Appendix

Circular Collaboration in Urbanspace

Master Thesis

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Strategic Product Design

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Appendix A: Example circular strategies

Circular Strategy	Circular Principle and the Required Innovation Perspective: Product (p), Business Model (bm) or Ecosystem (e)	Description and Example
Narrow	Design with low-impact inputs (p)	Design products with 'ingredients' and materials that require less land, energy, water and/or materials to produce. The company Impossible Foods has designed a 'meaty' plant-based burger. Compared to the beef version, it requires ca. 7 m2 less land, 300 L less water and 5 kg less CO2 than the meat-based alternative
Narrow	Eliminate production waste (bm)	Eliminate any type of waste from production processes, for example material scraps, food left-overs or excess heat and electricity. The company Winnow helps professional kitchens to reduce food waste and save cost through a bin with a scale, Artifial intelligence enabled image recognition software and training based on gathered waste data.
Narrow	Maximize capacity use of products (e)	Maximize the degree to which the capacity of a product is used. This is sometimes referred to as 'sharing', where multiple user groups have access to the same product. This can decrease the overall number of products in an ecosystem. The online platform Peerby enables people to share everyday goods like drills or bicycles, which can increase their usage and reduce the overall number of personally owned goods in homes over time

Table 1: Example Narrowing strategies across product,business model and ecosystem level (Konietzko et al., 2020)

Circular Strategy	Circular Principle and the Required Innovation Perspective: Product (p), Business Model (bm) or Ecosystem (e)	Description and Example
Slow	Repurpose existing products and components (bm)	Take existing products and components and take them out of their context to create new value with them. Ubitricity turns lamp lanterns in cities into charging stations for electric vehicles
Slow	Design for ease of maintenance and repair (p)	Design products that can be easily maintained or repaired. Maintaining means inspecting the product to retain its functional capabilities. Repairing is about restoring a product to a sound/good condition after decay or damage. Fairphone has designed a modular phone that can be easily disassembled to repair and exchange components.
Slow	Turn disposables into a reusable service (e)	Make use of or provide services that replace disposable with durable products. TerraCycle has designed 'Loop', which delivers products like shampoo or ice cream in reusable packaging. The packaging gets picked up, cleaned and used again. Involved actors include retail brands, service providers (e.g., cleaning and transport service) and end users.

Table 2: Example Slowing strategies across product,business model and ecosystem level (Konietzko et al., 2020)

Circular Strategy	Circular Principle and the Required Innovation Perspective: Product (p), Business Model (bm) or Ecosystem (e)	Description and Example
Close	Design with recycled inputs (p)	Design with materials that have been recycled from other products and components. The 'Design for Recycled Content Guide' supports firms in opting for more recycled content in their products.
Close	Recycle products in proper facilities (bm)	Make sure that the products you put on the market get recycled in proper facilities. The initiative 'Closing the Loop' supports users and sellers of phones to be material-neutral and waste free. It collects scrap phones on behalf of customers and recycles them.
Close	Build local waste-to-product loops (e)	Create local resource loops by turning the waste of a given facility into new products that can be sold back to the facility. The firm SOOP has designed an ecosystem that collects waste (coffee grounds and orange peels) from offices, processes it, and re-delivers products to the offices that are made from to the waste

Table 3: Example Closing strategies across product,business model and ecosystem level (Konietzko et al., 2020)

Circular Strategy	Circular Principle and the Required Innovation Perspective: Product (p), Business Model (bm) or Ecosystem (e)	Description and Example
Regenerate	Power transportation with renewable energy (bm)	Find ways to power your transportation needs with renewable energy. The company Foodlogica links local food, consumers and businesses in Amsterdam's city center through a light-weight mobility system, powered by renewable energy
Regenerate	Design for ease of maintenance and repair (p)	Design products that can be easily maintained or repaired. Maintaining means inspecting the product to retain its functional capabilities. Repairing is about restoring a product to a sound/good condition after decay or damage. Fairphone has designed a modular phone that can be easily disassembled to repair and exchange components.
Regenerate	Regenerate polluted ecosystems (e)	Contribute to regenerating polluted ecosystems that affect your business. The Ocean Clean-up Project develops technology to clean oceans from plastic pollution.

Table 4: Example Regenerate strategies across product,business model and ecosystem level (Konietzko et al., 2020)

Circular Strategy	Circular Principle and the Required Innovation Perspective: Product (p), Business Model (bm) or Ecosystem (e)	Description and Example
Inform	Use artificial intelligence to develop new materials with circular properties (p)	Developing a new material requires data about the structure and properties of materials. AI can help analyze the required and available data quickly to inform design decisions based on circular requirements. The 'Accelerated Metallurgy project', run by the European Space Agency, has used AI to produce and test new metal alloys. AI enabled the project to speed up the process of finding new materials
Inform	Recycle products in proper facilities (bm)	Make sure that the products you put on the market get recycled in proper facilities. The initiative 'Closing the Loop' supports users and sellers of phones to be material-neutral and waste free. It collects scrap phones on behalf of customers and recycles them.
Inform	Market circular products, components and materials through online platforms (e)	Online platforms can serve to market circular products, components and materials. Stuffstr buys and collects used products from consumers and sells them in secondhand markets. An AI algorithm helps Stuffstr to set competitive prices for the seller, while offering Stuffstr a good margin on the secondhand market

Table 5: Example Inform strategies across product, business model and ecosystem level (Konietzko et al., 2020)

Table 7. COI drivers assessed within case studies (findings relating to circular oriented innovation (1) and collaboration (2)).

		Drivers	Case	Relates to 1	Relates to 2
Hard					
Technical		Increasing proofs of concept, stimulating others actions to test assumptions, experiment and pilot at scale	A/B/D/E/F/I/J	√	
		Accomplishing product improvements generated by CE innovation	A/B/D/E/I/K	√	
		Increasing material specifications, the exploration of new or altered functional needs for materials within CE innovation	B/C/F/G/H		√
		Cross-sectoral or common societal challenges, e.g., ocean plastic	C/F/J	√	√
		CE expertise outside core operations, e.g., CE recovery strategies or reverse logistics	C/D/G		√
Market		Innovation potential and the development of CE strategic capabilities and the knowledge for CBM	All	√	
		Anticipation of financial return, new business opportunities and efficiency savings within circular strategies	All	√	
		Access to new market: sales channels, customers (B2B + B2C) or to forward or reverse integrate product offerings (B2B)	E/G/I/J/K	√	
		Pursuit of CE-oriented tendering or procurement processes	A/I	√	
Soft					
Social/Cultural		Enthusiasm and desire to be a CE front-runner to develop new knowledge, attract talent and to realise personal and company motivations	All	√	
		Growing sense of urgency and need for networked innovation to develop CE/sustainable transitions: linked to increasingly internal sustainable decision models and processes	All	√	√
		Search for and/or creation of credibility and acceptance via CE networks: Aim to find active companies pursuing CE to collaborate with	B/D/E/F/J/H/I	√	
		Increasing demands from customers (B2B) for sustainable products and experience	E/I	√	
Institutional/ Regulatory		Increasing lobbying for CE legislation	A/C/E/H/J	√	
		Need for/awareness of creation and the acceptance of cross-industry standards	D/H/K		√

Table 8. COI Barriers assessed within case studies (findings relating to circular oriented innovation (1) and collaboration (2)).

