Organizational barriers to interoperability:
Norwegian case study

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Semicolon-project facts

Semantic and Organisational Interoperability in Communicating and Collaborating Organisations

- R&D- project – budget 6,5 M€ – runs 2008-2010
- Partly funded by the Norwegian Research Council (35 %)
- Det Norske Veritas (DNV) is the project owner.
- R&D-company Karde AS: Project management and research.
- Large public bodies participate:
    1. The Brønnøysund Register Centre
    2. The Directorate for Health and Social Affairs
    3. The Directorate for Taxes
    4. Statistics Norway
    5. The Norwegian Association of Local and Regional Authorities

The main goal of Semicolon is to develop and test ICT-based methods, tools and metrics to obtain faster and cheaper semantic and organisational interoperability both with and within the public sector.

Sub-goal: To identify obstacles for interoperability and strategy/solutions to tackle these.

www.semicolon.no

Definitions of OI (examples)

- Interoperability means, above the co-operation of systems, processes and people, in order to deliver seamless and customer-centric services.

- Organisational interoperability deals with modelling organisational processes, aligning information architectures with organisational goals, and helping these processes to co-operate.

  [5] M. Finetti

Also IDABC, ATHENA-project etc.

  [6,7,8]

Motivation, or snapshots of the "big picture"

- **IDABC: European Interoperability Framework:**

  "RECOMMENDATION 3: Setting-up eGovernment services at a pan-European level requires the consideration of interoperability issues with regard to organisational, semantic and technical viewpoints."

- **United Nations e-Government Survey 2008: From e-Government to Connected Governance:**

  "Striking a new balance between hierarchy and flexibility, between vertical and horizontal dimensions of accountability is the nexus of technological and organizational interoperability and innovative leadership."

- **Professor Jeremy Millard:**

  "The promise of (e)governance: achieving balance:
  Interoperability (top-down) vs. innovation (bottom-up) is the most difficult balance of all; it is not just technical but much more organisational and political…" (e-Society, Barcelona, 2009)

Interoperability stage models
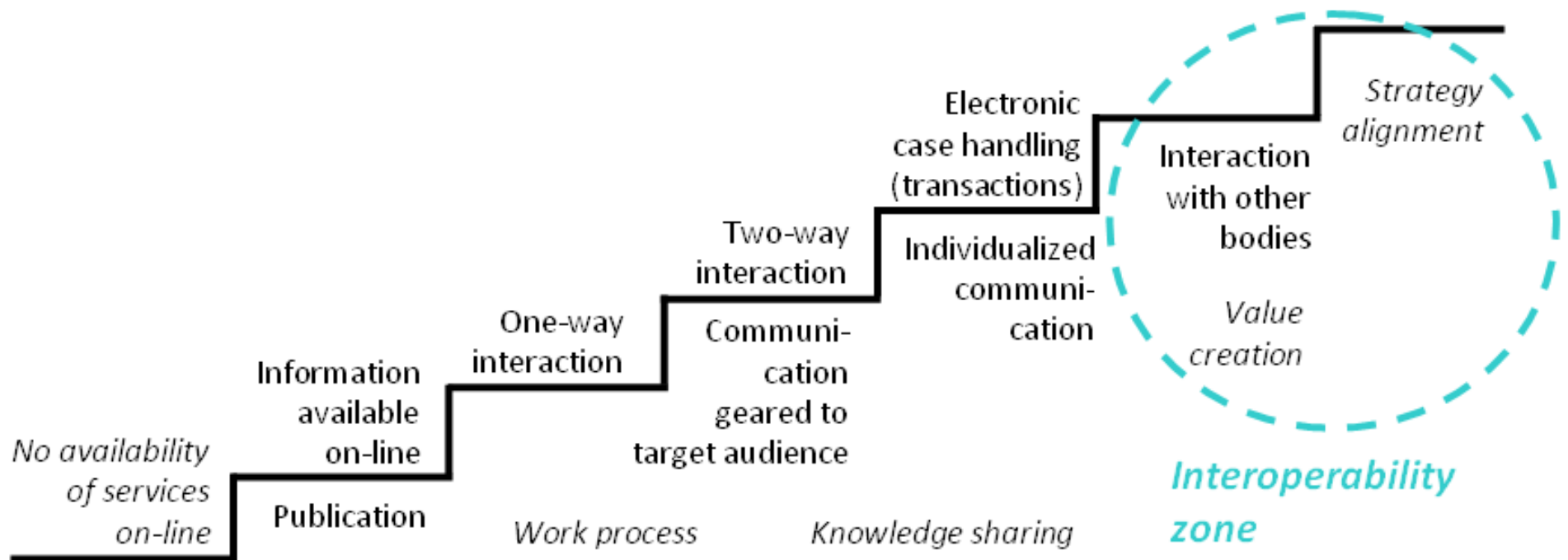
Combination of stage models. Above the stage-line the sophistication stage model of Wauters et al. [2]. Below the stage-line, the service stages as described in the Norwegian white paper [4], and in italics the four maturity stages of Gottschalk et al. [3].

