is demonstrable (...) I feel success lies in direct co-operation between the two sectors.”*

It is revealing to find that business leaders and managers view organisations as ‘implementer’ stakeholders within the context of transitions to CE. They are perceived as and aligned towards responding to public institutional (government) regulations and civil society pressure instead of being a ‘strategic’ stakeholder taking circularity initiatives. This recurrent view of participants is in line with Dong et al. (2016), who highlighted the crucial role of the public sector and government regarding enhancing CE practices. But what is novel is how organisations view themselves or self-identify as implementers and not as strategic innovators towards CE. Furthermore, Witjes & Lozano (2016) emphasised the relevance of establishing subsidies and taxes that reinforce the creation of CE business models and penalize those that are not.

It can be inferred from these findings that changes led by civil society through the use of education will be much slower and more difficult compared to those led by public institutions through regulatory compliance. However, despite the fact that the change has to be directed from public institutions, these institutions will be affected by pressures exerted from both civil society and the private sector in a demonstration of the popular sovereignty characteristic of democratic countries. Strikingly, there is no mention of the private sector as a direct initiator of the circular business model. According to Participants 1, 3, 4 and 8, the private sector will respond to stimuli created by either public institution (in the form of laws, taxes, bans, and others) or civil society (change in consumption patterns, preferences, desires, and protests), and always with the ultimate goal to fulfil their own private interests. These views were echoed in statements by participants such as the two presented below:

- A) *“They have to have public interests because simply they have to obey the law, and people will choose whether or not to use their products based on their perception of whether or not am (...) they think is an ethical organization.”*
- B) *“Corporate image, and the fulfilment of objectives, especially economic ones, weigh more than the whole aspect of environmental and social compliance.”*
- C) *“The problem they have is that today large corporations only look at the interests of their shareholders. And what works for them and gives them (...) benefits, they will do it. And what does not benefit them, they will not.”*
- D) *“In many instances, it comes down to a business case. Sustainable approaches will be measured based on their cost savings; if the cost savings are substantial, the sustainable spin takes place and it will be publicised widely, not necessarily for what it was originally implemented for.”*

Public institutions, civil society, and the private sector all form an interdependent relationship, and their manifestations will contribute to the paradigm shift as far as education is able to change both the perceptions of an invisible culture and the actions of a visible culture that hinder transition to the CE.

#### ***4.6 Contributions: Unravelling corporate inertia within a circular economy context***

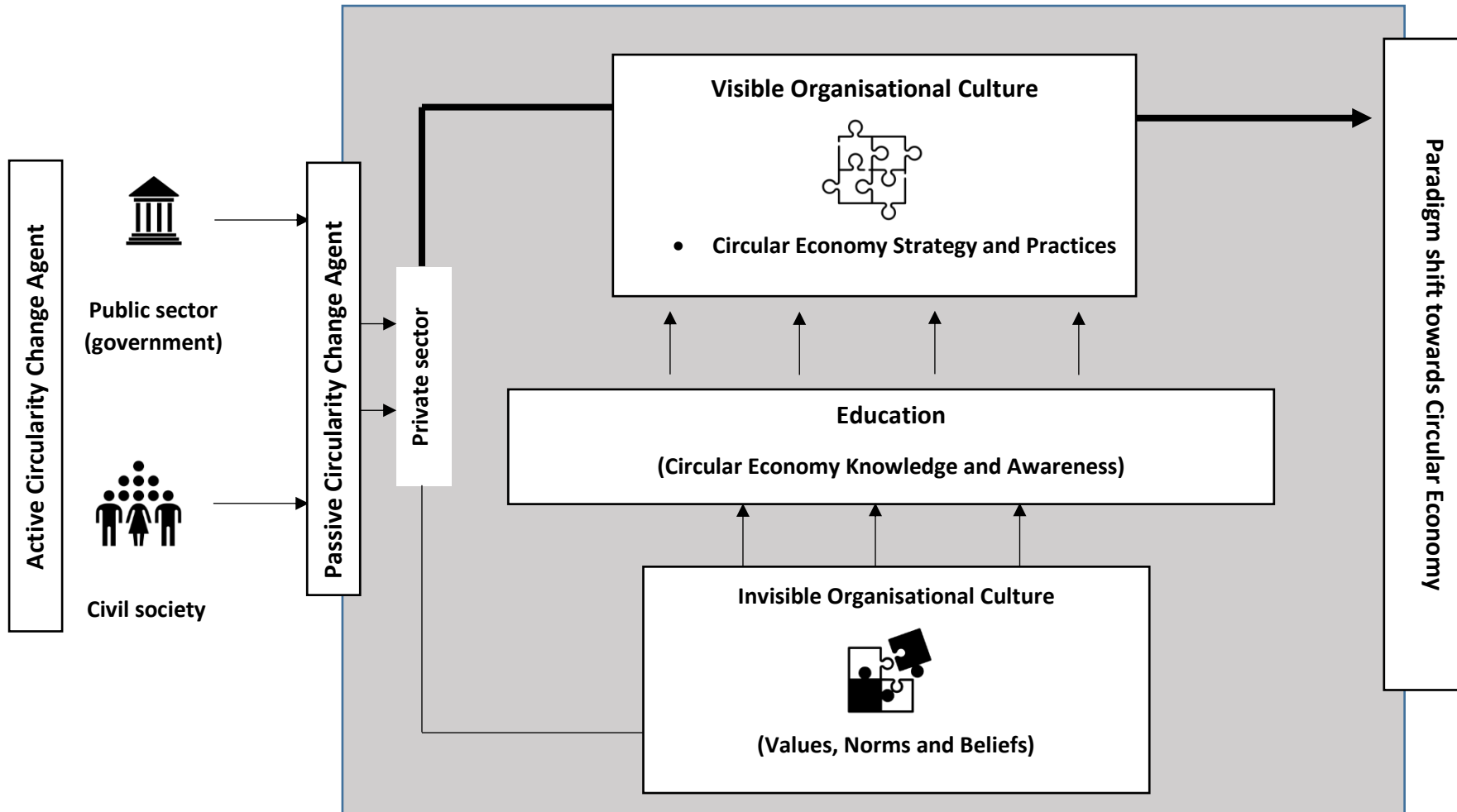
The study contributes to the existing knowledge on corporate inertia towards CE business models in three significant ways. Firstly, the study provides insights through revealing that contrary to prior research evidence on the lack of CE awareness among business leaders, they are aware of CE but are not persuaded by the business case for its implementation, as they perceive a lack of assurance of the short- to medium-term financial and economic benefits of its adoption. Secondly, the lack of a convincing business case, coupled with prior research evidence on the absence of a standard system for CE performance indicators, has served as a catalyst for the misalignment of business leaders' values and perceptions with organisational CE goals. Thus, such a predisposition hinders relevant institutional, industry, and supply chain stakeholder engagement and fosters circularity greenwashing. Thirdly, the current study complements the prevailing research understanding on the need for CE education with specific prescriptions for CE education and skills training beyond creating awareness but considers the need to offer CE education on specific CE business models that can guarantee market success in the short to medium term. The education programme ought also to provide an orientation of CE in terms of a competitive organisational strategy (to speak the language of business) and a critical platform to promote thoughtful dialogue and commitment to stakeholder collaboration towards circularity transition.

