Designing community: creating resilience through collaboration

Jessica Clare Robins*[a],
Emmanuel Tsekleves[a], Leon Cruickshank[a]

[a] Lancaster University, UK
*j.robins@lancaster.ac.uk

Abstract | Community must be placed higher on the circular economy agenda if a truly sustainable future is to be realised. This paper will explore the changing definition of community, looking at previous classifications and modern thought to attempt to provide an up-to-date definition that is fit for the future of our multifaceted, complex society. The paper will argue for this new definition to be included as part of the discussion around the circular economy. The research shared in this paper are the initial results from a project that is attempting to make visible and tangible the connections and communities that circular economy organisations are part of. By making visible the connections this research hopes to encourage the design of community as an integral part of the circular economy and a resilient future. The paper will conclude by arguing how the results will contribute to the field of circular economy research.

KEYWORDS | COMMUNITY, CIRCULAR ECONOMY, RESILIENCE, SOCIAL CAPITAL, CONNECTION MAPPING

1. Introduction

Today's society needs to build on community connections more than ever. If the wicked problems facing humanity are to be tackled to bring about a more resilient society then a collaborative community-based society is needed. Designers have the skills and knowledge to intervene and deliberately design community to be stronger and more resilient to the changes being brought about by the climate crisis. This paper responds to the *Design Culture (of) Resilience* track, making its particular contribution through offering a new definition of community for use in a circular economy and a more sustainable future. Through exploring the initial results of a research project, the authors will demonstrate the importance of collaboration to circular economy organisations and how these collaborations and communities can bring about a more resilient future.

2. History of community

This section will explore the history of the term 'community'. If a new definition is to be suggested, then it is important that the term is contextualised, and a thorough examination of the changing definition is explored.

Prior to the Enlightenment there was very little to separate the notions of community from society. Society, at this time, could be seen as a series of contractual agreements related to politics and economics; this was often how friendship and kinship, the basis for community, was also seen (Delanty, 2010).

2.1 Enlightenment to modernity – belonging

It was not until the late 1800s that a distinction between community and society started to be made. From this period onwards, throughout most of the 20th Century, community was theorised in three ways: nostalgia for a 'lost' ideal that has been destroyed by modernity; a loss that can be recovered and realised; or an idealised future utopia to be achieved (Delanty, 2010). These differing theories are all linked by one key thread, that community provides a sense of belonging.

Some scholars in this period saw community as intrinsically linked to a 'traditional', rural way of life that had given way to modernity and life in the city, often referred to as society. Social groups, and the relationships that come from these groups,

> "may be conceived either as having real organic life, and that is the essence of *Community*; or else as a purely mechanical construction, existing in the mind, and that is what we think of as *Society*" (Tonnies & Hollis, 2001, p. 17 original emphasis)

Once 'community', made up of social relations, had been lost to the mechanics of society, there was no way it could be recovered.

The total loss of community to society is an idea that has been robustly criticised by many subsequent scholars (Delanty, 2010). There was a recognition of the conflict between tradition and modernity, however, there was a strong argument that the cities of modernity were not as isolating and self-absorbed as previously made out.

> "There is in our contemporary societies a truly collective activity which is just as natural as that of the smallest cities of previous ages" (Durkheim & Giddens, 1972, p. 5)

Modernity saw a raise in the 'cult of the individual' (Durkheim & Giddens, 1972), which argued for self-determination, allowing individuals to practice 'organic solidarity'; the freedom to choose communities based on personal interest rather than geographic or familial ties; communities formed by a conscious collective. The third way to view community, that of a utopia to be achieved, was a theory favoured by left-wing scholars such as Marx (Delanty, 2010). The definition of community laid down by this paper is focused on active, existing communities, so is not the place to discuss these ideas.

