

Ideation For Plastic Revaluation

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Using a co-creation approach in combination with Ideation tools can assist you in thinking outside the box, challenging previous assumptions, and exploring new possibilities. They can assist you in generating an idea that can turn into a successful one and lay the groundwork for your plastic revaluation. Unless and until you make an idea work, it is just that: an idea.

But what then? Once you have an idea, or a suite of ideas that all the participants in the session feel are worth exploring further, it is time to refine or select an idea, by evaluating whether or not a potential user or client is interested in the product or service. This is the phase where you test your assumptions, before entering the phase in which you actually design the product and service and eventually develop a prototype.

Within the framework of this unit we focus on the ideation, i.e. coming up with one or several ideas which are then finetuned or selected idea (by [testing assumptions](#)). It is not always easy to make a clear distinction between the pure ideation and the design phase, as these tend to overlap, for instance when generating ideas, already during the process and especially in the discussion on the ideas generated, one comes up with specific features, functionalities or even specifications on the look and feel of the product and service. The latter looking at it formally is also considered part of the (co)design process.

It is up to you to decide whether you test the pure idea, or a more finetuned developed idea with a high level of specifications. It is not recommended to wait until you have a fully defined & designed product or service ready to prototype, the earlier in the process the easier (and cheaper) to make adjustments.

Co-creation based ideation

As said before, it all starts with generating ideas on the potential product or service. Once you have identified the plastic waste which can serve as a basis for revaluation (see Analyzing for Plastic Revaluation), and you have analysed the value chain and benefits (see Planning for Revaluation), you are ready to start with ideating the product (or service) based upon the waste you identified.

The aim is to come up with one or a few ideas that are viable, and for this the first step is to generate a suite of ideas, from which the one (or ones) that explored further are selected. As highlighted in "[Co-creating and co-design for plastic revaluation](#)", a co-creation process is recommended within the framework of a plastic revaluation exercise.

Tips for a co-creation based ideation process

For a successful ideation process based upon a co-creation approach, here are some tips which can be helpful:

- **Try out the "together alone" ideation process**, in which each of you work on your own concepts and ideas in silence, but in the same space, with regular intervals where ideas are shared and progressed.
- **Keep all concepts and ideas visual** - so that you and your team can pass them by and reconsider their purpose, usefulness, viability, etc.
- **Change your scenery** – It may seem a minor detail, but if you want to think out-of-the-box during your ideation session, it may be advisable to change your usual place, i.e. change the setting, as a new environment can introduce new stimuli and be beneficial for the generation of ideas.
- **Create a safe space for ideas generation** - try not to be judgemental about your own ideas, or other's.

Tools & techniques for ideation

There is a wide range of creativity and ideation techniques and tools that can be used for ideating a product or service based upon plastic revaluation. Some of them are more appropriate for a co-creation approach and in this section we focus on these, nonetheless the list is not exhaustive and feel free to consider other options if you feel more comfortable with them.

We have selected our top 5 for you:

- Brainstorming
- Brainwriting
- Lateral thinking
- Mindmapping
- Crazy 8

Brainstorming

It is all about leveraging the synergy of the group to reach new ideas by building on the idea of others. Ideas are blended to create one good idea.

Bear in mind:

- Focus on your strengths, do not think your ideas are not good and sabotage yourself.
- Share and cooperate with others around you, this will open up new knowledge, ideas and solutions you did not consider before.
- Never stop learning, surround yourself with interesting reads, take time for hobbies and leisure. Opening up your mind and doing different things will help you to see different viewpoints and complexities.
- Be curious, try and look at things like it were the first time you see them. Think back on how you explored things when you were a child.
- Do not be afraid to ask: ask inspiring questions and address them to everyone, from colleagues to friends and family and even children. Their answers might inspire you and give access to new knowledge

Brainwriting

Brainwriting is similar to brainstorming, however better for situations which require more solutions in less time. In this technique participants write down their ideas on paper and, after a few minutes, they pass on their own piece of paper to another participant who'll then elaborate on the first person's ideas and so forth. Another few minutes later, the individual participants will again pass their papers on to someone else and so the process continues. After about 15 minutes, you will collect the papers and post them for instant discussion.