Figure 2, which shows the Transitional Circular Economy Frame of Reference, illustrates how organisational system thinking can overcome corporate inertia to promote transitions to CE. The insights gleaned from the findings indicate how the perceptions, beliefs, assumptions, and worldviews embedded within the hidden culture inhibit, slow down, or derail transition towards CE, and this is evident in the ultimate organisational action and behaviour towards circularity. Whereas business leaders and managers accept the role of the private sector in the paradigm shift towards circularity, they view public institutions (governments) and civil society as the main influential stakeholders (active circularity change agents) driving initiatives towards the circular business model. The private sector is thus perceived as a passive circularity change agent that responds to the regulatory framework resulting from the public sector (governments) as a result of civil society pressure exerted by consumers and pressure groups. Education, which is reflected in the level of knowledge and awareness about the CE concept was found to play a key mediatory role in influencing business leaders' and managers' values, norms and beliefs (hidden culture). The measure and quality of knowledge on circularity determines the number and types of CE strategies and practices implemented by organisations, which is reflected in their actions and behaviour (visible culture).

In a nutshell, it can be argued that the degree of civil society pressure and advocacy creates a general awareness in society, but it takes the joint effect of regulatory action on the part of policy makers and the quality of circularity education to engender favourable values, norms, and beliefs for the private sector to take action towards implementing a paradigm shift to a circular business model. Business leaders' and managers' general awareness of CE appears not to be an adequate catalyst to compel organisations to act favourably or to initiate CE innovations. The finding from the study indicates a need for an accompanying regulatory framework and the prospect of losing

value on their investment due to customer boycott in order for businesses to engage proactively in CE initiatives.

Figure 2: Transitional Circular Economy Frame of Reference



## 5.1 Research and managerial implications

This study, which used organisational case studies, researcher observations, and qualitative interviews to explore the underlying precursors to corporate circularity transition inertia found that several values, perceptions, assumptions, and worldviews of business leaders and managers (participants) hinder a transition towards this new economic model. Specifically, there is a perception (a misconception) that CE cannot serve as an economic model capable of driving socio-economic growth or improving business competitiveness. This perception appears to be driven by the difficulties associated with measuring the long-term economic benefits of the CE model (Bechtel et al., 2013). The study also revealed that one key barrier underlying corporate inertia to the transition towards a circular business model is the lack of knowledge and information about the CE concept. Such insights confirm research findings that elicited organisational (Trianni and Cagno, 2012; Rizos et al., 2016) and political (Xue et al., 2010; Ilić & Nikolić, 2016) stakeholders' knowledge and understanding of the CE concept. Indeed, the recurrent viewpoint among senior managers of the four large organisations and their general staff studied in this research showed a delimitation of the wide scope of the CE concept to the context of recycling. Such a narrow viewpoint reduces dramatically the interdisciplinary and multi sectorial scope of the CE framework and practice. Additional insight confirmed the existing business leadership culture that is unable to react expeditiously to global and future resource and environmental challenges, alongside a proven inability to change a large organisational mindset to long-term systems thinking (Betchel et al., 2013).

