

Future of Innovation Thought Leadership Project: Grassroots thinking and circular economy practices in regional communities

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About the Innovation Caucus

The Innovation Caucus supports sustainable innovation-led growth by promoting engagement between the social sciences and the innovation ecosystem. Our members are leading academics from across the social science community, who are engaged in different aspects of innovation research. We connect the social sciences, Innovate UK and the Economic and Social Research Council (ESRC), by providing research insights to inform policy and practice. Professor Tim Vorley is the Academic Lead. The initiative is funded and co-developed by the ESRC and Innovate UK, part of UK Research and Innovation (UKRI). The support of the funders is acknowledged. The views expressed in this piece are those of the authors and do not necessarily represent those of the funders.

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Executive Summary

Overview

Although its conceptual boundaries are the subject to ongoing research, there is broad consensus that the circular economy is a new approach to material use, radically different from existing, linear modes of production. It recommends a systems-based approach, aimed at preserving Earth's limited resources, optimising existing business practices and enabling new business models. Consequently, a circular economy system emphasises the role of cross stakeholder collaboration rather than competition and resource-efficiency, for instance, through keeping materials in circulation, rather than exploitation.

However, despite a growing body of literature on the topic, there are several areas in need of further investigation. First, it is important to better understand the barriers and challenges faced by organisations of a different type and size, for instance, small and medium-sized enterprises (SMEs). SMEs have limited resources to navigate their legal and regulatory contexts, let alone have the research and development capability to pursue circular innovation. Nevertheless, SMEs have been at the forefront of emerging and socially driven circular practices such as repair cafes and global, 'right to repair' movements. Second, although the circular economy literature abounds with case studies focusing on the global practices by multinational organisations, the role of people and place has been less well explored. This is recognised by several calls for further research for scholars to further consider the role of place and specifically, local communities and regional economies.

This thought leadership project was commissioned by the [Innovation Caucus](#) to consider both of those aspects and focus on how social innovation in a specific regional context, that of Cornwall in the Southwest of the UK, and a particular industry, namely textiles, can support progress toward a circular economy. The fashion and textile industry is an area of strategic national importance to the UK economy as a key input to multiple commercial sectors, value chains and products. It is a sector that presents an opportunity to transform and deliver substantially better economic, societal, and environmental outcomes. In recognition of this, the project worked closely with the [TeX Innovation project](#) to further understand the skills, knowledge, and opportunities to reduce textile and fashion consumption and waste. It also partnered with Cultivate Cornwall and Upcycle Kernow to explore an embedded grass-roots textile community serving nearly 4000 people a year and engaging with over 300 fashion and textile businesses in a key UK peripheral region of Cornwall.

The project provides insight into circular practices within a particular geographic region - Cornwall. The region is still one of the lowest performing in the UK, containing areas of deep health and social inequality, food and fuel poverty. Nevertheless, it has various vibrant and exemplary economic sectors from which the wider UK can learn – with circular approaches in fashion and textiles being one. It is hoped that this research will help to further consider how place-based approaches can be implemented across other regions to enable local businesses and communities to thrive. This work is intended to provide new insights to inform further work, shape industrial strategy and influence future regional and national policy and practice, whilst aiming to identify and analyse innovation-led growth. By exploring grassroots communities of practice, this short term research project aims to further understand the barriers and enablers that the region and sector experience.

Approach

To capture previously unheard voices of the fashion and textile community, three main stakeholder groups (Governance, Business & Communities) were explored. Data was collected through a sequential, mixed-method approach of workshops and interviews with 31 participants, with varying levels of responsibility. Through this, the study sought to ensure a multi-level approach, representing both voluntary and commercial sectors. We are grateful to all participants who volunteered their time to contribute to this research.

Findings

The project offered empirical testing of a conceptual framing in the literature, which proposed that four distinct scenarios would emerge, following the implementation of circular practices. Those scenarios were, in turn, top-down, or ‘planned circularity’; bottom-up activities which created community ‘sufficiency’; collaborative and platform-based ‘peer-to-peer circularity’ and finally, technologically driven, ‘circular modernism’. Although participants were agnostic about their preference of a particular scenario, there was strong awareness of the need for supporting processes in practices, which intersected and connected those individual scenarios. Those supplementing practices were identified as:

- the role of resource availability and business access to them through competitive application processes;
- the need for engagement and responsiveness of legislative bodies, entering in dialogue with businesses across different geographic regions, something already being noted (Cultivating Clean Growth, 2022 - [Tex Innovation and University of Exeter](#));
- the provision of networked connectivity and sharing of learning, leading to the emergence of communities of practice;
- cultural adaptation of existing language, customs and practices to move circular practices from the periphery to the mainstream.

The full report examines these in detail.

Moving towards a circular future

The report concludes by contributing to the existing literature through theory development and suggests a new circular futures scenario for Cornwall. Labelled simply as Scenario 5, this scenario requires a systemic approach to sustainable production, consumption and innovation in the textile sector. It has a diverse network which allows individual businesses to benefit from the shared learning of their local community, but also access institutional enablers (e.g., policy makers, funding bodies) on a national level. Scenario 5 is supported through local labs, operating knowledge transfer protocols by connecting business participants, funding body members, local and central Government representatives and University experts. Despite their standardised functions, each lab is locally embedded and thus able to adapt to the culture and history of a particular region, able to support the local industry, and equipped to mentor the type of businesses there.

