

The multi-faceted nature of SDIs and their assessment

dealing with dilemma's

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What are dilemma's ?



- Dilemma's
 - value conflicts – no easy and straightforward solutions
 - ‘wicked problems’ – solutions and problems are intertwined & multiple uncertainties
Rittel et al. (1973), Masser (1980)
- Dilemma's pose non-trivial problems for
 - research Argyris & Schön (1974)
 - professional expertise
 - ethics



My personal account



So far:

- Societal context of GI & GIT
 - culture & institutionalization
- SDIs are complex & multi-faceted
- SDIs are similar to other IIs
- Beyond SDI

What next?

- Post SDI?



Dilemma & how to cope:



Dilemma

- ‘Beyond SDI’ and ‘still SDI’

How to cope with this dilemma:

- SDI seen from governance perspective
&
- governance seen from SDI perspective

→ ‘Duality’ of SDI and governance

The current discourse

- A (multi-view) framework of (key-) indicators to assess (N)SDIs

In the next

- I will problematize this discourse
- what are the dilemma's in assessing SDIs?

Indicators: SMART

- Specific
- Measurable
- Attributable or Attainable or Achievable
- Relevant or Realistic
- Time-bound or Track-able

See for instance: Lyande Eelderink *et al.*

Hence ...

- Indicators must reflect understanding

Evaluation & Assessment



- For whom?
- Evaluation
 - clear objectives
- Assessment
 - performance (beyond specified objectives)
 - impacts

Assessment of SDI?



- Problematic
 - no clear objectives for concrete SDIs
 - infancy in (theoretical) understanding
 - SDIs are multi-faceted
 - assessment for whom?
 - different implications for different stakeholders
 - ...



SDIs are multi-faceted



- Multi-faceted-ness comes in different categories:
 - functionality
 - independent of time & place
 - situations at risk
 - content of SDI
 - transformational dynamics
 - ‘beyond SDI’

Multi-faceted SDI functionality

- communication – spatial data sharing
- networks – externalities & splintering
Graham & Marvin (2001)
- socio-technical constructs Actor
Network Theory – Callon (1986), Law (1992)
- ‘duality of technology’ &
institutionalization Orlikowski (1992)
- ‘common’ – how to deal with tragedy of
the commons Ostrom (1999, 2005)
- adaptation – learning; ‘complex adaptive
systems’ (CAS)

De Man (2006)



SDIs and situations at risk (1)



- Information is about uncertainty that matters
- Information is about risk
- (G)IT and SDI is
 - about situations at risk
 - about risk management

Risk management (1)



- Risk management faces the dilemma
 - complex multi-dimensional reality
 - the need for manageable & transparent multi-actor decision-making
- Social capital approach
 - actor networks
 - local institutional development

Risk management (2)



- Things can go seriously wrong:
 - ‘seeing like a state’
 - simplification by rationalization & standardization
 - local knowledge & local institutions

James C. Scott (1998)

- seeing like a scientist
 - reductive procedures and simplification are both indispensable and a trap

Henri Lefebvre ((1974) 1991)

SDIs and situations at risk (2)



About content

- objects in space
 - are not just objects – socially constructed e.g. Henri Lefebvre ((1974) 1991)
- physical-behavioural units
 - what affords B. Smith (2001)
 - mean different things for different actors with different risk perceptions e.g. Covello *et al.* (2001); Ortwin Renn (2003); Perri 6 (2005)
 - at different geo-levels e.g. De Man (2007a)

Beyond SDI



Transformational dynamics beyond generational development

- SDI → (I)Infrastructure → governance
 - embeddedness
 - loss of identity?
- Convergence in governance and information systems thinking De Man (2007b)
 - networking
 - deliberative & reflective
 - cultivation



A framework to assess SDIs? (1)



Four 'generations' of evaluation approaches

Guba & Lincoln (1989, 2001)

- 'managerialism'
 1. measurement
 2. description
 3. judgment
- 'hermeneutic & dialectic' – deliberative & reflective (?)
 4. constructivist & negotiation

A framework to assess SDIs? (2)



Evaluation & assessing SDIs is about

- ‘moving targets’ – multi-faceted
 - different things at the same time
 - transformational
- deliberative & reflective
- critical
 - ‘the danger of self-evident truths’

Ostrom (2000)

A framework to assess SDIs? (3)



It is about

- actor networks
- mutual alignments
- dilemma's, frustrations, routines, relationships, and risks that are part of everyday life

A framework to assess SDIs? (4)



therefore

- assessment design & framework
 - multi-faceted
 - deliberative & reflective
 - emergent – not a-priori

Dilemma's in assessing SDIs (1)



- depth *versus* breadth
 - understanding concrete SDI-initiatives – in-depth case-studies
 - comparative studies – ‘key indicators’
- diffusion *versus* ‘translation’
 - SDI proliferation as ‘diffusion of innovation’ Everett Rogers (1995)
 - ‘Translation’ and alignment between heterogeneous & competing actors – Actor-Network Theory – Callon (1986), Law (1992)

Dilemma's in assessing SDIs (2)



- visible *versus* invisible layers of control & access Star (1999, 2002)
 - infrastructures become visible upon breakdown
- objective (thin) observations *versus* rich insights
 - how to capture human, social & organizational definitions of reality

Dilemma's in assessing SDIs (3)

- technical (positivistic) science *versus* socio-technical science
- simplification *versus* over-simplification
→ misrepresentation
- generalization *versus* particularization

Dilemma's in assessing SDIs (4)



It would follow ...

Assessing SDI itself is risk management

“Tragedy of assessing SDI ...”

- technical & positivistic discourse
- time pressure to publish
- ...

... missing the point

“Coping with the tragedy ...”

- combining
 - the ‘general’ & the ‘particular’
 - simplification & ‘complexification’
 - *‘taking multi-facet-ness seriously’*
- combining
 - exploratory assessment frameworks
 - ethnography — emphasizes the ‘particular’ — Ruth Benedict (1934)

Exploratory assessment frameworks



- multi-stakeholder assessment
- joint-learning
- deliberative & reflective
- emergent – not a-priori
 - ‘Dynamique du provisoire’ Taizé

Ethnography of SDI



- emphasizes the ‘particular’ Star (1999, 2002)
 - fringes
 - invisible layers of control and access
 - changes in social ordering
- close “where the action is” Myers (1999)
- narratives
- participatory observations
- ...

Towards an assessment framework



- combining jointly & on-going
 - exploratory assessment frameworks
 - ethnography
- collecting narratives on a wide variety of SDI initiatives
- continuous deliberation & reflection
- synthesis into cross-case understanding

→ higher-level, conceptual framework of SDI



Finally ...

- This approach challenges the contemporary academic practice of ‘publish or perish’
 - electronic journals like IJSDIR provide opportunities
 - how to ensure quality?
- small-sized workshops are vital for creating ‘communities of practice’
 - Spoleto, Enschede, Wageningen, ...

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