2.2 20th Century - communication

During the 20th Century ideas around community became more focused on communication as a central part of community formation. Research from the Chicago school described city-based communities as "a mosaic of little worlds" (Park, 1915, p. 608) where an individual could express different sides of their personality, "living at the same time in several different contiguous, perhaps, but widely separate worlds" (ibid). Within the city, individuals tend to be connected through 'communities of interest' rather than traditional, familial communities. Different types of community studies have grown out of these beginnings, such as political and activist community studies, or community as a place for state intervention such as welfare (Abu-Lughod & King, 1997; Hemphill & Leskowitz, 2013; Warren & Jones, 2015). The following section will focus on more abstract ideas of community, which will help to inform the definition of community proposed within this paper.

2.3 1980s - beyond 'face-to-face'

In the 1980s a branch of community theory began to develop, moving towards community as an imagined concept, rejecting the idea of community based on social interactions (Anderson, 2006). Communities, rather, are developed through a shared, imagined connection, such as the nation or region. Mass communication establishes, reiterates and reaffirms the basis for the imagined community, enforcing and reinforcing the feelings of kinship among the community. There are subtle verbal and non-verbal communications that go into the creation and re-establishment of a community, it exists through symbols and signs that are adopted by the community and used to signify its boundaries (Cohen, 1985).

"The reality of community lies in its members perception of the vitality of its culture. People construct community symbolically, making it a resource and repository of meaning, and a referent of their identity." (1985, p. 118).

A recent, specific example would be that of climate activist group Extinction Rebellion, they have a simple, recognisable brand that is easy to reproduce, a symbol of an egg timer in a circle (Figure 1). Wearing this logo demonstrates through visual communication to other members of the group that you are aligned with their ideas about climate change.

This section shows that community is less centred on locative relations, but more imagined through self-identification re-enforced by signs and symbols. The ideas of community as imagined and bound by symbols becomes more significant as society moves into the age of the internet. The focus of community theory moves online, and the idea of networks start to become more important.

Figure 1: Extinction rebellion logo

3. 21st Century – community and networks

As laid out in the previous section, a definition for community can be proposed for the pre-digital eras as: *providing a sense of belonging to an imagined structure, phenomena or group, whose boundaries are reinforced through verbal and/or non-verbal communication.* Within this definition we can include communities that an individual choses to be part of, and those that they in through circumstance (of birth, location, race etc). In communities of circumstance an individual still has the choice as to whether to be an active member of that community.

Communities become networked through each individual member, who has the autonomy to be actively involved as part of the conscious collective. Each of these members can be part of a number of communities, and as such, act as links between the different communities. In this sense communities can be seen as nodes in a wider network. The digital era makes communication between these nodes easier and quicker. Again, looking at the Extinction Rebellion example, this group has many communities across the UK working on their own local issues, but each local community node is connected and supported by the wider regional and national community. The individuals who make up each group also bring their own priorities for their area and can link the local and national groups to wider communities.

This section will look at how community theory has been linked with network theory and how this can start to influence our definition of community to incorporate issues of sustainability and resilience.

3.1 Degrees of separation

Linking networks and community theory can first be explained by exploring intrapersonal ties. An individual's social world is made up of many relationships based on either strong or weak ties (Granovetter, 1973). Strong ties are formed between people who know each other well, developed over a long period of time, such as family and close friends; weak ties, on the other hand, are connections established quickly and more superficially with people such as work colleagues or sports club members. Weak ties can be used to create 'bridges' to other communities (Putnam, 2000), links which can enable networks to be formed. Weak ties alone cannot make a community, however, the potential bridges created through weak ties can be essential for the survival of said communities. Strong and weak ties together can be seen as the basis for the formation of a community, although a community does not form randomly, "the relevant aspects of the social environment can be seen as a foci around which individuals organize their social relations" (Feld, 1981, p. 1060). These foci can be any number of things that draw people together, and weak bridging ties allow for a wide diversity of people to be brought in.

