



WE CONDENSE INNOVATION

DIFT

DIGITAL INTRAPRENEURS FAST TRACK

EXPLORE



SESSION 3

Business Model

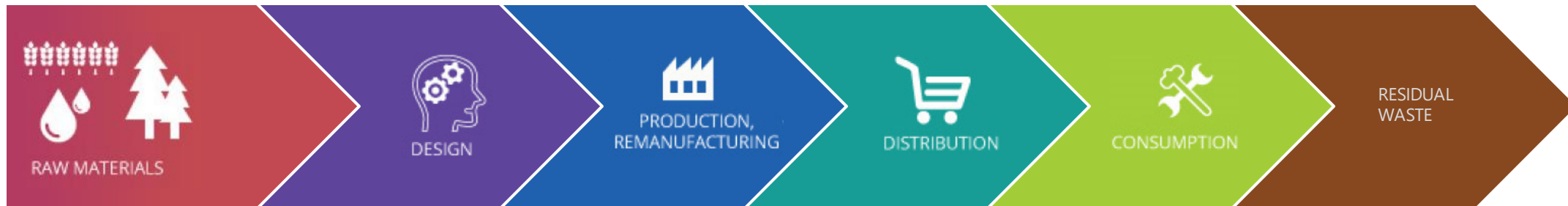
Introduction to Circular Economy

The concept of a Circular Economy refers to a system where resources are redeployed and reused, and waste is turned into inputs for further production.

From linear to circular

Linear Economy

We use to live in a Linear Economy system, whereby the «take-make-use-dispose» model is represented by a process going from the use of raw materials, to production, distribution, customer consumption and waste management.



Input = natural resources and raw materials.

Output = landfill, air pollution, unharnessed energy.

Profits for corporates = produce more & sell more & create more waste.

From linear to circular

Circular Economy

A Circular Economy model is based on a closed resource loop and full resource productivity. That is, waste streams from one industry will become resources (inputs) for an other. And, of course, this requires higher coordination and co-location of different factories within CE loops.

Input = recycled waste.

Output = input for other industries.

Profits for corporates = full resource productivity.



Circular Economy

MAKE IT WORK – BUSINESS SIDE

To make CE work a number of things need to happen at the research and production level.

- **Manufacturers** must design products considering their entire lifecycle and not just relinquish responsibility at the point of sale.
- **Designers** should create longer lasting products, reuse parts and use less material.
- Product **components** must be able to be reused whether through 'upcycling', i.e. conversion into better quality or environmental value; or 'downcycling,' conversion into lesser quality.
- The creation of fully degradable or reusable products and materials requires further **research and innovation**, particularly in the areas of nanotechnology and biotechnology.

Circular Economy

MAKE IT WORK – CONSUMER SIDE

Consumer demand will drive the spread of Circular Economy models as well.

With **rising commodity prices**, **increasing environmental legislation**, potential **green taxation**, and pure **consumer awareness**, demand is going to move toward less waste-intensive products and services. There also exists a possibility for an overhaul of the way consumers experience goods and services, based not on ownership but on final needs (see for example the **Servitization** model): where an ownership model encourages businesses to create more products to maximize profits, a final needs-based model considers the utility required and fulfils it through both tangible products and intangible services.