		Barriers	Case	Relates to 1	Relates to 2
Hard					
Technical		Lack of technical knowledge/skills for CE: Current linear dynamics, training and skills stopping CE development	A/B/C/D/E/F/H/I/J	√	
		Legacy of linear products/material challenge identification for secondary materials	A/B/D/E/F/H/I/J	√	√
		Sourcing materials: quantity, quality, fairly/environmentally produced for both virgin or recovered	A/B/C/F/G/H	√	
		Complexity to integrate CE knowledge	A/H/I/J		√
		Sectorial differences in the specification and the variation of material requirements: impacting selection and reuse options	B/F/H/J	√	
		Position and power within the regional vs global supply network, and pre-existing contracts and distribution, creating lock-in	F/G/K		√
		Alignment of skills, capabilities and resources to collaborate effectively	A/D/H		√

Table 8. *Cont.*

	Barriers	Case	Relates to 1	Relates to 2
Hard				
Market	Financial assessment and accounting based on linear concepts of rapid returns vs longer-term returns—CBMs challenged by short-term profitability or generating split incentives	A/B/C/D/E/H/J/K	√	√
Market	Contracting for collaborative actions to align incentives, risk vs reward across the value chain	A/B/D/E/G/H/J/K		√
Market	Balance formal vs informal. Flexibility and adaptability within contracting and project management procedures	A/B/G/H/J		√
Market	Reverse logistics costs for closed loops + low virgin material and product prices, creating unfair competition	B/C/F/J	√	
Market	Higher administrative costs and investment required. e.g., time, money and resources to collaborate	A/B/H/I		√
Soft				
Social/Cultural	Balancing company culture, mindset and sustainable value internally or externally, for opening up to create the right environment for collaboration.	A/B/E/F/H/J/K		√
Social/Cultural	Trust and transparency of information flows, motivations and goals to collaborate freely with partners—especially pre-competitive vs competitive collaboration with regards to knowledge sharing	A/B/F/G/H/J		√
Social/Cultural	Finding and selecting partners—how, where and who to start collaborations with that are feasible and scalable	A/D/E/H/I/J		√
Social/Cultural	Demand side (B2C) limited perception, education, the desire or access to information for sustainable or circular BMs	B/C/H/J/K	√	
Social/Cultural	Lack of desire, fear of change or blocking activities by supply chain members to maintain the linear status quo or the preference for incremental changes	A/C/H/J/K		√
Social/Cultural	Lack of a common language across sectors/life cycle stages	A/B/D/E/I	√	
Social/Cultural	Generating sufficient commitment to CE collaborative innovation	B/H/J/K	√	
Social/Cultural	Common/shared understanding for CE vision across collaborating partners and internal motivations	A/B/J		√
Institutional/Regulatory	Lack of certifications, standards, taxes regulation across life-cycle stages	A/D/H/J	√	

Figure 1 : Barriers and drivers of collaboration (Brown et al., 2019)

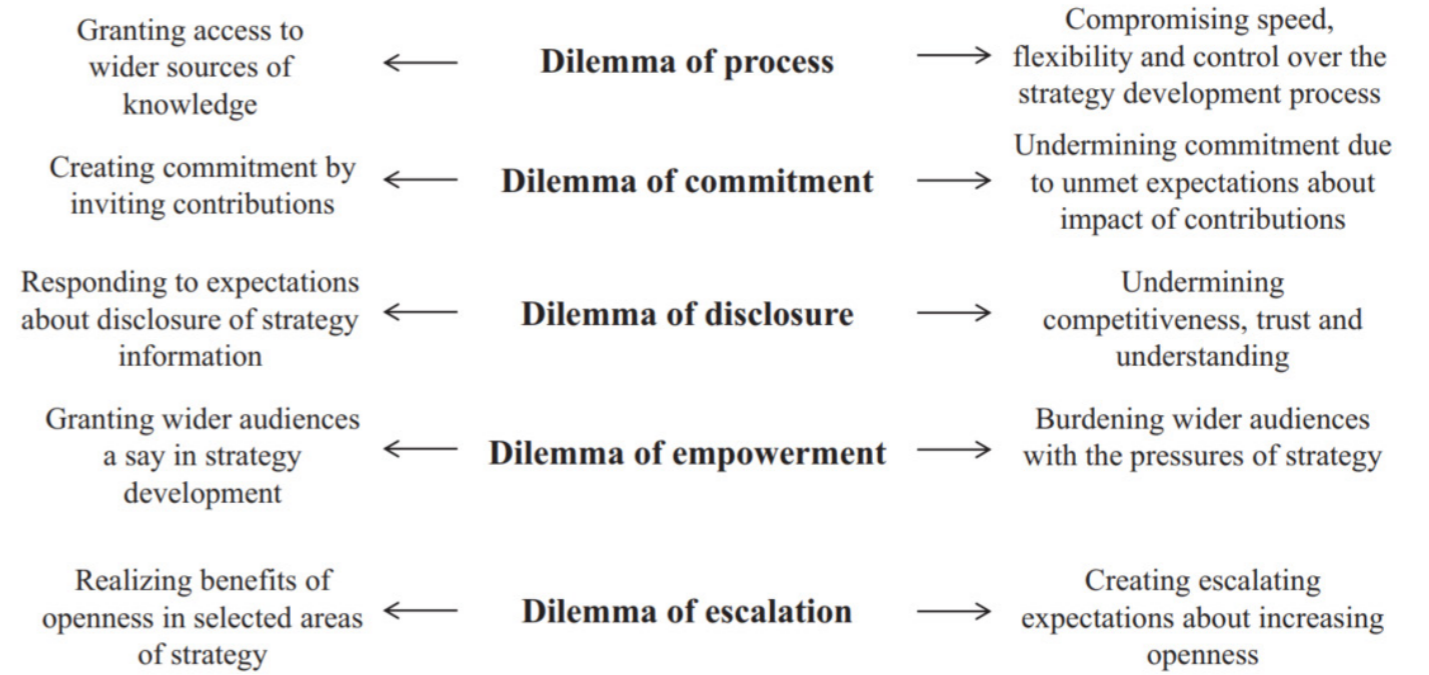| Granting access to wider sources of knowledge	←	**Dilemma of process**	→	Compromising speed, flexibility and control over the strategy development process
Creating commitment by inviting contributions	←	**Dilemma of commitment**	→	Undermining commitment due to unmet expectations about impact of contributions
Responding to expectations about disclosure of strategy information	←	**Dilemma of disclosure**	→	Undermining competitiveness, trust and understanding
Granting wider audiences a say in strategy development	←	**Dilemma of empowerment**	→	Burdening wider audiences with the pressures of strategy
Realizing benefits of openness in selected areas of strategy	←	**Dilemma of escalation**	→	Creating escalating expectations about increasing openness

Figure 2 : Dilemmas present in open strategy (Hautz et al., 2017)

Appendix C: Ecosystem innovation

Ecosystems can be clustered in three broad groups: business ecosystems, which focus on a firm and its environment;innovation ecosystems, that focus more on a particular innovation or new value propositions and the group of companies
that support it; and platform ecosystems, which concentrate on how different actors organize around a certain platform (Jacobides, Cennamo, & Gawer, 2018)

The term 'innovation ecosystem' draws upon the term 'business ecosystem'. Both types of ecosystem are networks of independent actors (De Vasconcelos Gomes, Facin, Salerno, & Ikenami, 2018) in which coopetition and competition are present (Moore, 1993; Iansiti and Levien, 2004; Adner, 2006; Adner and Kapoor, 2010) as are common goals and objectives (Nambisan and Baron, 2013). Furthermore, both of the ecosystems are mostly lead by one keystone actor (Gawer and Cusumano, 2008) and are build upon a platform (Iansiti and Levien, 2004; Gawer and Cusumano, 2008; Li, 2009). The main difference is that business ecosystems focus on value capture while innovation ecosystems focus on value creation. Value creation is described as 'the collaborative processes and activities of creating value for customers and other stakeholders', while value capture refers to 'the individual firm-level actualized profit-taking; that is, how firms eventually pursue to reach their own competitive advantages and to reap related profit' (Ritala et al., 2013).