Examples of barriers (1)

1. Leadership failures.
2. Financial inhibitors.
3. Digital divides and choices.
4. Poor coordination.
5. Workplace and organizational inflexibility.
6. Lack of trust.
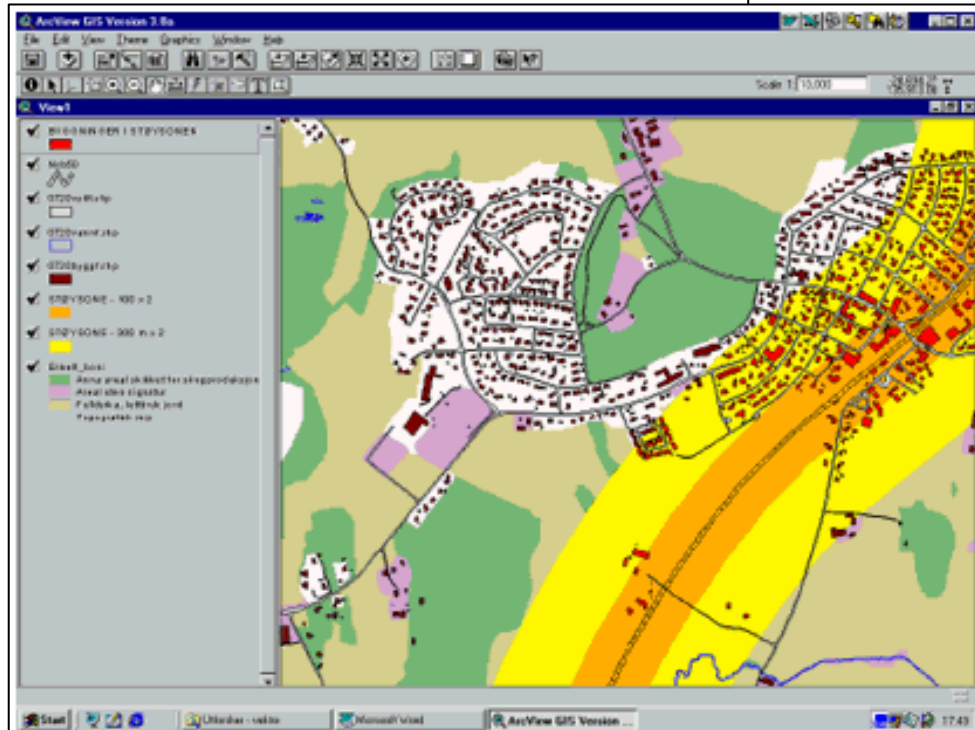7. (Poor technical design.)

[12] R. Eynon & H. Margetts

Examples of barriers (2)

1. **Administrative** interoperability, containing conflicting, exclusive or overlapping jurisdictions and accountability.
2. **Legal** interoperability, meaning different legal regimes with conflicting rights and obligations, e.g. in relation to privacy and safety regulations.
3. **Operational** interoperability, i.e. different working processes and information processing, routines and procedures.
4. **Cultural** interoperability, addressing conflicting organizational norms and values, communication patterns, and grown practices.
5. Etc.

[13] V. Beckers

Examples of Norwegian interoperability success

Altinn – AllIn

Norge Digitalt – Digital Norway

Collaboration between different information owners and service providers to produce integrated electronic services to businesses and citizens, based on fully transparent interoperability between several service providers

Method

15 personal semi-structured interviews in September-December 2008) with following main themes:

1. What do you understand by OI*, or how would you describe it?

2. What promotes OI in general?

3. What retards OI in general?

4. Do you have any examples of best practice within OI?

5. What kind of measures or what kind of initiatives would boost OI?

Organizational Interoperability

1. Competency gaps (!)

- Knowledge of own or others' business processes is low.
  Modelling of business processes has not taken place.

- ICT suppliers' knowledge of the business processes in public organizations is truly poor.

- Digital illiteracy and resistance against new applications of ICTs reduce the ICT potential including interoperability.

2. Lack of "measurables"

- Instruments for measuring organizational interoperability are missing.
  (This has negative impact on both planning, execution and evaluation of organizational interoperability.)

- Economic indicators which describe the effects of successful interoperability are missing.

3. Money talks (!)

- Governmental departments and agencies operate according to a strict fiscal sector principle without interoperability considerations.

- The letters of allocation from the government to the sector departments do not instruct the departments or the governmental agencies to spend money on interoperability actions.

- Costs of initiatives for increased collaboration are placed in one department or agency, and the immediate benefits appear in another.

4. Absence of national joint efforts

Too few large technology projects involving several influential organizations:

- They would force organizational interoperability move forward.

- They would enhance knowledge of other organizations and their business processes.

