A MSc study programme:

- An analytical approach to Cadastral Development

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Overview

- Motivations for a new study programme
- Purpose of study
- Content of study
- Selected details
- Conclusion/ Questions

Motivations for a new study programme

- Dissemination of approach and output of G9 research, and other as well: Dissertations, ..
- Prepare graduates for the legal/ institutional aspects of the mapping and cadastral agencies, cf. EuroGeographics
- Provide better theoretical basis for education in 'geospatial infrastructures'
- Contribute towards education in Cadastral Development of world wide scope

Purpose of study

Graduate shall be knowledgeable about how to

- Describe details of domain D as it is now
- Explain, why D developed as it is now
- Prepare plan for developing D_{now} towards some better state D_{better}
- Investigate, how such plan(s) were implemented, and with what outcome

Content of study

Possible organizing principle: Socio-technical Systems (Ottens, 2005)

- Technical elements (e.g. airplane)
- Agents and agent elements (e.g pilot, passenger; knowledge)
- Social elements (~ "What is beyond ISO standards")
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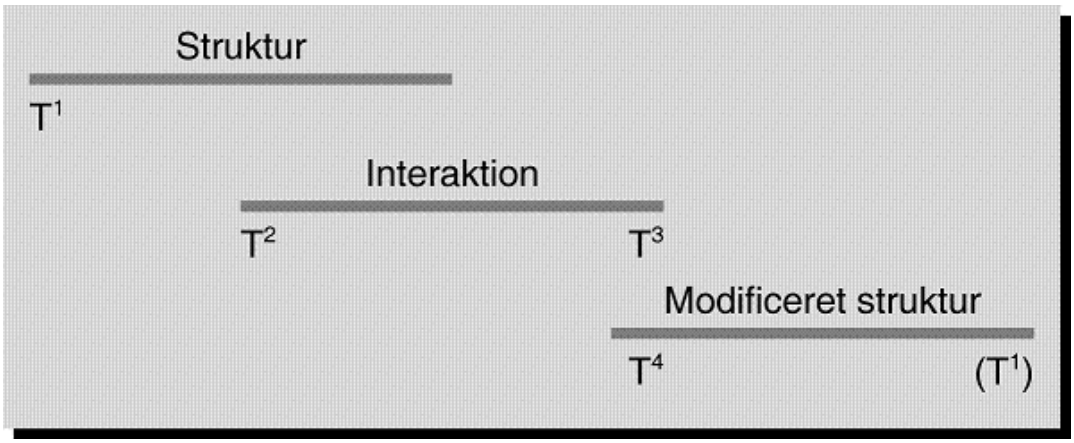
- Relations: TT, TA, AA, AS, SS, ST
- Dynamic model: $Structure_{T1}$ -> Process -> $Structure_{T2}$ ... ..

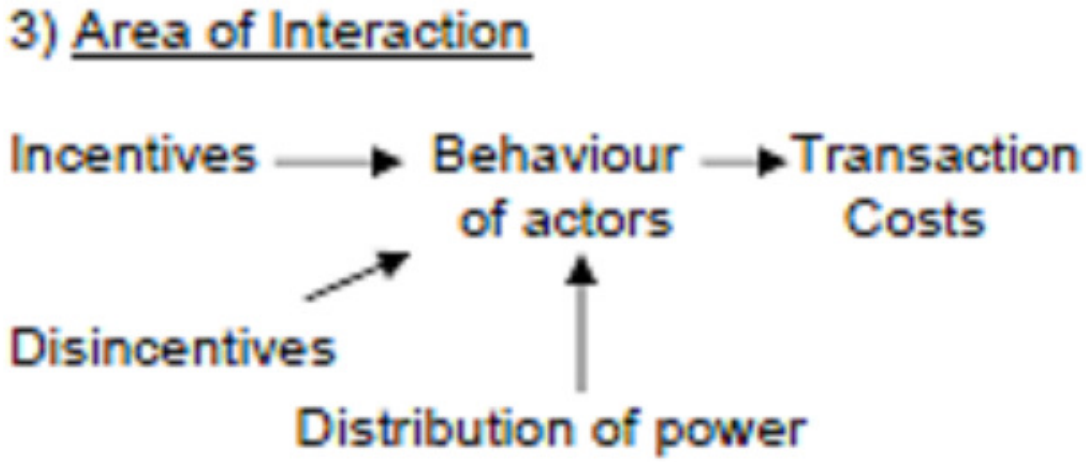
Appreciated by faculty of TUs ? by students of TUs?

Content of study: Dynamic model



Archer 1995: 76, in Stubkjær, 2004

Content of study: Dynamic model



See complete at end of handout! Jütting, 2003: Institutions and Development. OECD TP 210

Content of study: Static elements: Technical

- Satellites and reference stations
- Computers and networks
- Coordinate measuring devices
- Databases, archives; documents and maps
- Markers (boundary mark, sign posts, control points)

Content of study: Static elements: Social

Institutions	(See next)
Sign systems	• Symbols (flag, (Danish) crown) • Natural language (English, Danish,..) • Professional language (Concepts, expressions, ..) • Modeling and programming languages (UML, Javascript, XSL, ..)
Value systems	• Religions (Western Christian, Orthodox, Muslim,..; Hodgson, 2005) • Narratives (Schärfe, 2005) • Social capital (Trust outside family circles; Fukuyama, 1999)

Formal	Informal
Procedures	Rituals
Legislation	Customary 'law'
Standards (ISO, etc)	
Articles of association	
Study programmes	Socialization

