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Mapping the Landscape of Sharing and Cooperativism for Design Research and Practice

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Abstract: Emerging studies of local cooperatives, their sharing practices, and the use of platforms for cooperation call for specific designs and design guidelines to support the endurance and growth of a community-oriented collaborative economy. These efforts also indicate that design has the potential to shape cooperative engagements. However, to-date, only a few design resources are tailored for exploring and further developing design insights from empirical and conceptual research on sharing and cooperativism. To bridge this gap, we report on an international workshop that included a diverse group of scholars, designers, and activists. During the workshop, we aimed to unpack the role of design regarding sharing and cooperativism. Through the synthesis of workshop outcomes, we present new insights pointing towards the development of an ecosystemic approach in design for cooperativism. We call on designers to (1) proactively adopt design goals that focus on ecosystemic design and tools; (2) be inclusive, equitable, and justice-oriented to ensure solidarity and collectivism; and (3) rethink terms such as currency and data while designing for cooperativism in their projects. In this chapter, we conceptualise and discuss the key ideas from the workshop highlighting potential implications for design research and practice.

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Chapter 13

Mapping the Landscape of Sharing and Cooperativism for Design Research and Practice

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Emerging studies of local cooperatives, their sharing practices, and the use of platforms for cooperation call for specific designs and design guidelines to support the endurance and growth of a community-oriented collaborative economy. These efforts also indicate that design has the potential to shape cooperative engagements. However, to-date, only a few design resources are tailored for exploring and further developing design insights from empirical and conceptual research on sharing and cooperativism. To bridge this gap, we report on an international workshop that included a diverse group of scholars, designers, and activists. During the workshop, we aimed to unpack the role of design regarding sharing and cooperativism. Through the synthesis of workshop outcomes, we present new insights pointing towards the development of an ecosystemic approach in design for cooperativism.

We call on designers to (1) proactively adopt design goals that focus on ecosystemic design and tools; (2) be inclusive, equitable, and justice-oriented to ensure solidarity and collectivism; and (3) rethink terms such as currency and data while designing for cooperativism in their projects. In this chapter, we conceptualise and discuss the key ideas from the workshop highlighting potential implications for design research and practice.

13.1 Introduction

Sharing as a form of social exchange existed long before the invention of online sharing platforms (Belk, 2010; Cook *et al.*, 2013). The sharing economy – following a model of sharing idle capacities such as time, lodgings, cars and skills – has been fast-growing, incorporating many technology-centric and technology-driven designs and platforms (Botsman and Rogers, 2010; Belk, 2018). Recent studies on several sharing platforms indicate a number of design challenges associated with the emerging platforms such as discrimination of people of colour as entrepreneurs e.g., as Airbnb flat hosts (Edelman and Luca, 2014), inequality, distrust and safety concerns for disadvantaged populations (Dillahunt and Malone, 2015), the insecurity and inequality created via on-demand work practices (Alkhatib *et al.*, 2017; Dillahunt *et al.*, 2018; Dumančić *et al.*, this volume), the high emotional labour required to deliver a service (Lutz *et al.*, 2018).

As an alternative, sharing systems and digital services with a community orientation hold a promise to incorporate new ideas beyond existing financial and monetary platforms, such as creating micro-enterprises and collaborative currencies (Carroll and Bellotti, 2015), activating local neighbourhoods (Fedosov *et al.*, 2021a) and fostering community resilience (Light and Miskelly, 2015). There has been a significant amount of prior research in media and communication scholarship (e.g., John, 2017; Kennedy, 2016) as well as in (social) computing research (e.g., Fedosov, 2020) around the alternative versions of sharing beyond just repurposing idle capacities. The key factors to the idealised social perspectives of the sharing (economy) services lie in their relation to human's reciprocal capacity as untapped resources (John, 2017), and their potential for social change (Bellotti *et al.*, 2014).

The collective, and local aspects of sharing are essential and valuable qualities for the future of sharing cultures (e.g., Light and Miskelly, 2015). To minimise the inequalities, and build more sustainable futures, we arranged our workshop around **the social benefits that emerge over time from local sharing initiatives (Light and Miskelly, 2015) rather than concentrating on the idle capacity, and its re-use to form new monetary economies (Light and Miskelly, 2019).**

Inspired from the earlier work on commons, a resource shared by a group of people, Ostrom introduced an early set of design recommendations for shared resource systems (Ostrom, 1990). Ostrom's design principles were about defining boundaries, matching rules and conditions to community needs, giving the members the right to modify the established rules, handling conflict resolution, providing options for monitoring and sanctioning, and attending to the other governance activities (Hess and Ostrom, 2007). In their work on designing technologies for valuing social cooperation as a common good, Bassetti *et al.* (2019) emphasize the role of design for nurturing sharing and autonomous cooperation, cooperation that can point to social change, which are not yet disciplined by the capital (*ibid.*). They suggest that a platform is a space in which social cooperation emerges autonomously, and to achieve this, designers should create environments for common resources and common values to flow. In turn, Nardi (2019) calls for designers to take a stance and shoulder responsibility in various efforts within post-growth economies, which offers a contrasting narrative to mainstream platform capitalism.

