Towards a Circular Economy: Insights from a UK Rural Community

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Abstract: While much research has focused on embedding circular economy practices in urban contexts, there is growing interest in the opportunities and challenges offered by underdeveloped rural settings. This paper contributes to this emerging field of research through findings from 31 participants drawn from business and community groups in a peripheral region situated in the Southwest of the UK. Using grounded theory analysis of interview, participant observation and workshop scripts, it identifies four critical enablers to the implementation of regional circular economy practices. First, *cultural adaptation* of production and consumption practices to new business responsibilities; second, regional *governance* enabled by appropriate legislative provisions; third, the mitigation of business rivalry by collaborative *social systems*; and, finally, *interdependent* action by business, government, and community groups. The study concludes with recommendations of how further research can shape industrial strategy and influence future regional and national policy and practice.

Keywords: Circular; Rural; Regional; Community; Ecosystem; Practices

1 Introduction

The concept of a Circular Economy (CE) has gained significant attention in recent years as a narrative to provide economic and environmental gains (Kirchherr et al., 2017; Corvellec et al., 2021). The approach focusses on designing out waste and pollution, keeping products and materials in use for as long as possible, and regenerating natural systems. Much research focusses on CE practices in urban contexts (Domenech and

Borrion, 2022; Joensuu et al., 2020); there is a growing interest in the potential in rural communities (Mihai et al., 2022).

Rural contexts present unique challenges and opportunities for the implementation of CE practices. Often characterized by a strong connection to the land, and natural resource-based livelihoods (Deakins et al., 2016) they play a crucial role in the global food system (Anderson et al., 2011) but are on the frontline of climate change, further challenged by economic and social marginalization, limited access to resources, and a lack of infrastructure (Steinerowksi and Steinerowska-Streb, 2012; Siemens, 2012). It has been suggested that CE practices can help rural regions overcome some of these challenges (Ciani et al., 2016). Early CE practices such as reusing animal waste in everyday life have historic links with closed and pre-industrial, agrarian economic systems (Ciani et al., 2016). CE practices have been shown to create new economic opportunities, such as reducing waste, and supporting sustainable livelihoods in a variety of contexts (Ferronato et al., 2019). Thus, considering the unique characteristics of rural communities can develop context-specific CE strategies that support sustainable and resilient rural communities and contribute to the transition towards a more sustainable and equitable global economy (Anderson-Seminario and Alvarez-Risco, 2022).

The rest of the article is structured as follows. Following an overview of the theoretical context, we outline the methodology, which includes data gathering, analysis, and outlines the case of Cornwall, a rural area in the Southwest of England. We then present our findings which details the four key themes that emerged from the analysis of the semi-structured interviews, participant observation and workshops. We conclude with our contribution, which offers new insights to support future research, reshape industrial strategy, and guide regional and national practice.

2 Theoretical context

'Context shapes enterprise' (Gaddefors and Anderson, 2019:161) and yet rural regional contexts have changed during the past several decades (Steiner and Teasdale, 2019; Skerrat et al., 2012). Many are no longer dominated by traditional agricultural business, but rather a multipurpose space for living, working and recreation. Despite the fact that many rural regions still face significant economic and demographic challenges (Korsgaard et al., 2015), these communities have a long history of creating and developing opportunities for business. Examples date back to the first farmers (Richards and Bulkley, 2007) and miners (Willett, 2013), who produced valuable goods while taking numerous significant risks.

Research on business within rural communities has become an increasingly important topic in economic development in recent years, as these businesses face significant challenges relating to the physical environment (Muñoz and Kimmitt, 2019) alongside the general disadvantages of smaller size and distance from major centres of economic activity (Eder, 2019). Furthermore, the development of sustainable and resilient communities requires long-term commitments (Bansal and DesJardine, 2014, Ortiz-de-Mandojana and Bansal, 2016) and the adoption of a coordinated strategy including representation from the corporate, governmental, and non-profit stakeholders (George et al., 2016). This necessitates departing from a theory of resources-based competitive advantage, which confines resources within traditional boundaries (Wernerfelt, 1984, Barney, 2001). Such understandings, coupled with recurrent literature

