Building capacities for systemic change: diversified roadmap in the context of VTT’s service research network

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The objectives of the paper

- The general aim of the paper is to build concepts and tools for understanding and coordinating organisational change in multi-dimensional contexts (multiple intersecting development paths, multiple knowledge frames, multiple temporal spans)

- We develop a concept of systemic transformation capacity for organisational development

- We describe a way to activate this capacity
  - Integrating foresight and organisational development practices
  - Combining a method of roadmapping into network coordination
  - Case Service Science and Business (SSB) Network at VTT
Systemic transformation capacity: two components

1. Partial structural openness
   - Theoretical background: organisations are complex systems
     - Interactions of multiple actors and trajectories
     - Different temporal dimensions
     - Emergence
   - Openness endorses rapid changes
   - Openness is partial because changes need to be managed

2. Horizontal anticipatory culture
   - Theoretical background: organisations are temporal “continuums” between future development options, present decisions and past development paths
   - A capability for continuous reflection and coordination of the organisational practices in the light of systematically formed views of the future
   - Stimulation of future-oriented agency, a strategic ability of an organisation to construct feasible future targets and implement relevant actions through shared dialogue
Key concepts of a diversified roadmap

- **Knowledge space**
  - Domain in an organisation or in a community in which a future-oriented agency can be mobilised

- **Roadmap scope**
  - Level where roadmap is targeted
    - Roadmaps with R&D scope
    - Roadmaps with systemic scope
Using roadmaps in strategy processes

3. Demand articulation: description of common understanding about future societal and market needs

4. Visionary strategizing: aligning societal drivers, markets, solutions and technologies in a timeframe

5. Identifying single strategic elements in roadmap structure

2. Identifying societal needs that are contexts for development

6. Identifying logical temporal sequences in selected topic, e.g. technologies

1. Creation of a common vision

State-of-the-art
Short-term (1–5 years)
Long-term (5–15 years)

Drivers
Markets
Products and solutions
Technologies
Diversified roadmap: knowledge spaces
Case SSB network: introduction

- SSB (service science and business) network is an internal research network at VTT
- Constructed through a facilitated workshop process
  - Combining methods of foresight, organisational learning and impact evaluation
  - Some 30 researchers and representatives of management
- The piloting phase in January-May 2009
- Roadmapping process in two phases (2009–2010)
  - First phase
    - The “big picture” of the service landscape from 2009 to 2025
    - Identification of opportunities and challenges in the long-term
    - Linking, scaling and prioritisation of emerging service research issues
  - Second phase
    - Five thematic groups: 1) VTT’s integrated service R&D; 2) Business to customer; 3) Productisation of service development; 4) Challenges of public-private partnerships; 5) Services in global business environment
- Result: eight research plans on selected future-oriented topics
Case SSB network: knowledge spaces

- **Strategy space**
  - SSB exercise defined the emerging field of service research and its future possibilities
  - Explicit focus on establishing a service mindset in the organisation
  - Built systemic capacities for gathering the existing service knowledge and creating new service knowledge internally at VTT
  - To establish VTT as a service research organisation by stating the VTT state-of-the-art and vision for the future
  - Knowledge generated via roadmapping was iteratively utilised throughout the strategy building process, e.g. definition of services, identification of most important research needs, generation of project proposals
Case SSB network: knowledge spaces

- **Social/actor space**
  - Identification of most important players in the field of service research internally and externally
  - Markets for new services and service providers in the field
  - Capacities and methods for linking and sharing existing knowledge internally, both across disciplines and organisational functions
  - Capacities and methods for creating new knowledge in the network
  - Identified VTT’s own capacities, and potential development paths
  - Strengthened VTT’s vision on services: past development paths, current service trends, opportunities and challenges
Conclusions

- In organisations, systemic transformation capacities are based on at least two components: partial structural openness and horizontal anticipatory culture

- Systemic transformation capacities can be stimulated by integrating foresight and organisational development practices

- Diversified roadmaps can be utilised in the process
  - Analysing organisational knowledge spaces
  - Technology space; social/actor space; strategy space; visionary space

- Applied in the building of SSB network at VTT
VTT creates business from technology