



Methods for Change

Systems Origami

Dr Kersty Hobson, *Cardiff University*

Dr Ulrike Ehgartner and Dr Amy Barron,
The University of Manchester

Corresponding author

Dr Kersty Hobson

hobsonk@cardiff.ac.uk

Systems Origami



Systems Origami has its origins in 'Business Origami', used by designers to rethink how goods and services are created and delivered. It is a playful, hands-on, intuitive participatory method and design tool, to explore how objects and infrastructures shape what we do in our day-to-day life, and how we might do things differently. The aim is to explore our social lives through particular goods and services, with the goal of redesigning and rethinking why and in what ways we make use of them, to enable change. In collaborative workshop settings, participants physically map out the material and social 'lives' of the goods and service under investigation, using hand-made drawing or pre-printed pictures to represent different parts of the life cycle in question, drawing lines and arrows to visualise their relationships, to both understand existing systems and to develop a vision of an alternative. This method is particularly useful in settings where different stakeholders are brought together to envision alternatives to complex problems. It is different from some other sociological participatory approaches as it focuses less on understanding, sharing and shifting peoples' values, and more on how the material world shapes how we put desired change into practice. The discussion in these workshops is thus not about how we can engage with goods differently, but what these goods are, where they come from, and what they do to/with us.



How does Systems Origami create or contribute to change?

This approach focuses on the institutions, purposes and boundaries goods and services are set within. It aims to develop strategies for feasible interventions that facilitate transformations of our day to day lives. The discussion focuses on ordinary goods and services, and the complex social, cultural and economic relationships they form. In this way, it aims to avoid the recycling of past interventions that have been tried unsuccessfully around complex environmental issues such as public information campaigns, instead acknowledging the ways in which materials, cultures and shared practices are key to understanding the worlds we inhabit. As well as workshop outcomes, the process itself is affective as it encourages participants to focus on and further understand the wider social context goods and services are embedded in. In this way, a mutual understanding of the system is established in the process.

What ideas and concepts does Systems Origami relate to?

This method combines corporate design and human-centred perspectives from human geography. Business Origami is a recognised method within sustainable design research. It was developed by the Hitachi Design Centre to improve products and services by mapping and examining the system they are embedded in. When products are redesigned, the goal is not only to make them more efficient in their materials and/or energy use but also to meet users' needs in ways that are appealing to them, for example being easy to use and durable. The pairing of the product design and human-centred perspectives invites members of the public into these conversations, taking the original Business Origami method out of the design studio and into a public space. This adaptation allows researchers and participants to explore enablers and barriers for changes to shared practices around services and goods, which are often problematic from an environmental or social equality perspective.



Why might I want to use Systems Origami?

- It is playful. The method allows for a thorough exploration of our socially and environmentally problematic material culture, facilitating deeper understanding of the complexity of different value and physical systems. Following a playful approach, it offers a way to investigate complex research problems. Through drawing, mapping, discussing and redrawing, participants collaboratively develop a physical output, engaging with serious questions through a creative and lively process. As such, it takes participants slightly out of their comfort zone. It is therefore key to prepare, introduce and direct the session in a well-considered and clear manner. If the facilitator achieves that, this method allows for rich debates and detailed insights.
- It interrogates objects, rather than people. Rather than asking participants to report on their values and attitudes, this method allows us to understand our practices by focusing on our day-to-day engagements with objects. This approach enables researchers to understand what participants value and why, in the context of the complex ways our material and social environments intertwine. It avoids interrogating workshop participants, which often poses a challenge in other research methods such as interviews, where interviewees might feel they are exposing part of their psyche' or are being morally 'tested'.
- It values existing knowledge. This approach helps to uncover possible alternatives to practices by starting with the current norms, needs and concerns of participants, and working through their visions of how things might be done differently. This does not automatically imply radical change or 'disruptive innovation'. Indeed, solutions that arise may be quite simple and available to many, but are currently not considered feasible, desirable and/or acceptable. Applying this method in workshops with a wide range of non-specialist participants allows researchers to bring discussions on existing and simple things back into focus.
- It can be flexibly applied to different types of research objects and issues in a variety of ways. The workshop could focus on a specific object, such as a pen, with the understanding of the object's physical and social life cycle being explored by the participants. It can also be used to examine concepts currently brought to life via complex systems with many connections and challenges such as mobility or thermal comfort, asking how these are currently achieved, and how we might do things differently.
- Its organisation is also flexible. The workshops could be conducted in as little as two hours, with the mapped system becoming a framework around which further conversations can take place about creating specific policies and interventions. Alternatively, ongoing workshop sessions can be spread out over successive days or weeks, particularly when exploring highly complex issues such as mobility. Whilst the method is not suitable for use with large groups of participants, the workshops can vary in size, from one-to-one sessions to a larger group of 50 that is then subdivided.