interest in the topic of sustainability has lead a number of researchers to embrace the concept of the CE, as a systems strategy that seeks to reconsider the role of business within society and the environment (Howard et al., 2022). The fundamental idea behind the CE is that waste is avoided and materials are kept at their highest value for as long as possible. Although the concept is still open to debate and interpretation (Friant et al., 2020) (Korhonen et al., 2018) the central argument is that we will need new business models and practices to keep materials in constant circulation (Greyson, 2007). Importantly, such debates show a growing interest in the contexts in which such circular process are embedded, and are framed in relation to specific places e.g., in terms of regional geography, sociology, architecture, anthropology (Guthey et al., 2014, Shrivastava and Kennelly, 2013, DeBoer et al., 2017). Taking 'place' seriously challenges the idea that multinational, locationless firms may move their activities anywhere in the world at whim without considering the effects on local populations and ecosystems. The call for more place-based consideration of activities to enable organisations to "enter into authentic relationships with places and people, and to develop the necessary fields of care, without which appropriate stewardship of both the natural environment and other components of place may be impossible," has been highlighted by (Shrivastava and Kennelly, 2013).

In particular, (Guthey et al., 2014) and (Whiteman and Cooper, 2000) highlight the sense of place that is created within landscapes and regional settings. They suggest that a location's capacity to provide both cultural embedding (within communities) and physical linkages (with rivers, mountains, farms, etc.) is crucial for understanding and the long-term viability of value chains. Therefore, they must be studied within specific geographic regions that allow for deeper understanding of the real world, practical, and significant challenges that businesses, employees, government officials, citizens, community activists, consumers, and other actors must deal with. Rural regional communities are particularly significant in this context on account of their socio-economic profile. Rural regions often have lower levels of financial and human resources (Davies and Michie, 2011). As a result, they are reliant on the development of both social capital, in the shape of business networks (Korsgaard et al., 2015)and connections (Ring et al., 2010) as well as wider, business 'ecosystems' (Stam, 2015). Although a unified definition of the latter is, as yet, missing in the literature, it may be regarded as: 'combinations of social, political, economic, and cultural elements within a region that support the development and growth of innovative start-ups and encourage nascent entrepreneurs and other actors to take the risks of starting, funding, and otherwise assisting high-risk ventures' (p50). These 'ecosystems' can be understood as existing inside a location, community, cluster, or regional agglomeration. The ecosystem component of the concept alludes to the interdependencies between players within the system of which entrepreneurs and their social are but elements.

The ecosystem lens holds promise for research into circular practices across a range of contexts, yet the nascent literature has typically overlooked rural scenarios and focussed on high-growth start-ups, technology clusters, innovation systems and university spin-outs (Brown and Mason, 2017). Therefore, there are gaps in our understanding of starting and running a business within rural communities. We have insufficient understanding of how a specific social-spatial context might actually support business outside of this "high growth" world, where individuals see new opportunities to maintain and enhance local livelihoods (Johnstone and Lionais, 2004). There is limited research on the influence of cultural (Huggins and Thompson, 2014) and institutional

factors (Kalantaridis and Fletcher, 2012), including the role of traditions, values, and policies (Dauletova and Al-Busaidi, 2022). There is also limited focus on the potential for rural business to contribute to the development of sustainable and resilient communities (Barr and Devine-Wright, 2012, Callaghan and Colton, 2008). This suggests a need for further understanding of place-based dynamics of sustainability transitions, especially within the business literature (Bauwens, 2021) and with particular insights from key stakeholders in different industries and geographical locations. Our research responds to this call by focussing on a specific region in the southwest of England. We suggest that in order to fully understand the challenges and trade-offs faced by rural businesses and communities, a place-based approach is important. The intension of this research is to provide new insights to inform further work, shape industrial strategy and influence future regional and national policy and practice.

3 Methodology

Approach

Our approach involves a combination of engaged scholarship and a case study method as part of a framework for analysis. The study of complex, emergent, non-sequential events typically involve asking "how" and "why," which are best understood in the context of their natural environment and for that reason a case study technique is often the best research methodology to apply (Yin, 2018). Engaged scholarship is an approach to research that involves collaboration between researchers and community stakeholders to produce research that is both academically rigorous and practically relevant (Bansal and Corley, 2011). This methodology recognises that knowledge creation is a collaborative process and that community members often have valuable insights and expertise that can inform research (Easter et al., 2021).