More recently, Botero *et al.* (2020) questions the role of participatory designers in contributing to commons-based forms of organising in the following ways: (a) to design better infrastructures and vocabularies for commoning practices, (b) to connect the vocabularies to the other transformative movements such as feminism, environmentalism, indigenous movements, and (c) to deal with **the contradictions that arise from cultivating commons in capitalist and individualistic cultures**. With the advent of digitalization, platform cooperativism (Scholz, 2016) describes how to organise sharing in the context of community by distributing ownership, establishing democratic governance, and reinvigorating solidarity (Scholz and Schneider, 2017). By the same token, Lampinen *et al.* (2018a) outline how the more traditional forms of organizing (e.g., member-owned cooperatives) deal with the challenges of digitalization.

In this chapter, we concentrate on **the role of design in building sustainable systems for cooperativism**. As an example, a small body of work on sharing and cooperativism within the Human-Computer Interaction (HCI) scholarship shows the potential for new systems, platforms, and ecologies to harness social and ecological sustainability, as well as engender trust in platforms and communities through design (Dillahunst *et al.*, 2018; Glöss *et al.*, 2016; Katrini, 2018; Lampinen *et al.*, 2013; Light and Miskelly, 2019; Fedosov *et al.*, 2021a). This recent turn in design sets the expectation that designers take responsibility by asking who will benefit from the output, and how to address the problems of ecology and inequality caused by profligate development of contemporary consumption practice (Nardi, 2019). Moreover, designers and design decisions have potential in ensuring sustainable development of non-profit resource sharing arrangements (e.g., see Fedosov *et al.*, 2018, 2021a). We aim to foster such a discussion by presenting the outcomes of a

design workshop (Subasi *et al.*, 2020) focused on **unpacking decisions made in the design of platforms (e.g., regarding governance structures, platform ownership, privacy strategies for membership) and their relevance in the context of sharing and cooperativism.**

13.2 The Workshop

We conducted a design workshop at the NordiCHI 2020,¹ the main Nordic forum for Human Computer Interaction research, with an aim to engage with sharing and cooperativism. By placing the existing design propositions with alternative economic models at the centre of our inquiry (Light, 2019), we drew upon three key aspects of sharing and cooperativism from the related work: (1) local and relational assets of sharing (Light and Miskelly, 2019); (2) global principles of sharing cultures (Katrini, 2018); and (3) designing beyond markets (Lampinen and Brown, 2017). The aim of this workshop was to illustrate the common threads relating to the question: *how can designers contribute to devising mechanisms for cooperativism and sharing?*

13.2.1 Background

Our work built upon previous design workshops and community efforts to foster collaboration within HCI. The specific examples include: researcher organised panels on the sharing economy (e.g., Lampinen *et al.*, 2015), formulated design statements regarding sustainable sharing in local communities (Malmberg *et al.*, 2015), examinations of power aspects and asymmetries around digitally-mediated labour (Lampinen *et al.*, 2018b), and suggested research agendas around themes of “Collaboration” and “Work” with respect to sharing economy platforms (Lampinen *et al.*, 2016). Fedosov *et al.* (2019a) developed upon these themes by considering the design of platform cooperatives as a beneficial form of the sharing economy. They organised a special interest group at the CHI 2019, a premier international conference of HCI, to provide multidisciplinary perspectives on challenges faced by platform co-ops and opportunities that accompany them. Their outcomes informed our composition of the critical prompts to the participants of the workshop.

In our design workshop, we employed the Sharing Economy Design Cards (Fedosov *et al.*, 2019b) to facilitate hands-on activities where participants were prompted to critically reflect on the existing platforms. Example questions were: Who benefits from platforms? Who is harmed by the platform? (see Design Justice

1. <https://nordichi2020.org/>

Principles: Costanza-Chock, 2018; N.A., 2018). Our expectations for the workshop were twofold: (1) to share our collective experiences on cooperativism, and (2) to reflect on how cooperativism can help in the design of platforms and technology through imagining how the alternative economic models may work alongside the dominant system of platform capitalism.

13.2.2 Setup and Stages

The workshop tools and materials included video conferencing, several scaffolded Miro boards with vector design elements and prompts, and digital workshop materials such as post-it notes, pen, paper, as well as shared textual documents for note-taking. The 4-hour long workshop was conducted with the help of three facilitators, three note-takers and a technical assistant alongside 15 participants.

We distributed the call for participation through mailing lists, former workshops (Fedosov *et al.*, 2019a; Korsgaard *et al.*, 2020), and multiple community channels such as the Sharing and Caring COST Action, the Sustainable HCI community, the CoTech network, and the LIMITS workshop series.² We received contributions from scholars, designers, practitioners, and activists, covering topics such as: platforms, politics, design, governance, infrastructures, markets, data privacy, and fairness.