I Introduction and Context

The fashion and textile industry represent a resource flow of strategic national importance to the UK Economy as a key input to multiple commercial sectors, value chains and products. It is a sector that presents an opportunity to transform and deliver substantially better economic, societal, and environmental outcomes.

This thought-leadership project was commissioned by the Innovation Caucus to focus on social innovation to support progress toward a circular economy. Working closely with the [TeX Innovation](#) project to further understand the skills, knowledge, and opportunities to reduce consumption and waste and partnering with Cultivate Cornwall and Upcycle Kernow, the project explores an embedded grass-roots textile community serving nearly 4000 people a year and engaging with over 300 fashion and textile businesses in a key UK peripheral region of Cornwall. The region is still one of the lowest performing in the UK, containing areas of deep health and social inequality, food and fuel poverty, however, has various vibrant and exemplary economic sectors from which the wider UK can learn – with circular approaches in fashion and textiles being one. It is hoped that this research will help to further consider how placed-based approaches can be implemented across other regions to enable local businesses and communities to thrive.

This work is intended to provide new insights to inform further work, shape industrial strategy and influence future regional and national policy and practice, whilst aiming to identify and analyse innovation-led growth. By exploring grassroots communities of practice, this short-term research project aims to further understand the barriers and enablers that the region and sector experience.

2 Research Methods and Data Collection

2.1 Approach

The approach utilizes two key methods as part of a framework for analysis: (1) a literature review to clarify the existing overlap between key concepts and themes; and (2) an engaged scholarship approach that applies insights from the literature review to real-world, practical challenges of understanding circular economy grassroots communities of practice in the fashion and textile in Cornwall.

The study of complex, emergent, non-sequential, politically sensitive events typically involve asking "how" and "why," which are best understood in the context of their natural environment. When the research aim asks "how" and "why", a case study technique is often the best research methodology to apply (Yin, 2003).

Given the nature of the study, an abductive research technique was selected as most appropriate (Dubois and Gadde 2002). Abductive research, in contrast to inductive and deductive reasoning, can establish or alter the theoretical framework prior to, during, or after the research process. Abductive research really alternates between inductive and open-ended research settings, to more speculative and deductive efforts to validate theories. Abductive reasoning, as shown in Dubois and Gadde's model below, is therefore a practical method of advancing the social sciences research through a procedure known as "systematic combining".

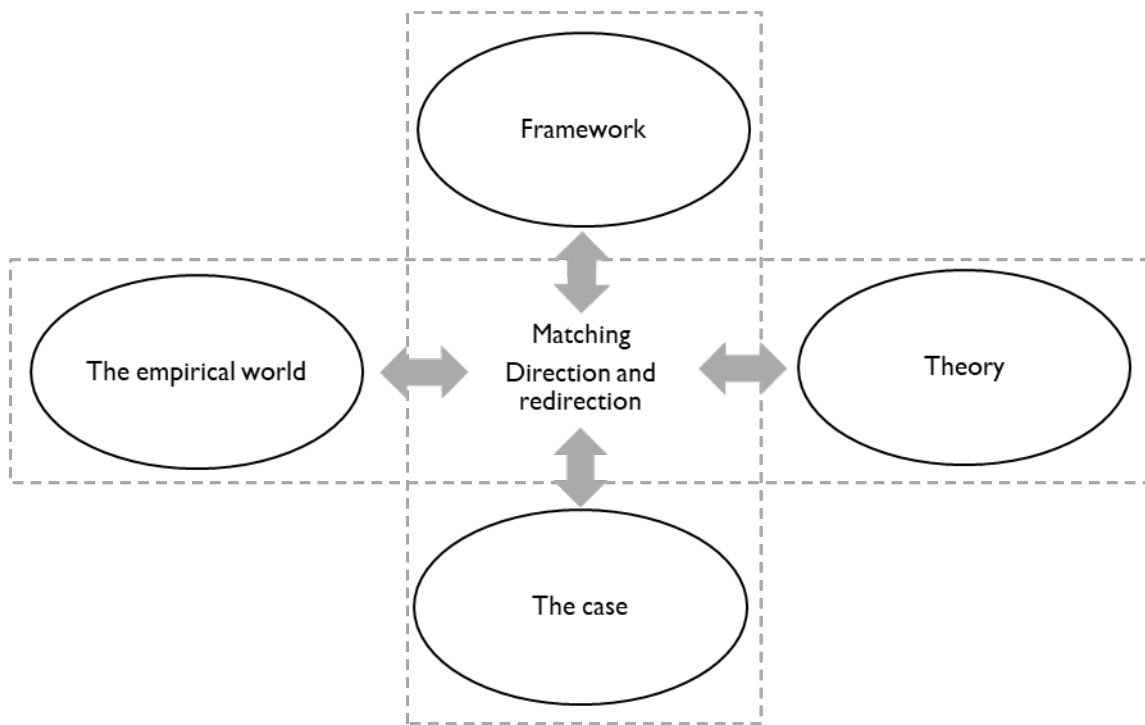


Figure 1. Abductive reasoning from (Dubois and Gadde 2002)

Data was collected from a wide range of individuals, with varying levels of responsibility within each group to ensure a multi-level approach. An equal number of individuals and organisations were contacted from each stakeholder group (including fair representation from both voluntary and commercial sectors). Several participants also identified themselves as working across all stakeholder groups. A description of each group is included below.

