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From CO₂ to CEO...

...or,

The practices and realities of LC work

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There so much more to life cycle work than doing LCA

... and CEOs have a relatively limited role (!)

Researching LCM: people & companies & LCT



Myself together with PhD students:

- Henrikke Baumann: “LCA and decision-making”, PhD 1998
- Pernilla Gluch: “Building Green”, PhD 2005
- Emma Rex: “Marketing for Life Cycle Thinking”, PhD 2008
- Birgit Brunklaus: “Organising matters for the environment”, PhD 2008
- Hanna Lindén: “The nitty gritty of life cycle management”, PhD 2018
- Mathias Lindkvist: “Managing the flows?”, PhD 2019
- Sjouke Beemsterboer: “Simplifying LCA use in the life cycle of residential buildings in Sweden”, Lic 2019

and

many MSc project students & also some international collaborators

Researching LCM: people & companies & LCT



Study of LCA projects

Study of LC work in a company over time

Study of LC work in different companies

Study of the LC professionals and their organisational approaches

⇒ *promotion, adaptation, translation of life cycle work*

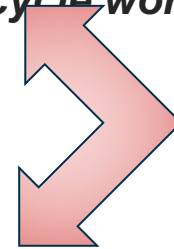
Study of the organisation of product chains

Study of cases of life cycle management

⇒ *rationales and organisation of life cycle work in business*

⇒ *new approaches for studying product life cycles (Populated*

LC studies)



*A bit of
a
mismatch..*

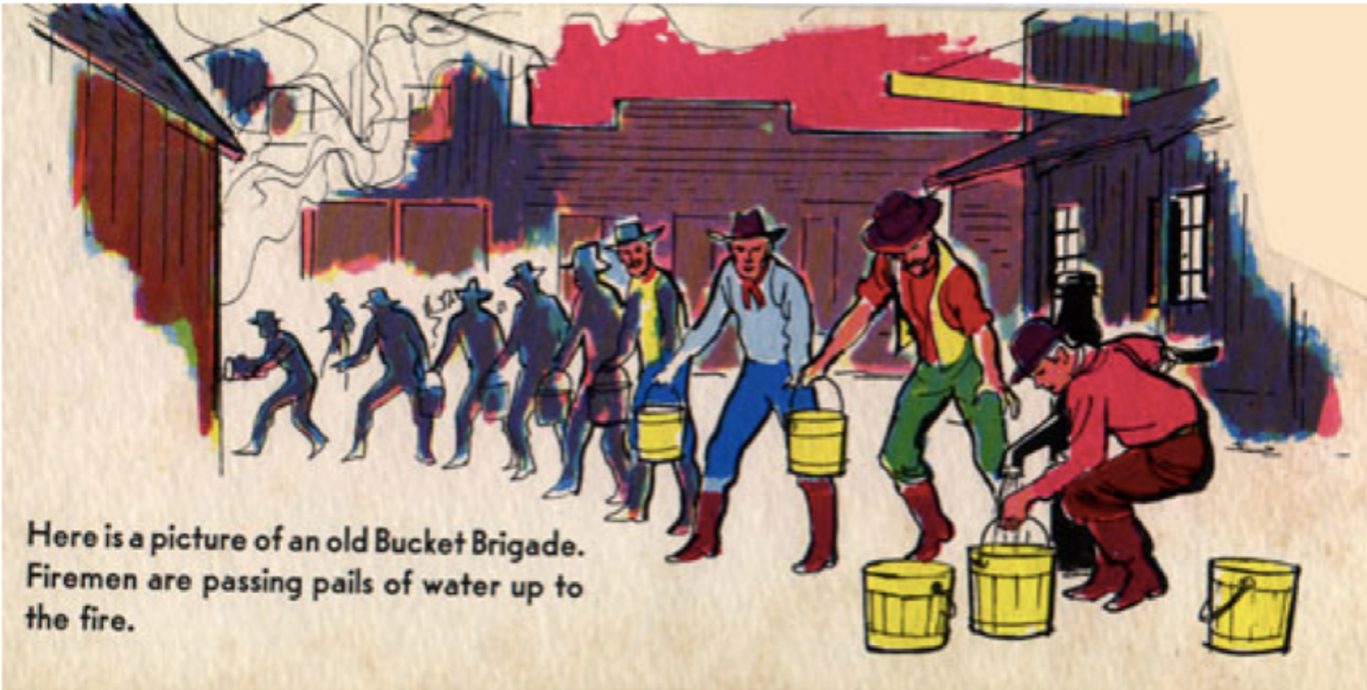
Crash course: management studies



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**The bucket brigade
as a metaphor for
the product chain**

Here:
Organisation of water
flow



Here is a picture of an old Bucket Brigade.
Firemen are passing pails of water up to
the fire.



