



# Life Cycle Discussion

understand

ideate

product

service

circular strategy



45-90 min



2-6 people



canvas  
sticky notes

Asking the right question is the first step towards change! The two canvases (product or service) reveal important questions around each phase of the life cycle and indicate many possibilities to increase positive impact or circularity.

## Description

Discuss various opportunities in the group with the help of questions and the indicated circular opportunities/needs relating to the life cycle stage.

The questions are for inspiration and they may generate new questions. Note these questions, too, they might be the most important questions to answer.

In this stage of the process all ideas can fly!

As always, write down one idea per sticky note

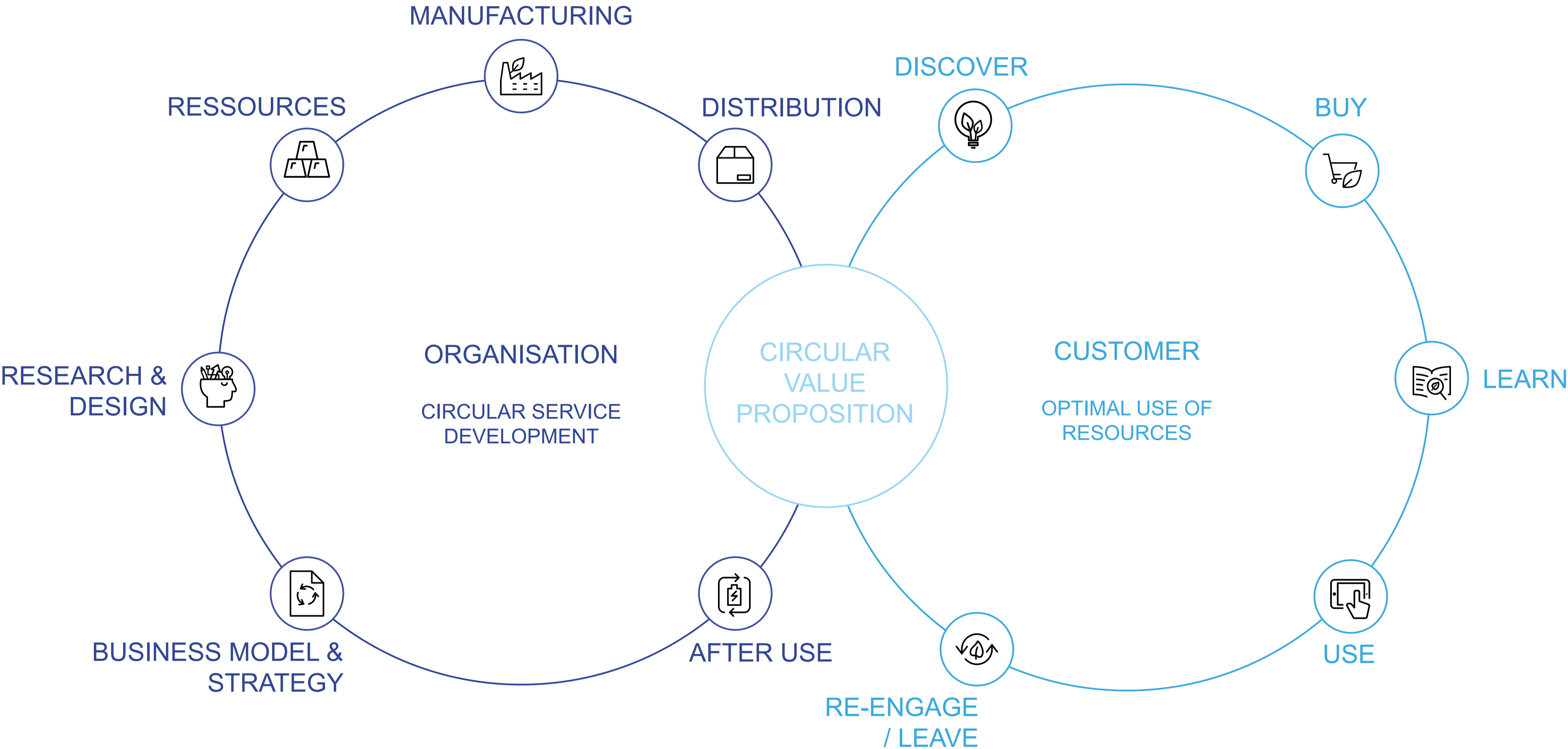
After having collected ideas in the brainstorming, discuss or vote which are the most interesting ideas for further development.

