

Repair as a vehicle for grassroots leadership in transition towards circular economy

Ollie Hemstock^(a), David Herbert^(b)

a) Northumbria University, Newcastle, UK

b) Newcastle University, Newcastle, UK

Keywords: Repair; Circular Economy; Transition; Participatory Design; Grassroots Leadership.

Introduction

In 2020 the UK generated the 2nd largest quantity of e-waste per capita in the world (Forti et al., 2020). Trends predicted that by 2024 the UK could become the world's largest e-waste generator (Ali, 2023). Much of this waste contains toxic substances and is exported to non-OECD nations (Odeyingbo et al., 2017; Puckett et al., 2018). The situation is driven by excessive consumption and structural problems with recycling. This perhaps also indicates a lack of agency to participate effectively at personal and community levels in the transition towards circular economy (CE).

This paper reports initial insights from an ongoing project to develop localised repair infrastructure in the West Gateshead area (WG) of Northeast England. Insights are drawn from experiences of organising and engaging in repair cafes as expert fixers, and engaging research expertise in contribution to the development of the project. Emergent understandings of the wider value of repairing, beyond simply restoring the original function of a thing, have been gained empirically through ethnographic observation. These understandings are framed by current discourse relating to barriers to participation in CE.

CE concepts focus predominantly on material and financial capitals. This inquiry takes the critical stance that a pluralistic understanding of capitals and their modes of exchange is crucial to enabling greater participation in CE. The integration of social dimensions with CE remains unclear and underdeveloped in much of the literature (Geissdoerfer et al., 2017). Prevailing CE conceptualisation tends to overlook the social dimension of sustainable development (Kirchherr et al., 2017) and conflicts with arguments in favour of degrowth

strategies. The 9 Rs framework (van Buren et al., 2016) provides a pathway towards establishing CE, within which repair and reuse are crucial enablers. CE strategies are typically characterised by 'top-down' regulations and policies (Ghisellini et al., 2016; Pesce, Tamai & Guo, 2020; Deniz, 2021), however 'bottom-up' multi-stakeholder engagement is increasingly recognised as crucial to CE transition.

Research Context

The inquiry is situated within WG and involves two local community regeneration groups (CRGs). Past withdrawal of primary industry from the area is a significant determining factor for increased levels of social deprivation now present in WG. Both CRGs are generally involved in holistically addressing localised challenges of social, economic and environmental wellbeing, although their respective goals are nuanced:

- CRG 1 is a *transitions* group (global transitions movement) that advocates for individual and community responses predominantly focused on concerns of climate, ecology and environment.
- CRG 2 is a regeneration group that supports community-led social and economic development through the creation and maintenance of community infrastructure, responding to issues of social deprivation.

The interview sample group includes: two social entrepreneurs who run repair café events, and a third who is developing a service model to provide local, accessible repair capacity; three members of the CRG organisations; two community leaders who work with the CRGs with particular interests in strategies for collaboration, increasing opportunities for learning and skills attainment, and informing local policy.

Methods

This inquiry is a single case study is situated within a wider *action research* project, centred on the practice of design leadership in the context of community regeneration. The inquiry adopts methods common to Design Ethnography (Baskerville & Myers, 2014; Crabtree, Rouncefield & Tolmie, 2012), where the object of design is a community-led repair service system. Working with the CRGs and key collaborators, researchers are embedded within the conception-planning-execution-evaluation of community-led initiatives. Primary data was gathered through participation in seven pop-up repair events, alongside semi-structured interviews with eight individuals. Interviews took place in-situ either during the preparation for, or delivery of, repair events. Due to their situated nature, interviews were documented through field notes, and analysed using conventional content analysis (Hsieh & Shannon, 2005). Practitioner reflection is embedded in sense-making of the dynamic participatory situation in respect emerging themes, critical issues and scholarship.

Key Observations

During 12 months of engagement a rich narrative is developing about the value of repair and repairing in the community. Findings are limited by the small sample size and single research site. The modelling of themes is propositional and intended to inform subsequent action. Positive impacts can be visualised as rippling outwards (figure 1) from the object, through individuals and groups involved, to the wider community, and potential beyond. Forms of value have been articulated by collaborators and stakeholders in relation to the following thematic foci:

1. Repaired object:

- Extending lifespan and reduction in waste.
- Feedback loops back into industry, manufacturers and value-chain.
- Warranties as a way of holding manufacturers to account for the longevity and fitness of their goods.

2. Repairer:

- Personal satisfaction of successfully effecting a repair.
- Emphasis on practical discovery and hands-on learning.

3. Repairers and service users:

- Helping people avoid expense of replacing goods.
 - Fostering community relatedness.
 - Benefitting from the exchange of time, knowledge and skills within the community.
 - Helping people become aware of- and embrace- a different mindset of consumption.
 - Formalising ways of working to rethink waste by leverage creativity.
- ### 4. Wider community:
- Developing local micro-economic opportunities and new revenue streams.
 - Community repair resource as a skills development platform to support confidence and employability.
 - Developing localised models to increase participation in CE transition through repair capacity, informing local policy and increasing stakeholder cooperation.
 - Helping address some prevalent challenges for the local demographic; social isolation, loneliness, unemployment.