Appendix D: Complete future story

This part introduces the complete future story that was created to enable the transition from research to design

The city has become circular where every product has inherent value in them for another person and nothing goes to waste, regular people have become part of the supply chain. Customers are no longer customers and this has caused them to take different roles in the supply chain - making it more of a social economy in addition to a circular economy of material flow. Organisations played a key role in this transition, they created artifacts which helped the push towards a circular economy but also informed how the community can contribute towards it. They did this through focusing on engagement with the various people and organisations they want to be involved with, they focused beyond the artifact and focused on the core values they were offering and were always questioning how more people can be a part of their organisation. This mindset came because they realized that becoming a big organisation in a CE does not mean taking more materials or creating more artifacts but creating ways of engagement with the various people, they understood and adapted their business towards impacting the community they wished to serve and creating ways of engagement to in the domain they were working on. Due to this, the visibility of these organisations increased within their domain and community, as they created possibilities for collaboration, other organizations with similar values sought to do collaborations with them and create new ways of working in the domain as well.

As a circular start-up:
Being a circular start-up in the urbanspace has been different and how I grow as an organisation is also different from the traditional ways of growing an organisation. I actively create and inform for a circular economy which would help the organisations to increase the number of collaborations across a network and change behaviors of the people who I am creating things for. I ever more try to increase the ways of engagement with the various collaborators and how i could contribute towards the various ways in which i engage with them, the ways i engage with them has changed from a singular focus on me making a product and trying to get them to use to how else can they be part of the journey ? What are the ways in which I could collaborate with them? The core value of organisation has moved from scaling by taking and making more to creating ways of engagement and collaboration.

A completely circular urbanspace has been created, circular start-ups are now actively

creating and informing for a circular economy, they are creating new connections through the various ways they are engaging with the various collaborators and also are aware that what they require from various people is a behavioural change in how they interact with their everyday products. Circular organisations realise that circular organisations scale now in ways that are different, they now scale in terms of scaling out and scaling deep because of the inherent ways in which they operate in a circular economy and they are also able to take strategies accordingly while creating and informing for a circular economy. They embrace the dual role that they need to take to ensure a more circular future.

As a consumer:
It's amazing how little I use my recycling bin anymore, it's never been easier to be part of a circular economy and contribute towards it, the ways of me engaging with the various organisations is quite diverse -- things get delivered to me sometimes but it doesn't stop there -- I return things when i get them as well. I use things longer and even if something is wrong, I don't need to keep them anymore-there are ways of dealing with them beyond throwing them away, my role isn't a consumer anymore - I grow things, i store things, I return things, i create things. It has been quite a change to my lifestyle and how I act in everyday life with the various products I use. I am no longer a consumer of goods but an active part of the supply chain creating value for the people after me who use it. I see that all goods I hold have value and I know how to pass on the value in the products I use.

As a collaborator:

The visibility of the circular start-ups has never been higher in the local urbanspace and the number of people involved in it is also growing day by day. This is due to how they approached their business by increasing their ways of engagement. I as a collaborator am able to see what are the ways in which I could contribute towards a particular initiative in the urbanspace, there are platforms which help these start-ups to gain recognition in the local community and across the cause in which they are trying to contribute towards. .

Steps and tools used in system analysis

To perform the systems analysis various different tools were employed throughout the analysis, depending on the need during the whole process. Each step signifies a different tool and each tool was used in order.

Step 1: Setting the system boundary

Activity:

Setting a limit to the scope of exploration with the information

Purpose:

Without a clear system boundary, there are infinite interconnected possibilities, which often seems like an endless vast ocean with no end. The scope of the research was set in the initial research itself but the information received from the interviews and literature might not be bounded by the initial scope, so in order to have a boundary to hang on to, a system boundary was consciously set.

Outcome:

" Circular collaboration in the cities from the perspective of start-ups/initiatives contributing towards a circular economy "

Step 2: Braindump

Activity:

Brain-dump map
The information from the interviews were all jotted down in a sheet in the form of a brain dump.

Purpose:

The purpose of the exercise was to get into the systems mindset and think in terms of relationships, which was necessary to prepare for the next step of creating feedback loops to get some preliminary insights on the context of circular collaborations

Outcome:

This helped prepare for the next step of creating feedback loops

Figure: Brain dump map

Step 3: Feedback loops

Activity:

Looking at the relations between the various parts of the research and seeing how they influence each other. This is done through feedback loops. Many feedback loops based on the research information were created.

Purpose:

Feedback loop diagrams help visualize how variables within a system influence each other. Various different parts of the information from the research were seen as to how they influence each other and do they influence the other activity positively or negatively

The feedback loops were also created as a preparation for the creation of the system map. They created the base for the system map in the next step.

Outcome:

The outcome of doing this activity was the creation of a system map.

Figure: Feedback loops

Step 4: System map

Activity:
The interrelations between the various feedback loops were used as starting points of creating the system map, the system map provided a more holistic view of the system and helped to see how each activity influenced the other.

Purpose:

The purpose of the exercise was to get a holistic view of the insights gathered and analyse the information, apart from analysis of the information it also acts as a synthesis tool.

Outcome:

The outcome were key insights which informed the design (see key insights in chapter 4)

Step 5: Behaviour over-time graph

Activity:

The types of partners were mapped out according to their type and the relations between them were created to see how they overlap and what are the various roles they could play when being part of the organisation.

Purpose:

The information in the system map only gave information in a static manner and did not inform how these collaborations take place over a period of time and how they change over time. To do this the initial collaborators were clustered and then mapped to each based on their changing and evolving roles. They were then mapped across time based on the activities they perform.

See figure of system map in appendix

The types of partners were mapped out according to their type and the relations between them were created to see how they overlap and what are the various roles they could play when being part of the organisation.

Outcome:

The outcome were key insights which informed the design (see key insights in chapter 4). The outcomes however did not yield specific patterns in the types of partners but just overarching insights.

See appendix for the graph and clustering by types

Step 6: Ice-berg model

Activity:

The Iceberg Model is a systems thinking tool that shows how the most obvious part of the system, the tip of the iceberg, is held up by the non-obvious weight of the iceberg that is hidden under the waterline.

Purpose:

The insights that were obtained from the previous steps were at many different steps of influence and abstraction and the iceberg model helped to arrange the information according to the various levels to get a better idea of what types of influences each one has on the other.

The ice-berg model serves both as a communication as well as a synthesis tool, where it helped in arranging the info as well as creating information.

Outcome:

See section 4.4 for outcomes

Step 7: leverage point

Activity:

Various parts of the ice-berg model and system map were explored to identify possible leverage point

Purpose

The end of a system analysis is to identify a possible leverage point as a point of intervention, there are multiple possible leverage points across the system to intervene but the leverage points have an increasing order of effect (see figure)

Outcome:

