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Circular Business Model Planning Tool

A tool to help design business models that
extend the useful life of products and materials
and capitalize on the associated value

Circular Business Models

Circular business models aim to create **product systems that keep resources at maximum utility for as long as possible, and in which material loops at the end-of-life are closed.**


In a circular economy, companies need to develop offers and value propositions with the idea of product life extension and closing material loops in mind. This way, companies can maintain and capitalize on the embedded value in products and materials beyond a single life.

In a circular business model, companies need to adjust the elements of their business model to facilitate circular strategies, such as **repair, refurbishment, remanufacturing, and recycling.** These strategies can be operated in their own business model or enabled through partner networks and extended value chains. The value proposition includes products that are more durable, easy to repair, reuse and remanufacture, as well as services that enable collection of products.

Definition

A circular business model is how a company creates, captures, and delivers value with the value creation logic designed to improve resource efficiency through extending the useful life of products and parts and closing material loops.

Why use the circular business model planning tool?



Map the value creation logic of a company along the product life cycle.

Plan and analyze the business model elements at the relevant points of the product life cycle that help implement and capitalize on circular strategies.

Recognize inter-dependencies of business model elements across various life cycle points.

Identify opportunities to capture residual value of products and materials and increase resource efficiency.





Circular Business Model Planning Tool

Developed to help design a business model that maintains and capitalizes on the embedded value in products for as long as possible, this tool integrates business model thinking with circular principles to support the business model planning across a product's life cycle.

2. Business model elements

1. Circular business model interventions (to maintain value for as long as possible)



1. The circular business model interventions



Collect & reintegrate

To circulate products, parts, or materials, these need to be collected and reintegrated into the value chain. Generally, **reintegrating secondary production (i.e. products, parts, materials)** should be preferred over using primary materials. Collection and reintegration can, in some cases, also be organized after the first sale of a product to enable additional sale(s) or material recovery.

First sale (enabling prolonged useful life)

When bringing an offer to the market, a company should **enable a long useful life** of resources. Manufacturing companies can for instance **design for long-life, repair or re-manufacturing** of their products. Companies in the aftermarket can resell a product or its parts, e.g. through operating refurbishment, repair or remanufacturing.

Additional sale(s) of the product or parts

To further prolong the useful life of products, a company can enable additional sale(s) to other users. This can be enabled through arranging **refurbishment, repair or remanufacturing**. In some cases, only parts of the product are suitable for reintroduction to the market. Note that the application of the product and hence the value proposition and customer segments may change for the additional sale(s).

Material recovery

To prevent leakages and downcycling of materials, a company needs to enable closed material loops (e.g. **recycling**) when the end-of-life is irreversibly reached. Product and business models should be designed to facilitate maximum recovery of materials.

2. The three value dimensions of the business model and their elements (based on the Business Model Canvas*)

Value dimensions

VALUE PROPOSITION

What value is proposed and to whom?

VALUE CREATION AND DELIVERY

How is value created and delivered?

VALUE CAPTURE

How is value captured?

Business model elements

Offer;
Value proposition;
Customer segments;
Customer/partner relationships

Key activities;
Key resources/ capabilities;
Key partners;
Channels

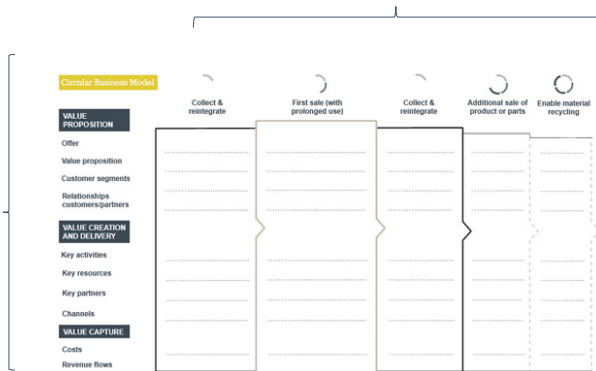
Costs;
Revenue flows

Examples of innovating the business model elements to facilitate circularity

- Innovating the offer from selling ownership of a product to selling access to it (e.g. to facilitate its collection at the end-of-life)
- Improving the value proposition through adding services (e.g. repair and upgrades)
- Adjusting customer relationships (e.g. rewards) to help remove barriers to collection of products
- Finding key partners that provide access to secondary products and materials
- Setting-up reverse logistics
- Capitalizing on the aftermarket of products
- Reducing production costs through substituting primary materials with lower-priced secondary materials

How to use the circular business model planning tool?