Circular Economy business models

Business models for the Circular Economy

THE 5 CE BUSINESS MODELS

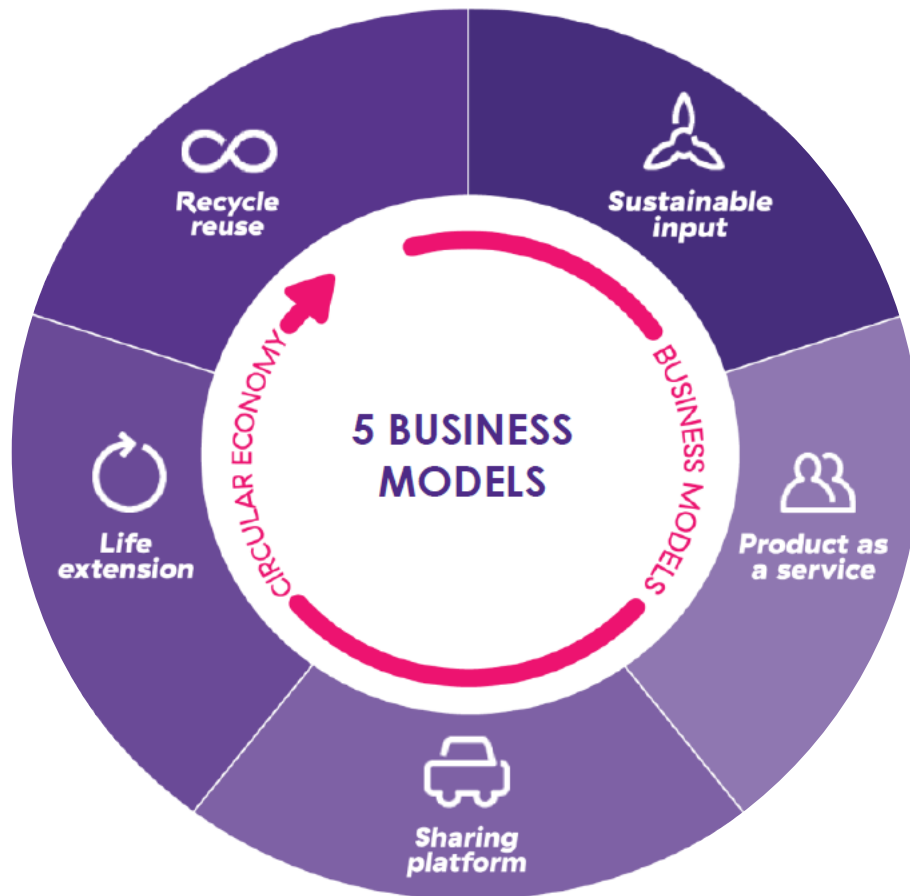
CE Business Models are operating models through which an organization can create, distribute and collect value in a way that:

- optimize resources used
- minimize environmental footprint
- create reusable waste production
- keep such conditions at scale.

5 CE Business Models have been identified, that aim at respecting the features listed above:

1. **Sustainable input**
2. **Product as a Service**
3. **Sharing platform**
4. **Life extension**
5. **Recycle reuse**

We will see in depth later.



Business models for the Circular Economy

1. SUSTAINABLE INPUT

A model that uses renewable energy and material inputs that are renewable, recyclable or biodegradable, in consecutive lifecycles.

Such model is based on the adoption of a **Circular Supply Chain**, using resources that are either renewable, biodegradable or fully recyclable **by design**. It is about understanding that using something once doesn't work, and building in circularity from the start is a way to reduce resource dependence.

Business models for the Circular Economy

1. SUSTAINABLE INPUT

Case: Coca Cola Plant Bottle

- The PlantBottle™ packaging line (fully recyclable PET) is made with 30 percent plant-based material, avoiding 430,000 metric tons of potential carbon dioxide emissions since the program started (2009)
- In 2017, 10.5 billion PlantBottle packages were sold
- In January 2019 Coca Cola announced plan to expand access PlantBottle IP also for competitors in the beverage industry (non competitors had access since 2009).

Business models for the Circular Economy

2. PRODUCT AS A SERVICE

Instead of selling a product, the company provides access to it through the sale of related services and benefits. This is basically the shift from selling product to selling services/outcomes (again, **Servitization**), and it occurs because:

- The company can provide more customized services and experiences
- Revenues are generated over the whole product lifecycle
- Relationship with customers is now deeper
- And, of course, the asset-sharing approach guarantees environmental benefit

Business models for the Circular Economy

2. PRODUCT AS A SERVICE

Case: Xerox Managed Print Services

- Xerox does not sell printers but services to keep printer fleet running, efficient and up to date – automatic maintenance, 24/7 monitoring, printers' substitution.
- In turn Customer Companies decrease OPEX and save paper.

Business models for the Circular Economy

3. SHARING PLATFORMS

Promotion of collaboration platforms putting in contact asset owners and users, enabling consumers to achieve savings but also gain profits from a shared thus optimized use of the asset.

There is a huge amount of waste tied up in **products that are unused or underutilized**. Such products implicitly create waste due to the lack of utilization and the need for other consumers to buy their own products instead. Tech-enabled **sharing platforms** play a fundamental role: they can **link supply and demand** in order to enable products sharing, renting or swapping amongst consumers.