Governance

This group combined voices from local (voluntary), county (paid) and national (paid) elected members of government. This included a local government officer, responsible for the practical development of council policies and procedures. Ensuring high participation from this group was challenging due to several external factors that government stakeholders are trying to overcome; the cost-of-living crisis, budget setting and changes to local governance structures. Those who were able to participate, however, provided some excellent, high quality data.

Community

This group combined voices from a variety of organisations with local, county-wide and regional impact. This included community volunteers for small and large projects, project leaders/coordinators and community leaders. This group were the easiest to identify but are well known for being traditionally 'time poor' and therefore the hardest to gather data from. They are often out in the community delivering projects and therefore 'participant engagement' was key to ensuring their voices were heard and valued in the process.

Business

This group combined a variety of employees with different levels of responsibility and roles. These

included commercial directors, designers (local, regional and global), sustainability officers, employees from small to medium sized enterprises (SMEs) and larger-sized businesses. There was also representation from the regional Business Improvement District (BID), who develop projects which will benefit businesses in the local area, alongside local consultants and officers who provide professional or expert advice to the sector. This group provided high quality data, but also struggled to find time due to the current challenging economic environment.

2.2 Literature review

Previous research from the academic literature was studied to understand the theoretical background (Tranfield et al., 2003), establish a solid platform for increasing knowledge and enabling theory development (Dubois and Gadde, 2002). Key words such as ‘circular economy’, ‘fashion’, ‘social innovation’, ‘textiles’, ‘solutions’, ‘community’, ‘supply chain’ were used to understand the extent to which existing literature covered referenced topics. Detailed searches of relevant academic databases (including Scopus, Science Direct, Google Scholar), combined with a snowball and purposive sampling technique provided an initial set of 100 papers, which with abstract content analysis were reduced to a working sample of 29. These were they analysed in full and content presented to the research team accordingly.

2.3 Data collection and analysis

Field research was conducted through a combination of semi-structured interviews, workshops and participant observation. Data collection took place between Sept 2022 and Dec 2022 and included detailed responses from a total of 31 participants (see Table 1). The name of the organisation, the position of each interviewee, the date of the interview, and the format of data collected were all recorded. Due to the political sensitivity of such a topic at multiple socio-political levels, it was decided that respondents' names be kept confidential. Interviews were conducted with the written consent of the interviewee, were recorded and lasted up to 60 minutes.

In this instance, our fieldwork served to link the topic under study to the setting in which it emerged. In order to better comprehend and capture each stakeholder's individual position in the supply chain, the interview questions were purposefully left open-ended. In order to learn more about how each stakeholder perceived the wider circular economy barriers and enablers, many of the questions were descriptive in order to explore each stakeholder's perception of the research subject and to allow them to describe their role and responsibilities towards the topic. Examples include:

- What are the challenges or issues you face?
- What do you need to overcome these?
- Would you describe yourself as an activist or environmentalist?

In order to better understand the community, participant observation was used as a recognised method to learn more about and developing a deeper understanding of the stakeholders, interactions, local environment, and events. The researcher therefore took part in pre-arranged workshops and meetings where individuals from the community came together to share knowledge and experience on the topic of circular textiles (or circular economy more broadly). 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. In keeping with the practice of qualitative techniques, the researcher collected information to develop theories through participant observation, focus groups, material culture analysis, and interviews.

Researcher notes were kept, including substantial descriptive information, that was recalled from memory and written notes that met the criteria for the study. Notes were taken for each data collection method and consisted of words, phrases, and pictures. Written immediately after the fieldwork or interview, direct observation notes provided a thorough, precise, and explicit account of what was observed and heard. They attempted to reproduce specific words, phrases, or actions.

Stakeholder group	Position of interviewee	Format
Governance	Member of Parliament (MP)	Interview
	Officer (County)	Workshop
	Local Councillor	Workshop
	County Councillor	Workshop
	Local Councillor	Workshop
Business	Head of Product	Interview
	Designer (Global Business)	Workshop
	Business Improvement District	Interview
	Independent Designer	Interview
	Environmental Consultant (SME)	Interview
	Sustainability Officer (SME)	Interview
	Support Officer (County Wide)	Interview
	Sustainability Officer (SME)	Interview
	Designer (SME)	Workshop
	Product Packaging	Interview
Community	Leader (County wide)	Interview
	Communications officer (County wide voluntary sector)	Workshop
	Project Lead (County wide)	Interview
	Town Leader	Interview
	Town Coordinator	Interview
	Community Leader	Interview

Community		
	Community Leader	Interview
All	Project Lead	Workshop
	Project Assistant	Workshop
	Project Lead	Workshop
	Project Assistant	Workshop
	Project Lead	Interview
	Project Coordinator	Interview
	Project Assistant	Interview
	Project Coordinator	Interview
	Project Coordinator	Interview

Table 1 – Overview of participants

As the study progressed, several research themes emerged. In order to conceptualise and theorise the circular economy grassroots communities of practise in the fashion and textile industries in relation to a particular geographic location or region, it was helpful to explore these topics and their intricate linkages (Guthey et al., 2014). We were able to connect with the reality of working in the region through this in-depth exploration of the participants' perspectives, compare practice to theory, and improve our case narrative as a result (Eisenhardt and Graebner, 2007, Corley and Gioia, 2011).