Engaged scholarship methodology in a multi-step, immersive process (Bansal and Corley, 2011). The first step is to identify the community stakeholders who are affected by the research question. This may involve partnering with community organisations or working with individuals directly impacted by the issue at hand. The second step is to establish a collaborative relationship with the community stakeholders. This involves building trust and rapport with the stakeholders and involving them in the research process. This may involve co-creating research questions, collecting data, and interpreting results. The final step is to collect data, often, through multiple modes of engagement.

Data collection and analysis

The research started in 2018 when the researchers were introduced to a community interest group looking to support local needs (step one). Thus, the present study is situated in process of longitudinal community engagement, which has included training workshops and networking events, as well as a long-standing collaborative relationship between the researchers and the community (step two). The final, data collection step took place between Sept 2022 and March 2023 and included detailed responses from a total of 31 participants. Data was collected from three stakeholder groups (business, public officials, and community). An equal number of individuals and organisations, with

varying levels of responsibility were contacted from each stakeholder group, using emergent sampling approaches (Bell et al., 2022). A combination of semi-structured interviews, participant observation and workshops were used to ensure data richness. Snowballing techniques were used to identify further participants who could provide insight to inform the research (Patton, 2002). We asked for introductions to people who were knowledgeable about the subject and region and contacted potential participants to engage. Table 1 provides an overview of our main data sources from the workshops and interviews. Members from all three stakeholder groups were also part of the participant observation, but details have not been included to protect anonymity.

Table 1 Overview of participants and data sources.

Stakeholder Group	Position of interviewee	Data Source	Number
Public official	Local/county governmental officer	Workshop	4
	Member of Parliament (MP)	Interview	1
Business	Designer	Workshop	2
	Sustainability/environment officer	Interview	3
	Local/county support officer	Interview	2
	Product-focussed role	Interview	3
Community	Communications officer	Workshop	1
	Town leader/coordinator	Interview	2
	Community leader	Interview	2
	Project leader	Interview	2
All groups	Project lead/assistant/coordinator	Workshop	4
	Project lead/assistant/coordinator	Interview	5

The following information was included in the interview protocol: the biographical details of the participants, their connections to the region, the role that they or their organisation play in the context of the research, the challenges they have encountered in that role, and an open-ended section in which participants provided any information they felt was pertinent to the story. Interviews lasted up to sixty minutes, took place in both online and in person contexts, and were recorded and transcribed in all cases. In order to better understand the community, participant observation (Spradley, 2016) was used as a recognised method to develop a deeper understanding of the stakeholders, interactions, local environment, and events. The lead researcher therefore took part in pre-arranged workshops and meetings where individuals from the community came together to share knowledge and insight. The aim was for the researcher to learn about the group by spending time with them and paying close attention to their behaviours, speech patterns, and social conventions. Members from all three stakeholder groups also participated in focus group workshops, which lasted three hours and involved groups of five to eight individuals. The format included open-ended questions following the same structure as the interviews, but the feedback was carefully moderated by a facilitator to ensure that all participants were able to share their views.

Our objective was to develop theory from a comprehensive, detailed case study (Eisenhardt, 1989). To theorise about the case, we used a method that iterated between evidence and existing theory (Maanen et al., 2007) using theme analysis. Themes are 'recurrent topics of discussion, action, or both on the part of the actors being studied… that captures the central ideas or relationships' according to (Dutton and Dukerich, 1991) regarding our research focus. Theme analysis was performed in four stages. First, the researchers identified the core elements that ran through participant narratives (Miles and Huberman, 1994). Second, these concepts served as a collection of initial identifiers. Then, keeping quotes that concisely encapsulated major themes, we coded interview transcripts and related documents. Third, iterating between the codes and the data, we recursively collapsed codes into higher-level, conceptually separate groups (Eisenhardt, 1989). Fourth, we further condensed categories into themes in accordance with (Braun and Clarke, 2006) who recommends that themes should not only be common across various data sources but also the degree to which something is essential, catching significant patterns in the data.