More specifically, this study contributes to our understanding of the underlying factors influencing corporate inertia within the context of CE. It also contributes to knowledge and insights on the corporate actions and inactions that hinder a paradigm shift towards CE. The collective understanding from this study serves to rebalance existing circularity knowledge between social science, including management scholarship and natural science communities. This balance represents a critical equilibrium required to engender a paradigm shift (Korhonen et al., 2018) toward a circular business model. Among other findings, the misconceptions regarding CE, the narrow scope of the circularity concept, the lack of comprehensive knowledge, and the private sector self-identifying as a passive circular business model driver provide avenues for targeted interventions to mainstream a CE framework. Acting appropriately on these findings will enable decision makers to understand the value of CE and encourage a multi-stakeholder approach to promote its adoption and explore its strategic business advantage. As a result of the findings and discussions, this research further recommends the following three research propositions be explored in future research:

*Proposition 1: The governmental, institutional, and consumer drive towards a circular economy will only begin to resonate positively with private sector organisations and businesses when a convincing short- to medium-term business case is presented.*

*Proposition 2: A better understanding of specific successful circular economy business models beyond mere awareness education will activate a shift towards re-aligning business leaders' values and beliefs with organisational goals for a circular economy and attenuate their susceptibility to circularity greenwashing.*

*Proposition 3: The proactive drive towards a circular economy will trigger a paradigm shift and a more seamless circular economy uptake by private sector organisations and businesses when well-engaged stakeholders achieve consensus on a standard system for measuring circular economy performance indicators, be it on recycling, reusing, or remanufacturing products.*



Further insights point to the key mediatory role of education between the hidden and the visible large organisational culture reflecting the current CE predisposition of the four private and public sector entities. The hidden culture encompasses business leaders' and managers' perceptions, visions, and assumptions that are identified as being unfavourable toward a paradigm shift. These inhibitors can be changed through education, albeit a slow and difficult process. A comprehensive CE education will expand the simplified CE domain of recycling to the requisite interdisciplinary and multi-sectorial scope of the concept and the need for adopting a whole-system perspective (Goltsos et al., 2019). We further found short-term prospects for a paradigm shift towards CE could be through the regulatory, governmental incentives and the coercive framework of public institutions and civil society advocacy. This prospect, however, is challenged by public sector leaders including politicians' lack of adequate education on the CE concept.

Another notable finding indicated that the main influential actors directly leading the change towards the CE are public institutions (Dong et al., 2016), who, through their regulatory and coercive power, are capable of leading transitions (Witjes & Lozano, 2016); and the civil society, is viewed as an actor capable of altering markets through their consumption choices. It was very profound to observe that the private sector self-identifies as an indirect driver as opposed to being an active stakeholder initiating circularity innovations. To this end, it is viewed as a sector that responds to the stimuli created by either the public institutions (in the form of laws, taxes, bans etc.) or civil society (change in consumption patterns, preferences, desires). Thus, the private sector has not fundamentally departed yet from the trend of responding to pressure from other stakeholders to engage with circularity and does not fully appreciate its strategic business advantage at present.

Moreover, a frame of reference can assist in offering a perspective, changing perceptions, or placing emphasis on a particular context. Accordingly, one of the contributions of this work is the Transitional Circular Economy Frame of Reference given in Figure 2, which can act as a guide for organisational stakeholders interested in transitioning towards a CE. More specifically, the Transitional Circular Economy Frame of Reference can enable management to identify ways in which they can alter the negative perceptions and inaccurate connotations related to the CE within their organisations. For instance, evident from the analysis, as reflected also in the frames of references, is the role education can play in facilitating and driving change.

Within an organisational context, offering training and undertaking awareness campaigns may allow stakeholders in the organisation to transition from an 'invisible organisational culture', where incorrect notions held by stakeholders may be less likely to be challenged, towards a more 'visible' and transparent culture and perception. As such, through the proliferation of CE knowledge and awareness, management may be able to differentiate between concepts often used interchangeably with CE, such as waste management and recycling.

Moreover, findings from this research also point to the need for a more collaborative approach, whereby managers need to appreciate the role played not only by internal organisational stakeholders, but also by policymakers, through their regulatory and coercive power capability for driving change. Thus, stakeholders may engage in dialogue with government agencies to expedite the drive towards a collective CE consensus and uptake. The research also indicates that it is not sufficient for an organisation to merely have a CE strategy and principles in place and shows that

there is a need for awareness and alignment so that all stakeholders within the organisation understand what CE entails and what it means for them in the organisation.