Although contexts and boundary conditions are important, there are still several perceived restrictions on the case method design, data collection, and interpretation of empirical data. Lack of rigour, where the researcher might influence the conduct of the research owing to the absence of systematic processes in place, is a prevalent concern in case study research. Case studies, according to some scholars, offer limited opportunity for scientific generalisation and lack external validity because the results cannot be extrapolated to theoretical hypotheses. This may be avoided by selecting the appropriate theory to increase the study's explanatory power (Dubois and Gadde, 2002). Therefore, for this research, primary data from the workshops and interviews were combined with secondary data from the literature, business reports, and publicly available records to identify and analyse emerging themes.

3 Analysis of the literature

3.1 Collaborative systems perspective

In our current linear system, we take resources from the Earth, turn them into products, and then finally discard them as waste. The fundamental concept of the circular economy 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).

The concept has emerged as a systems-based approach with the goal of rethinking the place of business in society and the environment. Long-term commitments are necessary for this (Bansal and Desjardine, 2014, Ortiz-de-Mandojana and Bansal, 2016), requiring 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 firm boundaries (Wernerfelt, 1984, Barney, 1991). Therefore, organisations must adopt a collaborative systems perspective in order to address today's environmental challenges.

Understanding how to build broad-based, cross-sector collaboration to address social problems is a well-established topic (Mulgan, 2019). However, it has become more significant as a result of increased connectivity and dependency. Many large-scale initiatives need cross-sector, multi-partner, multi-stakeholder cooperation, whether in a region or a sector. In order to coordinate and drive efforts, many tasks also require some common institutional capability, and this has emerged as a key innovation subject. Whilst collaboration is a key component of innovation within circular economy, several specific barriers have been identified in the literature. Given that horizontal collaboration invariably results in the creation of new limitations and coordination issues, the crucial question for every such interaction is whether it contributes more than it takes away.

A unique set of obstacles and difficulties exist for Small and Medium Enterprises (SMEs) in adopting CE (Rizos et al., 2016; Ormazabal et al., 2016). These types of organisations play a major role in most economies, particularly in developing countries, and account for the majority of businesses worldwide. Due to their struggles to adhere to constantly shifting legal and regulatory frameworks alongside lack of resources (human and financial) and capabilities, business owners and managers frequently believe they lack the ability to expand beyond business as usual (Abdelmeguid et al., 2022). Because of this, SMEs frequently interpret the circular economy using a resource efficiency framework, which is not always novel or inventive (De Jesus & Mendonça, 2018). This means that SMEs are eager to increase their profitability and long-term financial sustainability and are, unsurprisingly, focused on the current monetary and market value of any change.

However, there are a variety of internal and external factors that have been identified as driving the implementation of circular approaches (Agyemang et al., 2019; Govindan and Hasanagic, 2018; De Mattos and De Albuquerque, 2018). Internal factors include an organization's culture, its dedication to achieving circularity, the goals of its stakeholders being aligned, partnerships and collaborations, aspects of product development, innovation, material efficiency, quality improvement, increased customer satisfaction and loyalty, risk management, the stability of the production process, and financial gains. In contrast, external influences include legal and regulatory frameworks, political restrictions, the economics, environmental issues, health and safety standards, protections for people and animals, regional and cultural distinctions, corporate social responsibility obligations, and societal pressures.

3.2 A social and human perspective

As the CE concept has evolved within the literature, it has become clear that a holistic viewpoint is required to better understand where and how the circular economy functions within the larger framework of social and ecological justice. According to the 'driver-state response' concept created by Palm et al. in 2021, societal activities are what drive ecological pressures that affect the status of the environment. As a result, circularity and sustainability efforts are needed to address the substantial

repercussions. This makes the case that circularity methods in all industries, including the fashion industry, go beyond just closing the energy and material loops to address pressing social and environmental issues (Adelmeguid et al., 2022).

The literature also identified a conflict between the hard (i.e., business and infrastructure) and soft aspects of the economy (i.e., the human and social elements of how society operates) and that more research is needed to explore the latter (Adelmeguid et al., 2022). One element of these socially driven aspects of the CE is the re-emergence of repair cafes and the global movement globally towards 'right to repair' in a demand for these changes (Hernandez et al., 2020). 'In contrast to the mainstream circular economy discourse, the purpose of community repair is not only about repairing broken stuff and reducing waste, but about building social relations and practicing non-consumerist forms of citizenship' (Bradley & Persson, 2022). It is a movement created, not just from economic need, but from the desire to relearn the skills that we are rapidly losing as communities, to take the power back for the consumer and to connect with our communities.