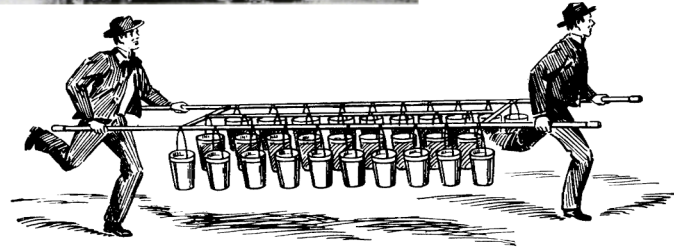
Bucket brigades:
Different organisation,
efficiency, etc...

Single file
double file

...



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Water flow organisation can also be used for books.

But not for climate discussions.. ;)



There so much more to life cycle work than doing LCA

In a company, an LCA project often becomes a ‘vehicle’ for:

- Promoting / advancing life cycle work in a company
- Shifting corporate environmental thinking to LCT
- Advancing an environmental agenda in production, product development, sourcing, etc
- The sustainability transition



LC practitioner:
Analyst AND promoter

From the business perspective...

- Can serve a ‘mixed bag’ of business interests

Understanding the company’s role and influence in the product chain

- Populated life cycle method: product chain organisation studies
- Justice and political dimensions appear

There so much more to life cycle work than doing LCA

Types of organisational problem-situations encountered by the LC promoter

1. Trying to create interest for LCT in the company
2. Trying to gain a mandate to do LC work in the company
3. Trying to identify other parties in the company interested in LC efforts
4. Attempting to create LC efforts that blend in operationally and can be adopted in the organization
5. Seeking to generate a widespread engagement with LCT throughout the company
6. Seeking legitimacy for LC efforts
7. Trying to relate the LC approach to the company business logic
8. Attempting to extend the LC approach beyond the corporation and engage with product chain actors

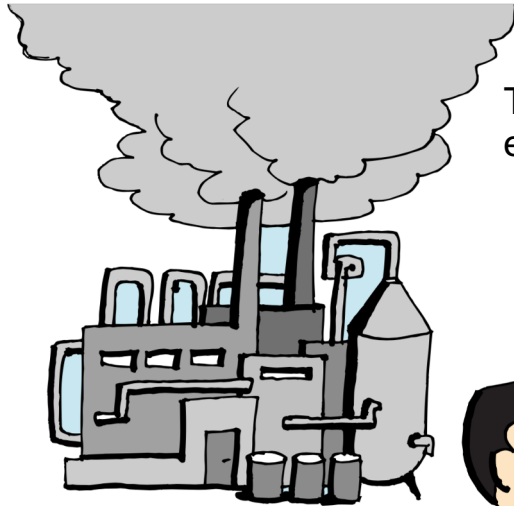
Adapting to context is key!



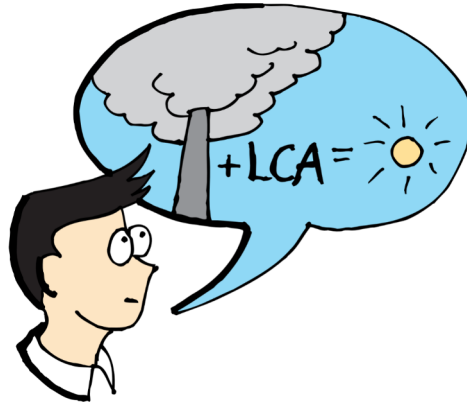
LC practitioner:
Analyst AND promoter

Contextual adaptation: Why LCA?