Business model interventions in the product life cycle to enable circularity.



Value dimensions and their business model elements.

Begin with mapping the business model for the first sale (2nd column). Fill in the other interventions (columns) as much as possible. In each column, start at the top of the bar and work your way downwards through the business model elements.

Leave blank those boxes that are not included in the current business model, i.e. business model elements that are not yet developed to realize any of the interventions. Note that not all interventions might be relevant for the business model that is being mapped.

Reflect on columns and boxes that are blank. Do these provide opportunities to capitalize on residual value of products if business model elements would be shaped differently or another circular strategy implemented?

Circular Business Model

VALUE PROPOSITION

Offer

Value proposition

Customer segments

Relationships
customers/partners

VALUE CREATION AND DELIVERY

Key activities

Key resources/
capabilities

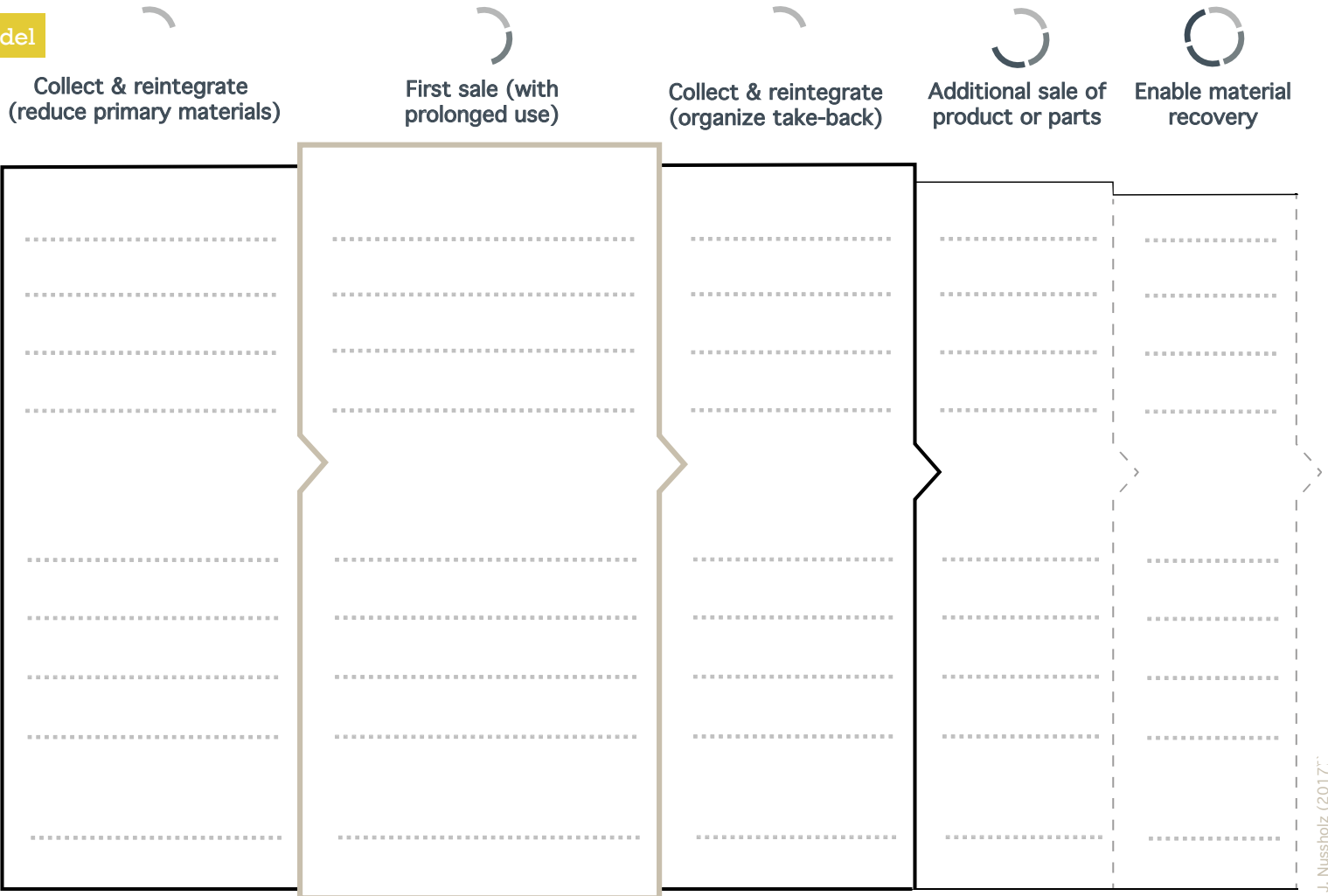
Key partners

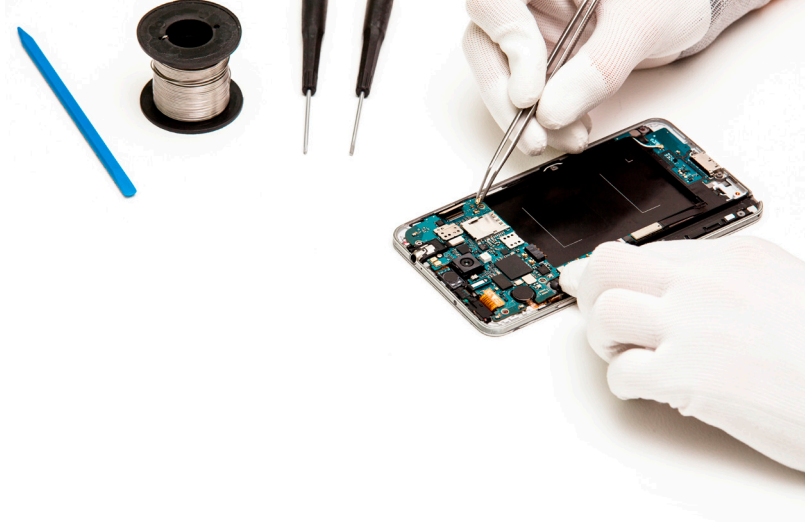
Channels

VALUE CAPTURE

Costs

Revenue flows





Case Example

FAIRPHONE

The company Fairphone offers a modular, long-life phone designed for reparability and recycling. Business model elements are shaped to facilitate collection after use, additional lives of phones, and material recycling. Through collaborating with the reuse and recycling company Teqcycle, for instance, Fairphone operates a take-back scheme for phones and facilitates resale and recycling.

Fairphone, at the moment, does not use secondary materials in their own products (e.g. recycled copper or plastic). Therefore, the first column is left blank. In the last two columns, responsibilities between Fairphone and Teqcycle are split and, thus, not all business model elements of the focal company Fairphone are filled in.

It is important to note that not all interventions have to be addressed in a circular business model. This is because in some cases, they are not economically desirable or more resource efficient. But blank columns can indicate that there may be an opportunity for embedding more circularity in the business model and that is worth exploring. To seize these opportunities, it often requires collaboration along the value chain and alignment of the business model with partner companies.