Social innovation has been recognised as a crucial component in bringing about change. The term refers to innovative projects and offerings that are motivated by the desire to address a social need (Mulgan, 2006). Initiatives to coordinate the efforts of several organisations from the public sector, civil society, and industry that are attempting to bring about social change have a long history. These have often included a mix of agreed-upon goals, objectives, and commitments. A recurring lesson is that while processes and structures are important, cultures are far more crucial. For the more technology-focused or process orientated methods to collaboration, this is frequently a blind spot (Mulgan, 2019). From this perspective, the best partnerships develop more as movements than as coordinated performance management. Therefore, grassroots community initiatives built on relationships and trust may lead to more successful long-term collaborations.

3.3 A place-based perspective

A place-based approach to CE is still in its infancy within the literature, although some research has highlighted the need to focus on aspects in relation to place e.g., 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 & 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 contend 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.

The literature also highlights the importance of governance (local and national) and the process by which decisions get made. A recurring lesson in any kind of complex problem solving, is that while processes and structures are important, cultures and local understanding are equally (if not more) important (Mulgan, 2019). With more resources, more credibility, and better intelligence, the

government is theoretically more suited to addressing these complex issues. But if the administration is rigid, committed to outdated ideas, or ineffective at forming collaborations, this might become a problem. If two or three separate levels of authority are involved, it is inevitable that it will be fractured itself. Over the years, a wealth of subtle information about how to achieve the advantages of collaboration without the government micromanaging everything has developed. The idea of using waste from one operation as the raw material or nutrients for another within a CE, is an idea often brokered by local government to bring businesses together in creative collaborations (Chertow, 2007). It is becoming clear that within these place-based systems there are numerous conflicts and trade-offs that require government effort to maintain inclusion and fairness (Marsden, 2013).

4 Framework for discussion

The literature review highlighted the suggestion that the CE has enormous potential for attaining sustainability. However, there is little study on what a circular future would entail, particularly considering a place-based approach. A recent paper by (Bauwens et al 2020) uses a scenario matrix technique, which was created through a thought experiment and a focus group. It presents several realistic possibilities for a circular future.

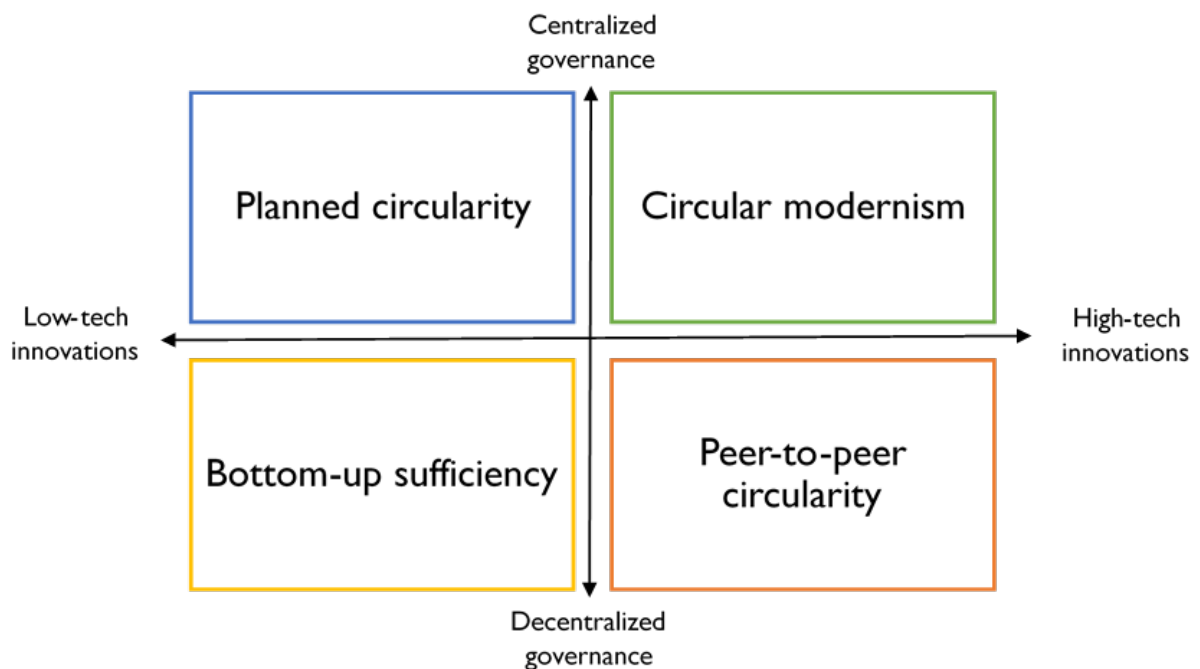


Figure 2. Four scenarios for circular futures. From (Bauwens et al 2020)

These scenarios highlight the meta-principles that might influence circular futures in a variety of industries, but they do not go into much detail about how they might play out in particular industries or regions. In line with the study's abductive methodology (Sætre and Van de Ven, 2021), we evaluate those four scenarios using the perspectives of key informants from various sectors and regions. First the future scenarios were introduced to a range of participants to test the language and understanding.