3.2 Social capital

Connecting a group of weak tie individuals around a focus will not create a lasting community, the ties have to be worked at and maintained. This happens though the development of social capital between community members. Social capital is a phrase used to describe an individual's worth to society through their intrapersonal skills, connections and networks. Individuals all have a level of social capital which is formed through connections with other people (Coleman, 1988). There are different types of social capital: bonding, bridging and linking (Halpern, 2005; Putnam, 2000). Bonding social capital is formed through strong ties and exists in closely linked groups such as a family or religious congregation. This type of social capital is good for mobilising solidarity among a specific community but can be exclusionary towards outsiders (Putnam, 2000). Bridging social capital, created through weak ties, is inclusive and outward facing, it facilitates the interaction of a diverse section of society. This type of social capital can be seen in organisations and clubs, it provides "better linking to external assets and for information diffusion" (Putnam, 2000, p. 22). This type of social capital can be seen to bridge different communities and provide links to other sections of society. Bonding is better for getting by and bridging is better for getting on. Linking social capital is concerned primarily with power, and who access to it. It is

"the extent to which an individual's, or community's, networks are characterised by linkage between those with very unequal power and resources" (Halpern, 2005, p. 25)

Communities with low levels of linking social capital can be seen to be very unequal, where money and power are concentrated within a small group that is inaccessible to the rest of the community. There are three structures for the development of social capital: obligation, reciprocity and trust; knowledge and information; and norms and sanctions (Coleman, 1988). This can be explained by, if person A does something for person B then person A will
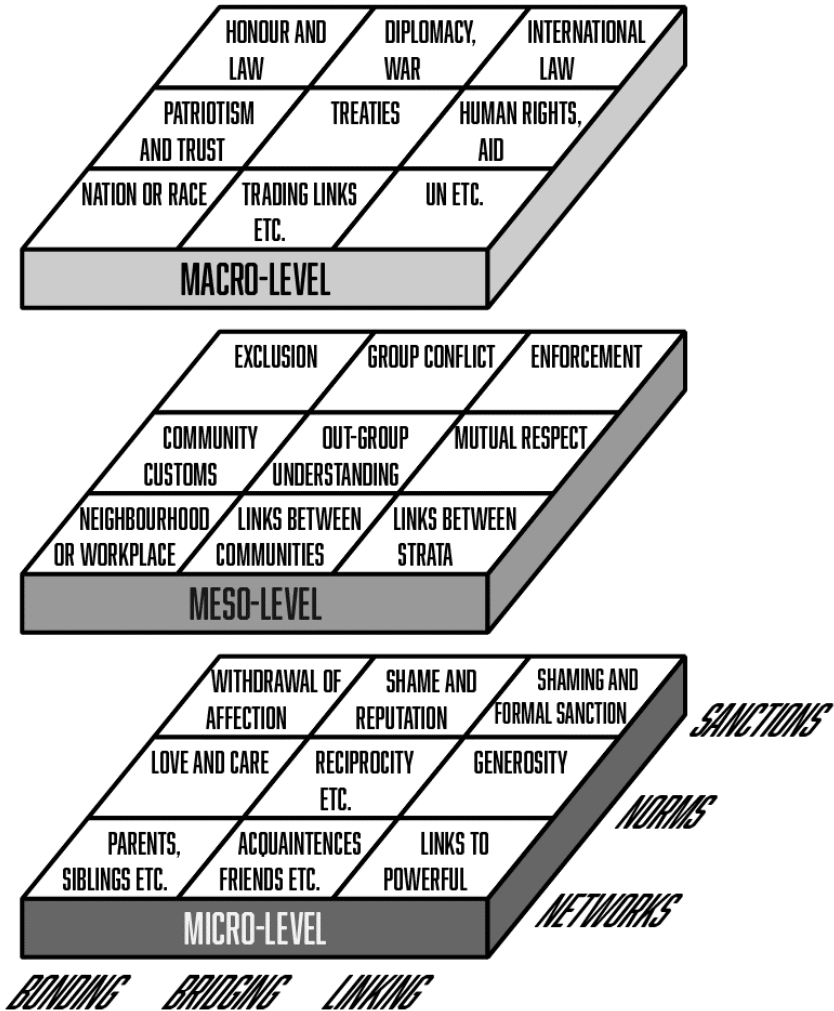

