From Financial Risks of Unsustainability to SMART Sustainable Governance

Professor Beate Sjåfjell
University of Oslo

Professor María Jesús Muñoz Torres
University Jaume I

@UniOsloSMART #SMARTproject
The Financial Risks of Unsustainability

- Physical risks
- Transitional risks:
  - Policy risks
  - Liability risks
  - Technology change (systems change)
- Ultimately beyond ‘business case’
Main aspects of the SMART Sustainable Governance Model

• A governance model to (re)shape a business so that it contributes to sustainability
• High level commitment, strategy implementation, integration & continuous follow-up
• Redefined purpose for the business: to create sustainable value within planetary boundaries
• Revised role & duty of the corporate board: to promote & secure the creation of sustainable value within planetary boundaries
General Meeting

GM commitment

Scope & tiers

Corporate Board

Board commitment

Sustainability assessment

Management

Integration throughout organisation

Continuous improvement process

Employees

Improved internal & external communication
Main objective:
To help companies to assess and communicate sustainability results to internal and external stakeholders.
SMART Sustainability Assessment Tool

CIRCULAR ECONOMY CONTEXT
Principle 1: balance among three sustainability dimensions

Principle 4: Life-Cycle Thinking

Supply Chain Framework in accordance with Circular Economy, Sustainable Development Goals (SDGs), Planetary Boundaries and Social Foundation

Principle 2: Inter-generational perspective

Principle 3: Stakeholder Approach
SMART Sustainability Assessment Tool

Connected with SMART Sustainable Governance Model
Footprint methodologies to identify and measure environmental, social and economic impacts
Second phase
SMART Sustainability Assessment Tool

Organization Environmental Footprint (EC, 2013) – Life cycle assessment

Environmental Footprint Impact category
- Climate Change
- Ozone Depletion
- Ecotoxicity-Fresh Water
- Human Toxicity-Cancer Effects
- Human Toxicity-Non Cancer Effects
- Particulate Matter/Respiratory Inorganics
- Ionising Radiation-Human Health Effects
- Photochemical Ozone Formation
- Acidification
- Eutrophication-Terrestrial
- Eutrophication-Aquatic
- Resource Depletion-Water
- Resource Depletion-Mineral, Fossil
- Land Use
Stakeholder categories:
- Workers/employees
- Local community
- Society (national and global)
- Consumers (covering end-consumers as well as the consumers who are part of each step of the supply chain)
- Value chain actors

Impact categories:
- Midpoints
- Human rights
- Working conditions
- Health and safety
- Cultural heritage
- Governance
- Socio-economic repercussions

Subcategories of an Impact Category seek to describe the overall meaning of the indicators used to represent this subcategory. This is done through a set of indicators used to represent this Category (e.g., Impact category: Working conditions, Subcategory: Social security and benefits, inventory indicators: percentage of employees covered by 1) health insurance, 2) retirement insurance, 3) paid maternity and paternity leaves, 4) legal contracts, etc.).
Economic and Financial Footprint

Businesses and industries could quantify their economic footprint by measuring their direct, indirect, and induced economic contributions (upstream and downstream), at the international, national, state, county, and other levels.

- to extract technological and financial rents
- to transfer funds around the world and shift accounting profits to low-tax jurisdictions.
- Wage inequalities.

Impact categories

- **Business Survivorship** (profitability, Net turn-over...)
- **Taxes** (Cost to taxpayers or taxes not paid: effective tax rate/theoretic by country)
- **Efficiency** (Gross value added rate, investment intensity in R&D)
- **Compliance** (Value of compensations, fines and penalties, and taxes paid due to non-compliance)
- **Employment** (direct and indirect)
- **Inequality** (Income or benefit distribution along supply chain)
The critical points of the company are determined.
Results obtained in phase 2 and 3 are considered to evaluate sustainability performance.
Communicate sustainability results to internal and external stakeholders.
**SMART Sustainability Assessment Tool**

**Traceability** direct and indirect impacts of the company along their value chain.

**Assurance.** Auditing process

**Interoperability** mechanisms

**Continuous improvement**
An Assessment Tool to Integrate Sustainability Principles into the Global Supply Chain

María Jesús Muñoz-Torres *, María Ángeles Fernández-Izquierdo, Juana M. Rivera-Lirio, Idoya Ferrero-Ferrero, Elena Escrig-Olmedo, José Vicente Gisbert-Navarro and María Chiara Marullo

Department of Finance and Accounting, Universitat Jaume I, Campus del Riu Sec—Avda. Vicent Sos Baynat s/n, 12071 Castellón de la Plana, Spain; afemand@uji.es (M.A.F.I.); jrivera@uji.es (J.M.R.L.); ferrero@uji.es (I.F.F.); eescrig@uji.es (E.E.O.); gisbertj@uji.es (J.V.G.N.); marullo@uji.es (M.C.M)

* Correspondence: munoz@uji.es; Tel.: +34-96-728-572

Received: 29 December 2017; Accepted: 14 February 2018; Published: 16 February 2018
Figure 2. Number of organizations and economic activities analysed by textile products life cycle.
Mobile Phones Life Cycle

Figure 2. Number of organizations and economic activities analysed by mobile phone life cycle
## Textiles versus Mobile Phones: Environmental Impacts