Compare chemical company and ICT company

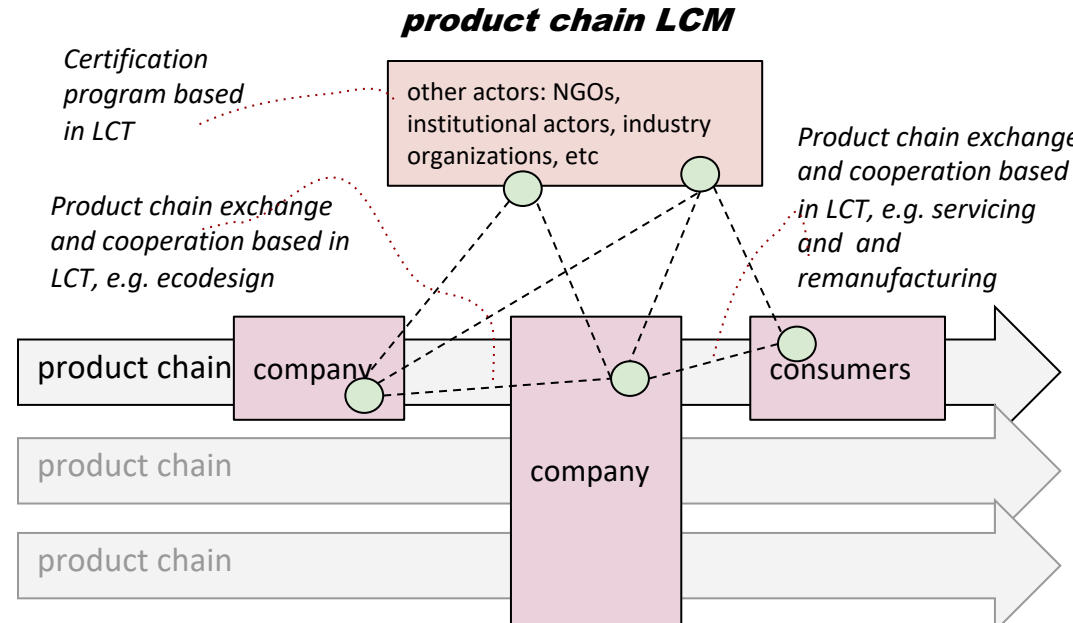
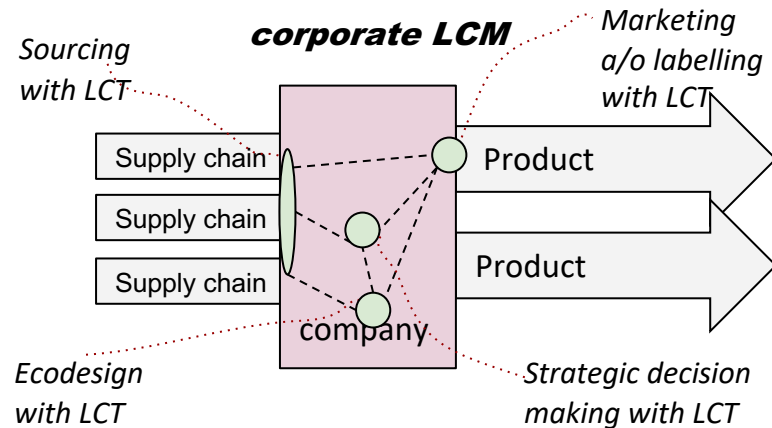


To change poor environmental reputation



To prove good environmental reputation

Organisational scope of LCM

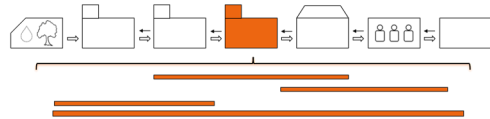


12 x LCM

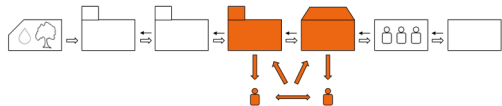
A case-based review of LCM in practice:
 LCM is shaped by a dominant action logic in its setting.
 Dominant action logic = e.g., business strategy, government objective



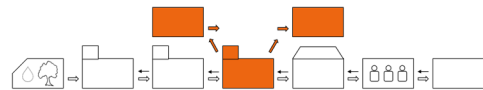
1. COMPANY DOMINO. Starting as traditional B2B management, a company impose demands on their first-tier suppliers, also hoping for a company domino effect of environmental management upstream the product chain (in orange). Aim: Corporate environmental self-regulation and risk minimization.