Figure 2 The types of social capital, their structures and how they operate at different levels

anticipate some kind of reciprocation from person B in the future, "this establishes an expectation in A and an obligation on the part of B" (Coleman, 1988, p. 102). Person A must trust that at some point person B will repay the favour or the reciprocity and social capital will be broken. He describes knowledge and information as important part of social relations. Person A might have interest in a subject, but not the resources or desire to learn about it in detail so relies on others within their social circle for information. Norms and sanctions describe the unspoken social rules that exist within a community (norms) and the rewards or punishments (sanctions) that are used to maintain these rules. Figure 1 explains how the different types of social capital operate through the three structures.

Bridging and linking social capital involves more initial risk but can create trusting links between individuals and communities. Social capital is very important the development of a new definition of community. Weak ties that create bridges are essential for building trust. Trust is an essential component in both bridging and linking social capital, it can allow for more access to power and money through stable political representation on every level (Rossetti di Valdalbero & Birnbaum, 2017).Weak ties that provide linking and or bridging social capital to individuals or communities are essential to create resilient, 21st century communities. The challenges we face cannot be solved by being protectionist and inward facing, they are global in nature and a global view must be taken to tackle them. Mass communication can be mobilised to educate, share knowledge and create more empathetic imagined communities. This was demonstrated recently when communities of crafters were mobilised to make and send recovery nests and blankets for animals injured in the Australian bush fires (Paul, 2020). Communities that are open and outward facing must work together to see the wider picture and help one another to bring about change to create a more resilient world.

3.3 Communities of practice

Social capital does not form in just location-based communities. Ties be formed between individuals can be through a specific, deliberately formed community of practice. This is a term used to describe an often informal group that arises based on a shared expertise or practice. These communities "are not defined by place or by personal characteristics, but by people's potential to learn together" (Wenger, White, & Smith, 2009, p. 11). These communities often come together organically through shared desire to improve knowledge of a certain subject. Communities of practice can be seen as a space for an individual to build upon skills and knowledge by connecting to a group with similar goals and practices. Like social capital there is a strong element of reciprocity in communities of practice, people contribute to the pool of knowledge

> "while trusting that at some point, in some form, they will benefit. This kind of reciprocity is neither selflessness not simple tit for tat, but a deeper understanding of mutual value that extends over time." (Wenger, McDermott, & Snyder, 2002, p. 37)

The theory was developed in order to give a name to informal shared learning that develops around a specific interest or activity.

Communities of Practice are incredibly important in the move to a circular economy and the development of a more resilient and sustainable future. As their primary focus is to share knowledge and expertise, they are the ideal places for the development of skills for resilience. For example, to teach people the skills needed to keep products in use for longer, through repair cafes, tool libraries and maker spaces. The knowledge and skills developed through a community of practice has the potential to be disseminated to other communities the members of the community of practice are part of. Passing these skills throughout a network that is wider than the initial community of practice.

The communities referred to in this paper reach beyond communities of practice, as there is a space and a need for many different sorts of communities to engage with and advocate for a circular economy and more sustainable ways of living. Communities of Practice are a useful part of the network of communities referred to, and their purpose and expertise can benefit beyond their community boundary. The linking of communities of practice with other communities shows that their real benefit is as an intrinsic part of the networked nodes.

The next section will look at the circular economy in more detail and explore the need for an emphasis on community when discussing and working towards a CIRCULAR ECONOMY.