## **5.2 Research limitations and future research**

In summation, it is important to indicate that the study is limited in terms of geographical coverage. Hence, the results of the study can be interpreted only within the context of England and not generalised across other countries. This is because the results can be understood only from the point of view of the participants involved in the study, who were from four large organisations in England. Therefore, the findings extracted cannot be generalised, and any attempt to replicate the study will have to consider participants' specific organisational and country-specific context. A higher volume of qualitative data collection could have the benefit of identifying a greater number of thought patterns between participants. Future research could also examine the core categories identified by this study as having an impact on the transition towards CE, with special emphasis on CE education for private and public sector stakeholders.

## **5.3 Concluding remarks**

This research set out to examine how the values and beliefs of business leaders and managers may influence or dissuade internal and external stakeholder engagement towards the uptake of circular business models. This paper firstly explored the concept of CE and discussed in detail the critical discussions, debates, and perspectives surrounding CE. Through taking a practical focus, and supported by a qualitative approach, the research placed emphasis specifically on the attitudes and mindsets of business leaders within the food sector, and as a result, identified the misalignment and discord between the values held by business managers and organisations' wider circularity aspirations. Accordingly, the underlying factors which underpinned this misalignment were identified, whilst the means and practical approaches through which the corporate inertia towards CE can be demystified were also revealed. The Transitional Circular Economy Frame of Reference has the potential to guide organisations by signifying the importance of stakeholder engagement and the role of collective action, as well as indicating the significance of education about and awareness of circularity to help firms realign and transition towards CE.

## References

- Alier, J. M. 2009. Socially sustainable economic de-growth. *Development and Change*, 40(6), 1099-1119.
- Aloini, D., Dulmin, R., Mininno, V., Stefanini, A., Zerbino, P. 2020. Driving the transition to a circular economic model: A systematic review on drivers and critical success factors in circular economy. *Sustainability*, 12(24), 10672.
- Bechtel, N., Bojko, R., Völkel, R., 2013. Be in the loop: Circular economy & strategic sustainable development. Master's Thesis. Blekinge Institute of Technology. Karlskrona, Sweden.
- Benyus, J. M., 1997. *Biomimicry: Innovation inspired by nature*.
- Bhatia, M. S., Kumar Srivastava, R. 2019. Antecedents of implementation success in closed-loop supply chain: An empirical investigation. *International Journal of Production Research*, 57(23), 7344-7360.
- Biddle, D. 1993. Recycling for profit: The new green business frontier. *Harvard Business Review*, 71(6), 145.
- BITC, Business in the Community, 2018. Resource productivity and the circular economy: The opportunities for the uk economy. Available at: <https://www.bitc.org.uk/resources-training/resources/research/resource-productivity-and-circular-economy-laying-foundations>
- Bocken, N. M., de Pauw, I., Bakker, C., van der Grinten, B., 2016. Product design and business model strategies for a circular economy. *Journal of Industrial and Production Engineering*, 33(5), 308-320.
- Borrello, M., Pascucci, S., Cembalo, L. 2020. Three propositions to unify circular economy research: A review. *Sustainability*, 12(10), 4069.
- Braungart, M., McDonough, W., Bollinger, A., 2007. Cradle-to-cradle design: creating healthy emissions—a strategy for eco-effective product and system design. *Journal of Cleaner Production*, 15(13-14), pp.1337-1348.
- Broman, G. I., Robèrt, K. H., 2017. A framework for strategic sustainable development. *Journal of Cleaner Production*, 140, 17-31.
- Bryman, A., 2016. *Social Research Methods*. Oxford University Press.
- Chertow, M., Ehrenfeld, J., 2012. Organizing self-organizing systems: Toward a theory of industrial symbiosis. *Journal of Industrial Ecology*, 16(1), 13-27.
- Circle Economy, 2018. The Circularity Gap report – An analysis of the circular state of the global economy. Available at: <https://www.circle-economy.com/the-circularity-gap-report-our-world-is-only-9-circular/#.XEYHn6eZPjA> (Accessed: 19 September 2018).