See section 4.5 in main report for outcomes
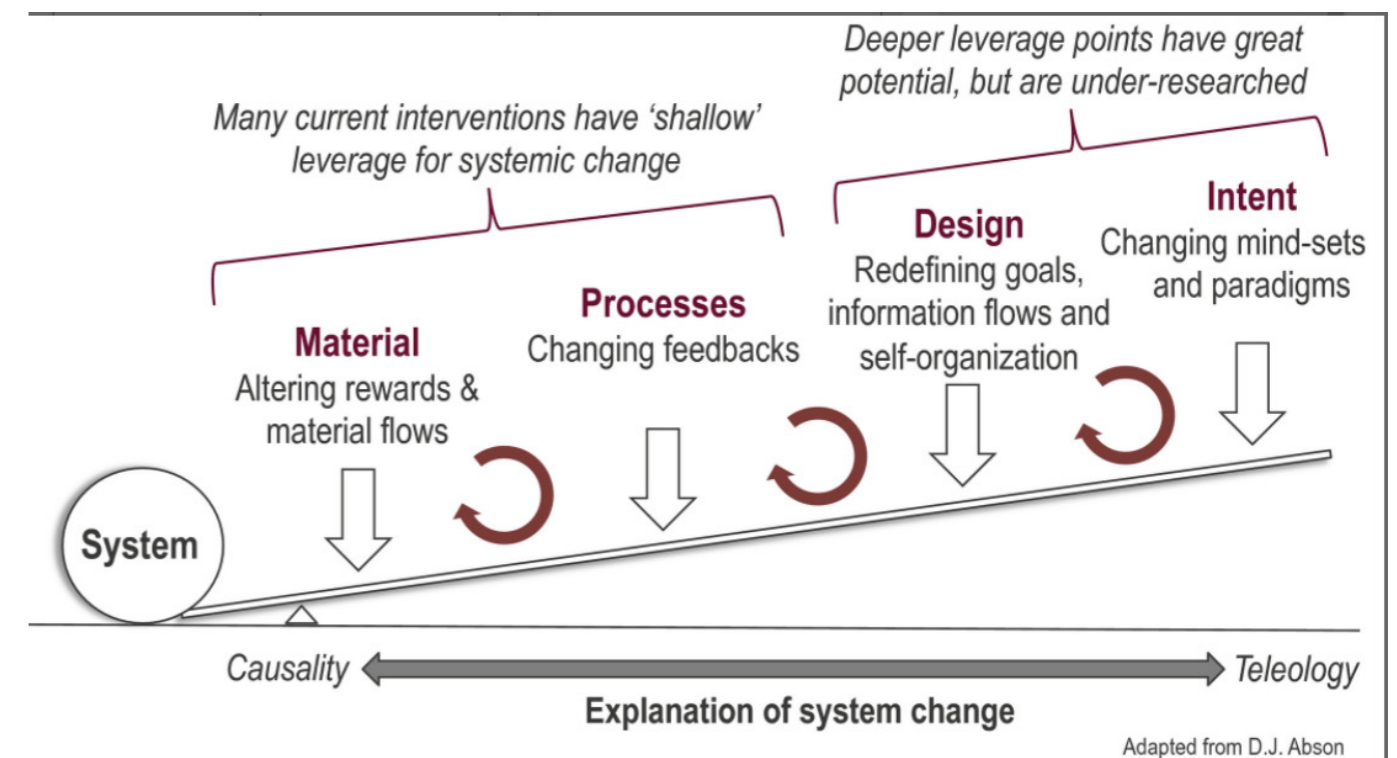
Figure: Schematic illustration of four realms of leverage (Abson et al., 2017) showing a gradient from shallow leverage points to deep leverage points
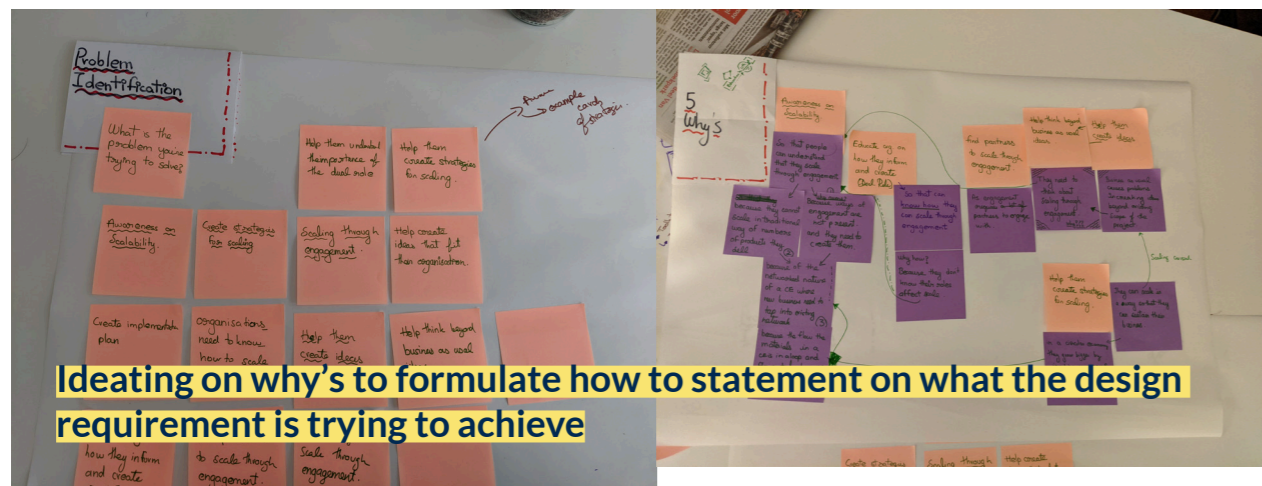Source: Fischer & Riechers (2019)

Appendix F: System map

The complete system map with various insights gathered over the research (Zoom in to get a clearer view of the connections)
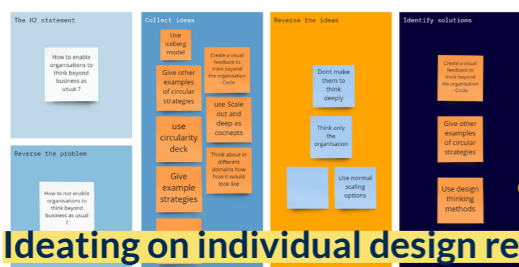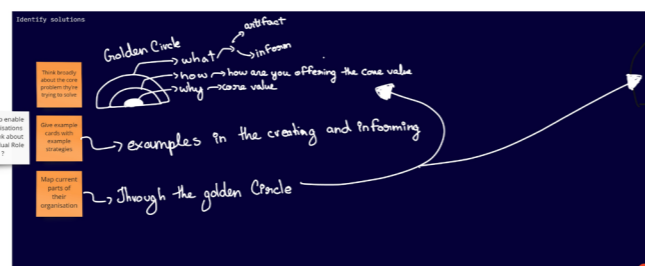
Appendix G: Behaviour over time graph

