A ROADMAP FOR CIRCULAR BUSINESS MODEL IMPLEMENTATION
THIS RESEARCH PROJECT

Offers a guide for companies to establish Circular Business Models

Shows that applying a more Circular Business Model can lead to efficient use of available resources, and enhance both profits and sustainability
ABOUT OUR RESEARCH PROJECT

- 80+ interviews in more than 20 companies, focus on circular business model change and implementation
- State-of-the art in theory & practice
- Seven academic articles
- Advice and feedback to core participating companies on their firm-specific challenges
- Prime focus on large manufacturing companies and key partners in their respective ecosystem

KEY PRACTICAL OUTPUT:
Development and implementation guide for Circular Business Model transformation
RESEARCH PROJECT PHASES

1. Examining the pre-conditions for Circular Business Models

2. Identification of company and ecosystem partner challenges and development of an implementation method for Circular Business Models

3. Evaluation and validation of the implementation method for Circular Business Models in partnering companies
KEY INDUSTRY PARTNERS

REFERENCE INDUSTRY PARTNERS
A CHANGING WORLD

- Growing population
- Urbanization
- Older population

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

✓ Meet demands and expectations from government, society and customers

✓ Towards a global framework for sustainability – UN Sustainable Development Goals

✓ Companies can take the lead towards sustainable business
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.
WHY CIRCULAR ECONOMY?

LINEAR MODEL

TAKE, MAKE, USE, DISPOSE
A economic model which relies on large quantities of cheap, easily accessible materials and energy, now reaching its physical limits.

INDUSTRY EXAMPLES:
Up-front purchase of mobile phones or washing machines

CIRCULAR MODEL

MAKE, RE-MAKE, USE, RETURN
A economic model which relies on removing resource inputs and wastage by taking a holistic system perspective.

INDUSTRY EXAMPLES:
Sharing and pooling cars (leasing)
BUSINESS MODEL
Companies need to change their business models to be able to go circular
A business model defines the ways an organization creates, delivers, and captures value.

Osterwalder and Pigneur (2010)
No business model is perfectly circular.

It is more correct to talk about ‘circularness’.

A business model may thus be more or less circular.

Circular Business Models require ecosystem transformation, rather than just company transformation.

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

Mentink
WHAT COMPANIES CAN GAIN FROM IMPLEMENTING A CIRCULAR BUSINESS MODEL

- Profit is measured in social, ecological AND financial gains

- Reduced negative impact on environment

- Positive impact on society

- Renewable business and business model
UNIQUE CHARACTERISTICS OF THE CIRCULAR BUSINESS MODEL

Problems cannot be solved with the same mind set that created them

Albert Einstein
UNIQUE CHARACTERISTICS OF CIRCULAR BUSINESS MODELS

Eco-system transformation:

often several firms needs to collaborate
to effecuate a Circular Business Model

Understanding **how value** will be created,
delivered and captured are critical for
successful ecosystem transformation
ROADMAP TO A CIRCULAR BUSINESS MODEL
PHASE 1: INITIAL CIRCULAR BUSINESS MODEL TRANSFORMATION
Analysis of circular business model transformation opportunities

PHASE 2: AUDIT THE CURRENT BUSINESS MODEL
Review of current business model to identify shortcomings, opportunity and scope of transformation

PHASE 3: DESIGN AND DEVELOP A CIRCULAR BUSINESS MODEL
Design and develop a revised business model based on the design elements of circular economy

PHASE 4: CIRCULAR BUSINESS MODEL IMPLEMENTATION
Rollout of new circular business model towards selected customers/customer segments
PHASE 1:
INITIAL 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
- Analyze 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 BUSINESS MODEL DESIGN TYPES (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
CIRCULAR BUSINESS MODEL DESIGN TYPES (RESOLVE)
- Fulfilling business model opportunities for achieving triple bottom-line
- Financial benefits, Environmental benefits, Societal benefits

KEY ACTIVITIES:
Small-scale pilot testing
- Evaluate positive and negative effect of the business model elements on triple bottom-line
- Evaluate revenue and cost a with each business model element
- Reconfigure ecosystem collaboration
- Additional and continuous business model adjustments
- Additional changes within and across key business model dimensions

OUTCOME:
- A circular business model implemented to serve a mass-market
# A FRAMEWORK FOR CIRCULAR BUSINESS MODEL TRANSFORMATION

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| - Recycle  
- Reuse (e.g., refurbishment and remanufacturing)  
- Reduce | - Financial benefits  
- Environmental benefits  
- Societal benefits | - Regenerate  
- Share  
- Loop  
- Optimize  
- Virtualize  
- Exchange | - Financial benefits  
- Environmental benefits  
- Societal benefits | - Financial benefits  
- Environmental benefits  
- Societal benefits |

| Key activities (What to do) | Broad scanning of environmental trends (political-, economic-, social-, technological-, legal- and environmental factors)  
Understand ecosystem in which a focal firm is embedded (partners, stakeholders, their interests and needs, tensions etc.)  
Customer analysis: Who are the heart of the customer base? For whom are we creating value? What are customer dynamics?  
Understand product life cycle. | Map the current business model by explicating:  
- Value creation ; Value delivery ; Value capture; Customers or customer segments  
Map shortcomings and opportunities with the current business model towards triple bottom-line effect:  
- Key shortcomings in Value creation, Value delivery, Value capture, Customers or customer segments  
Key opportunities in Value creation, Value delivery, Value capture, Customers or customer segments  
Analyze potential scope of business model transformation: Number of business model dimensions subject to change  
- Magnitude of change within each dimension  
- Analysis of the ecosystem in which a focal firm is embedded (partners, stakeholders, their interests and needs, tensions etc.) | Mimicry/imitation: The study or “benchmark” of circular business models from other firms and industries  
Configure the focal firm so as sufficient internal alignment is achieved:  
- Alignment of culture, logic and incentives among internal departments  
Configure the eco-system of collaborating partners:  
- Alignment of processes, activities, contributions, roles, incentives, and perception of business model dimensions  
Finalization of new business model:  
- Revised Value creation, Value delivery, Value capture, Customers or customer segments  
- Assuring the different business model dimension fit together as a coherent whole | Small-scale pilot testing:  
- Evaluate positive and negative effect of the business model elements on triple bottom-line  
- Evaluate revenue and cost associated with each business model element  
- Reconfigure new or revised ecosystem collaboration |

| Phase outcomes: | Mapping and understanding of the circular economy transformation requirements  
The current business model made explicit, including shortcomings, opportunities and scope for transformation | A revised business model with circular properties | A circular business model implemented to serve a mass-market |
EXAMPLES OF TRANSITION TO CIRCULAR BUSINESS MODEL
Pressure filters perform dewatering of minerals or ore concentrates and are critical to the production of final products, such as metals, fines or iron pellets, in process industries. The upgraded filters solved bottlenecks in production.

Companies involved: LKAB, Boliden, Metso, ABB, Remard Industry, Pöyrö, Bosch Rexroth

Circular business model: Optimise business model

Circular Benefits: Improved total system utilization, a significant cut in electricity use/energy costs, 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 scenario
- Functional sales (as opposite to product sales)
- Customer procurement routines settled on buying physical products

Key circular business model lesson learned:
- Value capture needs be redesigned as there is a “misalignment” if a company supplies a function but charges for it like up-front product sales
EXAMPLE FROM OUR PROJECT:
GOLD CUSTOMER SUPPORT AGREEMENTS

Customer support agreements (CSA) are tailored to include tools and services to unique customer and generate value. These packages offer a number of benefits for business, such as strong partnership between provider and customer, focus on customer core business, maximize uptime potential and effective cost control.

Focusing on high-end customers

**Companies involved:** Volvo Construction Equipment, Swecon, FAMCO, SMT, Kuiken, CJD

**Circular benefits:** Enhanced life of the equipment through better maintenance and service contract. Opportunity for availability based grantee for pre-decided number of working hours and maximize uptime.
Flexible payment suction for customers

**Key circular business model challenges:**
- Alignment of incentives between VCE and global service delivery partners
- Establishing win-win sceneries for VCE, service delivery partners and customers
- Delivering on promised function

**Key circular business model lesson learned:**
- Capability development within global service delivery network
- Identifying diverse inventive models for diverse delivery partners
CONCLUDING REFLECTIONS—CIRCULAR BUSINESS MODEL

- A circular business model is not either/or, it is circularness
- Transition seem to happen by imitation rather than innovation
- Transformation require changes in two or more of the key business model dimensions
- Requires the efforts of a network or ecosystem of firms, rather than a single firm
- Transition to a circular business model also changes the firm internally
- Working within eco-systems opens up for new types of collaboration
- Cultural change and the need for new types of capabilities.
- Working circular does not mean added cost but a changed way of doing business
NEXT STEP TOWARDS A CIRCULAR BUSINESS MODEL

- Where can you Reduce, Reuse & Recycle?
- What are Financial, Environmental and Societal gains?
- What can be Regenerated, Shared, Looped, Optimized, and Virtulized?
THANK YOU!