Step by step guide to using Systems Origami:

1. Prepare the materials that you need:

once you have decided that Systems Origami is the right method to explore your chosen topic, get the practicalities organised. How much time do you have? How much room? What resources do you have and do you need? If you do not want to draw the symbols by hand, you can print out icons from the internet and then cut out the shapes yourself.

2. Introduce the method to the participants and agree on boundaries of the exercise:

what you are looking at, and why. It is also good to talk a bit about group dynamics and roles. For example, while some people are happy to draw in front of colleagues or strangers others may not be, so it is okay if groups want to differentiate roles amongst themselves, or for groups to proceed at different paces.

(‘meals on wheels’) you could start with the householder receiving the food, and consider: what did they receive; why did they receive it; how did it get there; and what is the experience like? You can draw or use pre-printed pictures or symbols to represent any of these aspects, and write key points down on post-it notes. You can then think about the next link in the chain e.g. who delivered the food; and from where, again using pictures, notes and connecting arrows to build up a map of needs, experiences, values and context as you go. Over time, this will turn into a large, messy piece of work that may take up a lot of space. After some time of engaging with the system mapping exercise, the facilitator will guide a discussion about what has been produced. After the discussion, participants go back to the map and continue the process. This process is iterated for a number of times.

This is a gradual process of developing an understanding of the physical representation of the system to explore the values created and the relationships involved. As such, it is not a pure a mapping process, but an unpacking process!

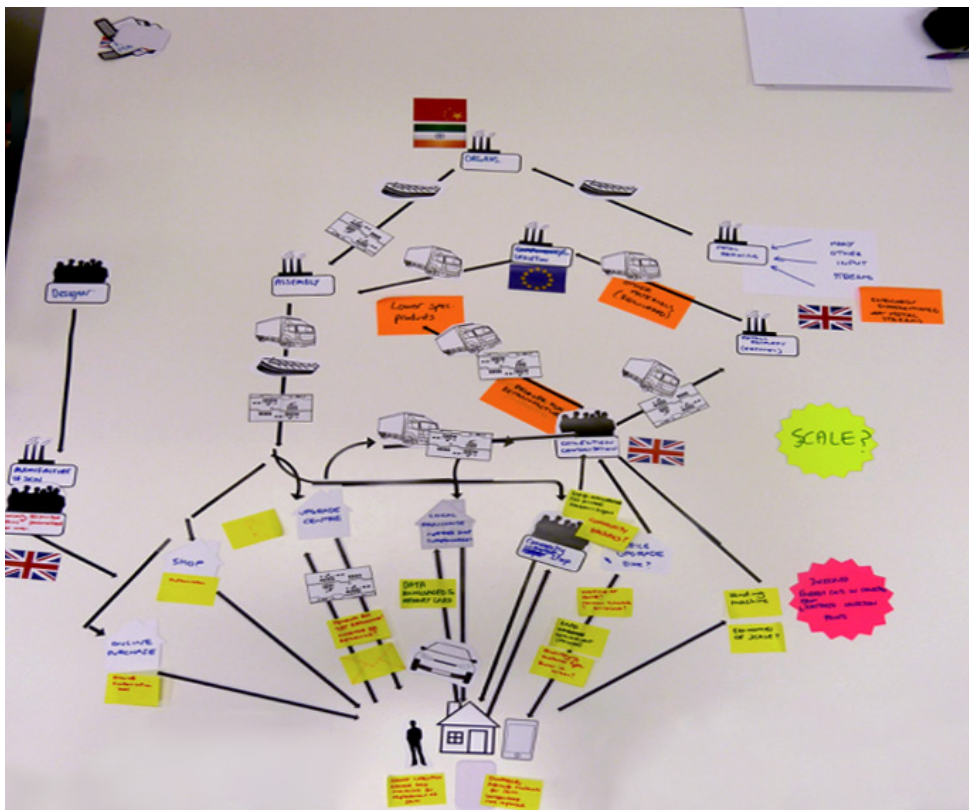
Allow for assumptions, but question them. At some point in the process, assumptions about “simple fixes” such as information campaigns may come up. It is the role of the facilitator to pick up on such assumptions and invite participants to question and reconsider them. This is about slowing down the process to explore different elements and to invite some fresh thinking about how to do things a bit differently.

