Proactive Supply Chain Management and Consumer Communication
Insights from transdisciplinary research projects

Silke Kleihauer, Julian Schenten, Martin Führ, Sina Wans
Topics

- Normative requirements as a permanent and dynamic challenge to supply chain actors
- Dynamic material data system as a precondition for compliance and business opportunities
- Consumer awareness and app-supported SVHC requests
- Contribution towards sustainable chemistry management
A. Project CinChem

Consumer behaviour and Innovation towards sustainable Chemistry (CInChem)

Konsumverhalten und Innovationen zur nachhaltigen Chemie (KInChem)
A. Overview CInChem

**Approach:** Reduce impediments to

- communicate and

- act (= change behaviour) at different levels:

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<table>
<thead>
<tr>
<th>Consumer</th>
<th>Article: Tox-Data → App</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proactive Companies</td>
<td>Market options</td>
</tr>
<tr>
<td>(Eco)Tox Scientific Community</td>
<td>Transparency in REACH Registration Mechanisms</td>
</tr>
</tbody>
</table>
Market Opportunities for „Sustainable Chemistry"
[in Sporting goods]
triggered by REACH (SuSport)

Funded by
Deutsche Bundesstiftung Umwelt (DBU)
German Federal Environmental Foundation
in cooperation with
BSI (Federal Association of the German sports goods industry)
TEGEWA (Association of textile and leather chemicals manufacturers).

Introduction
Dr. Maximilian Hempel, DBU
1. Problem situation
2. Target state (normative aim)
3. Analyse the Problem Situation (status quo)
4. Identify Delta (\(= 2-3\))
5. Design Institutional Options
6. Remaining Delta (\(= 2-5\))
7. Realisation by Field Actors

**Iterative feedback process**

**Behaviour of the relevant actors:**
- Incentive and Impediment
- Analysis (IIA)

*a. Apply normative criteria*
*b. Identify relevant actors*
*c. Define expected behaviour to reach the target state:*
  - *Which actor should do ...*
  - *When*
  - *What?; respectively should with*
  - *Whom*
  - *How communicate/cooperate?*


**Responsive Regulation** (\(= \) „Response“ to IIA):
- Enhance Incentives
- Reduce Impediments

**Evaluation** against the normative criteria (target state):
- Sustainable Development
- Remaining risks

**Measures** (incl. monitoring) towards:
- Sustainable Development
- Risk management

© Silke Kleihauer, Darmstadt 2017 - based on Stauffacher/Scholz 2012 und Bizer/Führ 2015 [Interdisciplinary Institutional Analysis]
(1) Problem Situation: Textiles / Apparel

- UNEP: Textile and clothing the world’s 2nd biggest economic activity for intensity of trade
- Exposure to hazardous/problematic substances
  - Workers
  - Consumers
  - Environment → Men via Environment
- Complex/volatile supply chains: challenge to risk management
(2a) Target state (normative aim)

- International Governance (Johannesburg, SAICM, SDGs)

12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.

- Regulation in Europe
  - **Restrictions**: REACH Annex XVII, [RoHS]
  - **Duty to Communicate SVHC**: REACH Art. 33
    - Art. 33(1) supply chain | Art. 33 (2) consumers
    - Candidate list updated biannually
    - ECJ: O5A-judgement Sept. 2015

- NGO: Greenpeace „Detox“ campaign
  - increased consumer awareness → Detox Commitments
(2b) Challenge: Supply Chain Actors

Compliant tomorrow ← Today: Beyond Compliance

- Current approaches
  - Restricted Substance List (RSL): not sufficient
  - Manufactured RSL (input-stream): helpful, still not sufficient

- State of the Art:
  - Traceability based on Full Material Declaration
  - including the entire Supply Chain, whilst reflecting CBI issues
    - Supplier of Chemicals/Formulations
    - Downstream User
    - Importer/Brands
    - Retailer [Supplier of an article, Art. 3(33) REACH]
  - covering the individual article
(3) Incentive/Impediments Analysis (IIA): Willingness to act?

- **Actors view**
  - EU Formulators’ perspective (TEGEWA)
  - Brands’ perspective (BSI)

- **Interim result: Deadlock**
  - We all have a problem.
  - Something must be done …
  - … but not by me.

- **Analysis**
  - Professional patterns of perception and thinking
  - No open and systemic view on supply chain solutions
Scenario method activates systemic thinking

Analytical framework

Refined process with scenario method

Enables transformative thinking
Scenario method (*H. Geschka*), adapted

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
<th>Step 5</th>
<th>Step 6</th>
<th>Step 7</th>
<th>Step 8</th>
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</thead>
<tbody>
<tr>
<td><strong>Focal issue:</strong> Textile Industry 2030</td>
<td><strong>Main drivers plus effect relationships</strong></td>
<td><strong>Formulating descriptors and arranging projections</strong></td>
<td><strong>Projections plus effect relationships</strong></td>
<td><strong>Developing, interpreting external Scenarios</strong></td>
<td><strong>Introducing events breaking with trends</strong></td>
<td><strong>Elaborating the scenarios or derive consequences</strong></td>
<td><strong>Consequences Strategy Workshop</strong></td>
</tr>
</tbody>
</table>