- De Jesus, A., Mendonça, S., 2018. Lost in transition? Drivers and barriers in the eco-innovation road to the circular economy. *Ecological Economics*, 145, 75-89.
- De Mattos, C. A., & De Albuquerque, T. L. M. 2018. Enabling factors and strategies for the transition toward a circular economy (CE). *Sustainability*, 10(12), 4628.
- Dong, L., Fujita, T., Dai, M., Geng, Y., Ren, J., Fujii, M., Wang, Y., Ohnishi, S., 2016. Towards preventative eco-industrial development: an industrial and urban symbiosis case in one typical industrial city in China. *Journal of Cleaner Production*, 114, 387-400.
- Ehrenfeld, J. R., 2000. Industrial ecology: paradigm shift or normal science? *American Behavioral Science* 44 (2), 229-244.
- Ellen MacArthur Foundation (EMAF), 2013a. Towards the circular economy: Economic and business rationale for an accelerated transition. Report Vol.1. Available at: <https://www.ellenmacarthurfoundation.org/publications>
- Ellen MacArthur Foundation (EMAF), SUN, McKinsey & Co, 2015. Growth within: A circular economy vision for a competitive Europe. Available at: <https://www.ellenmacarthurfoundation.org/publications>
- Esposito, M., Tse, T., Soufani, K., 2017. Is the circular economy a new fast-expanding market? *Thunderbird International Business Review*, 59(1), 9-14.
- European Commission, 2015. Closing the loop – an EU action plan for the circular economy (Brussels).
- Europesworld, 2019. The circular economy is the basis of a new industrial policy. Available at: <https://www.friendsofeurope.org/greener-europe/the-circular-economy-is-the-basis-of-a-new-eu-industrial-policy> (Accessed: 8th January 2019).
- Farmer, T., Robinson, K., Elliott, S. J., Eyles, J. 2006. Developing and implementing a triangulation protocol for qualitative health research, *Qualitative Health Research*, 16(3), 374-394.
- Fellner, J., Lederer, J., Scharff, C., Laner, D. 2017. Present potentials and limitations of a circular economy with respect to primary raw material demand. *Journal of Industrial Ecology*, 21(3), 494-496.
- Filimonau, V., & Gherbin, A. 2017. An exploratory study of food waste management practices in the UK grocery retail sector. *Journal of Cleaner Production*, 167, 1184-1194.
- Friant, M. C., Vermeulen, W. J., Salomone, R. 2020. A typology of circular economy discourses: Navigating the diverse visions of a contested paradigm. *Resources, Conservation and Recycling*, 161, 104917.
- Geissdoerfer, M., Savaget, P., Bocken, N.M. and Hultink, E.J., 2017. The circular economy—A new sustainability paradigm? *Journal of Cleaner Production*, 143, 757-768.
- Geissdoerfer, M.; Savaget, P.; Bocken, N.M.P.; Hultink, E.J. (2017), The Circular Economy – A new sustainability paradigm? *Journal of Cleaner Production*. 143, 757–768.

- Geng, Y., Doberstein, B., 2008. Developing the circular economy in China: Challenges and opportunities for achieving 'leapfrog development'. *The International Journal of Sustainable Development & World Ecology*, 15(3), 231-239.
- Geng, Y., Fu, J., Sarkis, J., Xue, B., 2012. Towards a national circular economy indicator system in China: an evaluation and critical analysis. *Journal of Cleaner Production*, 23(1), 216-224.
- Genovese, A., Acquaye, A. A., Figueroa, A., Koh, S. L. 2017. Sustainable supply chain management and the transition towards a circular economy: Evidence and some applications. *Omega*, 66, 344-357.
- Georgescu-Roegen, N. 1986. The entropy law and the economic process in retrospect. *Eastern Economic Journal*, 12(1), 3-25.
- Ghisellini, P., Cialani, C., Ulgiati, S., 2016. A review on circular economy: the expected transition to a balanced interplay of environmental and economic systems. *Journal of Cleaner Production*, 114, 11-32.
- Goebel, P., Reuter, C., Pibernik, R., Sichtmann, C. 2012. The influence of ethical culture on supplier selection in the context of sustainable sourcing. *International Journal of Production Economics*, 140(1), 7-17.
- Goltsos, T. E., Ponte, B., Wang, S., Liu, Y., Naim, M. M., Syntetos, A. A. 2019. The boomerang returns? Accounting for the impact of uncertainties on the dynamics of remanufacturing systems. *International Journal of Production Research*, 57(23), 7361-7394
- Govindan, K., Hasanagic, M. 2018. A systematic review on drivers, barriers, and practices towards circular economy: a supply chain perspective. *International Journal of Production Research*, 56(1-2), 278-311.
- Graedel, T. E., 1996. On the concept of industrial ecology. *annual review of energy and the environment*, 21(1), 69-98.
- Gumley, W., 2014. An analysis of regulatory strategies for recycling and re-use of metals in Australia. *Resources*, 3(2), 395-415.
- Guth, W. D., Tagiuri, R. 1965. Personal values and corporate-strategy. *Harvard Business Review*, 43(5), 123-132.
- Hall, E. T., 1976. *Beyond culture*, NY. Doubleday & Company.
- Hazen, B. T., Mollenkopf, D. A., Wang, Y. 2017. Remanufacturing for the circular economy: An examination of consumer switching behavior. *Business Strategy and the Environment*, 26(4), 451-464.
- Heyes, G., Sharmina, M., Mendoza, J. M. F., Gallego-Schmid, A., Azapagic, A., 2018. Developing and implementing circular economy business models in service- oriented technology companies. *Journal of Cleaner Production*, 177, 621- 632.

