CIRCULAR BUSINESS MODELS: HOW INDUSTRY IMPLEMENTS THE CIRCULAR ECONOMY IN PRACTICE

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Presentation at the MinGuide annual conference, Brussels, December 12th 2018

Agenda

- What is circular economy: Overview and definition
- What is a circular business model and why does it allow companies to go circular?
- Industry implementation: A roadmap for circular business model transformation
- Conclusions & recommendations

BACKGROUND TO CIRCULAR ECONOMY: A CHANGING WORLD

Growing population
Environmental pollution
Finite resources
Economic importance of critical raw materials
Supply risk

Growing demand for sustainable raw materials, food and clean water
More need to share less
Maximize and secure resource utilization
NEW POLICY FRAMEWORKS & DEMANDS

- Towards a global framework for sustainability
  UN Sustainable Development Goals

- The Waste framework directive
  Reduce the amount of waste generated, maximise recycling and re-use, limit incineration to non-recyclable materials, phase out landfilling to non-recyclable and non-recoverable waste, etc.

WHAT IS THE CIRCULAR ECONOMY?

The circular economy is a continuous positive development cycle that preserves and enhances natural capital, optimizes resource yields, and minimizes system risks.
WHAT IS A BUSINESS MODEL?

ELEMENTS OF A BUSINESS MODEL

Value creation: What is offered to the customer, e.g. what type of product or service.

Value delivery: How activities and processes are employed to deliver the promised value, e.g. what specific logistical resources and capabilities are needed.

Value capture: Is the revenue model financially viable, i.e. what are the possible revenue sources?

Customers: Who is the target customer? Refers to both existing and potential customers.
Companies need to change their business models to be able to go circular

Volvo CE strive to enhance service content to create a unique and differentiated offer to their customers (to sell "function" or "results" rather than products). Requires innovation in a firm’s business model.

Care Track Volvo CE: Reduced fuel consumption, optimization of hardware capabilities, proactive maintenance, mobility guarantees, etc.
CIRCULAR BUSINESS MODEL

“A circular business model is one in which a focal company, together with partners, uses innovation to create, capture, and deliver value to improve resource efficiency by extending the lifespan of products and parts, thereby realizing environmental, social, and economic benefits.” (Frishammar & Parida, 2019)

CIRCULARNESS

No business model is perfectly circular. It is more correct to talk about circularness. A business model may thus be more or less circular.

The rationale of how an organization creates, delivers and captures value within and within closed material loops.

NOT ONLY A FIRM-LEVEL PHENOMENON

Eco-system transformation – often several firms needs to collaborate to effectuate a circular business model in practice.

Understanding how value will be created, delivered and captured are critical for successful eco-system transformation.
EXAMPLE FROM PRACTICE: 
UPGRADING OF PRESSURE FILTER SYSTEMS 
IN PROCESS INDUSTRIES 

Pressure filters perform dewatering of minerals or ore concentrates and are critical to the production of final products, such as metals, glass or iron pellets. The upgraded filters solved bottlenecks in production.

Companies involved: LKAB, Metso, ABB, Rösch Industry, Pöyrö, Bosch Rexroth

Circular Benefits: Improved total system utilization, a significant cut in electricity use, improved raw materials flows, a decreased need for maintenance, and prolonged filter lifespan with about 50%. In addition, production costs decreased and the annual processing capacity increased.

Key circular business model challenges:
- Establishing win-win scenarios: Functional sales are opposite to product sales, and design of revenue models. Customer procurement routines settled on buying physical products.

Key circular business model lesson learned:
- Value capture needs to be redesigned as there is a "misalignment", if a company supplies a function but charges for it as a product sales.

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ROADMAP TO A CIRCULAR BUSINESS MODEL

PHASE 1: INITIATE CIRCULAR BUSINESS MODEL TRANSFORMATION
- Review of current business model to identify shortcomings, opportunity and scope of transformation.

PHASE 2: AUDIT THE CURRENT BUSINESS MODEL
- Design and develop a revised business model based on the design elements of circular economy.

PHASE 3: DESIGN AND DEVELOP A CIRCULAR BUSINESS MODEL
- Rollout of new circular business model towards selected customers/customer segments.

PHASE 4: CIRCULAR BUSINESS MODEL IMPLEMENTATION
- Launch circular business model.
PHASE 1: INITIATE CIRCULAR BUSINESS MODEL TRANSFORMATION

CIRCULAR ECONOMY GUIDELINE
Awareness of reduce, reuse (refurbishment, remanufacture), and recycle opportunities

KEY ACTIVITIES:
- Broad scanning of environmental trends
- Understanding the ecosystem in which a focal firm is embedded
- Customer analysis
- Understanding the product life cycle

OUTCOME:
- Mapping and understanding of the circular economy
  transformation requirements

PHASE 2: AUDIT THE CURRENT BUSINESS MODEL

CIRCULAR ECONOMY GUIDELINE
Targeting circular economy business model goals of triple bottom-line: financial, environmental and societal

KEY ACTIVITIES:
- Know your current business model: value creation, value delivery, value capture and customer segments
- Map shortcomings and opportunities with the current business model towards triple bottom-line effect
- Analysis potential scope of business model transformation

OUTCOME:
- The current business model made explicit, including shortcomings, opportunities and scope for transformation

PHASE 3: DESIGN AND DEVELOP A CIRCULAR BUSINESS MODEL

CIRCULAR ECONOMY GUIDELINE: BUSINESS MODEL DESIGN ELEMENTS [RESOLVE]
- Regenerate, Share, Loop, Optimize, Virtualize, and Exchange

KEY ACTIVITIES:
- Mimicry/imitation: The study or “benchmark” of circular business models from other firms and industries
- Configure the focal firm so that sufficient internal alignment is achieved
- Configure the eco-system of collaborating partners
- Finalization of new business model

OUTCOME:
- A revised business model with circular properties
Rollout of new circular business model towards selected customer segments

CIRCULAR ECONOMY GUIDELINE: REALIZING GOALS
- Fulfilling business model opportunities for achieving triple bottom-line
- Financial benefits, Environmental benefits, Social benefits

OUTCOMES:
A circular business model implemented to serve a mass market

A ROADMAP FOR CIRCULAR BUSINESS MODEL TRANSFORMATION

CONCLUDING REFLECTIONS—CIRCULAR BUSINESS MODELS
- A circular business model is not either/or; it is a question of circularness
- Transformation from linear to circular seem to happen by imitation rather than innovation
- Requires the efforts of a network or ecosystem of firms, rather than a single firm
- Cultural change and the need for new types of capabilities
- Working circular does not primarily imply added costs but rather a changed way of doing business
- New regulations (or threat thereof) the major driver for circular business model transformation
- Policy initiatives such as waste framework directive “innovation friendly” as it triggers innovation in services, products and business models
THANK YOU!

Do you want to learn more?

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