## For Facilitators

It may be helpful to guide the group here and pay attention to the questions that come up, as they can reveal hidden aspects to the challenge.

Also, make sure teams do not get lost over one specific question and remind of the overall objective from time to time. .

# CIRCULAR DESIGN STRATEGIES



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CIRCULAR SERVICE DESIGN & DEVELOPMENT      VALUE CREATION AND RECOVERY      HOW TO NUDGE USER BEHAVIOUR TOWARDS CIRCULARITY?

# LIFE CYCLE DISCUSSION 1/2 (SERVICE)

## MANUFACTURING:

Company Operations  
 Does production generate waste and what happens to it in the company and outside the company?  
 Is manufacturing energy efficient and with 100% renewable energy?  
 Could the manufacturer get the materials back and reuse them?  
 Circular Service Need / Opportunity  
 Organising reverse logistics  
 Material identification for remanufacturing purposes

## LOGISTICS:

Company Operations  
 Are the logistics optimised with regards to efficiency & the environment?  
 Can the reverse logistics be organised with the help of partnerships?  
 Are packaging solutions optimised for logistics?  
 Is logistics fossil fuel-free?  
 Circular Service Need / Opportunity  
 Organising reverse logistics  
 IoT solutions for traceability

## MATERIALS & CHEMICALS:

Company Operations  
 What are the materials used in your operations?  
 Is there any sustainability criteria for procurement?  
 Where do the materials/food come from?  
 Are they ethically sourced?  
 What about material extraction, does it support or degenerate critical ecosystems?  
 Can the materials be easily separated at the end of first lifecycle for reuse purposes?  
 Are materials virgin or secondary (recycled) and/or can they be reused recycled after 'after use' stage?  
 What do you know about chemicals used in your products?  
 What chemicals might be used in sourcing, manufacturing, production, use & after use?  
 Are there harmful substances in the processes?  
 Circular Service Opportunities  
 Material identification for reuse/refurbish/remanufacturing purposes, e.g. material passport  
 Platforms for data storage; collaboration to enable reuse of materials  
 Circular material innovations: recycled, bio-based, material as carbon sink etc.  
 Monetising avoidance of negative environmental impact/creation of positive environmental impact (e.g. Environmental Loss & Profit calculations)

## R&D/STRATEGIC GOALS:

Company Operations  
 What are the strategic goals of the company?  
 Are carbon neutrality/circularity goals addressed?  
 Are any other environmental/social goals part of the strategy?  
 Circular Service Opportunities (or Needs)  
 Service contract management (e.g. tracking products, identification of materials)  
 Data management for reuse opportunities  
 Ability to design for disassembly and reuse  
 Ability to harness circular ecosystem approach in projects  
 Carbon budgeting