We asked participants to suggest one platform and to prepare a 1-minute presentation including a critical question related to the themes of the workshop. After receiving the final submissions, we grouped the submissions to the following three descriptive themes: (1) “Platforms, coops, governance”, (2) “Models, markets and sustainability”, and (3) “Design”. Our workshop consisted of an introductory session, a set of hands-on activities on the whiteboard, and a synthesis session. We prepared a running slide setting from the participants’ presentations and the virtual environment for the design workshop with Miro boards and virtual prompts. We prepared boards with three main activities: (1) Onboarding, (2) Deconstructing a platform, and (3) Towards Design Justice (Figure 13.1). For the details of the workshop’s schedule, see Subasi *et al.* (2020), and the corresponding website³ for the accepted position papers. Below we briefly outline the three hands-on activities on Miro.

Stage I: Onboarding. This stage ensured that all participants were familiar with practicalities and with the workshop’s thematic orientation. We then split participants into three breakout groups relating to their position papers. In each

2. <http://sharingandcaring.eu/about-sharing-and-caring>; <https://groups.google.com/forum/#!forum/sustainable-chi>; <https://www.coops.tech>; <https://computingwithinlimits.org>

3. <https://sharingcoopnordichi2020.wordpress.com>

Figure 13.1. Overview of a Miro board used in the design workshop.

Figure 13.2. Onboarding stage: Categories for initiating discussions.

group facilitators scaffolded examples of the related platforms based on the participants' suggestions. This stage also included a warm-up activity: to sort pre-seeded platforms to construct categories of Governance, Privacy & Trust, Sustainability, Fairness, Scale, Global vs. Local, and Miscellaneous (Figure 13.2) to remind the participants about these categories. We adapted these categories from the outcomes of a previous CHI-community gathering on this topic.⁴

Stage II: Deconstructing. The deconstructing stage helped the participants to concentrate on the specific characteristics of the reviewed platforms from the author's position papers. In each group participants nominated a platform (or a group of platforms), analysed the interaction mechanisms and interfaces of the suggested platforms, deconstructing underlying principles that lead to the core platforms' features. The deconstructing board drew on the Sharing Economy Design Sprint methodology (e.g., Fedosov *et al.*, 2019b) and included three distinct areas to support understanding, mapping and improving activities of the sprint (see Figure 13.1). We also integrated the card-based toolkit for the sharing economy (Fedosov *et al.*, 2019b) to facilitate generative design activities (see Figure 13.3).

Stage III: Towards Design Justice. The last stage of the workshop aimed to reflect on the topics synthesized from the previous stage. The board included several

4. <https://medium.com/acm-chi/talking-cooperativism-and-human-computer-interaction-c3df2929b4b4>

Figure 13.3. Sharing Economy Design Cards toolkit (Fedosov et al., 2019b) were integrated to the boards before the design workshop.

Figure 13.4. The questions from Design Justice Network integrated to the boards as virtual sticky notes.

design justice-related questions on the post-its notes (Costanza-Chock, 2018; N.A., 2018). Participants were asked to elaborate on the most relevant aspects pertinent to the themes of our workshop in relation to the selected platforms at hand (see Figure 13.4).

13.2.3 Limitations

The design workshop was held remotely, using multiple tools. We carefully designed an inclusive procedure and conducted a dry run to ensure a comfortable experience for our participants. The tools selected, their accessibility, the “time zone” factor (we had participants from 6 different time zones), and the duration of the workshop may have caused exclusion for some. During the workshop, the individual interests, the familiarity to tools and other unknown factors resulted in different levels of engagement. The moderation, the constant swapping between

group chat, video conferencing and the design board may hinder the maximal efficiency in such workshops. Nonetheless, we received highly positive feedback from the participants regarding the organization and the activities of the workshop.

13.3 Results

As mentioned, three themes were defined before the workshop according to the content of the submitted papers: (1) “Platforms, coops, governance”, (2) “Models, markets and sustainability”, and (3) “Design”. Below we present the results from the hands-on session for each theme. The reader should note that, we use the original language and definitions of the participants with a minimum interpretation of the terms, such as “capitalism”, “middle-class”, “feminist movements” and so on.

13.3.1 Platforms, Coops, Governance

The broad thematic orientation of this group was to critically discuss emergent challenges and opportunities of the contemporary sharing economy platforms and platform cooperatives.

Our participants have emphasised the challenges with replication (Manzini, 2015) and meshing (Light and Miskelly, 2019) when it comes to the design of (platform) cooperatives. There are opportunities for designers to help envision the potential trajectories when it comes to the scaling aspirations of coops to answer questions like “*What levels of scale are appropriate and desired for coops?*”, “*What are the boundaries of scale?*” Furthermore, designers may play a key role in creating reusable design materials (e.g., templates, worksheets, how-to guides), design patterns as components that can be adapted across various instances of platform coops in their cultural, linguistic, and geographical contexts. For example, the Mobility Factory (<http://www.themobilityfactory.eu>), a European cooperative enterprise, develops software for electrical car-sharing cooperatives, which is currently used by 11 coops from four countries. One prominent example of use is Som Mobilitat (<https://www.sommobilitat.coop>), a Catalan non-profit electric car-sharing cooperative with over 1600 registered members. While Som Mobilitat deliberately aimed at developing their activity only regionally in Catalonia, they helped other cooperatives adapt their model in different regions in Spain.

