Business from technology

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 <u>future-oriented agency</u>, 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

Diversified roadmap: knowledge spaces

VISIONARY SPACE

STRATEGIC SPACE

SOCIAL/ACTOR SPACE

TECHNOLOGY SPACE

Probable

Disruptive

Plausible

Alternative

'Black swan'

Probable

Unlikely

PAST

PRESENT
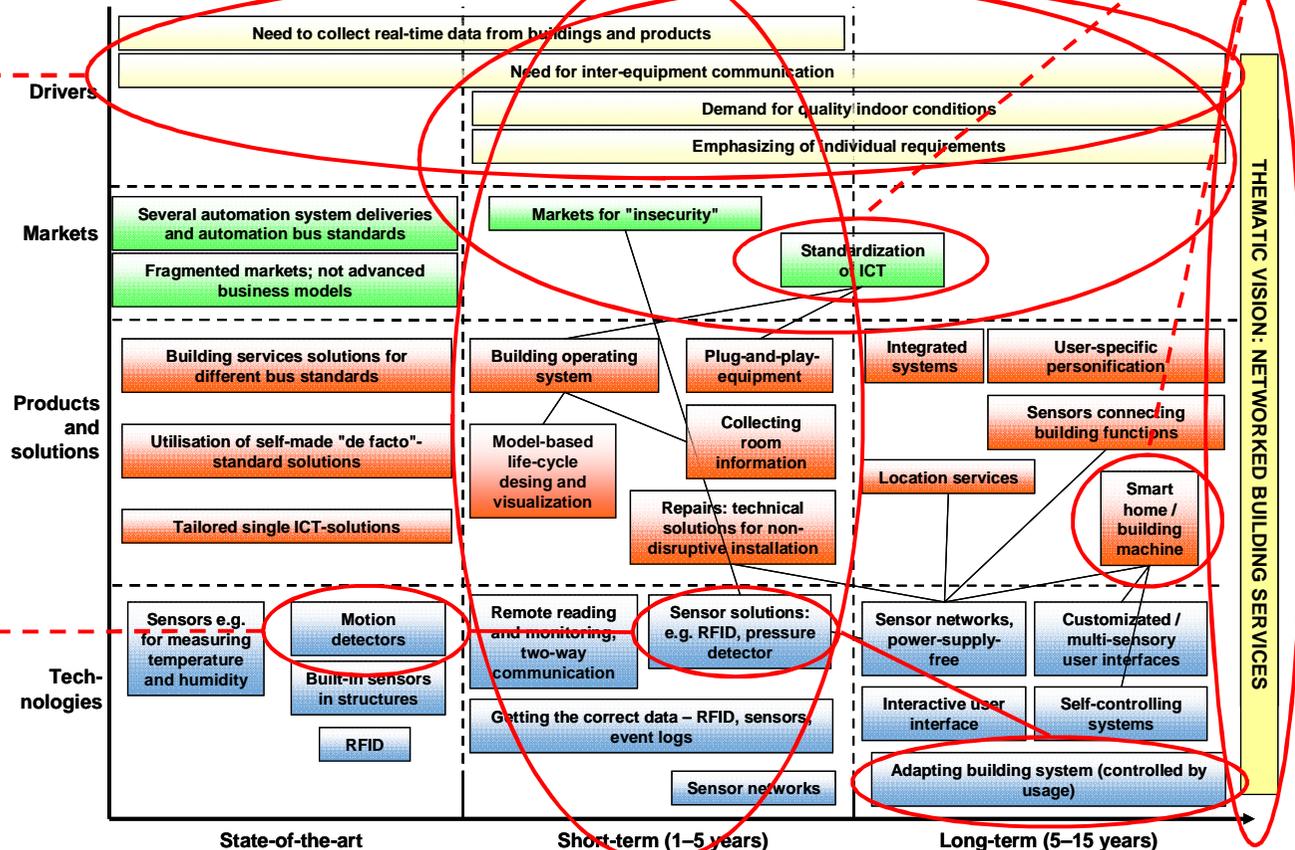
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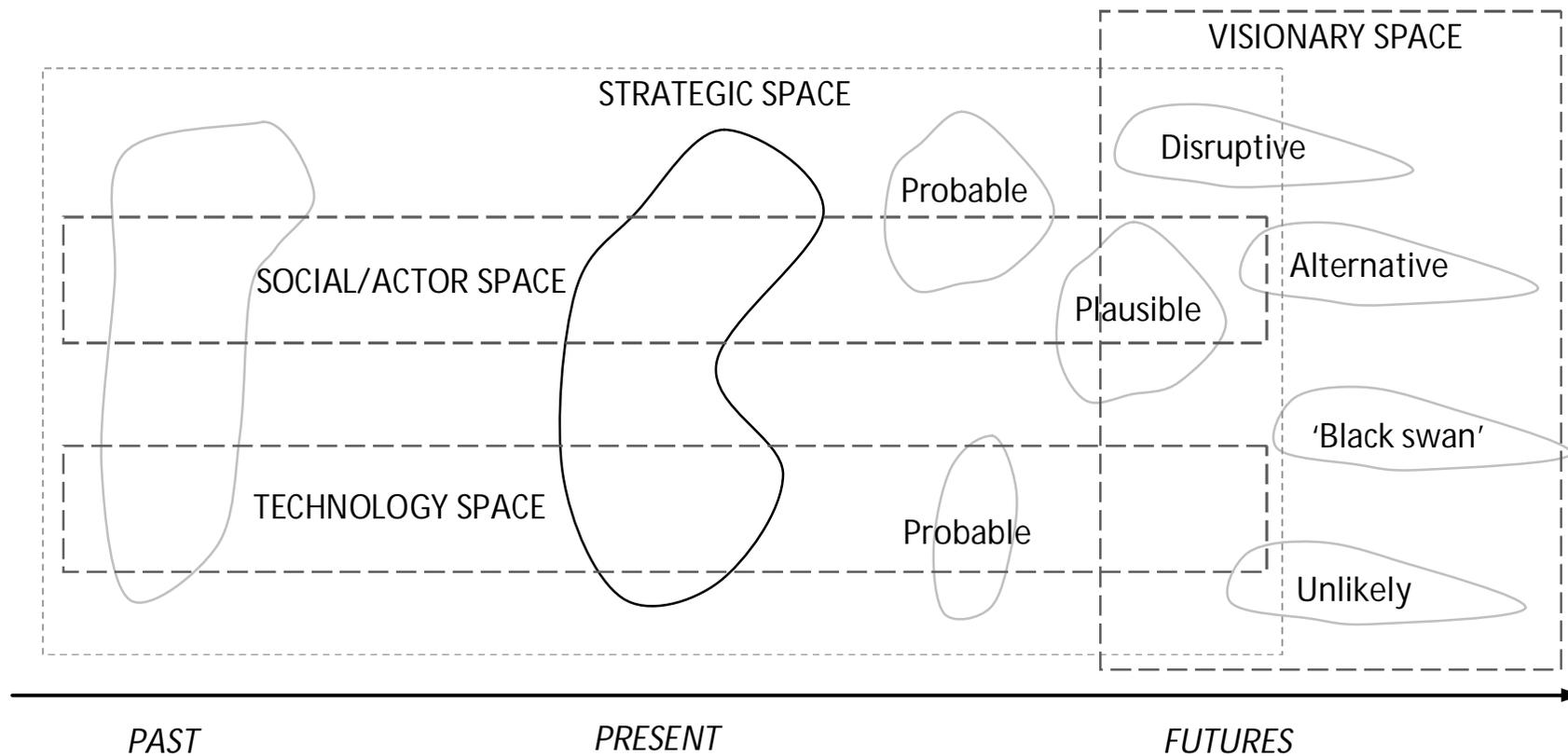
Case SSB network: introduction

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

Case SSB network: knowledge spaces

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