**Circular Business Model:
Fairphone**

VALUE PROPOSITION

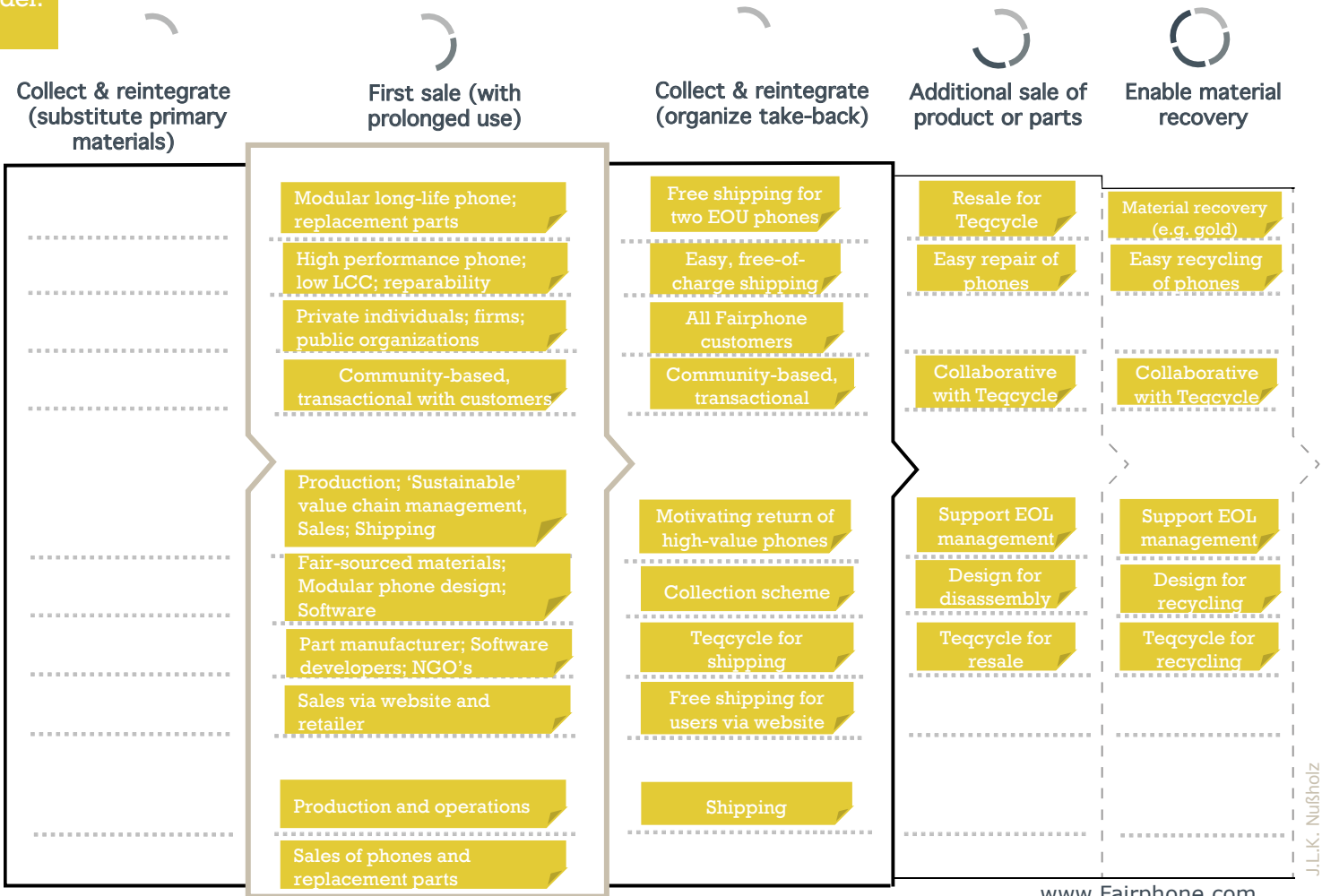
- Offer
- Value proposition
- Customer segments
- Relationships customers/partners

VALUE CREATION AND DELIVERY

- Key activities
- Key resources/capabilities
- Key partners
- Channels

VALUE CAPTURE

- Costs
- Revenue flows



Who can use the circular business model planning tool?



Business developers and entrepreneurs to develop and integrate innovative ideas that can increase circularity of an offer across the life cycle.

Managers to develop a common understanding and language among teams, internal and external stakeholders for effective implementation of business model innovations and collaboration processes.

Researchers to study business models designed for circularity and analyze the business model elements for each cycle.

Students to develop understanding of the interventions that create circularity in business models and develop own ideas.



Additional Readings

Nußholz, J. L. K. (2017). Circular Business Models: Defining a Concept and Framing an Emerging Research Field, *Sustainability*, **9**(10).

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MISTRA
Resource-Efficient and
Effective Solutions

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