Our participants further elaborated on fairness in design for such cooperative platforms: “*How can designers ensure the participation of women in spaces of governance and as users of the service?*”. Currently, only a very few women use the Som Mobilitat platform and none are in a position of power to influence decision-making at the design phases of the new features/products. This renders questions

around diversity, inclusion, fairness, and participation critical at the early stages of establishing a coop. What is more, in the efforts of supporting various non-profit sharing economy initiatives to be more sustainable and resilient, the outputs of the future designs can also aim to balance between customization and abstraction required to make them appealing to other initiatives with helping them to govern their shared resources beyond the original context of use. In other words, a car sharing platform developed in Belgium may be reused, adapted, and customised by a tool sharing coop in Switzerland.

The participants have also added to the importance of adapting existing approaches to the design (e.g., the Google Design Sprint) to the needs of the community. For example, for distributed cooperatives such as Karrot (<https://karrot.world/>), a food sharing platform, it remains an open challenge (to run generative activities across different locations). Karrot serves groups of people who want to save food from being wasted and aim at sharing it instead, allowing these groups to organise efficiently, on a local and voluntary basis. One platform's designer emphasised that adopting the sprint in designing governance features and processes of the platform takes significantly more time and resources than for profit-driven platforms. Hence, there is a need for new design methods and approaches, which embrace the volunteering nature and the context of the coop's activity. One may ask: *"How does a design approach specifically support local groups to be more sustainable and resilient?"*, *"How can we build sustainable models for communities with small numbers of participants?"*. We thus envision three salient avenues for design research and practice:

- developing new design methods taking into consideration time-limited engagement in the community with different stakeholders and levels of engagement,
- devising techniques to attain to longer turn-around design cycles; and
- addressing the need for defining models of governance and ownership early on, while incorporating different stakeholders.

A few participants elaborated that open-source tools for community governance already exist. For example, one participant has developed CommunityRule (<https://communityrule.info>), an online tool to facilitate democratic governance by utilizing pre-defined and customizable templates based on common practices of informal online communities. Furthermore, other computational tools, like PolicyKit (Zhang *et al.*, 2020), have been recently devised by scholars in computing, drawing on established theoretical frameworks for describing governance arrangements, e.g. from early design guidelines of Ostrom's Institutional Analysis and Development on commons (1990), which suggests the right of community members to formulate

their own rules. Still, those visual tools used specific domain terminology, as well as often require technical expertise to set them up and to author policies. Drawing upon the concept of “technological sovereignty” and using a cooperative mindset, future technological coop ecosystems may also be based on alternative technology stacks. One example that we have examined within this workshop was DAOstack (<https://daostack.io/>), an open-source software stack designed to support a global collaborative network. The stack can be used to build organizations for any kind of collective work, and it also contains tools to link these organizations together, so as the network grows, all its member organizations are strengthened. The designers of online governance tools need to create usable and useful wrappers around emerging powerful computational toolkits for easy adoption and use in the community’s practices. **By allowing flexibility of governance, tool design would help accommodating circumstances where initiatives may change their rules based on learning from each other.**

A better understanding of the potential value of the distributed technologies can prompt various monetization opportunities that are in line with their values (e.g., the immutability of data) and principles (e.g., of autonomy), with the caveat that some of those general-purpose distributed technologies may intensify requirements on access when it comes to scaling (e.g., music streaming services over blockchain may be prone to latency). Along these lines we have examined Streamr (<https://streamr.network/>), a decentralised platform distributing real-time data streams over a global open-source peer-to-peer network. It enables business models for user data with scalable crowdsourced data sets – so-called – *data unions*.⁵

Finally, exploring further the governance considerations in platforms’ design, the workshop participants have discussed the lack of appropriate governance of the current sharing economy platforms’ owners to ensure adequate “parity between those that use them and those that build them” (Jamieson and Wilson, 2020). Specifically, the participants introduced a conceptual framework for data trusts, “a legal structure that provides independent stewardship of data” to address “platform data tax”, the exchange of service for personal data (Jamieson and Wilson, 2020). Similarly, MyData Global, a non-profit initiative, puts this in practice with the purpose to “empower individuals by improving their right to self-determination regarding their personal data”.⁶ Design for transparency and equitability becomes central in the context of neoliberal capitalism. The specific questions designers may engage with include “*At what stages of interaction with the platform data trust designers should particularly give voice to their users?*”, “*What are we centring when it comes to user*

5. <https://blog.streamr.network/its-time-to-build-data-unions/>

6. <https://mydata.org>

experience interacting with data trusts”, “*Is it reasonable to pay for data handling?*”, “*Who is to be held accountable for data processing and handling in the sharing economy?*”, and, finally, “*How (local) platform (coops) can have fair access to the instruments to handle ‘data trust’ containers given the limited resources they may possess?*” Last but not least, designers of future platform cooperatives may reconsider centring on the cooperative model itself but, rather, focus on supporting users’ everyday experiences in the communities.