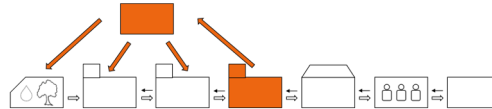
2. BRICOLAGE. A number of sustainability initiatives, aimed at different parts of the company and different parts of the product chain, are gradually being developed and implemented, together constituting LCM (in orange). Aim: Presumably organizational learning.



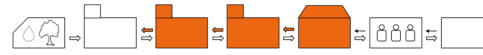
3. CHANCE ENCOUNTER. Employees of companies in the product chain, through chance encounters, meet and find possibilities of improving LCM in their product chains, which they also act upon (in orange). Aim: Presumably just environmental accounting.



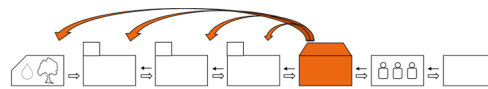
4. PARALELL PRODUCT OFFERS. Starting as company sales from only the traditional products portfolio, this is followed by the development of an alternative and parallel sustainability product portfolio (in orange). Aim: Product differentiation.



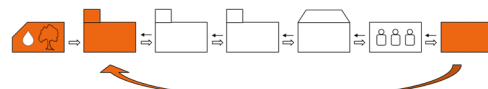
5. STRATEGIC BRACE. Starting as traditional B2B management, a company seeks to certify a product (or category), by collaborating with an external actor, who identify, assemble, and govern the reorganized product chain (in orange). Aim: Resource security.



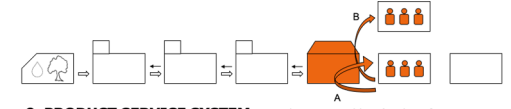
6. PRODUCT CHAIN ROUNDTABLE. Starting as traditional B2B management, it is followed by a multi-company coalition – a product chain round table – coordinating in-between multiple product chain actors (in orange). Aim: Competitiveness of the product chain.



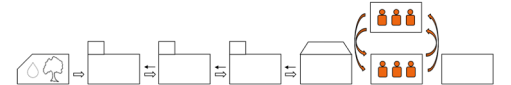
7. BUILDING FROM SCRATCH. In lack of an existing sustainable product and/or product chain, an entrepreneur creates one from scratch, which results in a transparent and sustainable product chain built on mutual reciprocity (in orange). Aim: Niche markets.



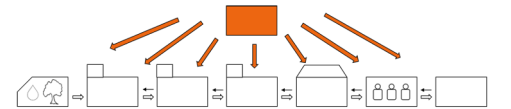
8. MINING WASTE. Identified waste resources are reused in the product life cycle (in orange). Aim: Resource economics, among else.



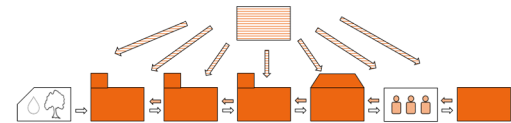
9. PRODUCT SERVICE SYSTEM. It is characterized by a) sales of services instead of (or parallel to) products, e.g. via b) servitization via the delivery of a service component with added value, when providing products (in orange). Aim: Customer loyalty and new revenue streams.



10. CONSUMERS AS PROSUMERS. An LCM type in which consumers are instead 'prosumers' via consumer-generated collective initiatives to repair and/or exchange products (in orange). Aim: Ecological responsibility and social change.

