

Research Summary: Global Surveys of Repair Cafés and Hackerspaces

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This short paper is a summary of some of the findings of research undertaken by Professor Martin Charter and Scott Keiller of [The Centre for Sustainable Design®](#). Further details of the research are available in the report [Grassroots Innovation and the Circular Economy: Global Survey of Repair Cafés & Hackerspaces](#). Interim data were originally presented at the workshop 'Makers & Fixers: The Circular Economy and Grassroots Innovation' held at the University for the Creative Arts, Farnham, UK on 3rd June 2014. This research is co-funded by the European Union under the Interreg IVA 2 Seas Cross-Border Programme.

Introduction

Repair Cafés and Hackerspaces are two examples of new Places & Spaces that are emerging from a new wave of grassroots organisations where people come together in 'community workshops' to experiment with, modify, make and fix products.

Members of Repair Cafés and Hackerspaces around the world were invited to take part in online surveys between May 2nd and May 30th 2014. Survey questions explored motivations for participation, activities undertaken and expectations for the future. Emphasis was placed on understanding the importance of sustainability as a driver for participation and in relation to the activities undertaken.

Summary of findings

Interim findings suggest that volunteers at Repair Café are most strongly motivated to take part largely because of what they can do for others, namely their desire to help others live more sustainably, to provide a valuable service to the community and to help improve product reparability and longevity. This last point of increasing product longevity is one of the central considerations of Circular Economy thinking and one which the newly emergent Fixer movement clearly supports.

Repair Café volunteers also appear to hold the view that the concept of manufacturer '*in-built obsolescence*' is a real issue, across a wide range of electrical/electronic items. Results also clearly suggest Repair Café activities are not just about repair. Modification to clothing is offered by most Repair Cafés and modifications to and upcycling of electrical and electronic components is also undertaken at some cafés.

Hackerspace members, although interested in *Hacking for Sustainability* are not motivated to be members of Hackerspaces because of this. Their motivations to participate are largely related to *meeting others who share their interests, to being intellectually stimulated and to learning new skills*. However, the results indicate that activities pertinent to sustainability/Circular Economy; including repair, upcycling and specifically projects related to Home Energy monitoring and control, are not uncommon.

The example given by Reading Hackspace at the June 3rd workshop of using 3D printing to produce plastic parts to repair a child's cot, demonstrates how such technology can be used at Hackerspaces as a means of extending the lifetime of consumer durables.

Hackerspace survey respondents considered that in the next five years there would *be greater links with other Hackerspaces/Makerspaces* and that Hackerspace activities *will lead to more new business start-ups*. Forty percent of respondents expect that their Hackerspace *will provide space and support for new business start-ups*.

Repair Cafés

Repair Cafés offer a free meeting place for people to bring products in need of repair and provide a space to work together with volunteer fixers to repair and hence extend the products useful life. The Repair Café Foundation, founded in the Netherlands in 2010 now provides support to around 500 (Martine Postma, *pers comm*) Repair Cafés around the world.

Initial exploration of Repair Cafés survey results

158 responses were received from participants of 144 named Repair Cafés from 9 countries. Results are presented below for all (non-segmented) Repair Café Survey respondents.

About respondents

- Male 60:40 Female
- Most (35%) aged 55-65
- c. 70% have Bachelors or Post Graduate degree

About respondent's Repair Cafés

- c. 75% meet at fixed venue
- c. 60% meet once a month
- c. 95% 2 years or less

Reasons for participation at the Repair Café

Top three reasons (more than 70% *Strongly agree* or *agree*) why respondents volunteer/participate at Repair Cafés

- To encourage others to live more sustainably
- To provide a valuable service to the community
- To be a part of the movement to improve product reparability and longevity

Activities at the Repair Café

Items most frequently brought to the Repair Café for repair include Small Kitchen Appliances, Clothing, Bicycles, Lighting and DVD/CD Players.

Of the electrical/electronic items brought to the Repair Café, Printers and Electrical tools are considered to be the most frequently in need of repair, because of what respondents believe to be '*planned or in-built obsolescence*'.

Repair Cafés do more than repair; product modification and upcycling are also undertaken. For example, c. 40% of respondents' state *that modifications to clothing to improve fit* are undertaken *Always* or *Often* at their Repair Café and c. 10% (*Always* or *Often*) undertake upcycling of waste electrical equipment or sub-assemblies into new applications.