## CIRCLAR BUSINESS MODEL, MARKETING & COMMUNICATIONS:

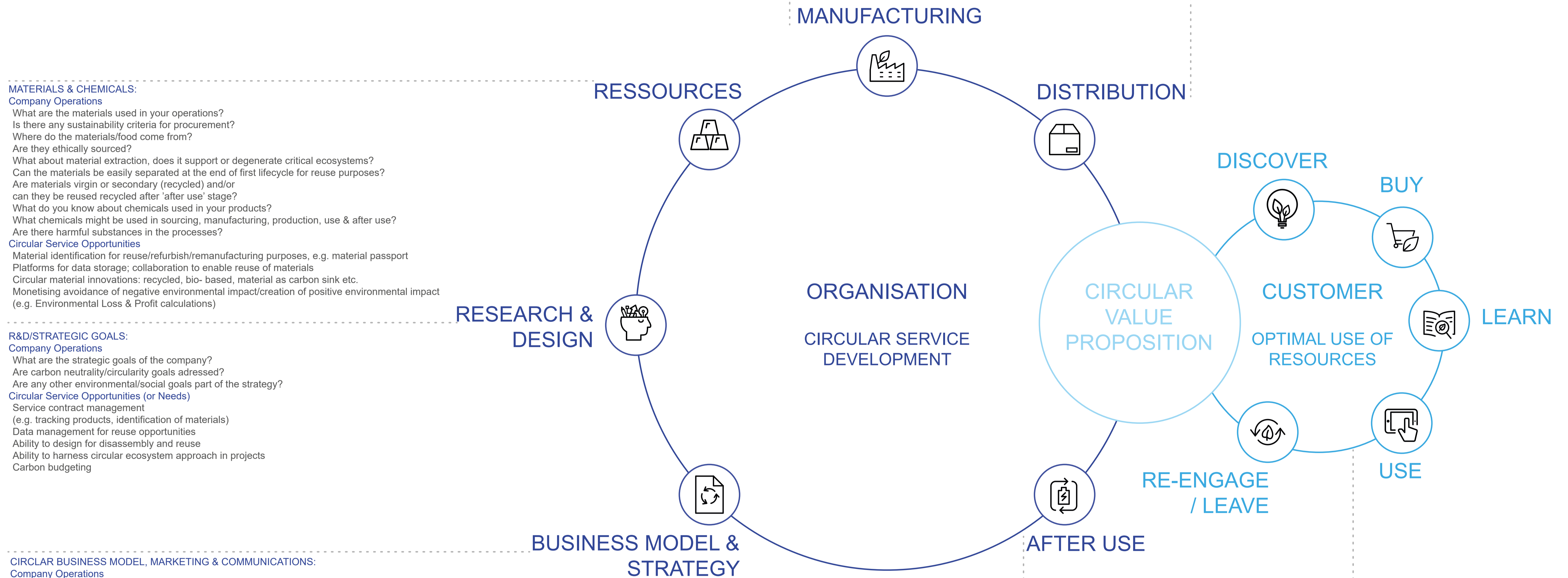
Company Operations  
 How could the business model help creating growth while using less raw materials and resource?  
 Could the product be provided as a service/leased/rented?  
 How could the product return to the retailer/third party for the next life cycle?  
 How could marketing and communications help in creating multiple lifecycles?  
 Circular Service Need / Opportunity  
 Creating circular customer relationship  
 Enabling circular behaviour (e.g. lease, maintenance, return of the product)

## USE & AFTER USE:

Company Operations  
 Is the product easy to maintain;  
 can the user prolong the lifespan of the product?  
 Are there any repair/reuse/recycling opportunities for the product?  
 What type of communications & other services would support circular behaviour?  
 Circular Service Need / Opportunity  
 IoT solutions (e.g. blockchain), digital applications improving customer experience, prolonging use phase and enabling return/reuse

## PRODUCT DESIGN:

Company Operations  
 Is the product designed for multiple lifecycles?  
 Could the product be improved through one/some of the following: ease of maintenance & ease of repair, ease of assembly & disassembly, modularity, upgradability and compatibility  
 What is the packaging solutions? Can packaging be reused or recycled?  
 Circular Service Need / Opportunity  
 IoT solutions for getting products back, predictive maintenance etc.  
 Product as service business models: service development, e.g. long/short term leasing, subscription, maintenance services etc.



# LIFE CYCLE DISCUSSION 2/2 (SERVICE)

