Boundary Objects in E-Government

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Setting

- Develop a holistic solution for e-administration / e-legislation in a particular context Z
- Necessary approach
  - Collect a multi-disciplinary team
  - Jointly draw an easy-to-understand top-down view, which integrates all important perspectives
  - Project this architecture to its main perspectives
  - Refine these perspectives to implementable design with the help of the experts in the team

Critical challenge

- Coordination of multi-disciplinary work
  - Experts have different values, goals, methods
  - Interface-based design or brokers will fail
  - Therefore you need a coordination method!
- Ambitious goal
  - Generic method for achieving convergence & establishing shared boundary zones, where first brokers and then interfaces may work
  - Qualitative reports on corresponding progress in multi-disciplinary development teams

Boundary objects

- Tangible tools for communication grounding in situations, where communication is a priori impossible
- Basic example in e-government = scenarios
  - Much too complex for 100% solutions
  - Requiring transdisciplinary cooperation
  - Easy-to-understand from daily experience
  - … great for the beginning, but not good enough to guarantee transdisciplinary quality for the final solution

Research

- Practical necessity
  - Use of a series of consecutive boundary objects culminating in implementation
- Questions
  - What makes a series work?
  - How can we successfully manage its life-cycle?
  - How can we create meaningful reports?
- Approach
  - Observations of success and failure in R&D-practice
  - Semi-structured interviews with experienced managers

Preliminary results I

- Very heterogeneous approaches
  - E.g. strong emphasis on communication skills
  - E.g. main emphasis on joint construction
  - E.g. emphasis ob social skills
  - E.g. emphasis on learning curves
- Some anti-patterns
  - Interface-based project design
- Some success stories
  - Robots in artificial intelligence
  - Enterprise architectures as foundation for business execution

Preliminary results II

- Discouraging experiences in e-government R&D-projects
  - Interfaces between experts with differing disciplinary background usually fail
  - Scenarios often work
  - High-level architectures often contain little information or are explicitly incorrect
  - The quality of good high-level architectures often gets lost during detailed design
  - No dedicated management approaches exist

Preliminary results III

- General principles
  - Strategic classifications help to create and sustain necessary top-down views
  - All team members should have a two-sided input-output relationship with the “boundary object” (i.e. its design)
  - Programs should be based on complimentary scenarios
- Conjecture: The complexity curve for boundary objects in research programs should parallel the hype curve!

Summary

- To interface or not to interface, this is the question …
- If you really want to interface, you should first create the shared boundary zone …

- For e-government projects, the transfer of the government architecture to the holistic IT-architecture is the critical part in the life-cycle of its boundary objects.