The next five years

Top three expectations (more than 60% *Strongly agree* or *agree*) of how Repair Cafés might change in the next five years

- Greater links with other Repair Cafés to form more effective local Repair Networks
- Greater involvement with campaigning to improve product reparability/longevity
- More involvement with wider sustainability issues

Hackerspaces

Hackerspaces are community-operated workshops/places where people can go to work on their own and shared projects. The prolific growth in Hackerspaces from fewer than 20 in 2005 to over 1000 today has been facilitated by new and affordable technologies, particularly the advent of cheap computing and digital fabrication devices, such as 3D printers, the use of social media as a means of sharing information and the principles and products of 'open source'.

Initial exploration of Hackerspace survey results

95 responses were received from participants of 45 named Hackerspaces from 18 countries. Results are presented below for all Hackerspace Survey respondents.

About respondents

- Male 90:10 Female
- Most (40%) aged 25 – 34
- c. 70% have Bachelors or Post Graduate degree

About respondents' Hackerspaces

- c. 95% meet always at same, fixed venue
- c. 70% of Hackerspaces open all/most days
- c. 55% have existed for four or more years

Hacker interests

Top five Hacker interests (50% or more *Very interested* or *interested*)

- Coding and software development
- Making electronic devices
- Modifying electrical /electronic devices
- Repairing/fixing electrical/electronic devices
- Hacking for sustainability

Reasons for participation at the Hackerspace

Top three reasons (more than 90% *Strongly agree* or *agree*) why respondents participate at their Hackerspace

- To meet others who share my interests
- To be intellectually stimulated
- To learn new skills

Activities at the Hackerspace

Coding, Making electrical/ electronic devices and fixing electrical/electronic devices were given as the most frequently undertaken activities at Hackerspaces (more than 60% *Always* or *often*).

Other frequent activities included; Reuse of scavenged components (more than 50% *Always* or *often*), *Upcycling projects* (over 30%), *Art projects* (over 30%) and *Home energy monitoring/control systems* (over 25%).

The next five years

Top three expectations (more than 50% *Strongly agree* or *agree*) of how respondents' Hackerspace might change in the next five years

- Greater links with other Hackerspaces
- Greater links with Makerspaces
- Hackerspace activities will lead to more new business start-ups

Additionally nearly 40% of respondents *Strongly agreed* or *agreed* that they expect their "Hackerspace will provide space and support for new business start-ups"

Implications for stakeholders

Policy makers

- Circular Economy is moving up the policy agenda, Repair Cafés (RC) are an interesting civil society response to a motivation to repair products amongst some individuals and groups
- As a result of new repair activities, there is a possible need to review the relevance of reuse definitions within the waste hierarchy and for local waste authorities to provide information to the public on local repair opportunities
- Increased resource efficiency might be actioned through policy changes that enable reuse through design (for dismantlability, etc) amongst energy using products in appropriate product categories through amendments to the Energy-related Product Directive (Eco-design Directive)

Civil society

- Repair or fixing happens amongst individuals (as evidenced by the existence of companies like iFixit and espares) and is now emerging in collaborative groups through Repair Cafés (RC)
- There is continued growth in the numbers of RCs
- As a result of the increase in repair or fixing activity amongst individuals and within RCs and HS there will be increased knowledge over the workings of products and the issues that drive products to end-of-life

- Potential civil society campaigns may emerge against built-in product obsolescence
- There are opportunities for better coordination and mapping of repair (fixer) organisations in local communities eg computers, cars, watches, shoes, clothing, apparel, etc to enable individuals to extend the life of products

SMEs

- Some Hackerspaces (HS) may increasingly act as incubators for new products or enterprise development
- 3D printing is being used in some HS to print replacement components to enable to product repair and therefore product life extension (this might be to solve personal product problems but might lead to business opportunities for others)

Large businesses

- Repair Cafés (RC) and Hackerspaces (HS) are emerging outside the traditional sphere of interest of large companies
- Potential learning collaborations might be established with RC and HS - however this might not be acceptable for some RC and HS
- A number of large companies have concerns over invalidation of warranties and potential safety issues resulting from an increase in individual and/or collective repair or fixing activity

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