Figure 4: Clustering of partner types

Figure 3: Mapping the various actors across the various phases to see how the collaborations change over time
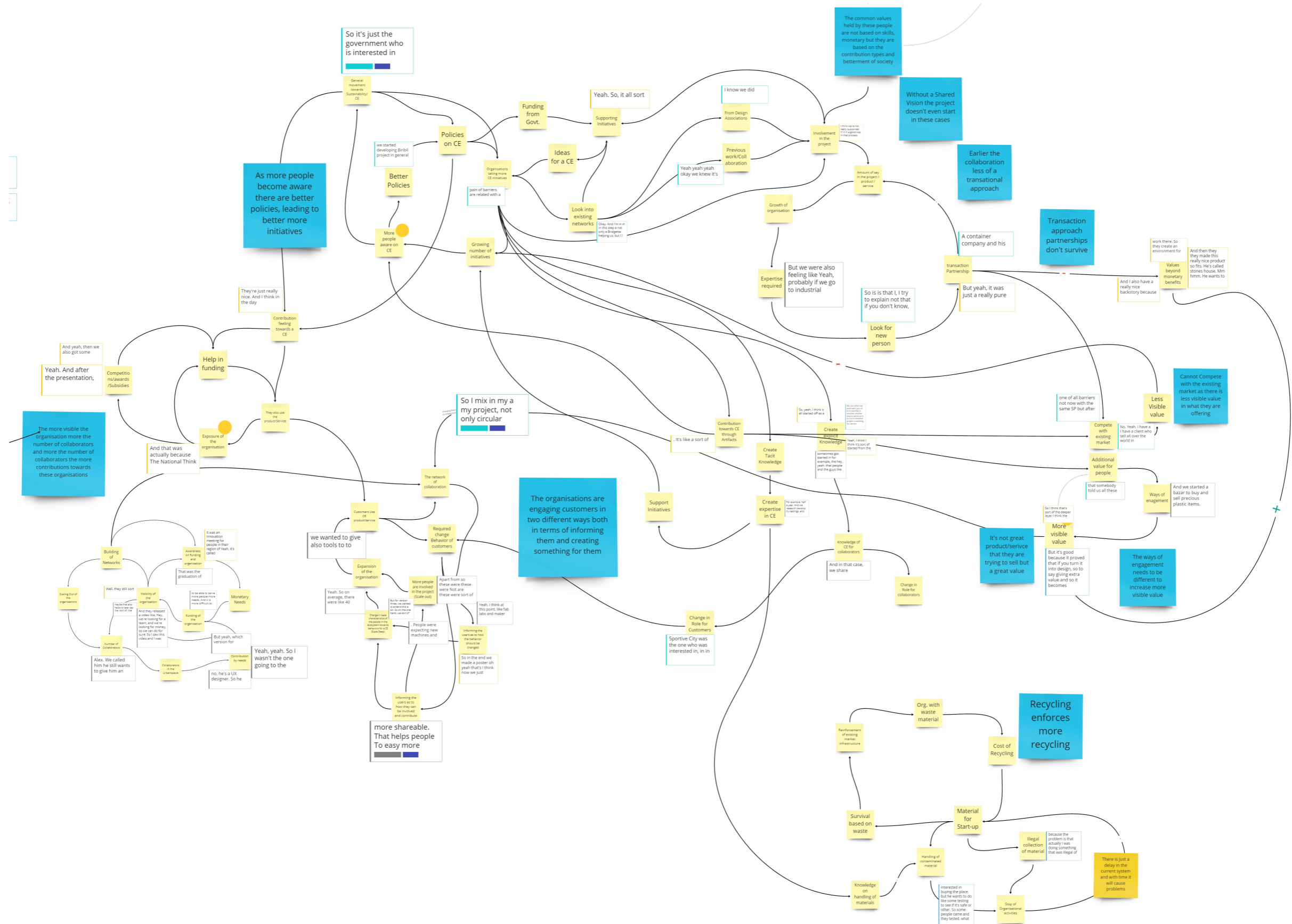
Appendix H: Ideation

Snippets from ideation

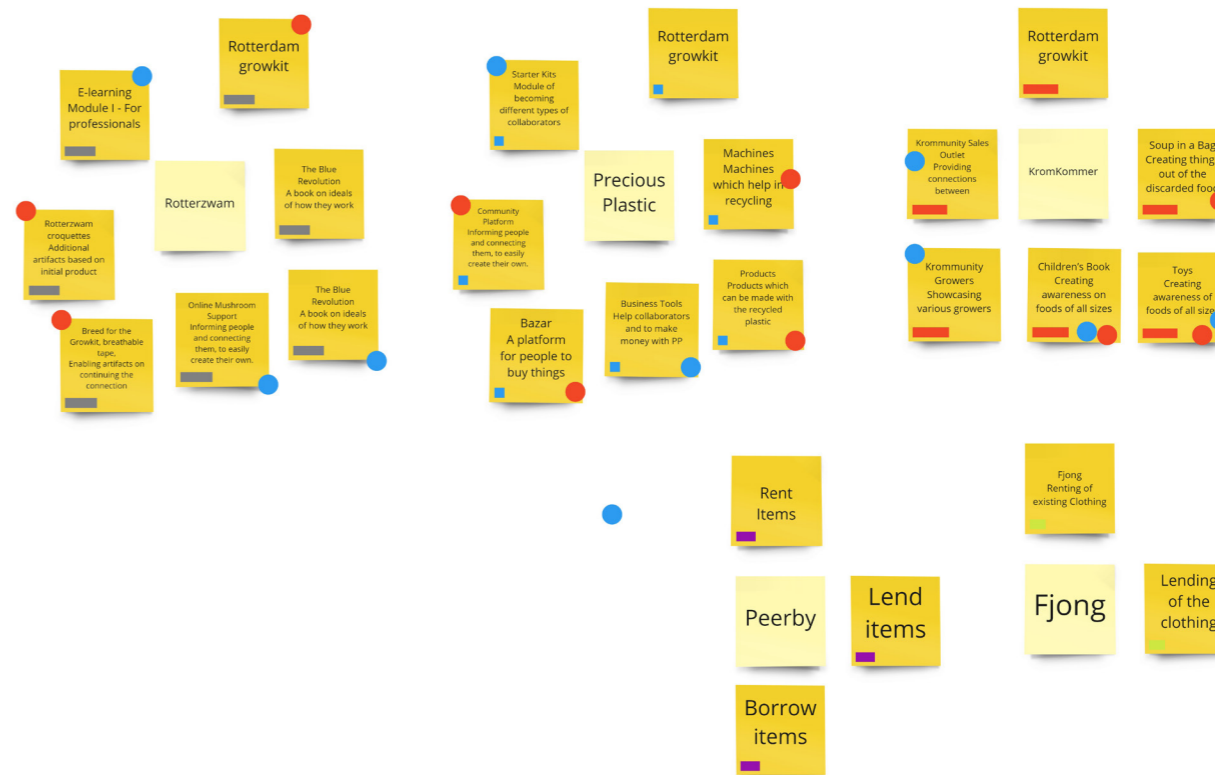Ideating on why's to formulate how to statement on what the design requirement is trying to achieve

Ideating on individual design requirements
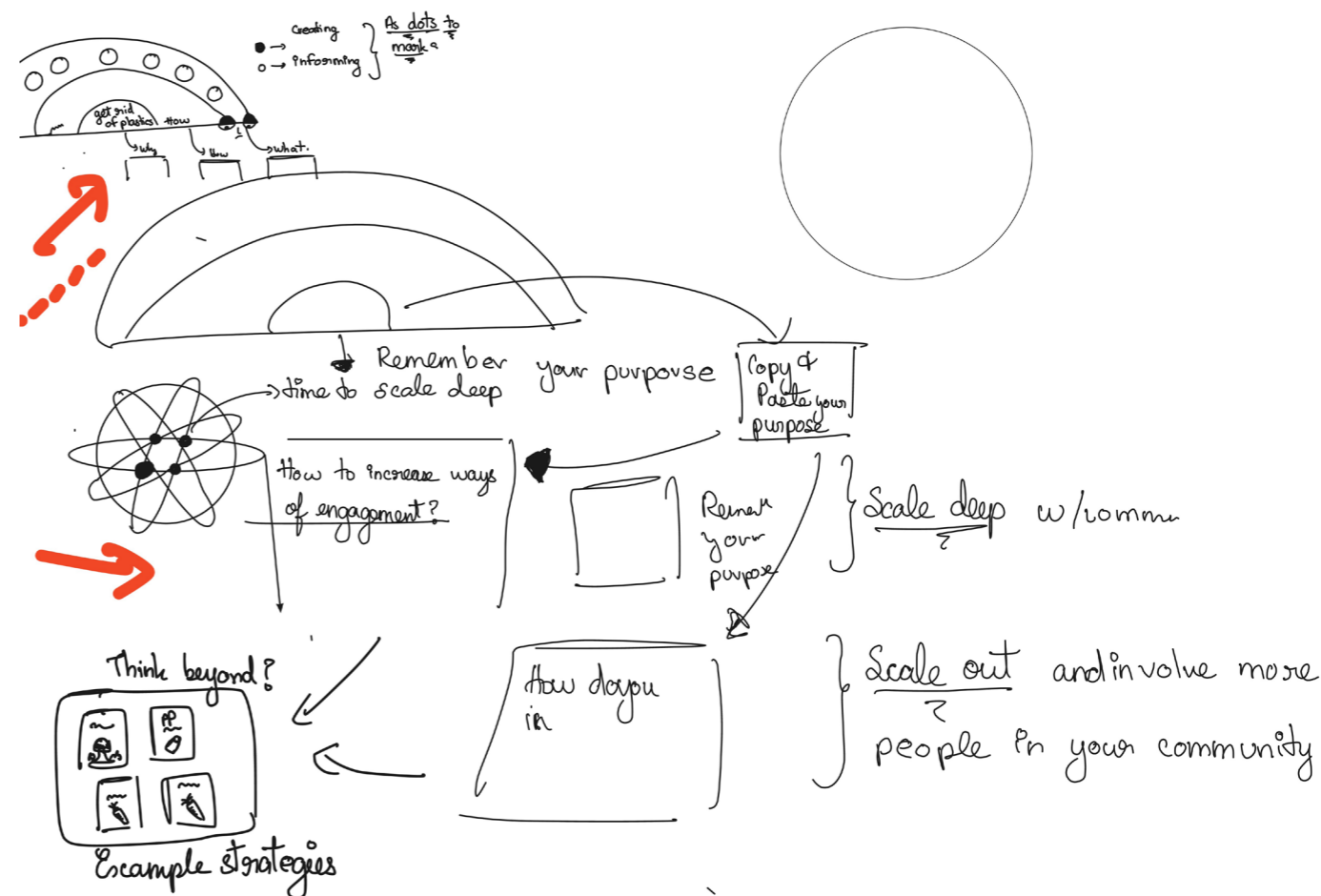
Exploring example strategies for scaling through engagement