**Scenario development**

**Key 1:** Impact Matrix

**Key 2:** Consistency Analysis
Impact Matrix
<table>
<thead>
<tr>
<th>Impact Factor Analysis</th>
<th>Zeilensumme</th>
<th>Spaltensumme</th>
<th>Rangfolge nach Zeilensumme</th>
<th>Zeilensumme / Spaltensumme</th>
<th>Zeilensumme * Spaltensumme</th>
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<tbody>
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<td>22</td>
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<tr>
<td>2 Marketing</td>
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<td>28</td>
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<td>0,50</td>
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<tr>
<td>3 Traceability</td>
<td>31</td>
<td>31</td>
<td>2</td>
<td>1,00</td>
<td>961</td>
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<td>4 Gesetzgebung</td>
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<td>16</td>
<td>4</td>
<td>1,56</td>
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<tr>
<td>5 Info. Rechte/Pflichten</td>
<td>24</td>
<td>25</td>
<td>9</td>
<td>0,96</td>
<td>600</td>
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<tr>
<td>6 Strategische Kooperation/bilaterale Beziehungen</td>
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<td>26</td>
<td>11</td>
<td>0,88</td>
<td>598</td>
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<tr>
<td>7 Komplexität der Lieferkette</td>
<td>23</td>
<td>21</td>
<td>11</td>
<td>1,10</td>
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<tr>
<td>8 Strategische Ausrichtung/Geschäftsmodell</td>
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<td>3</td>
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<tr>
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<td>10 Wissen (Stoffe/Verfahren) Knowledge (substances/processes)</td>
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<td>12 Kooperation in der Lieferketten (vertikal)</td>
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<td>13 Kooperationskonzepte/Allianzen (horizontal)</td>
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<td>15 Verfügbarkeit (Material, Information)</td>
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<td>17 politische Situation Produktionsland</td>
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<td>18 NGO's</td>
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Scenario method (H. Geschka), adapted
2030 Scenarios: Muddling through

Ensuring the sound management of chemicals and waste

Muddling through - The Textile Industry in 2030
Status Report on SDG 12 of the Agenda 2030

Still no pioneering industry for sustainable development
Despite the fact that Greenpeace and other NGOs are regularly drawing attention to pollution and health problems with their campaigns, especially in emerging markets, the textile industry still lacks a strong commitment to sustainability. The industry is known for its high environmental impact, with large quantities of waste generated during production. There is a need for more innovative solutions and research into more sustainable processes.

+ Boldly ahead

Ensuring the sound management of chemicals and waste

Boldly ahead - The Textile Industry in 2030
Status Report for SDG 12 of the Agenda 2030

In 2030 we look back on a textile sector that has managed to reposition itself. The goal of sustainable production is established in the minds of the customers. It is not a competitive advantage, but a self-evident component of process and product development. This shift is driven by consumer demand and the increasing importance of sustainability in global supply chains. The textile industry is embracing new technologies and practices that reduce its environmental footprint, from recycling programs to more efficient manufacturing processes.
(3) Status quo revisited: **Common perspective**

- Lack of horizontal and vertical cooperation
- No unified standard for textile sector chemicals management
- No sector solution supporting traceability and knowledge as to the chemicals used in the supply chains.

- **Micro-Level:**
  - Company commitment [+ Consumer empowering]
- **Meso-Level:** Sector specific approaches, stepwise
- **Macro-Level:** Normative impulses reiterated
Responsive Institutional Design
Interim Results from the Research Atelier

0. Scenario method as learning tool to foster transformation
1. Supply Chain Strategies for sustainable chemicals management, not only for the global textile chains
   – Dissemination and testing of IT-tools (Art. 33(2) REACH): EU LIFE AskREACH Project (2017-2022)
2. Consumer Empowering (Art. 33(2) REACH)
   – EU-wide App + Database: Point of Sale EU LIFE AskREACH Project (2017-2022)
LIFE Ask REACH approach: Enabling all actors

Art. 33 (1) REACH

Supply Chain Communication on SVHC in Articles

- T4
- T3
- T2
- T1
- T0

Factory
Complex Article

Material Data System
(including SVHC)

Ask REACH
LIFE-Project

Data flow

Training + Support
Enhancement

Art. 33 (2) REACH

Articles Communication towards Consumers

Supplier
Brands & Retailers

Database

Articles with SHVC > 0,1 %

Articles with SHVC > 0,1 %
YES/NO/???

Database +
Consumer App

Material Data System
(including SVHC)

LIFE Ask REACH – Kick-off Sept 2017 – Session 3

“Supplier” = “Supplier of an article”: Art. 3 No. 33 REACH, limited to brands and retailers
Responsive Institutional Design
Interim Results from the Research Atelier

0. Scenario method as learning tool to foster transformation
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     EU LIFE AskREACH Project (2017-2022)
2. Consumer Empowering
   – EU-wide App + Database: Point of Sale
     EU LIFE AskREACH Project (2017-2022)
3. Enforcement
     based on O5A ECJ judgement
   – CEFICs Marco Mensink: enforcement is "crucial"
You are invited to share your views with the sofia research team.

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Further details

www.sofia-research.com
www.reach-helpdesk.info