- Hoffman, A. J., Bazerman, M. H. 2007. Changing practice on sustainability: Understanding and overcoming the organizational and psychological barriers to action. In: *Organizations and the sustainability mosaic, crafting long-term ecological and societal solutions*, Edward Elgar Publishing: Camberley, UK, 2007, 84–105.
- Hussain, M., Malik, M. 2020. Organizational enablers for circular economy in the context of sustainable supply chain management. *Journal of Cleaner Production*, 256, 120375.
- Ilić, M., Nikolić, M., 2016. Drivers for development of circular economy—A case study of Serbia. *Habitat International*, 56, 191-200.
- Janker, J., Mann, S., 2018. Understanding the social dimension of sustainability in agriculture: A critical review of sustainability assessment tools. *Environment, Development and Sustainability*, 1–21.
- 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, 264-272.
- Kirchherr, J., Reike, D. and Hekkert, M., 2017. Conceptualizing the circular economy: An analysis of 114 definitions. *Resources, Conservation and Recycling*, 127, 221-232.
- Korhonen, J., Honkasalo, A., Seppälä, J., 2018. Circular economy: the concept and its limitations. *Ecological Economics*, 143, 37-46.
- Korhonen, J., Nuur, C., Feldmann, A., Birkie, S. E., 2018. Circular economy as an essentially contested concept. *Journal of Cleaner Production*, 175, pp.544-552.
- Korhonen, J., Von Malmborg, F., Strachan, P. A., Ehrenfeld, J. R., 2004. Management and policy aspects of industrial ecology: an emerging research agenda. *Business Strategy and the Environment*, 13(5), 289-305.
- Korhonen, J., Honkasalo, A., Seppälä, J. 2018. Circular Economy: The Concept and its Limitations. *Ecological Economics*, 143, 37–46.
- Korhonen, J., Nuur, C., Feldmann, A., Birkie, S. E. 2018. Circular economy as an essentially contested concept. *Journal of Cleaner Production*, 175, 544–552.
- Kusi-Sarpong, S., Bai, C., Sarkis, J., Wang, X., 2015. Green supply chain practices evaluation in the mining industry using a joint rough sets and fuzzy TOPSIS methodology. *Resources Policy*, 46, 86-100.
- Lacy, P., Rutqvist, J., 2016. *Waste to wealth: The circular economy advantage*. Springer.
- Lifset, R., Graedel, T. E., 2002. Industrial ecology: goals and definitions. *A handbook of industrial ecology*, 3-15.
- Lin, B. C. A., Zheng, S., 2016. A new direction in environmental economics. *Journal of Economic Surveys*, 30(3), 397-402.
- Linder, M., Williander, M., 2017. Circular business model innovation: inherent uncertainties. *Business Strategy and the Environment*, 26(2), 182-196.

- Liu, Y., Bai, Y., 2014. An exploration of firms' awareness and behavior of developing circular economy: An empirical research in China. *Resources, Conservation and Recycling*, 87, 145-152.
- M'Gonigle, R. M. 1999. Ecological economics and political ecology: towards a necessary synthesis. *Ecological Economics*, 28(1), 11-26.
- Maranesi, C., De Giovanni, P. 2020. Modern circular economy: Corporate strategy, supply chain, and industrial symbiosis. *Sustainability*, 12(22), 9383.
- Mason, J., 2002. Qualitative interviewing: asking, listening, interpreting, In: T. May (Ed.), *Qualitative Research in Action*. London: Sage.
- Mathews, J. A., Tan, H., 2011. Progress toward a circular economy in China: The drivers (and inhibitors) of eco-industrial initiative. *Journal of Industrial Ecology*, 15(3), 435-457.
- McDonough, W., Braungart, M., 2003. Towards a sustaining architecture for the 21st century: the promise of cradle-to-cradle design. *Industry and Environment*, 26(2), 13-16.
- McKinsey & Company, 2011. Resource revolution: Meeting the world's energy, materials, food and water needs. Available at: <https://www.mckinsey.com/business-functions/sustainability-and-resource-productivity/our-insights/resource-revolution>
- Meadows, D., Randers, J., Meadows, D., 2005. *The limits to growth: the 30-year update*. Earthscan.
- Merli, R., Preziosi, M., Acampora, A., 2018. How do scholars approach the circular economy? A systematic literature review. *Journal of Cleaner Production*, 178, 703-722.
- Millar, N., McLaughlin, E., Börger, T. 2019. The circular economy: Swings and roundabouts? *Ecological Economics*. 158, 11–19.
- Moktadir, M. A., Rahman, T., Rahman, M. H., Ali, S. M., Paul, S. K. 2018. Drivers to sustainable manufacturing practices and circular economy: A perspective of leather industries in Bangladesh. *Journal of Cleaner Production*, 174, 1366-1380.
- Mokhtar, A. R. M., Genovese, A., Brint, A., Kumar, N. 2019. Improving reverse supply chain performance: The role of supply chain leadership and governance mechanisms. *Journal of Cleaner Production*, 216, 42-55.
- Murray, A., Skene, K., Haynes, K., 2017. The circular economy: An interdisciplinary exploration of the concept and application in a global context. *Journal of Business Ethics*, 140(3), 369-380.
- Närvänen, E., Mattila, M., Mesiranta, N., 2020. Institutional work in food waste reduction: Start-ups' role in moving towards a circular economy. *Industrial Marketing Management*.
- Naustdalslid, J., 2014. Circular economy in China—the environmental dimension of the harmonious society. *International Journal of Sustainable Development & World Ecology*, 21(4), 303-313.
- Ness, D., 2008. Sustainable urban infrastructure in China: Towards a Factor 10 improvement in resource productivity through integrated infrastructure systems. *The International Journal of Sustainable Development & World Ecology*, 15(4), 288-301.