### Table 1: Environmental Footprint impact category and company indicators

<table>
<thead>
<tr>
<th>Impact Category</th>
<th>(1) Raw material acquisition</th>
<th>(2) Carding and spinning</th>
<th>(3) Dyeing, washing and rinsing</th>
<th>(4) Transportation</th>
<th>(5) Garment manufacturing</th>
<th>(6) Transportation and distribution</th>
<th>(7) Consumer use</th>
<th>(8) Disposal/reuse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Climate Change</td>
<td>Green</td>
<td>Yellow</td>
<td>Yellow</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ozone Depletion</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td></td>
</tr>
<tr>
<td>Ecotoxicity – fresh water</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td></td>
</tr>
<tr>
<td>Human Toxicity – cancer effects</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td></td>
</tr>
<tr>
<td>Human Toxicity – non-cancer effects</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td></td>
</tr>
<tr>
<td>Particulate Matter/ Respiratory Inorganics</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td></td>
</tr>
<tr>
<td>Ionising Radiation – human health effects</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td></td>
</tr>
<tr>
<td>Photochemical Ozone Formation</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td></td>
</tr>
<tr>
<td>Acidification</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td></td>
</tr>
<tr>
<td>Eutrophication – terrestrial</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td></td>
</tr>
<tr>
<td>Eutrophication – aquatic</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td></td>
</tr>
<tr>
<td>Resource Depletion – water</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td></td>
</tr>
<tr>
<td>Resource Depletion – mineral, fossil</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td></td>
</tr>
<tr>
<td>Land Use</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td>Yellow</td>
<td></td>
</tr>
</tbody>
</table>

Green means that 100% of the companies in the sample define at least one indicator linked with the impact category.
Red means that none of the companies define an indicator linked with the impact category.
Yellow means any other possibility (that at least one company, but could be more, define an indicator linked with the impact category).
Textiles versus Mobile Phones: Social Impacts

<table>
<thead>
<tr>
<th>Stakeholder Categories</th>
<th>Subcategories</th>
<th>Life Cycle Phases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workers/ Employees</td>
<td>Freedom of association</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Child Labour</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fair salary</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Working hours</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Forced labour</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Equal opportunities/Discrimination</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Health and safety</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Social benefits/Security</td>
<td></td>
</tr>
<tr>
<td>Consumers</td>
<td>Health and safety</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Feedback mechanisms</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consumer privacy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Transparency</td>
<td></td>
</tr>
<tr>
<td></td>
<td>End of life responsibility</td>
<td></td>
</tr>
<tr>
<td>Local Community</td>
<td>Access to material resources</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Access to natural resources</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Deindustrialisation and migration</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cultural heritage</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Safe and healthy living conditions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Respect for indigenous rights</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Community engagement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Local employment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Secure living conditions</td>
<td></td>
</tr>
<tr>
<td>Society</td>
<td>Public commitments to sustainable towns</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Contribution to economic development</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prevention and mitigation of armed conflicts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Technology development</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Corruption</td>
<td></td>
</tr>
<tr>
<td>Value chain actors (not including consumers)</td>
<td>Fair competition</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Promoting social responsibility</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Supplier relationship</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Respect of intellectual property rights</td>
<td></td>
</tr>
</tbody>
</table>

(1) Raw material acquisition  
(2) Bulk processing  
(3) Transportation  
(4) Engineered/Specialty Material  
(5) Manufacture/Assembly  
(6) Transportation and distribution  
(7) Consumer use  
(8) Disposal/reuse
Table 3: Proposed Economic Footprint impact categories and company indicators

<table>
<thead>
<tr>
<th>Impact Category</th>
<th>(1) Raw material acquisition</th>
<th>(2) Carding and spinning</th>
<th>(3) Dyeing, washing and rising</th>
<th>(4) Transportation</th>
<th>(5) Garment manufacturing</th>
<th>(6) Transportation and distribution</th>
<th>(7) Consumer use</th>
<th>(8) Disposal/reuse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Survivorship</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taxes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efficiency</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compliance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inequality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) Raw material acquisition  
(2) Carding and spinning  
(3) Dyeing, washing and rising  
(4) Transportation  
(5) Garment manufacturing  
(6) Transportation and distribution  
(7) Consumer use  
(8) Disposal/reuse  

(1) Raw material acquisition  
(2) Bulk processing  
(3) Transportation  
(4) Engineered / Specialty Material  
(5) Manufacture / Assembly  
(6) Transportation and distribution  
(7) Consumer use  
(8) Disposal/reuse
Key takeaways:

• This Sustainability Assessment Tool seeks to measure the impacts beyond the organizational boundaries.

• There is a lack of public information regarding impacts.

• Information from companies is connected with institutional support.

• In SMART we are working to improve sustainability assessments in a holistic, life-cycle thinking and innovative way.
Creating Change with SMART

SMART Pilot Projects
SMART Sustainable Governance Programme
SMART Business & Investor Forums

More at: smart.uio.no/creating-change
Let’s continue the conversation!

Contact information:

SMART website: smart.uio.no

@UniOsloSMART #SMARTproject

@BeateSjafjell @mjmunoztorres

E-mail: smart-admin@jus.uio.no

SMART is funded by the European Union under the Horizon 2020 programme, grant agreement 693642. The contents of this presentation are the sole responsibility of the SMART project and do not necessarily reflect the views of the European Union.