Uncertainty as an influencing factor on communications about innovative materials

Identification and handling of a possible restraint of a sustainability transition

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Uncertainty in sustainability transitions

- Innovative materials as industrial applications and products of technological innovations are driving factors in sustainability transitions *Fischer & Newig, 2016:8*

- But: technological innovations often are accompanied by „uncertain“ knowledge regarding their implications and the impact on the environment, society and economics *Ruddat, 2012:7*

- Open questions with regard to consequences and benefits of new materials cause uncertainty *Bauer, 2005; Günther & Ruhrmann, 2013; Maier, Milde, Post, Günther, Ruhrmann & Bake-la, 2016; Peters & Dunwoody, 2016; Broomell & Kane, 2017*

How is (un)certainty expressed in organizational (corporate and product) communications and how is uncertainty influencing communication and organizational strategies?
Bioplastics – a potential building block of sustainable economics?

Bioplastics – perception and communication through bioplastics stakeholders

Website analysis (n=31) communication output & evidence for certainty and uncertainty as a communication issue

Semi-structured expert interviews (n=39) subjective meanings and interpretations from the different identified groups of stakeholders
RQ1: Which role does uncertainty of scientific findings play within corporate and product communications of industrial actors regarding bioplastics?

“This is a complex process, which is still not fully understood.”

*B2B company*

- Life-cycle-assessments (LCA) for the application of bioplastics are still perceived as a subject of research and interpretation
- Statements about ecological benefits of the application of bioplastics were mostly proofed by external sources
- Up-to-date facts and eco-friendly materials are preferred to communicate with a “clear conscience”
- Industrial representatives appear to be terrified of the possible accusation of greenwashing
RQ2: How powerful is (un)certainty as an influencing factor for communication activities and strategies of industrial actors?

Uncertainty in terms of sustainability advantages and potentials silences industry actors.

**website analysis**

vague optimism but no clear positioning or support for bioplastics

**expert interviews**

passive, restraint corporate and product communication – especially regarding environmental benefits and disadvantages and food competition

“We only communicate about things that are real now and that we feel we can stick to.”

*B2B company*
RQ3: How important is the communicational behavior and the chosen communication strategies for the establishment of bioplastics?

Critical voices appear to be „louder“ & negatively connotated frames are leading public (media) discourse, e.g. greenwashing, food competition...

- lack of flagship projects
- necessary networking within the industry is blocked
- no consumer demand
- less political support

Additional structural challenge: price of petroleum < raw materials
Round-up: Uncertainty – a restraint in sustainability transitions

When it comes to innovations (e.g. materials), uncertainty is an important issue that leads to restraint, external communication.

• This especially counts for innovations holding ecological, social or economical trade-offs and even more for those promising to market sustainability potentials.

• Strategic communications are key to (further) market development…
  - by being part of the public communication discourse (agenda setting)
  - by putting the innovation into context of different perspectives (framing)

• Surveying the public perception of uncertainties regarding specific innovations is crucial for strategic communication
Thank you!

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