4. Circular Economy

There is little denying that human activity is causing the massive climate breakdown we are seeing at the moment (Berners-Lee, 2019; von Weizsäcker & Wijkman, 2018). However, there is a lack of acknowledgement humanities profound effect and that we are all connected (Smith, Kim, & Son, 2017). Despite increased scientific warning there is little strong action on the climate crisis and its causes. This is leading us into a culture of hand wringing and fiddling about the edges, with a push for individual change over corporate change, which leads to companies engaging in greenwashing to allow for business as usual (Hobson, 2019; Hobson & Lynch, 2016; PriceWaterhouseCoopers, 2008). The circular economy is a current trend with serious ambitions. This model and way of shaping the world could have profound effects on delivering a sustainable future. It is promoted as a panacea by academia and business alike, however the term is often used interchangeably with advanced recycling. To engage in a truly circular economy businesses need to fundamentally change the way they view resource consumption, planning for the continual reuse of every part of their product until it can be returned to improve the organic system. Consumers, too, need to be ready to take responsibility for the items they own, by keeping them in good repair and complying with systems of return and repair to keep the resources in use for as long as possible.

The circular economy is an economic model that promotes the constant reuse of resources for as long as they are materially useful before being returned to replenish natural systems. This idea has gained a lot attraction in business and academic circles (Ellen MacArthur Foundation, 2013; Geissdoerfer, Savaget, Bocken, & Hultink, 2017; Kirchherr et al., 2018; Mathews & Tan, 2016), pushed in the UK by the Ellen MacArthur Foundation. However, the adoption and implementation of this system has so far been scattered, with governments slow to follow business and academia's lead. To really make an impact the taking up of the circular economy needs to be full scale, with a consensus across business, politics and academia.

The circular economy will improve resource resilience by advocating for the continuous usage of materials that are already in circulation (Blomsma & Brennan, 2017; Ellen MacArthur Foundation, 2013; Gallaud & Laperche, 2016). It will improve natural resilience through the regeneration of our natural resources (Ellen MacArthur Foundation, 2019; Principato, Ruini, Guidi, & Secondi, 2019; Slorach, Jeswani, Cuéllar-Franca, & Azapagic, 2019), and it can improve community resilience by providing skills and localised employment to keep possessions in good working order and in use for longer (Morgan & Mitchell, 2015; Rossetti di Valdalbero & Birnbaum, 2017; Wijkman & Skånberg, 2015). It encourages a slower repair and share culture over the fast turn over, buy and discard one we currently have. The circular economy can encourage to us see objects we own as having the potential to outlive us and to develop and relearn skills our grandparents had in order to become stewards of our possessions (Robins, 2019). This is where the developing and nurturing of communities is important. By making people aware of their responsibilities towards consumerism we can build resilience to resource shortages and other future shocks.

Designers have a crucial role to play at every stage of the circular economy from the products we use to the systems those products enter into and applying our skills to make the transition to the circular economy smoother (De Los Rios et al., 2017; Lofthouse & Prendeville, 2018; Sumter, de Koning, Bakker, & Balkenende, 2019). The current focus on the circular economy is on the mechanical implementation, this risks the value of human life to the circular economy being pushed aside. Walter Stahel (2010), one of the early pioneers of circular thinking, places a lot of value on human energy as a crucial part of the circular economy. Humans are the ones to repair and maintain the products and systems, as well as develop technologies that make it easier to close the loop.

The next section will detail an early stage research project undertaken by the authors that aims to explore the role of community in circular economy organisations.

5. Research

The research being undertaken by the authors aims to take a deep look at the networks and communities used by a small number of organisations working in the circular economy. The research takes a mixed methods case study approach, using interviews, document analysis,

and social network analysis to create a comprehensive map of the communities and organisations the subjects are involved with. This will create a detailed picture of how these communities are used by circular economy focused organisations. The authors aim to map the networks of circular economy organisations based in North West England in order to make them "*visible and tangible*" (Manzini, 2015, p. 121), to reveal how these organisations are just a small part of the larger circular economy system. By focusing on a small number of organisations the research has time to look deeply into these connections, revealing any points of interest and creating new pathways of enquiry. The organisations looked at range from large multinationals to small start-ups, this is to give an idea of the challenges faced at different levels and to show how different sized organisations activate their communities and networks to engage with the circular economy.