Appendix I: Evaluation questions

Feedback Form: Toolkit for scaling through engagement

Hello,
Thank you for using the toolkit.
This is a feedback session for the various tools used in the tool and the overall process as well.
The whole feedback session would take between 15-20 mins to complete.

The information will remain confidential. This means that the Participant's sensitive data that will be
mentioned in the feedback form will remain anonymous.
Required

Feedback for Step 1:
Watch the animation video

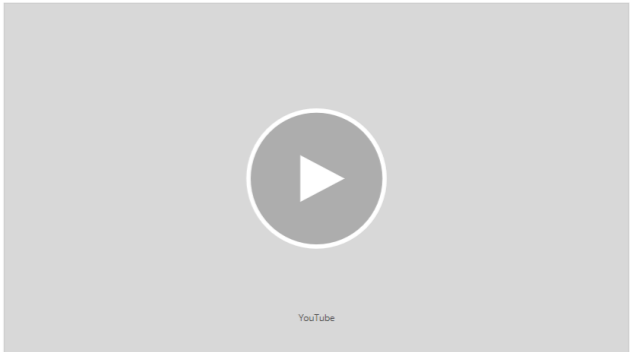| The initial video in Step 1 showcased how circular start-ups scale in a circular economy, this section is only for the initial video displayed. |
| --- |

The following were the evaluation questions asked with regard to the testing of the tool

Were the ratings of the tool used for analysis ?

The questions related to rating of the tool was intended to give a general idea regarding the ratings of each step of the tool gave a general idea of how people perceived the tool, it did not itself provide any insights into improvements but just a general sense of how they perceived the usefulness and ease of use of the tool and the tool-kit.

Also, initially the testing was planned for six different organisations and to make the analysis of the information easier an evaluation form was decided but since only three organisations were tested with; the outcomes of the ratings were not analysed with regard to the tool but only their feedback.

Step 1

Watch the animation video

⏱ 5 mins

Instructions:

1. The brief animation video explains on **how circular start-ups in the urban space scale.**
2. It introduces key ideas and concepts on the roles of start in the urban space and **what kind of activities they perform.**

YouTube

1. How helpful was the information in the video in understanding the concepts scaling through engagement, creating and informing ? *

Mark only one oval.

	1	2	3	4	5	6	7	
Do not agree at all	◯	◯	◯	◯	◯	◯	◯	Fully agree

2. Please explain the above rating

_____

3. The information in the video is easily understandable *

Mark only one oval.

	1	2	3	4	5	6	7	
Do not agree at all	◯	◯	◯	◯	◯	◯	◯	Fully agree

4. Please explain the above rating

_____

5. The key learnings from the video are

_____

6. Did your understanding change of how circular organizations scale in cities? Pls explain your answer

_____

7. Any remarks on improving the video

_____

8. Any other remarks?

_____

Feedback for Step 2: Defining your organization's activities

Step 2 was in defining organizations' activities through questions of Why? How? and What?

Step 2

Define your organisation's activities

🕐 7 mins

Instructions:
1. Start with defining your organisation's **Why** - your core circular purpose .
2. Move on to the **How** - the direction you take towards solving your why
3. Finally write your **What** - The name of the end product /service you create that contribute to your activities
4. Use the yellow sticky notes to write down the above points

Step 2: Work Area

What ?

How ?

Why ?

▶ Step 2: Understanding your Step 2 Roletructions

9. How useful was the tool in explaining your organizational activities? *

Mark only one oval.

	1	2	3	4	5	6	7	
Do not agree at all	◯	◯	◯	◯	◯	◯	◯	Fully agree

10. Please explain the above rating

_____

11. How easy was the tool to use? *

Mark only one oval.

	1	2	3	4	5	6	7	
Do not agree at all	◯	◯	◯	◯	◯	◯	◯	Fully agree

12. Please explain the above rating

_____

13. The key learning and insights from using the tool are

_____

14. Any remarks on improving the tool

_____

15. Any other remarks

_____

Feedback for Step 3: Understanding your dual role

Step 3 was about understanding your organization's activities through the dual role of creating and informing

Step 3

Understanding your dual role

⏱ 5 mins

Instructions:
1. Read the description of creating and informing.
2. Mark your actions/results from Step 1 accordingly as creating or informing activities.
3. Use the **Red** dot for marking **creating**
4. Use the **Blue** dot for marking **informing**

Step 3: Work Area

🔴 **Creating**

Creating relates to artifacts your start-up has created to contribute to your core circular cause

How you directly contribute to a circular economy ?

🔵 **Informing**

Informing relates to how you enable other people you collaborate with contribute towards your core circular cause beyond using your product/service.

How you enable others to contribute to a circular economy ?

Pick the dots and mark your various actions/results in step 1 as creating or informing activities

▶ Step 3: Ideation: Scaling th Stepug3: Instructions

16. How useful was the step in understanding the dual role of your organizational activities? *

Mark only one oval.

	1	2	3	4	5	6	7	
Do not agree at all	◯	◯	◯	◯	◯	◯	◯	Fully agree

17. Please explain the above rating

_____

18. How easy was it to mark the various activities as creating or informing? *

Mark only one oval.

	1	2	3	4	5	6	7	
Do not agree at all	◯	◯	◯	◯	◯	◯	◯	Fully agree

19. Please explain the above rating

_____

20. The key learning and insights from marking creating and informing activities

_____

21. Any remarks on improving the step

_____

22. Any other remarks

_____

Feedback for Step 4: Ideation: scaling through engagement

Step 4 was about creating ideas around scaling through engagement

Step 4

Ideation: scaling through engagement

⏱ 10 mins

Instructions:
1. You're now going to create ideas which could help your organisation scale better.
2. There are two ways you're going to create ideas, impacting greater numbers or impacting cultural roots.
3. Place your ideas on the sticky notes
4. Read the description and examples to get an overview

Step 4: Work Area

" Impacting greater numbers"

Think of your purpose and see how you can include more people to be a part of your purpose.

Eg: Precious plastic has increased the number of engagements they have by creating an open-source blueprint of the machines they produce so that other people who are enthusiastic about making machines can join the movement against plastic pollution.

Copy and paste your Why(s) here (from Step 1)

" Impacting Cultural Roots"

Think of your purpose and see how you can increase the number of ways you can engage with different people to be a part of your purpose

Eg: Rotterzwam engages with its customers in multiple ways by creating food (bitterballen, croquettes) with the mushroom they grow with coffee grounds. Soap made from recycled coffee grounds, continued material for the grow kit (substrate, tape),etc..

