



Making Sense of Climate Risks: Barriers to Organizational Adaptation

Chameleon Workshop on
Barriers to Adaptation

Esther Hoffmann, Maja Rotter

September 19th, 2012, Berlin

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- **Methodology: case studies in 2 German companies**
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Background and motivation

- Climate change as organizational risk
 - Weather as well as climatic conditions influence companies' supply chains, infrastructure and production processes
 - Anticipatory adaptation is necessary
- Adaptation to climate change starts with understanding the problem (Moser & Ekstrom 2010)
 - Organizations need to recognize the risks resulting from climate change before they can act on them (problem detection)
 - A lack of awareness is a barrier to organizational adaptation (Berkhout et al. 2006, Arnell & Delaney 2006)

Research questions

- How do organizations make sense of climate change related risks?
- How does sensemaking constrain adaptation action?

Conceptual background

■ Sensemaking

- Sensemaking is the basis of organizational adaptation (Linnenluecke et al. 2011)
- Sensemaking is the link between noticing changes and developing action
- “ongoing retrospective development of plausible images that rationalize what people are doing” (Weick et al. 2005)
- Changes in the natural environment can be cues for sensemaking (Whiteman & Cooper 2011)

■ Learning from rare events

- Rare events are unique, unprecedented and infrequent (Beck & Plowman 2009; March et al. 1991)
- Organizations have difficulties to sense rare events as signals to broader environmental change (Barr 1998; Starbuck 2009)
- In learning from rare events actors tend to engage in wishful thinking, search for more data, act cautiously, try to develop credible explanations for their decisions (Starbuck 2009)

Case studies in 2 German companies

Method and approach

- Group discussion and semi-structured expert interviews

- Case 1: Large German Railway Company
 - Group discussion with middle and senior managers from different units (8)
 - 4 Interviews and 4 group interviews with middle managers from different company units (8 interviewees)

- Case 2: Large German Energy Company
 - Group discussion with middle managers from different units (8)
 - 3 Group interviews with middle managers from different company units (8 interviewees)

- Content analysis of interview transcripts and workshop protocols

Rationalizing on adaptation action

- Postponing adaptation action
 - Adaptation to climate change is in conflict with economic goals
 - Energy case: Other priorities (“Energiewende”, transition of the energy system)
- Rely on standardization bodies
 - Standardization organizations should do risk analysis and adapt technical standards
- Adaptation efforts resulting from external triggers
 - Energy case: changes in standardization
 - Railway case: Analysis of internal standards resulting from an inquiry by the Federal Railway Agency

Patterns of climate risks related sensemaking

- The increase of frequency and intensity of extreme weather events needs more evidence
 - Interviewees do not perceive experienced extreme events as a clear cue for climate related risks
 - Extreme weather events remain to be considered as single and low-probability events that have already existed in the past
- Technical assets are well prepared for future impacts
 - Technical standards use high safety margins
 - Climate change is perceived as technical challenge that can be technically handled
- Occasional interruptions must be accepted by customers and society
 - Energy case: currently expectations towards security of supply are high but this might have to be changed through a societal or political debate

Discussion

- **Highly regulated environment**
 - Reliance on external actors (regulators, standardization bodies) as frame-setters for adaptation
 - Some examples of external triggers were observable
- **Corporate values (security of supply vs. cost-effectiveness)**
 - Railway case: disruptions and delays are to a certain extent accepted
 - Energy case: strives to buffer disruptions through redundancy
 - Goal conflicts between cost-effectiveness and security of supply
 - Current regulation rather supports an efficient infrastructure

Conclusions

- The development of a sufficient threshold of concern is hampered by sensemaking
- Companies have difficulties in translating future risks of climate change to current decision-making
- Sensemaking is influenced by corporate values and frames of reference
- Decision-makers show typical patterns of reacting to rare events:
 - Wishful thinking
 - Cautious action
 - Search for more data
 - Additional: make others responsible



Thank you for your attention!

www.climate-chameleon.de

Dr. Esther Hoffmann, Maja Rotter
esther.hoffmann@ioew.de, maja.rotter@ioew.de