Challenges and Opportunities of Assessing Safety Culture

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Overview

1. Problems of dealing with the safety culture concept
2. Practitioner demands
3. Theoretical reflection
4. Methodological challenges and potential analytic response
5. Intended FSS research

1. Problems of dealing with the safety culture concept

- a relatively new concept
- lacking theoretical maturity
- vagueness contributes to world-wide diffusion: "omnibus term"
- theoretical roots in cultural anthropology
- "Concretist" vs. "mentalistic-cognitiv" tradition

2. Practitioner demands

- IAEA (1998/99): multifaceted nature of safety culture requires a range of indicators
- OECD/CCA (2006): Various dimensions/elements/groups need to be considered by safety culture measures
- WANO (2002): Self-assessment techniques necessary
- BP Panel (2007): No validated measures of safety culture available

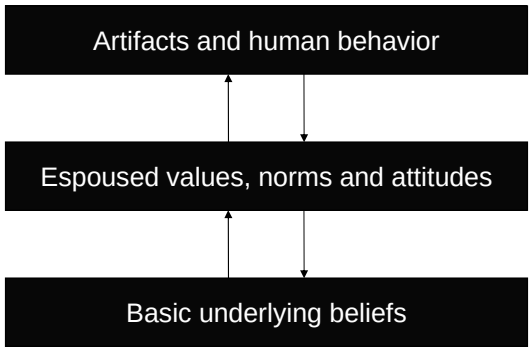
3. Theoretical reflection

- „Safety culture is that assembly of characteristics and attitudes in organization and individuals that, as an overriding priority, nuclear plant safety issues receive the attention warranted by their significance“ (IAEA, 1991)
- “a product of individual and group values, attitudes, perceptions, competencies, and patterns of behaviour that determine the commitment to, and the style and proficiency of, an organization’s health and safety management“ (ACSNI, 1993:23).
- “safety culture has to be inherent in the thoughts and actions of all the individuals at every level in an organization” (IAEA, 1998, pp. 3).

- safety climate “has come to mean more and more the overt manifestation of culture within an organisation” (Guldenmund, 2000)
- "a summary of molar perceptions that employees share about their work environment” (Zohar, 1980, p.96)

3. Theoretical reflection

- A socially shared, holistic and faceted (multi-dimensional) concept, providing a collective frame of reference for action



according to Schein (1992)

- Challenge 1: Assessment of safety culture must go beyond artifacts and espoused values
  - questionnaire studies and checklist approaches are insufficient
  - espoused values vs. core values (taken-for-granted beliefs)
  - assessement methods should cover all three layers of culture

4. Methodological challenges and potential analytic response

- Challenge 2: Assessment of safety culture must go beyond the analysis of individual mindsets and address group level phenomena
  - aggregation of results on a group level is crucial
  - qualitative (e.g. ethnological) and quantitative methods must be employed in complementary fashion

4. Methodological challenges and potential analytic response

- Challenge 3: Assessment methods must be tailored to the specifics of the assessed domain and organization
  - culture results from the learning experience of its members
  - specific character of safety culture attributes the given leadership and management (especially middle level management) a central role
  - culture is not a quantifiable phenomena which lends itself easily to benchmarking

5. Intended FSS research

- The multiple methodological challenges require a research which
  - develops a multi-method approach (tool box development) of mutually complementary quantitative and qualitative methods
  - begins on artefact and espoused values level by identifying differences between safety management system and organization member perceptions using methods already developed by FSS (Group Feedback Analysis, Screening Technique, Scenario Technique)
  - takes differences to develop hypotheses for further in-depth analyses (participant observations, experimental designs)
  - facilitates self-assessment by plant staff by contractual cooperation with plants