3. Map out the system: Start the activity by focusing on a particular point in the life cycle of the good or service in question. For example, if you are thinking about how to create more sustainable systems around food delivery services to the elderly



- 4. Look at the map and express thoughts and reactions:** does it look similar to how they had imagined it? Are there any surprises? Is there anything missing? What was their experience of doing this exercise?
- 5. Closing discussion:** this may include conversations on what will happen next, or how the findings could be taken forward for intervention, including how work on this can be divided between different individuals and organisations, and next steps to be taken.

Encourage messiness! The collaboratively produced map may look like a bunch of five-year-olds have gone crazy with the pens: this is not only okay, but actually desirable. When there is a mess, everyone feels a bit more empowered to contribute rather than thinking "Okay, I couldn't, I'm not touching that, it is too pristine!" Also, not everyone is comfortable making drawings or convinced that they are capable of doing it. While drawing is encouraged to awaken creativity and work with visualisations rather than words, participants should also know that it is okay to just write down keywords, to foster an inclusive environment where all can contribute.



CLEVER Research Project Team's initial 'brainstorm' product service system.



Example of where Systems Origami has been used by social scientists

The Closed Loop Emotionally Valuable E-Waste Recover (CLEVER) project

Researcher: Prof. Janet Scott (University of Bath), Dr Kersty Hobson (Cardiff University), Dr Ben Bridgens (Newcastle University), Dr Debra Lilley (Loughborough University), Dr Jacquetta Lee (University of Surrey)

This research project was funded by the UK Engineering and Physical Sciences Research Council (EPSRC) and aimed to rethink the fundamentals of the product service system for mobile phones. It asked questions such as: Can we recover metals for recycling more efficiently? Can we design the phone differently? How can we change users' unwillingness to change their practices around mobile phones?

To help address the last question, the method explored users' social meaning around mobile phones as well as their experiences of having the phone as a key material object in their everyday life. The research found the phones were carriers of complex sociological and personal relationships and expectations around connectedness and convenience, as well as evoking concerns about distant others through, for example, 'sweat shop' labour used in making the phones.

Applying a different method, research participants could have also been asked directly about their knowledge and attitudes around, for example, the working conditions of people in the Global South, possibly creating defensive reactions, or making them feel they had to maintain a certain ethical stance. However, coming at it through the object of the phone, as the way in which we become linked to these concerns, participants were able to raise these issues themselves, and to explore their often-uncomfortable ambivalence e.g. 'It is terrible how workers are treated, but I have to have a smart phone for my job, so what can we all do about this?' This focus on the complexity of the economic, social and physical relationships mobile phones are embedded in thus enabled conversations with participants about how potential changes such as different business models, would both impact on them and others involved in these relationships.



