COLLABORATIVE LIFE CYCLE ACTIVITIES TO SET UP NEW BUSINESS MODELS AND CREATE SHARED VALUE

Dr. Stéphane MOREL, Pr. Franck AGGERI
ECO-INNOVATION AND NEW BUSINESS

- Additional service
- Territory oriented
- Object oriented
- Service economy
- Circular economy
- Additional function
- Eco Efficiency
- Material

Morel & al (2013) AVNIR Congress
ECO-INNOVATION AND NEW BUSINESS ARE

“DISCOVERY DRIVEN”

(Sosna et al., 2010 ; McGrath, 2010)

“COLLECTIVE ACTION”

(Osterwalder, 2010 ; Hatchuel, 2000)
ARE YOU READY TO GO THERE?

"We cannot become what we need to be by remaining what we are."

Max DePree

lionel-soubeyran.fr/
EXPANDING LIFE CYCLE THINKING
ORGANISATIONAL MATURITY LEVELS

MOREL (2014), Collaborative Life Cycle Activites
LALOUX (2014), Reinventing organization
WILBER (2008), Le livre de la Vision Intégrale

Compliant → Fragmented → Integrated → Extended → Integral

Licence to produce → Collaborating within the organisation → Collaborating with the stakeholders
### MANAGEMENT x MATURITY = ECOTRANSITION MATRIX

<table>
<thead>
<tr>
<th>Deployment of a sustainable life cycle management</th>
<th>Plan</th>
<th>Enable</th>
<th>Evaluate</th>
<th>Eco-Design</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Isolated projects, difficult for employees to see links to company goals. No formal assessment, anecdotal observations only</strong></td>
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<td>Lagging financial indicators &amp; reports. Training ad hoc; IT systems fragmented</td>
<td>Key processes standardized. High leverage opportunities for common tools identified and deployed in some areas.</td>
<td>Design and development in functional silos. Environmental concern limited to compliance.</td>
<td>Reactive business planning Internal perspective, “sell what we make”</td>
</tr>
<tr>
<td><strong>Key goals of plan understood by most employees. Process owners engaged in developing project plans.</strong></td>
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<td>Some use of non-financial data, poorly integrated and inconsistent. Elements of common IT infrastructure in place.</td>
<td>Plans in place to deploy common tools. Variation analysis extended to select suppliers to improve resiliency to external shocks</td>
<td>Manufacturing and assembly considered in design. Pollution prevention/ waste minimization focus, some integration.</td>
<td>Competing views of SD, efforts not consistent or aligned</td>
</tr>
<tr>
<td><strong>Project plans, coordinated with overall company plan. Formal project management process to monitor against milestones. Review with corrective action to ensure targets achieved</strong></td>
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<td>Partial integration with traditional company IT system. Personal development in place for all employees, sustainability training &amp; development.</td>
<td>Common tools &amp; systems in place. Data sharing protocols defined for key stakeholders. Robust design &amp; used to optimize product systems life cycle.</td>
<td>Key customers participate in design projects. Impact of design trades on customer value. Material &amp; energy env impacts. Well established cross-functional teams</td>
<td>Competitive benefit of SD recognized, but not well integrated. Strategic planning explicitly considers key stakeholders</td>
</tr>
<tr>
<td><strong>Detailed plans coordinated with value chain partners, sharing of best practices. Progress monitored relative to both financial and non-financial targets</strong></td>
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<td>Information system integrates financial and non-financial data to enable sustainability assessments.</td>
<td>Common tools, Formal process to balance efficiency and resiliency provides significant benefits to all stakeholders across product system life cycle.</td>
<td>Customer actively integrated at multiple levels. Quantification of life cycle impacts routine for new product family.</td>
<td>Customer definition of value guides strategy. How the organization contributes to the success of value chain defined &amp; incorporated into most programs</td>
</tr>
<tr>
<td><strong>Stakeholder process in place to monitor progress against broader social goals. Value chain partners contribute openly to public dialogue.</strong></td>
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<td>Opportunities to extend learning with participation in stakeholder outreach &amp; partnerships. Value chain systems interoperable to support life cycle modeling</td>
<td>Common tools &amp; systems in place. Data sharing protocols defined for key stakeholders. Robust design &amp; used to optimize product systems life cycle.</td>
<td>Life cycle impacts evaluated with sustainability measures. Stakeholders engaged proactively to optimize process impacts from social perspective.</td>
<td>Effective integration/ collaboration of value chain partners to achieve competitive business advantage &amp; deliver positive social/environmental benefits</td>
</tr>
</tbody>
</table>