Occasions when brainwriting might be more appropriate than brainstorming:

- When there are barriers to the process caused by interpersonal conflicts, different cultural contexts of the participants, or the voice of those who are less prone to speak out also needs to be heard (and avoid the more dominant or powerful ones to take over),
- When you have limited time, as it allows for faster idea generation,
- When you need more time for reflection and for participants to formulate their thoughts (participants do not interact with others during the formulation),
- When you expect or search for bold ideas, which are different from the ones accepted by the majority or the leadership of the group or might generate controversy,
- When the issue to be discussed is sensitive,
- When you do not have a facilitator with enough experience to guide the process, which is key for the brainstorming but less so in brainwriting,
- When the group is too large for an effective brainstorming.

Lateral thinking

This technique works well with the creativity “on demand” related to the plastic revaluation process where we are defining and solving problems and finding new ways to do things. It is also referred to as “thinking out of the box”, and constitutes a deliberate, systematic way of innovative thinking in a repeatable manner. It involves discarding the obvious, leaving behind traditional modes of thought, and throwing away preconceptions. Here are the steps to follow

1. **List the assumptions** - When trying to solve a problem, write out the assumptions inherent to the question.
2. **Verbalize the convention** - Next, ask yourself the question, “How would a typical person approach this problem?” Then ask yourself, “What if I couldn’t follow this option?” .
3. **Question the question** - Ask yourself, “What if I could rewrite the question?”. Try and rewrite the question to ask for the same solution but in a different way
4. **Start backwards** - Often the route to solving a problem is revealed when you start with the solution first, and try to work backward. Reframing the challenge allows to set aside some details or to see new ones that help to find the answer.
5. **Change perspective** - To start lateral thinking, you might pretend you were someone else trying to solve the problem. For example, if you were a magician or a scientist.

Mindmapping

A mind map is a diagram which contains words, concepts or items arranged around a central concept. It visually structures ideas to aid in analysis, and turn long lists of information into a more visual, organised and colourful representation. This visual thinking tool helps you to better analyze, understand, synthesize, recall and generate new ideas and helps to structure the information.

The key challenge, either in words or a in image is placed in the middle of the paper after which ideas that come to mind are written down and connections made. This is done by radiating subtopics from the central theme/topic. First-level associations are those tied to the central theme. This is the basic structure known as Basic Organising Ideas (BOIs), and these are branches that are spreading outwards from the main concept. Afterwards set down keywords associated with the BOIs, which should sit on smaller branches connected to the main branch. At the end of the exercise revisit the mind map, placing things in order, and numbering the branches. If needed, revise it on another piece of paper.

A good tip I the exercise is to colour. People who use images and colour in their imagination, when learning, are better at remembering than those who don’t. Coloured post-its can be used with each participant having “their” colour , write down their associations and place them on the paper or whiteboard. This makes it easier to shift them around at the revisiting phase.

Crazy 8

It's a fast sketching exercise that challenges people to sketch 8 ideas in 8 minutes (not 8 variations of one idea or 8 steps of one idea, but 8 distinct ideas). The goal is to push beyond your first idea, which is frequently not the most innovative, and generate a wide variety of solutions to your challenge.

This technique is best used within the ideation stage where ideas should come quicker since you have insights to draw upon, like the results from the analysis of the plastic waste, which will limit the type of ideas to be developed.

How does it work

- Each team member folds their piece of paper into eight sections.
- Set the timer for eight minutes.
- Individually, each team member sketches one idea in each rectangle, trying their best until all sections are filled.
- When the timer goes off, all pens are down.
- Ideas are presented and discussed.