Context of the region and case overview

Research suggests that to understand business and location more deeply, qualitative investigations of localised systems and processes are required (Redhead and Bika, 2022). This work is anchored in Cornwall, a region in the south-west of England with a unique and distinctive culture, history and economy. The region has a population of approximately 568,000 people and covers an area of 3,563 square kilometres (Cornwall Council, 2021). In recent years, Cornwall has experienced a number of socio-economic challenges that have impacted its entrepreneurship landscape.

Once a rich region due to significant activity in agriculture and mining, the region's economy has seen significant challenges in recent years (Willett, 2020). The region is now heavily reliant on tourism and despite being a popular visitor destination still has a relatively underdeveloped transport infrastructure, with limited motorway access and a lack of direct rail links to major UK cities. This can make it more difficult for businesses to connect with customers, suppliers, and investors outside of the region, as well as hinder the movement of goods and services within Cornwall.

Some more rural areas of the region often suffer from poor broadband and mobile connectivity, which can be a major barrier for entrepreneurs looking to launch and grow businesses that rely on digital technologies. However, the region has recently received significant European investment designed to kick-start economic growth and job creation in the least developed areas and sectors. This includes investment in high speed broadband to enable a digital economy and connect businesses, nationally and across the region (Willett, 2013). Investments have also been made in the creative industries sectors, which has improved the region's appeal as a place to live and work. People have been enticed to the area by images of coastal and idyllic communities, with an increase in migration in recent years (Paisley, 2021).

Finally, workforce development is a key challenge facing entrepreneurship in Cornwall. The region has a relatively small pool of highly skilled workers, which can make it more difficult for businesses to recruit the talent they need to grow and thrive. Additionally, the region's high levels of social deprivation can mean that the workforce may lack the necessary skills and qualifications to meet the needs of new and emerging industries (Cornwall & Isles of Scilly Local Enterprise Partnership, 2020). The reliance

on smaller enterprises and entrepreneurial activities means that the majority of employment is provided by micro firms and there is low investment into research, development and innovation activity (Mealy and Coyle, 2019).

In sharp contrast to the metropolitan preconceptions of the city, the views and portrayals of the area are based on its rural periphery. This illustrates a highly complicated narrative landscape in which the area is both viewed and treated as intrinsically different, whilst at the same time acknowledged to be symbolic of something desirably unique. This meaning may be found in a conviction in the distinctive features of the Cornish way of life, which places greater importance on deeper, more significant things than the accumulation of money, power, and material goods (Dickinson, 2008).

4 Findings

Four key themes emerged from the analysis of the semi-structured interviews, participant observation and workshops. Based on the analytical coding process shown in Figure 1, we now consider the emergent themes followed by a discussion how the findings can provide new insights to inform further work, shape industrial strategy and influence future regional and national policy and practice.
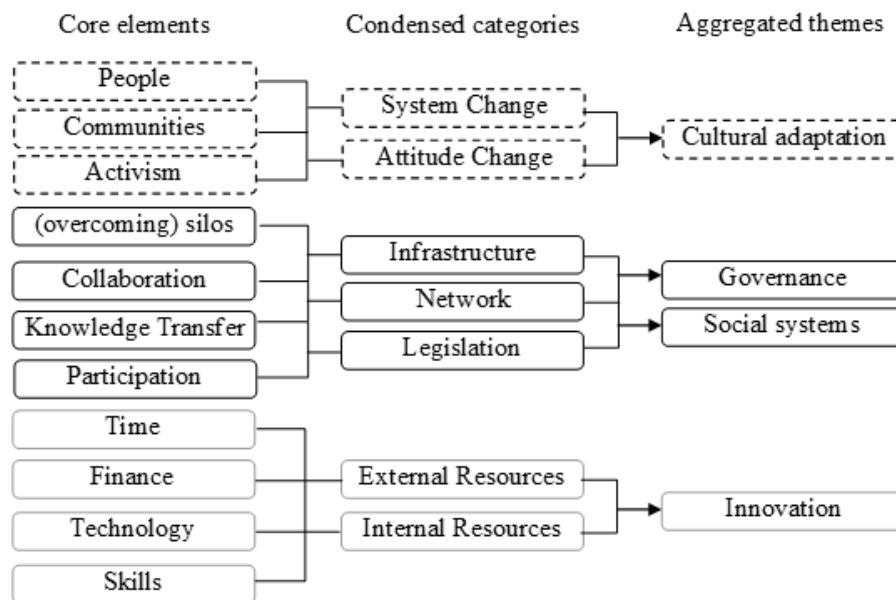

Figure 1 - Analytical Coding Process.