13.3.2 Models, Markets and Sustainability

The initial discussion from this group covered a range of topics: digitisation making sharing harder (on purpose); the non-monetary value that communities add; the role of markets in the sharing economy; and cooperation between precarious workers and shrinking local economies. The discussion moved onto **how non-monetary value is added by communities, and the difficulties in challenging dominant market views of community created, non-monetary value. Community organizations who choose to not participate in capitalist economies are often taken less seriously, presenting barriers to scaling up such initiatives and alternative models**; “*if you’re not a business you’re not taken seriously in the first place*”. The discussion turned to a tension between a growing precarious workforce and the spaces that they find themselves working in. Community owned cooperatives are a valuable way for workers and local organizations to come together and resist forms of precarity whilst challenging dominant economic and technological systems and pressures. This led participants asking, “*What is non-capitalist technology?*”, “*What’s the model of scaling that is not capitalist?*” A brief discussion followed on how open-source models can be capitalist, the need for a non-capitalist culture to make space for models without transactional relationships, the co-option of non-capitalist ideas (e.g., the sharing economy), and using capital to fund non-capitalist models. The discussion concluded on a key point, ***those looking to build non-capitalist platforms can learn from “feminist movements” as it was noted that these movements (alongside others) have a rich history of successful activism and fighting for change.***

During the design activity participants worked through their nominated platforms: Meetup, Karrot and Peerby (<https://www.peerby.com/>). Peerby, a Dutch-based peer-to-peer platform for lending and borrowing household items, was seen as a “classic sharing platform” and selected as the platform to focus on. Parallels were drawn between Peerby and Library of Things (<https://www.libraryofthings.co.uk/>) prompting a reflection that users come for the community value aspect (e.g., “sharing of stuff”, reduced waste and clutter) whilst the platforms typically become involved in sharing communities for monetisation and profit. The group asked a range of critical questions and reflections highlighting the lack of community, the

expensive per-day pricing model, the lack of price regulation, and questioned the true overheads for lenders. Peerby's user base is local, Dutch speaking users who want to share tools and a range of consumer goods to other users who want to borrow things, as well as platform investors. Users (borrowers and sharers) of the platform were seen to be motivated to use it because of proximity to other users and to declutter or reduce purchasing behaviours. In terms of key privacy and trust issues there were concerns identified around whether items would be returned in working order, when there is a dispute who does the platform side with, and insurance. The simple interaction flow was seen as a positive aspect of the platform's user experience. It was however criticised for only being in Dutch, being geographically limited (note that the previous iterations of the platform design had multilingual interface and supported users across Europe (Stofberg and Bridoux, 2019)), having too many questions in order to sign up, and requiring a Facebook account to gain access.

During the "improve the service" task (a subcategory of Stage II: Deconstructing), the following note was written by a participant, summarising the feelings of the group: "*We know this platform isn't going to have technological solutions to social or community problems*". All participants were in agreement that the platform was profiteering on something that could be low tech, low cost and better oriented to building communities and social value. The gaps identified were building consumer trust in the sustainability of local business, trusting lenders and borrowers, creating trust through community boundaries, getting to know the community in meaningful ways, understanding the needs of the community (not just those who can afford to use the platform), and the affordability for those who need to borrow things. The potential improvements described by the group were:

- including sustainability ratings of commodities on the platform
- ratings for borrowers and lenders to help build community and trust
- connecting platforms to existing trusted online communities
- building, creating, and supporting community institutions – helping community members get to know each other
- spending time understanding and designing for the needs of the community
- regulating the market to ensure that lending is affordable for the user base

In Stage III participants highlighted a range of issues that cooperative design can help consider models, markets and sustainability when designing platforms. Platforms like Peerby are designed in such a way that they leave out those who have little or no disposable income, who perhaps have different needs for accessing shared commodities. In terms of sustainability, Peerby does not consider the indirect impacts of their platform on manufacturers or local businesses who sell goods

and items that are shared by the platform. Whilst there are net gains regarding environmental externalities due to less waste and less manufacturing of products, voices that care about sustainability are not considered in the platform. The value of sharing, cooperation and building communities is missing. This means that the additional value of borrowing or lending a commodity, such as learning about the items' quirks or history, aren't considered in design, although deemed highly beneficial for community building (Fedosov *et al.*, 2018). Whilst a tool like Peerby might encourage participation in sharing networks, the group wondered whether the platform could encourage the "middle-class" to think about helping others and community building, shifting them away from the focus of making money on their commodities that are currently unused. The final reflection from the group was that *platforms and services like Peerby tend to focus on commercialising the (materialistic) sharing of commodities, whilst not designing for the individuals' unique expertise and contributions surrounding both the commodities themselves or user's capacity to build communities and share expertise (cf. Library of Things).*