It was found that 80% of the trial group struggled to interpret the scenarios and therefore the following descriptions were added to each scenario:

1. Planned circularity. In this scenario, the transition towards a CE is centrally piloted by the government via enforced measures. The government sets command-and-control regulations on production and consumption to incentives firms and consumers to engage in reduction, recycling and reuse strategies. Enforcement would be via penalty charges, for example.

2. Bottom-up sufficiency. This scenario is primarily based on decentralized, small-scale production within a self-sufficient local community. Production is for local needs rather than for commercial trade abroad.

3. Peer-to-peer circularity. This scenario relies on temporary access to goods and strong, positive digital communication on both a small and larger level. Access, performance, and collaboration are the key to CE improvements and efficiency gains in this scenario, via the reduce strategy. Sharing under used goods- both by trading and second-hand markets, enable reuse also.

4. Circular Modernism. This scenario relies on technological advances to transition to CE. This focusses on the centralisation of decision making in the hands of an experienced few government and big business representatives who set design and eco efficiency standards, then provide clear direction and support to enable best practice.

Each scenario was presented to the participants as a framework for discussion to explore grassroots communities of practice, with the aim to further understand the barriers and enablers that the region and sector experience.

5 Results

Primary data from the workshops and interviews were combined with secondary data from the literature and following analysis several key themes emerged.

5.1 Cultural adaptation

The first key theme which emerged across interviews with participants was the need to challenge dominant consumerist perceptions and practices of both businesses and society. Such perceptions and practices were placed into a broader culture framework of historical production processes, which were ubiquitous, not only for Cornwall but globally. As such, a transition to a circular economy was a 'wicked problem' that should be part of a global agenda for change. However, participants felt that such a transition would be challenging and there were several dimensions to it.

First, the historic practice of linear production required businesses to continuously expand their production practices in the pursuit of economic growth and localised profits. This logic was viewed to be fundamentally at odds with the resource efficiency and zero-waste principles of the circular economy – so much so that the two were seen as 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, this linear logic of production came with certain, pre-developed assumptions of business behaviour. Innovation was driven not by the need for resource efficiency, nor allowed for any form of multi-stakeholder collaboration in the pursuit of common goals (George et al., 2016) but rather, by business competition. Although it was possible to challenge this main mode of business-to-business interaction, this had to happen by opening a distinct liminal space, with different rules of engagement. This was the space of grassroots or in this case 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)

Finally, the 'space' of the social enterprise was not sufficient in itself – it also needed to be anchored in a particular and distinct area. 'Space' also needed 'place' and Cornwall's peripheral geography appeared to create the initial conditions for an alternative logic, one to plug the gaps and inequalities created by the national and traditional, linear economy. This was expressed by one of the Member of Parliament participants:

'We do really well in Cornwall actually, compared to the rest of the country, I think Cornwall has a lot to be proud of in this space, but I also think there's always more that we need to be doing' (Local Member of Parliament, Governance)

Taken together, those themes presented our participants' view that a transition to a circular economy requires current production and consumption practices to adapt to the new realities of resource constraint. Society and business would need to adapt to enable a new set of future-proof goals, geographically embedded and united by both economic practices and cultural meanings.

5.2 Institutional Enablers

Our participants were aware that a circular economy framework cannot exist in abstraction, disconnected from key social institutions like the legal system and without socio-economic context. This produces the second theme of the study, that of 'Institutional Enablers', which draws parallels with the body of literature on the need for long-term commitment to circular goals (Bansal and Desjardine, 2014). This required an unbroken 'golden thread' which ensured all business practice was in line with appropriate Government legislation:

'[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 feel that this requires a radical new ideology, for instance one which stipulates a planned economy approach. Rather, legislation was to provide the broad parameters within which competition can still take place, and innovation can still be pursued. This required a refresh of current legislative provisions and sector policies, so that they can apply to different size and type of organisation in the textile sector:

'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...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)

Simply having legislation, therefore, was not enough. One of the directors of a Community Interest Company, felt that when legislation was not brought up to date with the latest innovation, it could 'get in the way'. Similarly, legal changes were a lengthy process as the local Member of Parliament reminded us:

'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).

The need for institutional enablers was therefore conceptualised through reference to pre-existing legal mechanisms. National policy would have to put in place certain environmental targets, to allow legislation to develop. Such legislation was key in creating a level playing field, not in terms of opportunities, but in terms of compliance. This was non-negotiable and had to be demonstrated by all companies in the textile sector. It was also necessary for those companies to become stakeholders for the sector and be aware of the suitability of current legislation.