- They would offer a practical arena for integration and interoperability efforts, and enhance organizational interoperability because of the project organization as such.
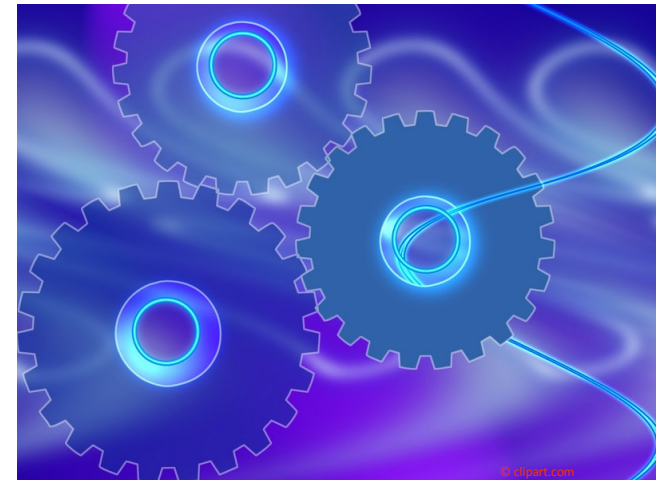
5. An archipelago of small project islands

- There is myriad of small, uncoordinated projects, continuously being initiated without feasibility studies or anchorage points in overall strategies for cross-sector development.

- Scarce resources are used sub-optimally and cannot be fed into the financial portfolio of larger initiatives with ambitions of interoperability.

- No catalogue or database with an overview of current and past projects small and large, for continuity and possible reuse of existing results.

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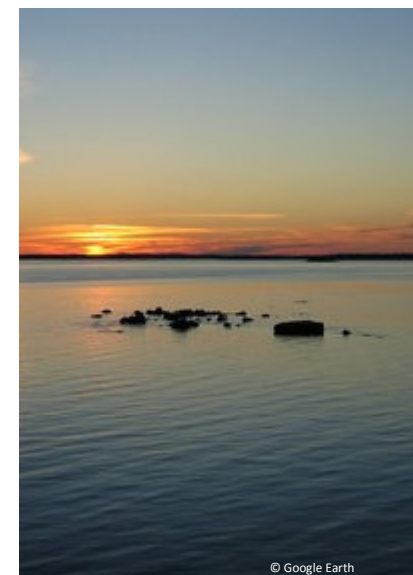
6. Disharmony in legislation (!)

- New laws or amendments to an Act bring about uncertainties with respect to the total body of laws and the total area of impact:

  - Are there unintended consequences of the new law or amendment to other areas of jurisdiction?

  - Does the new law, rule or regulation prevent collaboration, (e.g. provision of information from one public body to another)?

- Double reporting of information to public registers.

- One department has no authority to retrieve information from another department.

- The law prohibits merging information from different sources for security or privacy reasons.

- No use of information for other purposes than what the concession permits.

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7. Anaemic arenas

- Too few up-to-date collaborative arenas or meeting-places for decision makers.

- Horizontal participation dilutes decision-making capability and implementation of (possible) decisions.

- Some arenas do exist, but these have a tendency to turn into ever-lasting, enervated "clubs" where stand-ins meet instead of real decision-makers.

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8. Invisible best practice

- Too few or well-hidden show-cases of best practice within:
    - formal agreements on collaboration
    - practical approaches to organizational interoperability
    - tools for process modelling
    - management of organizational alignment
    - ICT-literacy

9. People and their leaders (the people-factor)

- Negative attitudes and non-collaborative working practices.

- People who simply do not like or want to work together with other people.

- Leaders who do not promote collaboration or who are afraid of losing existing positions if collaborations should lead to more rational distribution and organization of work.

- Authoritative leaders who simply do not ask anybody about anything.

- Trade unions that do not promote collaboration in fear of rationalization and loss of jobs.

10. Ubiquitous heterogeneity

- Unequal levels of competency in general and digital literacy in particular, continues through.

- Differences in strategic thinking and foresight, organizational cultures, phases in development processes and available technologies, and dissimilarities in available resources.

- Number of different actors:
  - 430 municipalities, counties and public enterprises under municipal or county ownership.
  - Large and rich municipalities vs. tiny and relatively poor ones.
  - The state vs. individual municipalities.

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Cure (examples)

- Competency measures within process modelling and uses of ICTs.
- Development of indicators and barometers for measuring organizational interoperability.
- Fiscal measures for dedicated funding of interoperability projects.
- Establishment of large ICT-projects with cross sector participation.
- Catalogue/database on previous and current ICT-projects and appointment of coordinating project officer(s).
- Catalogue/database on best practice within formal contracts, project management, design of interoperable systems and services.
- Actions for organizational alignment (organization development projects).
- Governmentally organized and financed innovation projects.
- Financial support for interoperability actions (governmental financing).

Something is happening, though …

The new Norwegian principles for good leadership state that each leader should collaborate with other organizations and be oriented towards change and new solutions.

Thank you.