Cultural adaptation

The need to question prevailing consumerist beliefs and behaviours in business and society surfaced as the first major theme. Such beliefs and behaviours were positioned within a larger cultural context of linear production processes that were pervasive not only in Cornwall but also throughout the world. As a result, a shift to a CE was a "wicked

issue" that needed to be addressed as part of a global change plan. Although, participants thought that such a shift would be difficult on several levels.

First, participants felt that linear systems have necessitated companies to constantly extend their offer in an effort to boost local economies and increase profits. This reasoning was thought to essentially conflict with the CE principles of eliminating waste and circulating products and materials, rendering them somewhat incompatible.

> "The way businesses trade now where we are trying to make profit all the time…unless that changes, it is very hard to make a circular model work."
> (Product Design Officer, Clothing Wholesale and Retail, Business)

Second, certain, pre-established ideas about how businesses behave aligned with this linear logic of production. According to (George et al., 2016) business rivalry drives innovation rather than the need for resource efficiency or any type of multi-stakeholder collaboration in the achievement of shared objectives. Even though it was feasible to question this dominant form of business-to-business engagement, doing so required creating a unique liminal place with unique participation guidelines. This was the area for community-based or, in this instance, social enterprise:

> "This is something I love about the social enterprise world distinct from the business world is that businesses operate on competition and social enterprises operate much more on collaboration. And if this world could learn from that, and…not see everybody as a potential threat to my business and my share of it, then yeah, it would be much easier." (Director, Community Interest Company, Business)

Together, these themes illustrated the belief of our participants that moving towards a CE necessitates a change in current production and consuming patterns to reflect the new facts of resource scarcity. To allow a new set of objectives that are geographically entrenched and connected by both economic practises and cultural meanings, society and business would need to adjust and adapt to the new reality (Geng and Doberstein, 2008) of cleaner and more responsible production.

Governance

Our participants were conscious that a CE cannot exist in abstraction, cut off from important societal organisations like the national and local regulatory system, and without socio-economic context. This reflects the second theme that emerged from our findings, which makes connections to a body of writing on the need for a sustained commitment to circular objectives (Bansal and DesJardine, 2014). This suggests that a "golden thread" is needed to ensure every organisation complies with practices to enable a systemic solution.

> '[We] should be a consciousness of how technical innovation and Legislation like they're not keeping up with each other… I think that's quite challenging, and I think that would be something that would be really beneficial, especially for like bigger companies who are having quite a big impact' (Sustainability Officer, Production, Business)

Participants did not suggest that this calls for a bold new philosophy, or a heavy, 'top down' strategy (Bauwens et al., 2020). Instead, legislation should set wide guidelines within which competition and innovation could continue. However, in order for them to be applicable to various sizes and types of organisations, it is necessary to update existing legislative rules and sector policies:

'If there was legislation, for example that levelled the playing field, say everyone has to produce products within the set parameters, then we're still all gonna be competitive. Like Formula One[1]...changed the regulations and every team has to work within the same regulations to make sure the competition's fair. Back in the day, when there was no regulations, you had massive disparities and lap times between teams. So it's almost like legislation could be forced upon all companies' (Chief Sustainability Officer, Clothing Wholesale and Retail, Business)

While legislation sets out the principles of public policy, regulation implements these principles (Kosti et al., 2019), bringing legislation into effect and it was felt that these alone was insufficient to overcome the challenge. A Community Interest Company director also highlighted the risk that when regulations were not updated to reflect the most recent innovations, they could 'get in the way'. The local Member of Parliament told us that legal reforms also took time to implement:

'The Environment Act included the producer responsibility for goods (so the producer pays responsibility) and so you know that was a huge piece of legislation really. But we have to wait for it to start to come into effect.' (Local Member of Parliament, Governance).