Tips for the exercise:

- It's important to remind participants that these sketches do not need to be perfect. The sketches should be rough. The purpose of the exercise is to generate a variety of ideas.
- Emphasize that they shouldn't limit themselves. Make sure they get all their ideas out and approach this with an open mind. At this stage it is about the quantity of ideas, not the quality.
- Feeling rushed is part of the process.

Co-design

Once you have defined one or a few ideas you want to take forward, you can start the co-design process. You can opt for doing it in conjunction with the ideation activities, i.e. involving the same participants (and even in the same session) and jointly design the main functionalities or features of the product or design. Or you can opt for reducing the external stakeholders involved and work more with internal staff.

As said before, the frontier between the co-created idea and the co-designed product or service can be blurry. The theory which can be found searching on the internet, many times has the process starting with ideation and sees this as an integral part of the design process. However we consider them to be 2 different stages of a process of moving towards a revalued product or service, but acknowledging these are very intertwined.

A co-designed product or service can go from the definition of an idea with details on its functionalities and features, but without describing these in full detail, to the full description of the functionalities, features, look and feel of the product or service ready to move to the [prototype phase](#).

As said it is recommended to test the assumptions on your idea in this first phase of the codesign stage, then make the adjustments and finalise the co-design process by fully defining all the details.

Case studies & Examples

The ideation principles and strategies have already been successfully applied by some companies to create revaluated plastic products. Here we show the achieved results with different kind of products.

Total Corbion:

Using the mass balance method, **Total Corbion** will provide PLA grades of 20% recycled content. This new chemically recycled PLA can now be used to produce bottles again.

PLA or Poly Lactic Acid is a range of unique bioplastics which are both biobased and biodegradable

We included this case study because Corbion has successfully made PLA resin from alternative, second generation feedstocks. The second generation feedstock was fermented into lactic acid and converted into a PLA resin boasting the exact same properties as current commercially available PLA resins.

As you can see, this new material developed by **Total Corbion** is a clear example of a complex process of ideation and creation which is detailed in their web: <https://www.totalenergies-corbion.com/about-pla/>

EcoPlasteam:

It is a private company that uses a process to treat polylaminate (PO-LA) to create a new, drop-in material (EcoAllene) for use in a number of applications such as construction, furnishings and non-food packaging.

We considered **EcoPalsteam** work relevant because they created this material responding to the need to reduce the economic and environmental costs deriving from the disposal of the two materials (PoAl), residues of the process of separation of cellulose fibers.

Resources

Links:

Brainstorming

[What is Brainstorming? A Comprehensive Guide for Beginners - EdrawMind](#)
[What is brainstorming? Techniques and methods | Miro](#)

Brainwriting

[How to Use Brainwriting to Generate Ideas | Lucidchart Blog](#)

Lateral thinking

[3 Steps to Generate More Ideas: Lateral Thinking Concepts by Edward de Bono](#)
[How to Generate Powerful Ideas by Thinking Laterally - InnovationManagement](#)

Mindmapping

[How to Make Mind Maps: Visualize Your Ideas for Better Brainstorming](#)

Crazy 8

[How to run a Crazy eights workshop. | by Hana Stevenson | Prototypr](#)
[Crazy 8's](#)

Videos:

[Design Sprint Crazy 8s - Generate design ideas FAST](#)

[Ideation with Mind Mapping](#)

[Lateral thinking: How to workshop innovative ideas | Dan Seewald | Big Think](#)

[Brainwriting Technique](#)

[Brainstorming Techniques: How to Innovate in Groups](#)

Papers (press articles, guides, reports):

<https://medium.com/@nicolajyoung/tackling-single-use-plastic-bottles-product-design-case-study-bf03ea6f56b4>

<https://jenbuchan.sites.wm.edu/>

http://essay.utwente.nl/83066/9/83066_Britt_Muller_Bachelor_thesis_assignment.pdf

Graphical content (infographics, schemes, slide presentation):**Podcasts:**

[Ideation Podcast | Podcast on Spotify](#)

Social media posts:**MOOCs (Massive Online Open Course):****Books or book chapters:**