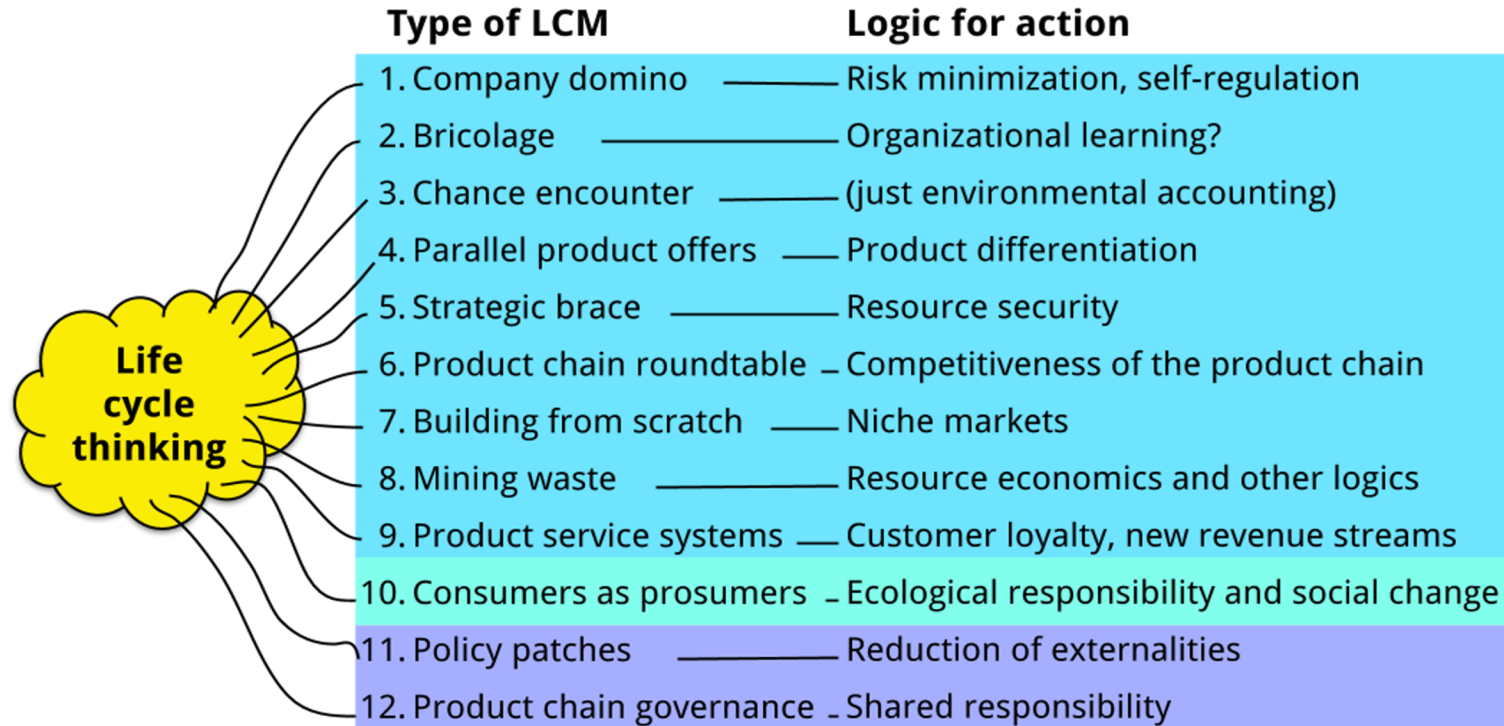


11. POLICY PATCHES. An LCM type characterized by a government actor imposing environmentally and product-oriented policy instruments targeted at different stages of the product life cycle (in orange). Aim: Reduction of externalities.



12. PRODUCT CHAIN GOVERNANCE. An LCM type characterized by shared responsibility (in orange), and with government often in the role of facilitator (striped orange). Aim: Shared responsibility.

12 x LCM



A few words about words...

Commonly used terms	Problems and alternatives
Decision-making	Not really catch-all term for all the uses of LCA, e.g., analysis, learning, framing, problem identification
Life Cycle Management, as in applied LCA, e.g., LCA for product development	Management, a definition: (1) actions for the (2) benefit of (3) the organization LC work
Implementation, as in (top-down) plan for more LC work	Emergent LCM is closer to reality Adaptation, adoption, translation

Summing up ?!



Recognising the business interest \Leftrightarrow the environmental interest

Life cycle work:

- LCA
- Between product chain sustainability and business
- LC professional: analyst AND also often promoter of LCT
- Understanding business interests and corporate environmental strategy

⇒ context and situationally adapted LCA & recommendations, translation of LCT

Business interest in LCT, LCM and LCA:

- Not a straightforward match — when it suits business
- Diverse business realities >> different LCM, different LC work
- Learning, risk mitigation, reputation management, eco-efficiency, product differentiation...
- LC professionals as translators between departments and companies

⇒ develop LCM vocabulary to reflect business and societal



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