- Oghazi, P., Mostaghel, R., 2018. Circular business model challenges and lessons learned—An industrial perspective. *Sustainability*, 10(3), 739.
- Ormazabal, M., Prieto-Sandoval, V., Puga-Leal, R., Jaca, C., 2018. Circular economy in Spanish SMEs: Challenges and opportunities. *Journal of Cleaner Production*, 185, 157-167.
- Pheifer, A. G., 2017. Barriers and enablers to circular business models. Available at: <https://www.circulairondernemen.nl/uploads/4f4995c266e00bee8fdb8fb34fbc5c15.pdf>
- Pieroni, M. P., McAloone, T., Pigosso, D. A., 2019. Business model innovation for circular economy and sustainability: A review of approaches. *Journal of Cleaner Production*.
- Prieto-Sandoval, V., Jaca, C., Ormazabal, M., 2018. Towards a consensus on the circular economy. *Journal of Cleaner Production*, 179, 605-615.
- Raisinghani, M. S., Meade, L. L. 2005. Strategic decisions in supply-chain intelligence using knowledge management: an analytic-network-process framework. *Supply Chain Management: An International Journal*, 10(2), 114–121.
- Rizos, V., Behrens, A., Van Der Gaast, W., Hofman, E., Ioannou, A., Kafyeke, T., Flamos, A., Rinaldi, R., Papadelis, S., Hirschnitz-Garbers, M., Topi, C., 2016. Implementation of circular economy business models by small and medium- sized enterprises (SMEs): Barriers and enablers. *Sustainability*, 8(11), 1212.
- Salim, H. K., Stewart, R. A., Sahin, O., Dudley, M. 2019. Drivers, barriers and enablers to end-of-life management of solar photovoltaic and battery energy storage systems: A systematic literature review. *Journal of Cleaner Production*, 211, 537-554.
- Savini, F., 2019. The economy that runs on waste: accumulation in the circular city, *Journal of Environmental Policy & Planning*, 21:6, 675-691, DOI: 10.1080/1523908X.2019.1670048
- Schoenherr, T. 2012. The role of environmental management in sustainable business development: a multi-country investigation. *International Journal of Production Economics*, 140(1), 116-128.
- Schot, J., Kanger, L., 2016. Deep transitions: Emergence, acceleration, stabilization and directionality (SPRU Working Paper Series No. 2016–15). SPRU-Science and Technology Policy Research, University of Sussex.
- Schroeder, P., Anggraeni, K., Weber, U. 2019. The relevance of circular economy practices to the sustainable development goals. *Journal of Industrial Ecology*, 23(1), 77-95.
- Sehnem, S., Vazquez-Brust, D., Pereira, S. C. F., Campos, L. M. (2019). Circular economy: benefits, impacts and overlapping. *Supply Chain Management: An International Journal*.
- Shahbazi, S., M. Wiktorsson, M. Kurdve, C. Jönsson, M. Bjelkemyr. 2016. Material Efficiency in Manufacturing: Swedish Evidence on Potential, Barriers and Strategies. *Journal of Cleaner Production* 127, 438–450.
- Sihvonen, S., J. Partanen. 2016. Implementing environmental considerations within product development practices: a survey on employees' perspectives. *Journal of Cleaner Production* 125, 189–203.



- Singh, J., Sung, K., Cooper, T., West, K., Mont, O. 2019. Challenges and opportunities for scaling up upcycling businesses—The case of textile and wood upcycling businesses in the UK. *Resources, Conservation and Recycling*, 150, 104439.
- Singhal, D., Jena, S. K., Tripathy, S. 2019. Factors influencing the purchase intention of consumers towards remanufactured products: a systematic review and meta-analysis. *International Journal of Production Research*, 57(23), 7289-7299.
- Skene, K. R. 2018. Circles, spirals, pyramids and cubes: why the circular economy cannot work. *Sustainability Science*, 13(2), 479-492.
- Slorach, P. C., Jeswani, H. K., Cuéllar-Franca, R., Azapagic, A. 2020. Assessing the economic and environmental sustainability of household food waste management in the UK: Current situation and future scenarios. *Science of the Total Environment*, 710, 135580.
- Stec, T., Zwolinski, P., 2018. Using values management for shifting companies to circular economy. *Procedia CIRP*, 69, 805-809.
- Su, Y., Si, H., Chen, J., Wu, G. 2020. Promoting the sustainable development of the recycling market of construction and demolition waste: A stakeholder game perspective. *Journal of Cleaner Production*, 277, 122281. doi:10.1016/j.jclepro.2020.122281
- Su, B., A. Heshmati, Y. Geng, X. Yu. 2013. A review of the circular economy in China: Moving from rhetoric to implementation, *Journal of Cleaner Production* 42, 215–227.
- Suocheng, D., Zehong, L., Bin, L., Mei, X., 2007. Problems and strategies of industrial transformation of China's resource-based cities. *China Population, Resources and Environment*, 17(5), 12-17.
- Trianni, A., Cagno, E., 2012. Dealing with barriers to energy efficiency and SMEs: some empirical evidences. *Energy*, 37(1), 494-504.
- Tukker, A., 2015. Product services for a resource-efficient and circular economy—a review. *Journal of Cleaner Production*, 97, 76-91.
- Tunn, V. S. C., Bocken, N. M. P., van den Hende, E. A., Schoormans, J. P. L., 2019. Business models for sustainable consumption in the circular economy: An expert study. *Journal of Cleaner Production*, 212, 324-333.
- Tura, N., Hanski, J., Ahola, T., Stähle, M., Piiparinen, S., Valkokari, P. 2019. Unlocking circular business: A framework of barriers and drivers. *Journal of Cleaner Production*, 212, 90-98.
- Unal, E., Urbinati, A., Chiaroni, D., 2018. Managerial practices for designing circular economy business models: The case of an Italian SME in the office supply industry. *Journal of Manufacturing Technology Management*.
- Urbinati, A., Chiaroni, D., Chiesa, V., 2017. Towards a new taxonomy of circular economy business models. *Journal of Cleaner Production*, 168, 487-498.
- Veleva, V., Bodkin, G., 2018. Corporate-entrepreneur collaborations to advance a circular economy. *Journal of Cleaner Production*, 188, 20-37.