The group discussed the role of design justice when designing platforms recognising the need for the monetary transactions as insurance on items to ensure that they came back in the same condition or were returned at all, and that this could be overcome if a community institution was developed to teach, share costs, and share value without the transactional overheads. During this discussion, the participants highlighted:

- Platforms like Peerby could be utilised as a **stepping stone for the "middle-class" to participate more equitably in the sharing economy.**
- Ensuring platforms are governed by the community itself is key as third parties lack the shared needs, values and concerns of communities particularly where sharing commodities have greater social value than monetary value.
- Regulation is needed to combat platform providers also manipulating the prices.
- Not everything needs to be lent through a formal or binding agreement.
- Platforms such as Peerby are utilised by those who have power, commodities and want to see quick profits. These platforms could be seen as a distraction from the profound change that "we" need.
- Capitalism was seen at fault for distorting the true social impact of sharing and cooperative communities.

13.3.3 Design

The focus of the design breakout group was to discuss the emerging design related opportunities for platform cooperatives. Initial discussions were about **the role of**

design in decentralization, and the move from capitalist to cooperative design.

The group chose to focus on deconstructing two platforms: Commonfare (<https://commonfare.net/>), a platform for everyone to share experiences, foster ventures, and connect with people who want to support each other and Karrot, a food sharing platform. The outcome of the group trying to answer two key questions “*What does it address?*” and “*Who is it for?*” was a visualisation of common and diverse points, rather than two separated evaluations (see Figure 13.5). While it was clear that both platforms had similar goals of “long term sustainability”, “overcoming poverty” or “developing and maintaining a community”, upon closer analysis of the interfaces it was revealed that the two platforms have diverse strategies over anonymity, non-hierarchical conflict resolution, and communication to other platforms. The two most important themes discussed for design were extended from the design goals of the Sharing Economy Design Cards: (1) “Building a scalable common space” and (2) “Defining the design rules of trust across different cultures”.

For the *scaling and design* task, several questions posed by the participants were left unanswered such as “*How a systemic change can be pushed forward?*” For a systemic change, open-source was found to be the most prominent strategy among existing approaches to the sharing economy. A major drawback is the funding model. The participants valued an inclusive approach for “people at risk” and the efforts for “a better cooperative future” such as a democratic governance, and social solidarity. The wish for ending poverty and ending social exclusion were repeated for both platforms. Further design questions discussed were: “*How to ensure protecting anonymity as the highest priority?*”, “*How to create systems that collect as little data as possible?*” and “*How to deal with distrust of institutions?*” **An option for an anonymous sign up, reducing the amount of data collected, or similar requirements were mentioned as design goals that can possibly be realized easily**, as they do not need much contribution from the platform users. The participants heavily critiqued the issue of defining the value, e.g., a currency. Here, it would be important to motivate a transition in how people deal with money. A transparent system can be built that motivates its members towards a new understanding of money and currencies. Previous examples of community currencies (e.g., from Commonfare) can be taken as a departure point to explore the meaning of currency at scale.

The second theme concerned *defining and designing for trust across different cultures*. It was inspired from the Karrot’s interface, the participants thought of different models for deconstructing authority. For instance, “*Who decides whether you can join a group and where do we get this information?*” Is it a good model to refer to community peers or contacts via existing community members (e.g., to have a confirmation from two other members to be able to sign in?), and what if a prospective community member does not have a prior contact? Who is the authority to confirm such applications? Shouldn’t this be mentioned in the interface? Another key

Figure 13.5. A section from the Miro board of breakout group “Design”. The comparison of two platforms from the same domain (food sharing) against their target audience and main goal.

issue was forced digital exclusion. “*How do the platforms address non digital users?*” Here, participants pointed to different cultures, and the potential harm that can be caused for local and remote communities, especially outside of Europe. The participants provided instances of the mechanisms that accommodate **hybrid ways of addressing inclusion such as integrating an option of reaching out by phone or holding physical meetings**. Based on the example from Karrot, the participants regarded the efforts to emphasize the social aspects of a community.

From the perspective of platform workers (in this case developers), a vivid community is defined as a place where frustration and love are lived together.

For example, the developers of such platforms are usually very relaxed and patient with each other. Finally, the group concluded that seeking reciprocity in the work environment can be a fun and convenient experience in platform design and can contribute to the establishing trust relationships both in the community and in their supporting digital services.

13.4 Design Challenges and Key Considerations

The design challenges yielded from the whole session are summarised as follows:

Challenges in decentralising and scaling organization platforms. The participants mentioned several challenges, which can occur while **decentralising and scaling** a platform. These include the issues of interpersonal and systems trust and organizational problems. The research questions (RQs) in this space could be: *How can designs contribute to the scaling and decentralizing practices of new business, organizational and meta-organizational models in sharing and cooperativism? Are the process, effects, and interventions sustainable and fair? How can these insights be transferred to the designs?*