5.3 Resource

Even though the principles of the circular economy enable it to go beyond the traditional, resource-based view where a business might seek to attain competitive advantage (Barney, 1991), participants in this study were all aware of present resource constraints. This was particularly clear in the interviews with local SMEs, who discussed the dynamic of day-to-day, operational costs and funding 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)

In some cases, the issue was not lack of resource due to cost, but rather, the need to develop innovative resources in the first place. Those resources required suppliers to carefully evaluate materials and new ways of production – all of which was a learning process for the participants:

'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)

In others, there was a lack in recycling capability for the materials used by the business:

'Our packaging is not easily recyclable and needs to be remade into something else that's quite durable that other industries could use' (Sustainability Officer, Production Business)

However, there was wider awareness of the fundamental challenges which businesses faced. Accordingly, participants were aware that it was necessary to move the discussion beyond the sphere of business operation and even beyond the sector. Individual decisions and actions accumulated in a process of resource attrition, which was the reality faced by all organisations.

'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)

Resources could therefore enable more efficient production, yet they are also depleted in the very same process, unless businesses begin adapting to the new realities of climate change and wider cultural shift. This cannot be achieved with individual action but rather requires coordination even in the presence of sector competition. This is the final theme of the study below.

5.4 Networks

The final theme which emerged from the study was that of interdependence. There was a nuanced distinction between competition within the sector, which was accepted as the business reality; and the unique, regional space occupied by businesses with a social conscience, community interest companies, social enterprises and so on. Yet, members of the three participant groups were aware of the need for connectivity, which linked various groups 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 spoke of the need for connection with a purpose. This purpose was the establishing of critical mass around a common goal, which allowed change to happen and to be implemented. In turn, the interconnectedness allowed a plurality of views to be included and shared across the network and in turn, enabled its members to feel represented:

'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 included an acute awareness of a local-national dynamic, which indicated a need to ensure national provisions and opportunities were sufficiently flexible as to be implemented and adjusted to the needs of the local community. At the same time, this required a voice mechanism, which allowed local actors to share their views, and learning, with national legislation bodies, thus creating a circular procedural loop of implementation and feedback. Although resource scarcity was a constraint which all textile businesses had to consider, participants also discussed specific, place-based needs. Those were based on their awareness of regional demographics, and the context of Cornwall, as a peripheral region with high SME density.

Arguably, this created a diverse context of sustainable innovation, which comprised a range of stakeholders: for profit and not-for-profit, with representatives from businesses, government and local communities (George et al., 2016). It also raised an important question – if Cornwall (and the wider Southwest of England) textile industry was a promising seedbed for sustainable innovation, with a promising mix of stakeholders working towards common socio-economic challenges, then, what next?

What are the implications for other regions and are there lessons which could be applied more broadly to the wider sector? It is to this we turn next.

6 Discussion

At the start of the study, the abductive approach was outlined (Sætre and Van de Ven, 2021) through which a review of key studies in the literature on the circular economy was combined with insights from three stakeholder groups: community, business and governance. The purpose of the study was to understand the challenges in circular innovation, carried out by grassroots communities of practice in the Cornish fashion and textile industry. In turn, this research was aided by the matrix scenario depiction of four circular futures (Bauwens et al., 2020), as represented in Figure 2. Those scenarios depicted four possible outcomes as a result of the wider implementation of a circular economy, namely: top-down, planned circularity; bottom-up activities which created community sufficiency; collaborative and platform-based peer-to-peer circularity and finally, technologically driven circular modernism.

The insight from this rich data collection process, which includes both workshops and individual interviews, showed deep commitment to circular practices for companies and communities involved in Cornwall's textile sector. However, participants were *scenario agnostic*. They recognised the value of key components from each of the presented scenarios; for instance, the need for enabling legislation ('planned circularity'), the value of communities in specific locations ('community sufficiency'), collaboration across diverse networks ('peer to peer') and innovation ('modernism'). Those factors, however, as well as the scenarios themselves, appeared as equivalent outcomes, each with their benefits but neither necessarily more preferable. Furthermore, it was not the scenarios themselves that our participants critiqued, but the challenges of the road towards those scenarios, the different timescales of their achievement (based on business and legislative cycles) and the enabling processes required for successful implementation. Our study's themes, therefore, do not offer an alternative set of outcomes, but rather, an extension of the matrix scenario, to include fluid, and enabling processes.

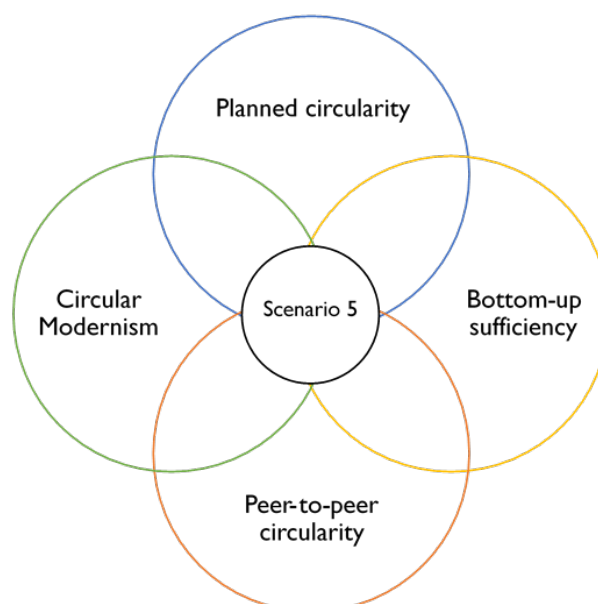


Figure 3: The proposed extension of Bauwens et al. (2020) through the inclusion of supporting processes.