Business models for the Circular Economy

3. SHARING PLATFORMS

Case: Bla Bla Car mobility platform

- CO2 savings in 12 months: 1.6 million tonnes
- Avg 3.9 people per car (vs 1.9 people w/o BlaBlaCar)
- With only 1.6% more cars on the road, enabled the transport of two times the number of passengers in cars (+210%), whilst reducing CO2 emissions by 26%.

Business models for the Circular Economy

4. LIFE EXTENSION

The company design and manufacturing processes are aimed at **extending the product's life**: instead of wasting energy and material components of used assets, the embedded value is maintained and improved through **reparation, upgrading, remanufacturing or upcycling**.

Life extension is then up to producer Companies, which can approach the issue by:

- Adding new features to previously sold products;
- Replace outdated components that make a product inefficient/useless, instead of replacing it entirely;
- Identifying new markets for a used/repared product, both in terms of geographies and demographics;
- Making products that purposely last more.



100%

Built with recycled materials

Business models for the Circular Economy

4. LIFE EXTENSION

Case: Patagonia

The American outdoor apparel company offers long lasting outdoor apparel, made from durable and ecological materials such as organic cotton and other recyclables.



100%

Built with recycled materials

Business models for the Circular Economy

5. RECYCLE REUSE

One or more companies set up **production and consumption systems** whereby what was previously considered as **waste is recovered, recycled or regenerated to be reused as inputs for new processes and products.**

This model promotes return chains and transforms waste into value through innovative recycling and upcycling processes.

This model enables a company to eliminate material leakage and maximize economic value of product return flows.

Case: Freitag bags

The swiss company produces high-end bags made of recycler truck tarps, used car seat belts and bicycle inner tubes that would otherwise become wastes.



Conclusions

So, why is Circular Economy so important?

One last definition

“Circular business models represent fundamentally different ways of producing and consuming goods and services. They have the potential to drive the transition towards a more resource efficient and circular economy and, in doing so, significantly reduce the environmental pressure resulting from economic activity.”

- OECD.

So, why is Circular Economy important?

LESSONS LEARNED

- CE reduces demand for **virgin resource extraction** in the long run.
- CE reduces generation of **industrial and consumer wastes**.
- Overall **environmental footprint** is considerably smaller within CE model, compared with Linear Economy model.
- Environmental outcomes of CE models also depend on CE businesses **market penetration** and **business model effectiveness**.
- Emergence of enabling **technologies**, more advanced **consumer preferences**, new **business risks** will drive increased adoption of CE models.

What do you need for your Circular Economy startup to be successful?

VALUE CREATION

Strive for multiple value creation goals (environmental, social, financial), and consider that sale of products is no longer the main parameter of success.

ESTABLISH BUSINESS PARTNERSHIPS

Circularity generally implies that several businesses work together. So build solid long-lasting partnerships where partners' interests are aligned.

FOCUS ON THE CYCLE

The central idea of CE is the organization of cycles in which product, parts or (raw) materials can be used multiple times. Start from a full understanding of your cycle-specific dynamics, costs, supply chain.

GEOGRAPHICAL PROXIMITY

When all partners are located in the same area, transport costs decline, and the collaboration process eases.

CE BUSINESS MODELS ARE DIFFERENT

Coordinated and cooperative organization of multiple value creation is a prerequisite for a CBM. This must be supported by underlying organizational and revenue models that are suitable and sustainable in the long-term.

HARD SKILLS

Competencies here are key to facilitate startup: you need to have in your team experts in topics such as waste management, product transformation, etc., who know how to structure a new circular value chain.

Policy makers must do their jobs as well

Policy can help to:

- ensure that the full environmental costs of production and consumption activities in CE systems are reflected in **market prices**;
- **improve collaboration within and across sectoral value chains** – fostering industrial clusters, promoting online material marketplaces, establishing secondary raw material certification schemes, and, more generally, facilitating cooperation within and across value chains may be worthwhile initial steps;
- **ensure that existing regulatory frameworks are consistent and fit for CE purposes**;
- improve existing educational and information programs to provide individuals with a **better understanding of the unintended consequences of their consumption choices**;
- **promote the supply of circular products or demand for them**. For the former this includes eco-design standards, strengthened extended producer responsibility (EPR) schemes, and the provision of targeted R&D funding. Examples of the latter include differentiated VAT rates, recycled content mandates, product labelling standards, and green public procurement.

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