Lack of care mechanisms within the platform membership. One challenge of sharing and cooperativism is relying on the volunteers as key persons. There is a need for volunteer involvement, but also their knowledge, plus their efforts in tracking, documenting and archiving of new and emerging practices. However, the volunteers cannot have a central role for taking responsibilities for the whole change. **As coop platforms do not see themselves as work platforms, or work organizations; the volunteers' burden was not something for which the platforms were prepared for.** RQs here can be: *How should care be organised? Where should coop members turn to when something breaks? How can this be transferred to interfaces without conflicting with the inflation of volunteer work, or concerns around anonymity?*

Challenges for accommodating fluid and changing ideals. While exploring food sharing efforts of two different platforms (foodsharing.de, Lebensmittelretten.de), we concluded about the overarching idealism (solving food poverty) and its fluidity. Both **individuals and communities can change or revise their ideals.** At the same time, the practices may bring new ideals that may contrast with the starting point. For example, making food sharing platforms more visible and accountable, is an ideal that is shared by the majority of members but that is, in practice, contrasting with the initial ideals. RQs here can be: *How can platforms reflect the changing ideals of the community? How can platforms support the capturing of the change?*

Cooperativism can become an identity. The idea of associating self with cooperative acts as a part of one's identity was repeatedly brought to the table. This can be addressed in platform designs. However, systems should be built in a way that

they support cooperations between people who do not support each other's self-identification or each other's ideas, but they can still share and cooperate. RQs: *How can we develop platforms that avoid normalising designs and thus can favour users' self-identification? How do we ensure that people aren't being "left out"?*

The need for a transition from capitalistic to cooperative platform. Critical positioning of elements such as currencies and the bigger infrastructures such as the open-source movement. Things that "look and smell like money" are difficult for non-capitalistic mindsets. Designers need to find ways of **building new communications that are framed around the related values, and not around the values of capitalistic systems**. While participants saw a great value in using open-source toolkits, several issues were raised as obstacles such as how can these solutions support design of a currency, something that only has a meaning in a closed system defined by fixed values. RQs: *How do we redesign data-driven systems to amplify our collective agency? How can we encourage the design of non-capitalist technologies alongside/in the context of capitalist markets? How can communities who add great non-monetary value (precisely because they don't have a business model) be prioritised in design? How can alternative currencies relate to markets / business models? How can trust be transferred when moving from one community to another? How could these work at scale?*

Our workshop highlighted several opportunities for design researchers and practitioners engaging with cooperativism. We offer three key considerations for designing the next generation services and interactions for sharing and cooperativism: (1) designing and evaluating with a focus on an inclusive ecosystemic approach; (2) resisting financial precarity, by prioritizing convenience, care and fun ourselves; and (3) designing beyond capitalistic systems.

13.4.1 Designers and Design Tools with a Focus on an Inclusive Ecosystemic Approach

Designers are accountable for what they choose to design politically (Nardi, 2019). The designers of sharing economy cooperatives and collectives should clearly emphasise social benefits for their local communities, where a service is envisioned to operate. Prior work on sharing economy pointed to the importance of strengthening the connection of ecological aspects and environmental sustainability (Dilahunt *et al.*, 2017), and to the importance of sharing relational assets that offer an ecology (Light and Miskelly, 2019). Similarly, our participants agreed that the new platforms (that aspire to scale or to create a new business model for cooperativism) should embrace the holistic goal of cooperativism, contributing and promoting an ecosystem in which that platform can survive. Our workshop showed that in the realm of cooperativism and sharing, the designers need to adapt to new forms of

governing and ownership and consider new work models with a longer turn around for the design cycles.

Inclusion and equity have been core themes across groups repeatedly in user experience, service and systemic levels concerning class, access, cultures and geographies. Previous work illustrated hazardous results, if no inclusive measures are taken. The two classical examples are discrimination of people of colour as Airbnb flat hosts (Edelman and Luca, 2014), the insecurity and inequality created via on-demand work practices (Alkhatib *et al.*, 2017; Dillahunt *et al.*, 2018). Designers can help redistributing the position of power to influence decision-making at the design phases, and they can work explicitly not to exclude the most underprivileged ones (e.g., the ones who can benefit from lending platforms, but do not have anything to offer in return). Thus, **designers can employ an ecosystems-focused cooperativism stance to support inclusion, equity and justice. They can cooperate with each other to build actionable and open design systems and for valuing good practices.**

In practical terms, emerging approaches to design such as DesignOps⁷ and Atomic Design⁸ applying to the commons mindset can be seen as the vehicles to accommodate those efforts. Specifically, designers and designs can play a role for integrating our cooperative agenda into the future systems to make the future more inclusive and equitable (e.g., through creating transparent documentation of the process and reusable materials, and by offering services for multiple geographies via easy replication).