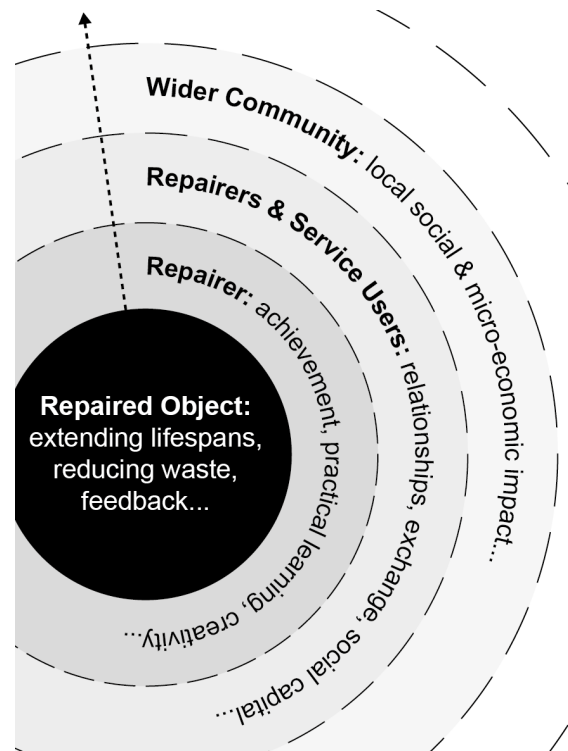


Figure 1. Propositional ripple effect of expanding degrees of value as speculation relating to the social dimension of CE transition.

Conclusions

The value of repair is often characterised in terms of reducing waste, extending product lifespans and avoiding replacement costs. However, when enacted through active community participation, this overlooks a multitude of wider contributions spanning more diverse forms of value. According to those substantively involved in developing and delivering the project, the value of *repairing* incorporates empowering individuals to take control of their own consumption; creating a locus for collective action and building community; fostering the exchange of knowledge, skills, tools and time as a fuller spectrum of capitals.

This case study shares insights from a project in its formative stages, where the priority is towards action and knowledge exchange, with funding granted according to these purposes. More detailed, summative outcomes will follow as the project progresses. However, the project is revealing tangible and concrete links to an expanded understanding of circularity, which are relatable at a local community level and open to intervention through grassroots leadership. This demonstrates through practice the importance of bottom-up approaches in transition towards the circular economy.

Acknowledgments

The authors acknowledge the valuable contributions made by funders to enable the project to take place, provided by The Barbour Foundation; Community Foundation; The Lennox Hannay Charitable Trust, and; The William Leech Foundation. The authors also recognise the ongoing value contributed by citizens of the West Gateshead community.

References

- Ali, R. (2023, January). Mobile Emissions. Uswitch. <https://www.uswitch.com/mobiles/compare/sim-only-deals/mobile-emissions/>
- Baskerville, R. and Myers, M. (2014). Design ethnography in information systems. *Information Systems Journal*, 25(1), 23-46. <https://doi.org/10.1111/isj.12055>
- Crabtree, A., Rouncefield, M., & Tolmie, P. (2012). Doing design ethnography. *Human-Computer Interaction Series*. <https://doi.org/10.1007/978-1-4471-2726-0>
- Deniz, D. (2021). Sustainable design thinking and social innovation for beating barriers to circular economy. *WIT Transactions on Ecology and the Environment*. <https://doi.org/10.2495/sc210191>
- Forti, V., Baldé, C. P., Kuehr, R., Bel, G., Jinhui, L., Khatriwal, D. S., Linnell, J., Magalini, F., Nnorom, I. C., Onianwa, P., Ott, D., Ramola, A., Silva, U., Stillhart, R., Tillekeratne, D., Van Straalen, V., Wagner, M., & Yamamoto. (2020). The Global E-waste Monitor 2020: Quantities, Flows, and Resources. In *Ensure healthy Lives and Promote Well-being for All. Experiences of Community Health, Hygiene, Sanitation and Nutrition*.
- Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, 15(9), 1277–1288. <https://doi.org/10.1177/1049732305276687>
- Geissdoerfer, M., Savaget, P., Bocken, N. M. P., & Hultink, E. J. (2017). The Circular Economy – A new sustainability paradigm? *Journal of Cleaner Production*, 143, 757–768. <https://doi.org/10.1016/j.jclepro.2016.12.048>
- Ghisellini, P., Cialani, C., & Ulgiati, S. (2016). A review on circular economy: the expected transition to a balanced interplay of environmental and economic systems. *Journal of Cleaner Production*, 114, 11-32. <https://doi.org/10.1016/j.jclepro.2015.09.007>
- Kirchherr, J., Reike, D., & Hekkert, M. (2017). Conceptualizing the circular economy: An analysis of 114 definitions. *Resources, Conservation and Recycling*, 127(September), 221–232. <https://doi.org/10.1016/j.resconrec.2017.09.005>
- Lacy, P., et al., 2015. Circular Advantage: Innovative Business Models and Technologies to Create Value in a World Without Limits to Growth. Available at: https://www.accenture.com/t20150523T053139_w_us-en/_acnmedia/Accenture/Conversion-Assets/DotCom/Documents/Global/PDF/Strategy_6/Accenture-Circular-Advantage-Innovative-Business-Models-Technologies-Value-Growth.pdf.
- Odeyingbo, O., Nnorom, I., & Deubzer, O. (2017). Assessing import of used electronic and electronic equipments into Nigeria, Person in the port project.
- Pesce, M., Tamai, I., Guo, D., Critto, A., Brombal, D., Wang, X., ... & Marcomini, A. (2020). Circular economy in china: translating principles into practice. *Sustainability*, 12(3), 832. <https://doi.org/10.3390/su12030832>
- Puckett, J., Brandt, C., & Palmer, H. (2018). Holes in the Circular Economy: WEEE Leakage from Europe. A Report of the e-Trash

Transparency Project. A Report of the E-
Trash Transparency Project, 120.
www.ban.org
van Buren, N., Demmers, M., van der Heijden, R., &
Witlox, F. (2016). Towards a circular

economy: The role of Dutch logistics
industries and governments. Sustainability
(Switzerland), 8(7), 1–17.
<https://doi.org/10.3390/su807064>