◀ - - - - - - - - - - - - It's a scale - - - - - - - - - - - - ▶

▶ Step 4: Alignment with OrgaSnteisap 4tiInstructions

23. How useful was the tool in creating ideas around engagement? *

Mark only one oval.

	1	2	3	4	5	6	7	
Do not agree at all	◯	◯	◯	◯	◯	◯	◯	Fully agree

24. Please explain the above rating

_____

25. How easy was the tool to use? *

Mark only one oval.

	1	2	3	4	5	6	7	
Do not agree at all	◯	◯	◯	◯	◯	◯	◯	Fully agree

26. Please explain the above rating

_____

27. The key learning and insights from using the tool are

_____

28. Any remarks on improving the step

_____

29. Any other remarks

_____

Feedback for Step 5: Alignment with organization

Step 5 was about checking the alignment of the various ideas with your organization's capabilities and long term purpose and goals

Step 5

Alignment with your organisation

⏱ 10 mins

Instructions:
1. Select the ideas from the previous steps and place them in the matrix.

Step 5: Work Area

Best of intentions, may need new partners, capabilities or resources

High Chance of Winning

Alignment with your organisations long term purpose and values

Level of alignment

Not long for this world

Boldly going nowhere

Level of alignment

Alignment with your organizational capabilities

⚑ Step 5: Checking desirability and feasibility Step 5 Instructions

30. How useful was the tool in aligning the ideas according to your organization's goals and capabilities? *

Mark only one oval.

	1	2	3	4	5	6	7	
Do not agree at all	◯	◯	◯	◯	◯	◯	◯	Fully agree

31. Please explain the above rating

_____

32. How easy was the tool to use? *

Mark only one oval.

	1	2	3	4	5	6	7	
Do not agree at all	◯	◯	◯	◯	◯	◯	◯	Fully agree

33. Please explain the above rating

_____

34. The key learning and insights from using the tool are

_____

35. Any remarks on improving the tool

_____

36. Any other remarks

_____

Feedback for Step 6:
Checking Desirability and
feasibility

Step 6 was about checking desirability and feasibility and think
about future implementation intentions beyond the idea

Step 6

Checking
desirability
and
feasibility

10 mins

Instructions:

1. Select an idea from the previous step.
2. Copy and paste the selected idea in the grey block below.
3. Start with why would people engage with the idea, answer the questions below it.
4. Move on to how you would make the idea a reality, answer the questions below it.
5. Do you think the idea needs to be changed or use a different one, then change it

Step 6: Repeat, if necessary

Step 6: Work Area

Select and idea from step 4 and paste it here

Why would people engage ?

User/Customer:
Define the user whom you intend to engage ? (could be multiple different people)

Reason to Engage:
Why would the user(s) engage with your organisation ?

How do you make it happen ?

Resources:
What resources do you already have for executing the idea? (Expertise, finance, etc)

Resources:
What resources do you not have and is required?

Partners:
Based on the required resources,
What partners do you need to collaborate with ?
Could you collaborate with existing partners ?

Partners:
What's the incentive for the collaborators to be a part of it ?

37. How useful was the tool in thinking about the implementation intentions of the idea? *

Mark only one oval.

	1	2	3	4	5	6	7	
Do not agree at all	◯	◯	◯	◯	◯	◯	◯	Fully agree

38. Please explain the above rating

_____

39. How easy was the tool to use? *

Mark only one oval.

	1	2	3	4	5	6	7	
Do not agree at all	◯	◯	◯	◯	◯	◯	◯	Fully agree

40. Please explain the above rating

_____

41. The key learning and insights from using the tool are

_____

42. Did your idea change/develop after using the tool? Pls, explain your answer.

_____

43. Any remarks on improving the step

_____

44. Any other remarks

_____

Feedback for Overall Toolkit and the process	The overall toolkit was used to create awareness on how circular organizations, help organizations in thinking about how they create and inform, create ideas around scaling through engagement and create implementation intentions.

45. How useful was the toolkit for the above purpose? *

Mark only one oval.

	1	2	3	4	5	6	7	
Do not agree at all	◯	◯	◯	◯	◯	◯	◯	Fully agree

46. Please explain the above rating

_____

47. How easy was the tool to use? *

Mark only one oval.

	1	2	3	4	5	6	7	
Do not agree at all	◯	◯	◯	◯	◯	◯	◯	Fully agree

48. Please explain the above rating

_____

49. Would you able to use the toolkit without guidance? Please, explain

_____

50. The key learning and insights from using the toolkit are

_____

51. Any remarks on improving the overall process of the toolkit

_____

52. Any other remarks

_____

Thank you for your response !!

Appendix J: Initial design

What's the toolkit about?

This is a toolkit which helps circular organisations in the urban-space in two different ways.

It helps them become aware of how circular organisations in cities scale in a circular economy.

In addition to becoming aware it helps them in creating ideas for scaling through engagement in a circular economy.

The toolkit helps you to think beyond conventional scaling by making more towards scaling through engagement, more than just creating ideas it also helps in understanding the implementation intentions of the output.

| From scaling by making more | → | towards scaling through engagement |
| From thinking within organisations activities | → | To thinking beyond organisations activities |
| From Ideas | → | To implementation intention |

Step 1

Watch the animation video

⏱ 5 mins

Instructions:

1. The brief animation video explains on **how circular start-ups in the urban space scale.**
2. It introduces key ideas and concepts on the roles of start in the urban space and **what kind of activities they perform.**

YouTube

▶ Step 2: Defining your organisation's activities
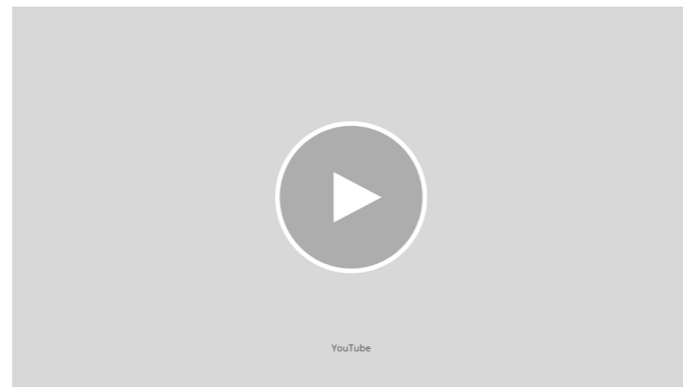
Step 2

Define your organisation's activities

⏱ 10 mins

Instructions:

1. Start with defining your organisation's **What** - he name of the end product /service you create that contribute to your activities .
2. Move on to the **How** - the direction you take towards solving your why
3. Finally write your **Why** - your core circular purpose
4. Use the yellow sticky notes to write down the above points
5. Add a timer from Miro for 15 minutes

Step 2: Work Area

What ?

How ?

Why ?

What circular cause(s) are you working towards ? | What direction do you take to realize your cause ? | What are the end products/services do you intend to create ?

▶ Step 3: Understanding your Dual Role

---

1. Start Here

Toolkit for scaling through engagement

What's the toolkit about?

2. Warm Up

Hi! 👋
If you're using Miro for the first time, start here.

That's it!
Go for the toolkit below !

3. The toolkit

Step 1
Watch the animation video

Instructions:
1. The brief animation video explains on **how circular start-ups in the urban space scale.**
2. It introduces key ideas and concepts on the roles of start in the urban space and **what kind of activities they perform.**

Step 2
Define your organisation's activities

Instructions:
1. Start with defining your organisation's **What** - he name of the end product service you create that contribute to your activities.
2. Move on to the **How** - the direction you take towards solving your why
3. Finally write your **Why** - your core circular purpose
4. Use the yellow sticky notes to write down the above points
5. Add a timer from Miro for 15 minutes

Step 2: Work Area

What ?
How ?
Why ?