By examining networked communities as part of the circular economy the research aims to reveal the intrinsic value of these nodal communities to the adoption and implementation of a circular economy. By exposing the way that communities are linked the authors hope to make these links more tangible and promote the use of these links within organisations and different types of community.

The analysis is ongoing and here we can offer a tentative look at one example of the results. Figure 3 shows a map created by one of the interview subjects of the connections their
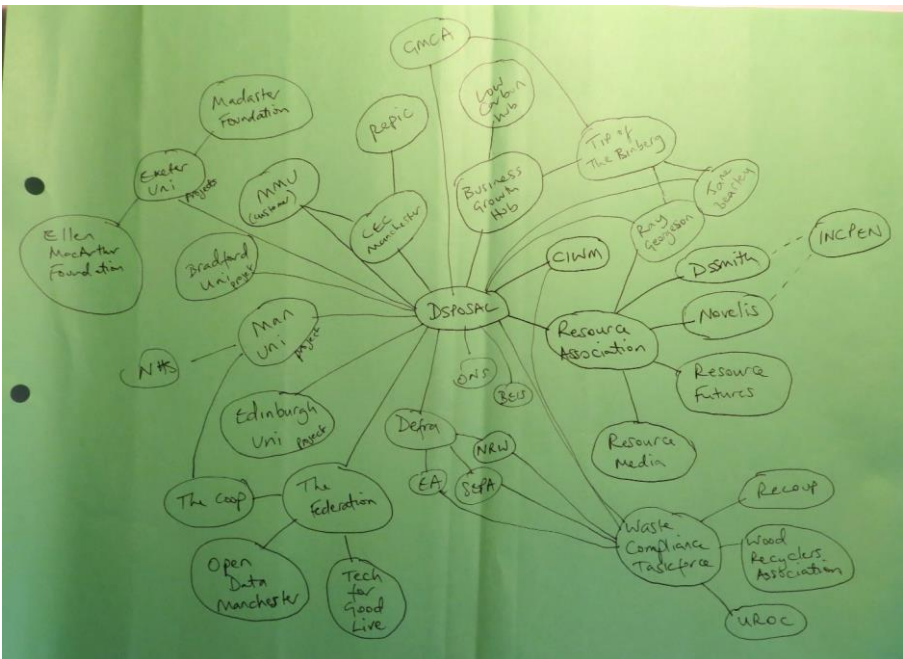

Figure 3: Rough map of interview subject's circular economy connections

business is involved with. For the analysis this map has been built upon with interview data and document analysis to create a fuller picture of the communities that the organisations are connected to (Figure 4). In this case study example, the map reveals many meso, or community level connections (purple links). These connections are made through a strong
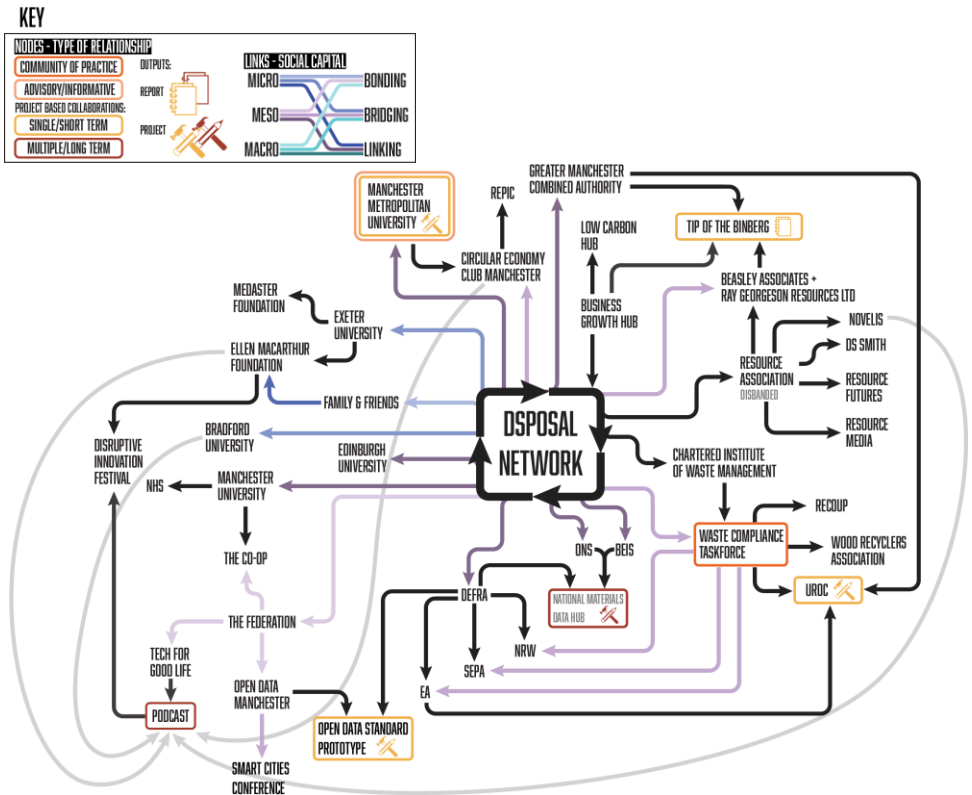