Waste and Resources Action Programme (WRAP). 2017. Estimates of food surplus and waste arisings in the UK.

[https://www.wrap.org.uk/sites/files/wrap/Estimates\\_%20in\\_the\\_UK\\_Jan17.pdf](https://www.wrap.org.uk/sites/files/wrap/Estimates_%20in_the_UK_Jan17.pdf)

Witjes, S., Lozano, R., 2016. Towards a more circular economy: Proposing a framework linking sustainable public procurement and sustainable business models. *Resources, Conservation and Recycling*, 112, 37-44.

Wooi, G.C., Zailani, S., 2010. Green supply chain initiatives: investigation on the barriers in the context of SMEs in Malaysia. *International Business Management*, 4(1), 20-27.

World Economic Forum, 2014. *Towards the Circular Economy: Accelerating the Scale- up across Global Supply Chains*. Geneva.

Wynstra, F., Axelsson, B., Van Weele, A. 2000. Driving and enabling factors for purchasing involvement in product development. *European Journal of Purchasing & Supply Management*, 6(2), 129-141.

Xue, B., Chen, X. P., Geng, Y., Guo, X. J., Lu, C. P., Zhang, Z. L., Lu, C. Y., 2010. Survey of officials' awareness on circular economy development in China: Based on municipal and county level. *Resources, Conservation and Recycling*, 54(12), 1296-1302.

Yang, M., Fu, M., Zhang, Z. 2021. The adoption of digital technologies in supply chains: Drivers, process and impact. *Technological Forecasting and Social Change*, 169, 120795.

Yuan, Z., Bi, J., Moriguichi, Y., 2006. The circular economy: A new development strategy in China. *Journal of Industrial Ecology*, 10(1-2), 4-8.

Zhijun, F., Nailing, Y., 2007. Putting a circular economy into practice in China. *Sustainability Science*, 2(1), 95-101.

## Appendix 1. Interview Guide

### Background questions.

- First, tell me a little bit about your background. What is your job title, responsibilities, time with the organisation?
- When did your interest in (*role*) first begin? What was your main motivation to focus your career on this pathway?

### Open-ended questions.

- What can you tell me about the circular economy (CE)?

– “A recent research has shown that there is empirical evidence showing that SME’s are more aware of complying with the law and their corporate image than of being committed to environmental problems. This is largely because it is not considered that a greater commitment to the environment results in an increase in its benefits and competitiveness”. What do you think about this statement?

*To put the discussion in context, a recent study by the Ellen MacArthur Foundation, one of the leading researchers of the circular economy in Europe estimates a cost savings potential in Europe of around 633 billion euros from fast-moving consumer goods such as drinks, packaged food or pharmacy products, and another 564 billion euros from medium to long life products such as cars, machinery and white goods.* - Why do you think there is a lack of public awareness about the potential of the CE?

- How important do you think it is the role of public institutions on the transition towards a circular economy in comparison to privately held organizations and the society in general?
- From a business perspective, which do you think are the main barriers organizations faced when implementing more sustainable practices on their organizations? And main opportunities?
- Earth Overshoot Day. Which kind of measures we could use to tackle this negative tendency?
- Secondary raw materials. What is needed to boost its demand?
- Environmental issues not a priority on the political agenda. Why?

### Topics to be covered in relation to the CE.

- Policies (financial aid, tax benefits etc.) and political continuity.
- Consumption patterns.
- Culture and human nature.
- Technology and infrastructure development.
- Use of big data.
- Product designs (for reuse, for repair, remanufacture, recycling...).
- Qualified workforce. Education.
- New business models.
- Collaboration and information sharing communities.