Step 3
Understanding your dual role

Instructions:
1. Read the description of creating and informing.
2. Mark your actions/results from Step 1 accordingly as creating or informing activities.
3. Use the **Red** dot for marking **creating**
4. Use the **Blue** dot for marking **informing**
5. Add a timer from Miro for 5 minutes.

Step 3: Work Area

🔴 **Creating**
Creating relates to artefacts your start up has created to contribute to your core circular cause.

How you directly contribute to a circular economy ?

🔵 **Informing**
Informing relates to how you enable other people you collaborate with contribute towards your core circular cause beyond using your product/service.

How you enable others to contribute to a circular economy ?

Pick the dots and mark your various advertisement products, services in your 1 as creating or informing activities

Step 4
Ideation: scaling through engagement

Instructions:
1. You're now going to create ideas which could help your organisation scale better.
2. There are two ways you're going to create ideas, impacting greater numbers or impacting cultural roots.
3. Place your ideas on the sticky notes.
4. Read the description and examples to get an overview.
5. If you need inspiration look to the examples strategies on right end.
6. Add a timer from Miro for 15 minutes.

Step 4: Work Area

"impacting greater numbers"   "impacting Cultural Roots"

Example strategies for engagement

"impacting greater numbers"   "impacting Cultural Roots"

It's a scale

Need Inspiration ?

Connecting Communities | Awareness through artifacts | Creating Circular products

Learning Module | Tools for circular business | Supporting products

Step 5
Alignment with your organisation

Instructions:
1. Select the ideas from the previous steps and place them in the matrix.
2. Add a timer from Miro for 10 minutes.

Step 5: Work Area

Alignment with your organisations long term purpose and values

Best of intention, may need low payback, capabilities or resources | High chance of winning

Not long for this world | Easily going overboard

Alignment with your organizational capabilities

Step 6
Checking desirability and feasibility

Instructions:
1. Select an idea from the previous step.
2. Copy and paste the selected idea in the grey blocks below.
3. Start with why would people engage with the idea, answer the questions below it.
4. Move on to how you would make the idea a reality, answer the questions below it.
5. Do you think the idea needs to be changed or use a different one, then change it
6. Add a timer from Miro for 15 minutes.

Step 6: Work Area

Why would people engage ? | How do you make it happen ?

Step 7
**That's it !
Repeat or use another idea if necessary**

Step 3

Understanding your dual role

⏱ 5 mins

Instructions:

1. Read the description of creating and informing.
2. Mark your actions/results from Step 1 accordingly as creating or informing activities.
3. Use the **Red** dot for marking **creating**
4. Use the **Blue** dot for marking **informing**
5. Add a timer from Miro for 5 minutes

🔴 **Creating**

Creating relates to artifacts your start-up has created to contribute to your core circular cause

How you directly contribute to a circular economy ?

🔵 **Informing**

Informing relates to how you enable other people you collaborate with contribute towards your core circular cause beyond using your product/service.

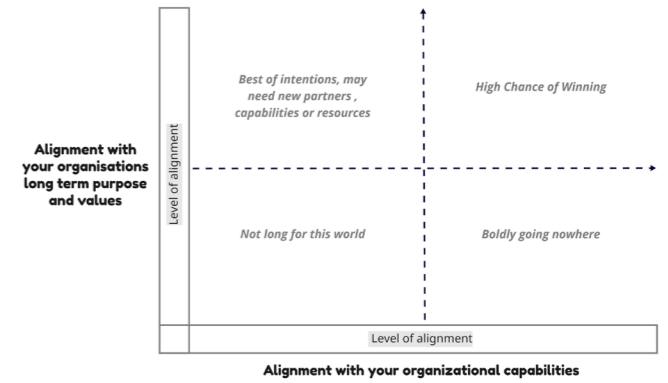**How you enable others to contribute to a circular economy ?**

Pick the dots and mark your various direction/end products- services in step 1 as creating or informing activities

🚩 Step 4: Ideation: Scaling through engagement

Step 4

Ideation: scaling through engagement

⏱ 15 mins

Instructions:

1. You're now going to create ideas which could help your organisation scale better.
2. There are two ways you're going to create ideas, impacting greater numbers or impacting cultural roots.
3. Place your ideas on the sticky notes
4. Read the description and examples to get an overview
5. If you need insipiration look to the examples strategies on right end
6. Add a timer from Miro for 15 minutes

" Impacting greater numbers"

Think of your purpose and see how you can include more people to be actively part of your purpose.

Eg: Precious plastic has increased the number of engagements they have by creating an open-source blueprint of the machines they produce so that other people who are enthusiastic about making machines can join the movement against plastic pollution.

Copy and paste your Why(s) here (from Step 1)

" Impacting Cultural Roots"

Think of your purpose and see how you can increase the number of ways you can engage with different people to be a part of your purpose

Eg: Rotterzwam engages with its customers in multiple ways by creating food (bitterballen, croquettes) with the mushroom they grow with coffee grounds, Soap made from recycled coffee grounds, continued material for the grow kit (substrate, tape),etc.,

← A combination of both →

🚩 Step 5: Alignment with your organisation

Example strategies for engagement

" Impacting greater numbers"

Think of your purpose and see how you can include more people to be a part of your purpose.

" Impacting Cultural Roots"

Think of your purpose and see how you can increase the number of ways you can engage with different people to be a part of your purpose

- - - - - - - - - - - - - - - It's a scale - - - - - - - - - - - - - - - -

Connecting Communities

Kromkrommer: created an online community (Krommunity) which connects growers of food with oddly shaped vegetables, sales outlet which sells oddly shaped vegetables and fans/partners who support and buy oddly shaped vegetables

🔵 Informing

Awareness through artifacts

Kromkrommer: Created awareness and normalizing foods of all sizes by creating toys of oddly shaped vegetable & fruits which educates children that odd shaped vegetables are good as well.

🔵 Informing

Creating Circular products

Precious Plastics: creates everyday products out of the plastic they recycle, thereby changing the perception of plastic from waste to products.

🔴 Creating

Learning Module

Rotterzwam: Created a training module which people can buy on the knowledge of growing mushrooms with coffee grounds professionally, which is open to everyone

🔵 Informing

Tools for circular business

Precious Plastics: Created business tools with action plan,workspace calculator and business plan template which helps plastic recyclers to earn money through recycling

🔵 Informing

Supporting products

Rotterzwam growkit: A growkit which helps people to grow mushrooms on their own with their waste coffee grounds and provides products to support the growkit such as mushroom growth breed, tape, substrate etc.,

🔴 Creating

Step 5

Alignment with your organisation

⏱ 10 mins

Instructions:

1. Select the ideas from the previous steps and place them in the matrix.
2. Add a timer from Miro for 10 minutes

Alignment with your organisations long term purpose and values

Level of alignment

Best of intentions, may need new partners , capabilities or resources

High Chance of Winning

Not long for this world

Boldly going nowhere

Level of alignment

Alignment with your organizational capabilities

🚩 Step 6: Checking desirability and feasibility

Step 6

Checking desirability and feasibility

⏱ 15 mins

Instructions:

1. Select an idea from the previous step.
2. Copy and paste the selected idea in the grey block below.
3. Start with why would people engage with the idea, answer the questions below it.
4. Move on to how you would make the idea a reality, answer the questions below it.
5. Do you think the idea needs to be changed or use a different one, then change it
6. Add a timer from Miro for 15 minutes

Select an idea from step 4, copy and paste it here

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User/Customer: Define the user whom you intend to engage ? (could be multiple different people)

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Resources: What resources do you not have and is required?

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Partners: What's the incentive for the collaborators to be a part of it ?

Step 7: Repeat, if necessary