Content of study: Static elements: Agents

Categories of agents:

- Humans (Owners, professionals, ..
- Organizations (Companies, associations, authorities, knowledge centers, ..
- Groups (Squatters, movements,

Agents operating within the domain

Elements of agents:

- Knowledge; code
- Capabilities
- Preferences
- Internal code of conduct (North, 1990: 33)

Content: Static: Agents: Capabilities

- Identify and relate elements of Geospatial and Cadastral Domain (GCD)
- Suggest and verify possible causes of change of GCD
- Develop programmes for change of GCD
  - Draft new legislation/ articles (legal-org)
  - Prepare business plan (econ)
  - Develop study programme (educ)
- Reflect methodology, validity

Content of study: Static elements: Relations

Agent-Agent:

- Hierarchy (organizational structure), Market, Network
- Communication
- Transactions in goods
- Transactions in institutions (Bromley, 1989)

Agent-Society:

- Role, competence, power
- Rights and obligations; Property rights

Content of study: Levels of analysis

- World, region, society/ state ("Denmark's contact with world markets")
- Region, state, policy issue network / industrial system ("European geospatial market")
- State, organizations, processes ("Costs of property transactions")
- Organization, departments, computers ("Re-engineering of GIS within organization")

Selected detail: Narrative

Necessary and sufficient conditions of a narrative (Schärfe, 2005):

- A sequence of events
- An identity changed
- A reference to something outside the events

Narrative 1: The sailor and the nun

- A sequence of events: Sailor, nun, encounter, outcome
- An identity changed: A nun -> a maculate nun
- A reference to something outside the events: A moral

Narrative 2: The munk and the nun

- A sequence of events: Munk, nun, encounter, outcome
- An identity changed: Two living -> a dead monk; -> a wall up nun
- A moral: Meaning of a monastery today (Appetize, 12, 2005)

Narrative 3: Effects of land titling

- A sequence of events: Farmers with untitled land, with titled land, with mortgaged land, with increased income
- An identity changed: Farmer without investment incentives -> with i. i.
- A moral: Land titling is good,
  even though land grabbing by powerful farmers increases, too (Dale & McLaughlin, 1988: 175, quoting G. Feder)

Another way of outlining the content

A. Disciplines, lectured as 'tools':

- Technology
- Geography
- Organization, with project management
- Public administration
- Scientific methodology

B. Disciplines, where reflection is requested:

- Cadastre
- Law
- Institutional economics
- Culture, including historical accent

Summary

- Presented aims and content, not methods or evaluation procedure
- Intended to clarify, to minimize, to focus on concepts
- When concept structure (ontology) is available, then teaching method(s)

Thank you! Questions? (later)

References

Bromley, Daniel W (1989) Economic Interests and Institutions - The conceptual foundation of public policy. New York: Blackwell. 274 p.
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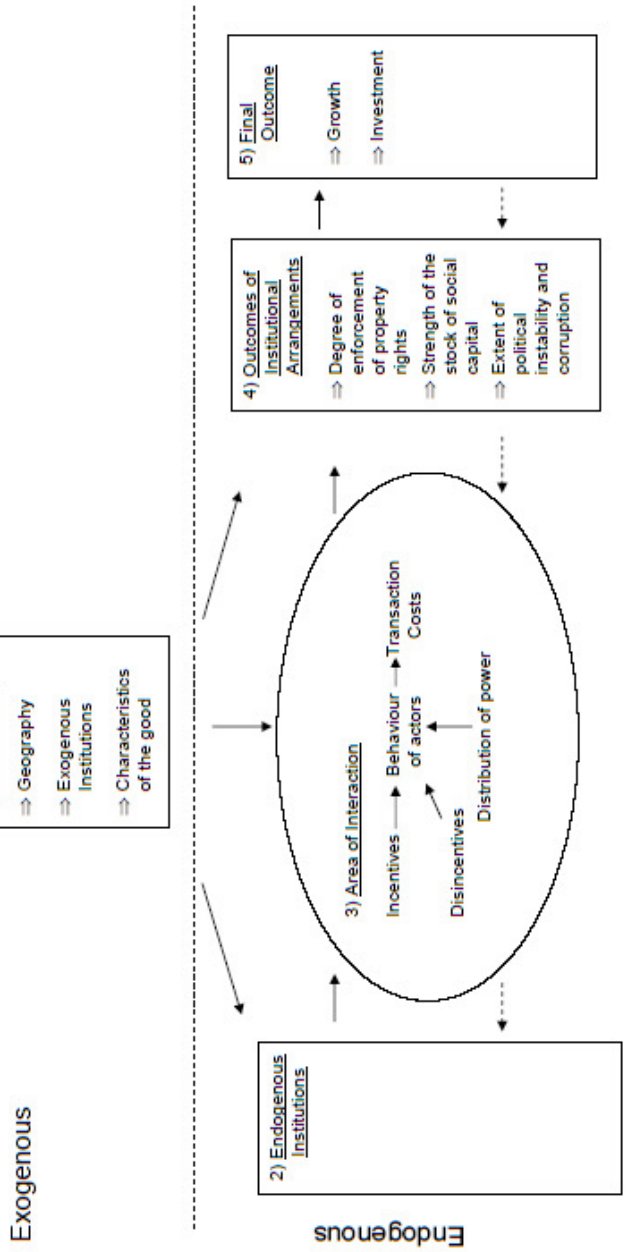
Figure 3: A Framework for Analysing the Impact of Institutions on Development Outcomes