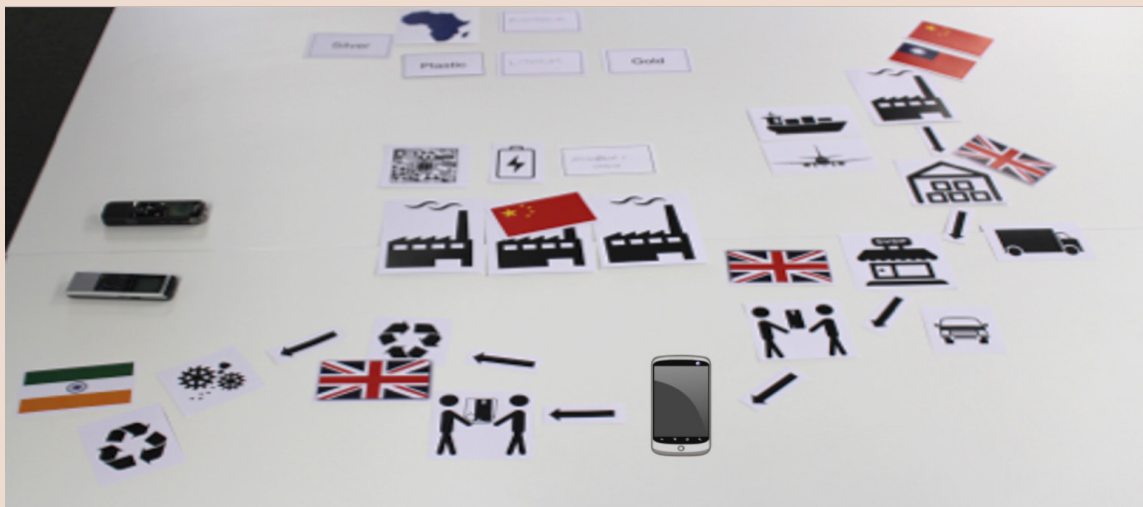
Example of where Systems Origami has been used by social scientists

Exploring local food systems through Systems Origami as a teaching method

Researcher: Dr Kersty Hobson, Cardiff University

Here Systems Origami was used in a higher education classroom setting, to explore a complex service system. Students taking a module on sustainable consumption and production were asked to consider the local food system, with a view to making it more environmentally and socially sustainable. Over a period of several weeks, small groups came back together during class to consider the drawing they had created collaboratively, continuously adding in things and taking

things away, as issues around sustainable consumption and production were discussed in the module. The aim was to enable students to explore in detail the challenges and opportunities of creating social change, in a manner that departed from usual classroom-based discussions and that enabled them to more deeply grasp the complexities of social change



'Sample of CLEVER research participant's product service system'



Where else could Systems Origami be used?

Systems Origami offers an inclusive and creative way of thinking through how goods and services can be created and offered in different ways. This is not just useful for designers but anyone involved in forms of social enterprise service delivery, as well as those developing policies and interventions in connection with local governance institutions. In a research context, this approach has mostly been applied with members of the public and students, to think about interventions for system change. Here, solutions emerged that would require the involvement of a range of applicable institutions to put ideas into practice. Involvement of diverse stakeholders from a range of disciplinary and professional backgrounds relevant to the problem under investigation would facilitate buy-in to new interventions, and potentially create change within the institutions themselves, due to fresh perspectives and discussions around key issues.

Top tips

1. Know why you are doing it.
2. Know what you want to achieve.
3. Think carefully about who is in the room.
4. Give yourself time.
5. Know that all voices matter.
6. Have fun!



Further reading

- Business Origami: Learning, Empathizing, and Building with Users
- Systems of practice and the circular economy: transforming mobile phone product service systems
- Using the business origami technique to understand complex ecosystems

To reference: Hobson, K., Ehgartner, U. and Barron, A. (2021). 'Systems Origami' in Barron, A., Browne, A.L., Ehgartner, U., Hall, S.M., Pottinger, L. and Ritson, J. (eds.) *Methods for Change: Impactful social science methodologies for 21st century problems*. Manchester: Aspect and The University of Manchester



To read about more exciting social science methods, the full range of *Methods for Change* 'how to' guides can be found here