**PANEL AND METHODOLOGY**

**PANEL**

FAVI
ALSTOM
POLYNT COMPOSITES
HELIOPAC
HAPPY CHIC
LE RELAIS-MÉTISSE

**GOAL**

« Assessing the maturity of the company/site and develop transition activities »

**METHOD**

For each managerial stake:

Maturity evaluation on 5 levels:
- Conforme – Fragmenté – Intégré – Etendu – Intégral

**Date:**
May-June 2016

**Support:**
ECOTRANSITION MATRIX

**Commanditaires:**
- CD2E
- GT Clients-Fournisseurs
Plan

Enable

Evaluate

Eco-Design

Value

Deployment of a sustainable life cycle management

CD2E WORKSHOP – ON GOING SELF EVALUATION

Stéphane MOREL - Centre de Gestion Scientifique, Mines ParisTech
LEARNINGS

**REVEAL** and share all the progress done so far by the organization

**DISCUSS** the discrepancies of perception inside the companies

**PROVIDE** key actions to consolidate a level and others to move on to the next level

**BENCHMARK** the supply chain
CD2E WORKSHOP – ON GOING SETTING ACTION PLANS

www.house-fr.com/
Épisode 7.16
“Passer le cap”

FOCUS GROUP approach
by questionning the EcoTransition Self Assessment and the Past-Present-Future matrix
“COLLECTIVE ACTION NEEDS TO BE ORGANISED”
Segrestin (2003)
LCA EXPERT AND STAKEHOLDERS DISCUSSIONS

Expert

Complicated answers...

Purpose

Simple questions

Stakeholders

Colca canyon - www.perucusco.com
COLLABORATION IS PEOPLE CENTERED

"Divide each difficulty into as many parts as is feasible and necessary to resolve it."

Descartes (1637)

Colca canyon - www.perucusco.com
“Divide each difficulty into as many parts as is feasible and necessary to resolve it.”

Descartes (1637)

COLLABORATIVE LCA (Co-LCA)  5E Scheme

E1: EXPLORE

Purpose

People

E2: ENGAGE

E3: ELUCIDATE

Action

Colca canyon - www.perucusco.com
“Divide each difficulty into as many parts as is feasible and necessary to resolve it.”

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COLLABORATIVE LCA (Co-LCA) 5E Scheme

E1: EXPLORE

E2: ENGAGE

E3: ELUCIDATE

E4: EVALUATE

E5: EXTEND

Purpose

People

Action

Colca canyon - www.perucusco.com
Co-LCA EXPERIMENTATIONS
AND COLLABORATIVE TOOLS ADAPTATION

Functional unit definition?

Customer survey
Journey travel
Personas
Motivation matrix

Choice of impact categories?

Pairwise votes
Value choices
Data inventories?

Critical review?

Value choices
Pairwise votes
Data inventories?