The extension of existing theory is presented in Figure 3, which proposes the need to include enabling processes, which support the wider circular system. In Figure 3, we reframe Bauwens et al.'s (2020) matrix scenario framework from rigid cells, to overlapping spheres of influence. This interdependency is largely unrecognised in the original literature framing which presents ideal types, each emerging to the exclusion of the others. The data from our research, however, allows us to recognise both this interdependency of the outcomes, as well as the role of the processes, which support them.

For example, the process of 'cultural adaptation' can provide a common language through which location-specific communities can collaborate with a more diverse set of peers, perhaps across social network platforms. This common language can gradually lead to a common realisation of shared goals, e.g. the present global climate emergency; and through this shared language normalise what may be deemed radical practices in the textile industry – waste and offcut reuse, use of sustainable materials and so on.

Such processes of cultural adaptation do not exist in isolation, despite being anchored in a specific geographic location. The emergence of networks around each area and community can enable the flow of information, resources – including funding, and shared learning. In other words, establishing networks can enable not only interaction, but communities of practice as a source of shared identity, joint participation but also social learning (cf. Farnsworth et al., 2016).

Resource provision and, importantly, the sharing information on funding mechanisms points to the need for circular labs, bringing the expertise of business mentors, government stakeholders and University representatives, offering funding application support for businesses. The high concentration of SMEs in the Southwest of the UK makes such labs particularly valuable and necessary for the upskilling of businesses.

In turn, networked communities of practice would require not only resources but also regulation, hence the need for the term 'institutional enablers'. Those include not only the current legislative provisions in the sphere of textile and fashion, but wider institutional mechanisms which enable two-way (business – government) communication. The 2022 DEFRA report, commissioned by the Secretary of State for the Environment, Food and Rural Affairs and published by the University of Exeter, illustrates areas of legislation which are yet to be brought up to date with sustainable innovation practices by Cornish businesses.

There is a final important point which deserves attention. This study has predominantly featured representatives of the textile sector in the Southwest of the UK. Although we have sought to engage with a diverse group of stakeholders, they were not drawn through random sampling techniques and thus, potentially prevent the generalisation of our findings to the wider population (cf Bryman, 2016). However, this does not necessarily imply that the findings have no significance for other communities active in the textile sector. In a seminal article, Firestone (1993) proposes a typology of generalisation, which reflects statistical limitations of qualitative data but recognises the utility of its richness. As a result, the study can offer analytical generalisation (Polit and Beck, 2010). We aim to achieve this by providing not only thematic insights but a higher level of theoretical abstractions, such as the appended circular model in Figure 3, and contribute to theory building.

Thus, in the final section of this report, a summary of recommendations is provided under a single, takeaway point. This is namely, the recommendation for local labs with similar features and structure but attentive to the specific local needs and challenges of each geographic region.

7 Conclusions

The transition to a circular mode of production is neither a simple, nor quick process. Establishing a textile and fashion industry focus, this study has highlighted some of the challenges faced by a diverse group of participants from community, governance and business organisations. Building on the existing body of literature, this research proposes four enabling mechanisms for the establishing of a circular system of textile production and recognised:

- the role of resource availability and business access to them through competitive application processes;
- the need for engagement and responsiveness of legislative bodies, entering in dialogue with businesses across different geographic regions;
- the provision of networked connectivity and sharing of learning, leading to the emergence of communities of practice;
- cultural adaptation of existing language, customs and practices to move circular practices from the periphery to the mainstream.

It also suggests that those mechanisms can support any of the four scenarios outlined in the literature, and which is conceptualised as interlinked and overlapping areas of activity, rather than the ‘ideal types’ of their original framing. Taking this into account a new circular futures scenario is proposed, which is fluid and can map to specific, regional needs, rather than enforce pre-established theoretical boundaries. In recognition of its fluidity, we refer to it simply as Scenario 5.

Scenario 5 requires a systemic approach to sustainable production, consumption and innovation in the textile sector. It has a diverse network which allows individual businesses to benefit from the shared learning of their local community, but also access institutional enablers (e.g., policy makers, funding bodies) on a national level. It operates as a matrix, offering standardised support through local labs. In turn, each lab operates knowledge transfer protocols by connecting business participants, funding body members, local and central Government representatives and University experts. Despite their standardised functions, each lab is locally embedded and thus able to adapt to the culture and history of a particular region, able to support the local industry, and equipped to mentor the type of businesses there.

In this way, each lab has a hybrid role, which may be considered part-incubator and part mentor. It may operate under a social impact charter with circular economy values, which reference Government sustainability targets and promote local community development. Importantly, each lab is part of a wider network (and a wider community of practice), which can feed-forward individual, regional developments and can participate in national policy dialogue, influencing legislation changes and amendments. Scenario 5 is a flexible means to an end: a nationally-determined but locally-implemented circular agenda, which empowers community stakeholders by establishing a system of circular action.

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