Figure 4: Social network analysis map of a case study organisation's network

push by the organisation to get their name out and create links with different people and organisations. The blue links indicate a personal or micro-level connection which is also prominent in the map, these links are used to create connections to new audiences and are actively pursued by the case study organisation. There is only one Community of Practice listed (in orange), but it provides opportunities for the organisation to link with areas of government that they wouldn't have otherwise had access to. This organisation, along with all the other case study organisations put a lot of emphasis on education and knowledge sharing through their networks. This can be aimed at other sectors, their industry peers, or through engaging the public with their organisation and using education as outreach.

Though each or the organisations studied in the research are based in different areas and are of different sizes, collaboration and engagement with wider audiences is highly important to each of them. Through providing engagement through their specific area they can open up the conversation to include wider concepts of circular economy with niche communities. The ongoing research hopes to create a body of evidence that demonstrates the need to put greater emphasis on building and establishing communities to further the circular economy agenda. This aims to ensure community becomes a more important focus and is included in the design of circular systems at every stage. These are the initial discussion points that have been raised from the data, further analysis is to be conducted before any concrete conclusions can be drawn.

6. Conclusion

Community is a structure that is deliberately designed, although, not necessarily by the current members. To ensure the continuation of the community members must take it upon themselves to reinforce the signs and symbols and boundaries of that community. Community can be viewed as a web of links and connections that we as designers should work towards revealing in order to strengthen these ties and create new ones. By making the web of an individual organisation's community connections tangible and visible, we can show just how actions, decisions and activities have the potential to ripple through the network. The circular economy as a whole is a complex web of networks that serve to loop resources around the system. The skills and knowledge locked within different communities need to be drawn upon to ensure success of circular economy implementation and uptake. The role of design within the circular economy is to establish bridges through the communities, explicitly exposing the links and realising the connections. Nothing happens in isolation so designers should be exposing these links and using them to create a truly circular economy.

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About the Authors:

Jessica Clare Robins is studying for her PhD in Design at Lancaster University. She is part of Transformation North West, an applied doctoral research group based in NW England. She is interested in the role of community in creating a more sustainable future.

Dr Emmanuel Tsekleves Senior Lecturer in Design Interactions. Emmanuel leads research at the intersection of design, health, wellbeing and technology at the ImaginationLancaster research lab. He conducts research in the design of technology-inspired health interventions and services.

Leon Cruickshank Director of Research for ImaginationLancaster and principle investigator for Beyond Imagination, recognising Imagination as a nationally and internationally excellent research group. His focus is on co-design and involving a broad spectrum of stakeholders in research and creative processes.