When designing with a social justice orientation, conflicts are not problems, but they should be taken as healthy signs that the project is tackling questions worth discussing (Dombrowski *et al.*, 2016). Many conflicts that were discussed in our workshop (e.g., around scaling and trust, the fluidity of the ideas, or cooperativism-as-identity) can be seen as examples of the healthy development process of justice-oriented sharing and cooperative platforms. Utilising the Design justice principles (Costanza-Chock, 2018) and the Sharing Economy Design Cards (Fedosov *et al.*, 2019b) as design tools was instrumental in focusing on the most affected, marginalised stakeholders, and rethinking designs. By asking justice-oriented questions for defining possible harms and benefits from the beginning, designers can go beyond seeking ecosystemic help and start designing their ecosystems for strengthening co-ownership, democratic governance, and solidarity (Scholz, 2016). **Designers can help coops adapt their systems in other localities and contexts of use, and help designing systems that are for both digital**

7. <https://www.designbetter.co/designops-handbook>

8. <https://atomicdesign.bradfrost.com>

and non-digital communities (like meetup groups and options to attend with a landline phone number). Yet, the process of transferring UX artifacts (e.g., designs) from one project/context to the other comes with its own challenges (Fedosov *et al.*, 2021b). Platforms can make their costs transparent and apply cost strategies that realistically include all socio-economic classes. **Designers can help create balance between customization and appeal for underprivileged coops so that they get more help from the ones that are already well off.**

13.4.2 Resisting Financial Precarity by Prioritising Convenience, Care and Fun Ourselves

To avoid financial precarity, the ecosystem coops may want to inhabit is a non-capitalist, e.g., a pro-social market of coops. **The aim is to design without transactional, monetary relationships in mind.** Still, the discussed ecosystem is a system in the middle of capitalist structures. One conflicting point is how to integrate a non-capitalistic idea into the dominant monetary system. Previous work on the relationship of commoning and co-design (Bassetti *et al.*, 2019) illustrated the importance of design outputs that embody and facilitate social values as a key to avoid the dominant, market-based and individualistic model of platform capitalism. Instead of individuals set against companies, regulated by punishment rules, the designs for cooperativism can seek for a language that emphasises solidarity and collectivism.

Our participants valued a new paradigm of convenience, care and fun in community experiences with cooperative platforms. One example is the environment where the coop workers will thrive. Rather than mechanisms that lead to burden of a few, the spaces for coops should enable mutual fun experiences. **Designers can embed fun, care and convenience to their platforms as mechanisms to reciprocate the hard work of volunteerism with a sense of solidarity.**

13.4.3 Designing for Non-capitalistic Systems: Rethinking the “Currency” and “Data”

In the process of imagining new markets, two key terms with constantly changing meanings were “currency” and “data”. While the way several platforms define a currency, or how they handle data may change, an ecosystemic approach would push forward a design understanding for making these two aspects as understandable as possible. A language should be developed for cooperative platforms, enabling community members to have active ownership of their data and how their transactions are handled. **If a service requires a payment, or if data needs to be collected, the system should make this graspable to the end-users.**

While local, regional and national public funds are still seen as the main sources for seeding new and novel projects as such, a business ecosystem with similar values, and an understanding of the possibilities in the market are needed to ensure long term sustainability. Although there are certain conflicts on the financial models, instead of pushing members to choose one over the other, more importantly, integrating a rationale for why and how the price strategy is defined seems to be crucial to ensure service sustainability over time. For example, in the case of Peerby, participants questioned why the service is so expensive. Without a rationale on that, the scepticism may grow. Such **high entry costs may hinder equal access to the platforms from members of different economic classes**.

Currency and their exchange are human made, as is the transaction or conservation of data. Carroll and Bellotti (2015) offered an overview of currency and exchange paradigms from history, explaining details of their reciprocal and market capacities. We can re-imagine them integrating the power of data, and the values of cooperativism. The new ecosystems should also anticipate, account for, and, ideally, provide instruments to alleviate the high emotional labour (Lutz *et al.*, 2018) and the organizational effort (Luckner *et al.*, 2015) required to start and to deliver a service. The ecosystemic values should not ignore or underestimate novelty and social impact, **interactions and activities**, which often happen in small numbers in local communities on the ground (Fedosov *et al.*, 2021a). These can be counted as **even more valuable assets than scaling in numbers to support endurance and resilience of community-oriented sharing (economy) initiatives** over time.

13.5 Conclusion

In this chapter, we mapped the emergent design space of sharing and cooperativism. We discussed the ecosystemic approach to the design of future post-growth sharing platforms and services. We emphasised the importance of inclusive design strategies in devising new sharing platforms and re-imagining the existing ones. We deem that design efforts towards solidarity and collectivism can open new opportunities for platform cooperatives and the other models of the non-profit sharing economies, which aims to create value within the local communities they operate. We also believe that future research can critically revisit the contemporary interpretations of markets, ownership, and data, to ensure that voices of those that are on the fringes are also adequately pronounced in the scholarly conversations going forward. To support this, we have synthesised the findings of our workshop, presenting three key opportunities for designers of platforms to consider: (1) focusing on ecosystemic design and tools; (2) adopting aims that are inclusive, equitable and justice-oriented to ensure solidarity and collectivism; and (3) rethinking terms such as currency and

data while designing for cooperativism. Ultimately, we hope that this work will inspire future design research and practice to develop long-lived techniques and methods for knowledge transfer to the communities on the ground with the view of creating better sharing cultures in the environment we aspire.

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