Therefore, the requirement for institutional facilitators was conceptualised in light of already-existing regulatory frameworks. In order for legislation to evolve, certain environmental goals would need to be set by national policy. A level-playing field was made possible by legislation like this, not in terms of possibilities but in terms of compliance. Additionally, it was essential that businesses take on a responsibility to educate themselves on the effectiveness of current legislation and regulation as it stands.

Social systems
Another major finding was the topic of interdependence. The rivalry within the industry, which was acknowledged as the business reality, was distinguished from the distinctive regional space inhabited by companies with a social conscience. However, participants from all three groups understood the value of connectedness, which united different organisations and businesses:

'That kind of community grassroots stuff is absolutely full of potential. Unless you have... the people at the top of the food chain implementing it, supporting it, enabling it, which they're not doing, then we won't get there in time' (Director, Community Interest Company, Business)

Participants also mentioned the importance of feeling connected to a cause. This would help to create a critical mass around a shared objective that would enable change to occur and be put into action. As a result, it would be possible for a variety of viewpoints to be shared and included, which helped its participants feel heard:

'Connections with other businesses that are doing similar things would also help...like creating local networks to distribute and work together.' (Sustainability Officer, Production Business)

This theme also emphasised the need to ensure that national opportunities and provisions are adequately adaptable to be put into practise and tailored to the

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[1] Formula One is the highest class of international racing for open-wheel single-seater formula racing cars.

requirements of the local community. This requires an approach to ensure that the voices of local stakeholders are heard. At the same time, enabling local players to communicate their perspectives and knowledge with national legislative organizations, resulting in a feedback-driven approach.

Innovation

The participants highlighted several essential components that contribute to innovation in different ways. Time was a reoccurring element mentioned by many and plays a crucial role in innovation as it provides the necessary space for research and development to occur. Innovation requires time to identify opportunities, generate ideas, and test and refine solutions. The adoption and integration of new ideas into existing systems and processes also requires time which SMEs often lack. Secondly, innovation requires investment, and finance plays a vital role in supporting the research and development of new ideas. Without adequate funding, it can be challenging to undertake the necessary research, development, and testing required for successful innovation. This was especially evident in the interviews with local SMEs who spoke about the day-to-day dynamics, running expenses, and financing availability:

> *'The biggest one is probably the cost barrier and the perception that many businesses feel that there is no additional support or any degree of incentives for them to do it. They understand that in the medium to longer term perhaps, they need to become more efficient, [to] lower carbon footprint, etc., etc. But the challenges and barriers that they face day-to day outweigh [this]'* (Business Development Lead, Community Interest Company, Business)

Technology is often a catalyst for innovation, as it can enable new possibilities and unlock new opportunities. New technologies can facilitate new approaches, techniques, and tools that can be used to develop innovative solutions. Innovation requires a diverse range of skills, including creativity, problem-solving, critical thinking, and collaboration. These skills are essential in identifying opportunities, generating ideas, and implementing new solutions. Sometimes the problem was not a shortage of resources because they were expensive, but rather the need to create innovative resources in the first place. Suppliers had to carefully assess materials and novel manufacturing techniques in order to use these resources:

> *'We've just started partnering with guys to ... support our new generation fabrics and all of their green shirt accredited mills. We're still trying to pursue...new generation fabric, recycled cotton or single fibre to see if we can substitute or enhance our collection at the moment.'* (Product Design, Clothing Wholesale and Retail, Business)

However, the basic issues that businesses confront were becoming more widely recognised. Participants understood that the conversation needed to expand beyond the realm of business operation and even beyond the industry as a whole because of this. All groups had to deal with the fact of resource attrition, which resulted from individual choices and actions.

> *'A key factor to bear in mind is that waste is not just about CO2 emissions, it is also about the need to conserve Planet Earth's natural resources which are being used up at an alarming and unsustainable rate.'* (Transition Community Coordinator, Community)

If companies begin adjusting to the new realities of climate change and broader societal shift, they can also extend resource use through more efficient production.

Despite the role of competition in innovation, such a shift in production (and consumption) cannot be accomplished through individual action but rather through collaboration. While material scarcity is a limitation that all organisations have to deal with, participants also talked about location-specific requirements. These were founded on their knowledge of local demographics and Cornwall's identity as a rural area with a high number of small and medium-sized businesses.