Meta Analysis

Stéphane MOREL - Centre de Gestion Scientifique, Mines ParisTech
TANGIBLE BENEFITS

“CREATING SHARED VALUE"

CREATE NEW TANGIBLE BENEFITS
ADDITIONAL AND SHARED

"Divide each difficulty into as many parts as is feasible and necessary to resolve it."
Descartes (1637)

annares.wordpress.com

blog.tweaksocialmedia.com

adventureout.com
PANEL AND METHODOLOGY

**GOAL**

« Study the tangible benefits, for the members, of the collaborative LCA research SCORELCA »

**METHOD** (Morel 2014)

- Open question: Global perception
- 9 semi open question on 4 benefits: Financial, Image, Skills and Decision
- Scale rating: -1 / 0 / +1 / +2

**PANEL**

- **Dir DD**
- **Expert**
- **Man.**
- **Ing.**

**Public**

- **Privé**

- 80%

**Expérience :**

- 1990
- 2000
- 2010

**Date:**

9, 10, 11 mai 2016

**Support:**

Web and phone meetings

**Comissioners :**

- TOTAL
- EDF
- ENGIE
- VEOLIA
- ARCELORMITTAL
- SOLAYE
- SNCF
- CSTB
CREATE NEW AND SHARED BENEFITS
ASSESSMENT OF A LCA RESEARCH NETWORK

V1.1 COST REDUCTION
V1.2 VALUE CREATION FOR THE PRODUCT
V2.1 NEW CONCEPT ACHIEVING FIRST MOVER
V2.2 QUALITY & DELAY
V2.3 VALUE CREATION FOR THE BRAND
V3.1 DECISION: ANTICIPATION & REACTIVITY
V3.2 NEW MARKETS

V4.1 KNOWLEDGE SHARING & TRANSFER
V4.2 RESOURCE CAPABILITY

FINANCIAL
IMAGE
SKILLS
DECISION
GLOBAL
# LEARNINGS

**For all members**

**SCORELCA association**

fulfill its main goals =

- V1.1 COST REDUCTION
- V4.1 KNOWLEDGE SHARING & TRANSFER

And more …

- V3.1 DECISION : ANTICIPATION & REACTIVITY
- V4.2 RESOURCE CAPABILITY

**Discrepancies between members**

- V2.2 QUALITY & DELAY
- V3.2 NEW MARKETS

Workshop to share between members

**A huge consensus between the members on what the association does NOT**

- V1.2 VALUE CREATION FOR THE PRODUCT
- V2.3 VALUE CREATION FOR THE BRAND

Action plan to increase

No action, this is OK
CREATE AN ECO TRANSITION
BASED ON Collaborative Life Cycle Activities (Co-LCA )

ECO TRANSITION
MATRIX

ENVISION THE TRANSITION
#1

IMPLEMENT COLLABORATION
#2

CREATE SHARED BENEFITS
#3

Co-LCA 5E SCHEME

E1: EXPLORE THE INNOVATION POTENTIAL AND IDENTIFY ISSUES

E2: ENGAGE A COLLECTIVE DIALOGUE WITH APPROPRIATE STAKEHOLDERS

E3: EXTEND 'CONSECRATION' INTO NEW COLLABORATIVE PARTNERSHIPS

E4: EVALUATE THE VICTORIES, BENEFITS FOR COLLABORATIVE PARTICIPANTS

SHARED BENEFITS ASSESSMENT

FINANCIAL
- Cost reduction
- Product value

DEVELOPMENT
- Anticipation and reactivity
- Capturing new markets

IMAGE
- Brand Image
- First mover
- Quality and delay

SKILLS
- Knowledge sharing and transfer
- Human resources sharing
SUSTAINABILITY FOR THE BREAKTHROUGH DECADE
FROM CURRENT LCA …

Actors
The Wizard of Oz
Fleming (1939)

Knowledge
Look outside of the lamp light

Instruments
Crisis = Risk + Opportunity

www.orygin.fr
SUSTAINABILITY FOR THE BREAKTHROUGH DECADE FROM CURRENT LCA … TO COLLABORATIVE LCA

A new generation of LCA Experts?
Thomas (2011)

Knowledge emerge from the environment

Drive the transition towards a shared value society
We don't stop playing because we grow old; we grow old because we stop playing.

George Bernard Shaw

If you want to know more …
If you want to take action …

@CoLCA_Net

Stéphane.s.Morel@Renault.com

Aknowledgement: