Sustainable business models and circular economy
Why a new business paradigm matters
Wicked issues..

- No clear definitive formulation or end point;
- No true/false answer but rather a good or bad ‘solution’;
- Difficult to ‘test’ the fit of solutions;
- Every solution trial counts
- No clear range of solutions
- Every problem is unique wicked issues can be a symptom of another problem;
- Causations are unclear,
- Implementing solutions is hard

(Rittel and Webber, 1973)
A new paradigm is needed for

- Systems change
- To tackle Wicked Issues
Challenges and opportunities

- The most accepted and strived for business forms (e.g. plc) still seek to maximise shareholder value and are based on continuous growth.
- Negative and positive outcomes extend beyond mission and legal accountability.
- Organisations may not be fully aware of the full range of value outcomes of their business operations.

- Need to transform the enterprise’s purpose and accountability to reduce negative value and enhance positive sustainable value creation.
- Need for systemic business model innovation.
- Integrate sustainability into the core purpose of the firm through business model innovation.
The real issue
Sustainable Business Model Framework – Delivery of Value

Adapted from: www.businessmodelgeneration.com
Sustainability & Circularity

Sustainability

Circularity

Move to services
Circular Business Models

Sustainable Business Models

Circular Business Models

PSS
Sustainability: Triple bottom line

- “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” (WECD, 1987)

- Operationalized often as: People, Profit, Planet (Elkington, 1997)

- Sustainability oriented innovation then is corporate innovation with a positive environmental and societal intent but also a clear profit
Circularity: Planet & Profit focus

- Long life, optimal reuse, refurbishment, remanufacturing, and recycling of products and resources
  - Slowing
  - Closing
  - Narrowing
    (Kraaijenhagen et al., 2016 based on Stahel, 1994)

- An economy that is restorative and regenerative by design
  - Preserve and enhance natural capital
  - Optimize resource yields
  - Fostering systems effectiveness
    (Ellen MacArthur Foundation, 2015)
Circularity: Resources and profits

- Resource use: Decrease in resource use is associated with increased profit.

- Profit: Increase in profit is directly proportional to resource use.
Other potential ‘business cases’

- Cost savings
- New forms of revenues and diversification
- Source of innovation and collaboration
- Driver of change and transition
- Long term competitiveness
- Resource conservation, driver for sustainable development
- Customer interest and new customer attraction
- Compliance & being ahead of legislation
- Business resilience
- Raw material security
- Hedging against future price shocks
- Meaningful jobs & being an attractive employer
- …
Circular Economy

- Slowing
- Closing
- (Narrowing)
Circularity: Slowing, closing, Narrowing

Source: Bocken et al. (2016)
Slowing resource loops

Source: Vitsoe, Patagonia and Bugaboo websites
Closing loops

Source: NetWorks, RAW for the Oceans and TU Delft Plakkies websites
Closing loops

Source: Short et al. (2015)
Kraaijenhagen et al. (2016)
Closing and slowing loops

COMMON THREADS INITIATIVE

REDUCE
WE make useful gear that lasts a long time
YOU don’t buy what you don’t need

REPAIR
WE help you repair your Patagonia gear
YOU pledge to fix what’s broken

REUSE
WE help find a home for Patagonia gear
you no longer need
YOU sell or pass it on

RECYCLE
WE will take back your Patagonia gear
that is worn out
YOU pledge to keep your stuff out of
the landfill and incinerator

REIMAGINE
TOGETHER we reimagine a world where we take
only what nature can replace

Source: Patagonia and Mud Jeans websites
By focusing on *Circularity only*, what innovations might we miss?
## Sustainable Business Model Archetypes

### Major innovation types

<table>
<thead>
<tr>
<th>Archetypes</th>
<th>Environmental</th>
<th>Social</th>
<th>Economical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximise material and energy efficiency</td>
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<tr>
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<tr>
<td>Increased functionality</td>
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### Innovations that fit the archetype

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</tbody>
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### Environmental

- Maximise material and energy efficiency
  - Circularity and closed loops
    - Circular economy, closed loop
    - Cradle-2-Cradle
    - Industrial symbiosis
    - Reuse, recycle, re-manufacture
    - Take back management
    - Slow manufacturing
- Substitute with renewables and natural processes
  - Move from non-renewable to renewable energy sources
    - Solar and wind-power based energy innovations
- Deliver functionality rather than ownership
  - Product-oriented PSS – maintenance, extended warranty
  - Use oriented PSS – rental, lease, shared
  - Result-oriented PSS – Pay per use
- Adopt a stewardship role
  - Biodiversity protection
  - Consumer care - promote consumer health and well-being
  - Ethical trade (fair trade)
  - Choice editing by retailers
  - Radical transparency about environmental/societal impacts
- Encourage sufficiency
  - Consumer education, communication
  - Demand management
  - Slow fashion
  - Product longevity
  - Premium branding/limited availability
  - Frugal business

### Social

- Repurpose for society/environment
  - Not for profit
    - Hybrid businesses, Social enterprise (for profit)
- Inclusive value creation
  - Collaborative approaches (sourcing, production, lobbying)
- Develop sustainable scale up solutions
  - Incubators and Entrepreneur support models
  - Open innovation (platforms)
  - Patient/slow capital
  - Impact investing/capital

### Sources:
Examples

Closing resource loops

Substitute with renewables

SolarCity

Solar Sister

sunny money

Environmental

Optimise resource efficiency

Net-Works

AN INCLUSIVE BUSINESS WITH A POSITIVE SO

Sustainable value creation

Economic

Repurpose for society/environment

Inclusive value creation

Economic

Deliver functionality, not ownership

Social

Adopt a stewardship role

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What tools might we need in the move to a Circular Economy?
10 Steps to a circular business

Book: Circular Business

Step 1: Leadership
Step 2: Vision and purpose
Step 3: Selecting your pilot
Step 4: Sketching the system
Step 5: Visioning with partners
Step 6: Internal transformation
Step 7: Circular business model innovation
Step 8: Internalising externalities
Step 9: Contract
Step 10: Pilot, evaluate, learn, adapt and scale-up

www.circularcollaboration.com
Value mapping tool for Sustainable Business Modelling

- **Value destroyed** - negative outcomes of the business (traditionally referred to as ‘negative externalities’); damaging social and environmental impacts of business

- **Value missed or surplus** – cases where stakeholders fail to capitalise on existing assets, capabilities and resources, are operating below best practice, or fail to receive benefits they seek from the network; waste

- **Value opportunities** - new forms of value for existing and new stakeholders

Source: Short et al., (2012), Bocken et al., (2013)
Questions?

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References

- Ellen MacArthur Foundation: http://www.ellenmacarthurfoundation.org/