5 Discussion and conclusions

The process of moving to a circular method of production is neither fast nor easy. This research has brought to light some of the difficulties that a wide range of participants from community, governmental, and business organizations in the rural region of Cornwall have encountered. Based on the analysis of semi-structured interviews, participant observation, and workshops, four major themes emerged from our research: cultural adaptation, governance, social systems, and interdependence. The first theme highlighted the need to question prevailing consumerist beliefs and behaviours in business and society and shift to a CE. The second theme emphasised the importance of a sustained commitment to circular objectives and the need for a "golden thread" to ensure compliance with practices to enable a systemic solution. The third theme emphasised the value of connectedness that unites different organizations and businesses, while the fourth theme highlighted the importance of interdependence, despite business rivalries. These findings suggest that moving towards a CE requires changes in current production and consuming patterns and adjusting to new objectives that are geographically entrenched and connected by both economic practices and cultural meanings. To facilitate such changes, it is necessary to update existing legislative rules and sector policies, establish certain environmental goals by national policy, and for businesses to take on a responsibility to educate themselves on the effectiveness of current legislation and regulation as it stands.

In considering the specific characteristic of the region we studied, we align with scholars who suggests that research into CE transition (Whiteman and Cooper, 2000)needs to account for the role of 'place'(Guthey et al., 2014). As a result, we recommend that future research and policy making should view communities as fruitful grounds for change rather than just as users of change determined elsewhere. Thus, both research and policy-making should consider what is 'right for this place' rather than taking a board-brush generic approach. Local environment, skills, identity and culture hold challenges and opportunities for change. This is the opposite of an industrialised mentality, which promotes uniformity and one-size-fits-all solutions in its pursuit of volume and efficiency. Working locally, however, is more in line with how nature operates, where variety, and diversity produce robust, dynamic systems.

This research was intended to provide new insights to inform further work, shape industrial strategy and influence future regional and national policy and practice. First, we propose that more support is required to embrace local stories and ideas for a CE. We saw many examples of organisations working toward a place-based vision of a CE but lacked the resource to continue or extend their ideas. For these to be able to connect across system levels, institutional actors must provide support to overcome localised change and become more widely transformative. To nurture innovative ideas, we should encourage a narrative where we are all creators, designers and collaborators on a shared challenge. This will focus the shift away from products and citizens as consumers to

education and skills development where we create a relatable responsibility of care. Second, we propose that local infrastructure is needed to bridge the gap between community 'grassroot' movements and large-scale policy frameworks that are not relevant at the local level. Government support is often focussed on individual or project-level intervention that undervalues the space required to connect and create change. Creating entirely new relationships between the material and social components is necessary to alter the flow of resources in our system. These new connections can only develop with intentional support and resource to convene disparate stakeholders and catalyse new connections. Without access to funding and investment for strategic systems change, individual interventions will struggle to create wider impact.

While our research provides important insights into the enabling processes for developing CE ecosystems in rural communities, it is not without its limitations. One of the main limitations is the relatively small sample size of our study. Our research was based on semi-structured interviews, participant observation, and workshops with a limited number of participants from a specific region. As a result, our findings may not be representative of other rural communities or contexts. Another limitation is the potential for bias in our data collection and analysis. Our research was conducted by a team of researchers with their own perspectives and biases, which may have influenced the way in which data was collected and analysed. While we took steps to mitigate bias through a rigorous data analysis process, the potential for bias cannot be completely eliminated. Additionally, our research focused primarily on the enabling processes for developing CE ecosystems in rural communities, rather than the actual implementation and outcomes of CE practices. While understanding the enabling processes is important, it is equally important to understand how these processes translate into action and impact in rural communities. Finally, although our research did consider the potential negative impacts of CE practices on rural communities, it was not fully discussed in this paper. While CE practices have the potential to create new economic opportunities and support sustainable livelihoods, they can also displace traditional livelihoods and cultural practices. It is important to carefully consider the potential negative impacts of CE practices on rural communities and work to mitigate these impacts through a participatory and inclusive approach. Overall, while our research has aimed to provide insight into the enabling processes for developing CE ecosystems in rural communities, it is but a step on a much longer journey. Yet, we are confident that we would not travel alone.

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