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# Institutional entrepreneurship and innovation systems

What is there to learn?

Markku Sotarauta



“There often is too much actor, not enough structure”

...

“One of the most common pitfalls of an institutional approach is the constant temptation to want to ‘read off’ individual behaviour from national (or local) institutional structures”

(Gertler 2010)



- What is the place of institutional entrepreneurship in the (regional) innovation puzzle
- Structure
  - Consensus
  - Critique
  - Key concepts
  - Some empirical observations
  - Conclusions

**BUT**

how and why certain new practices or new organizational forms come into existence and become well established

**WHO - HOW - WHY**

development, diffusion,  
and use of new knowledge

individuals' and organisations'  
learning capacity

ability to innovate

new creations of economic and/or societal  
significance, i.e. **innovations**

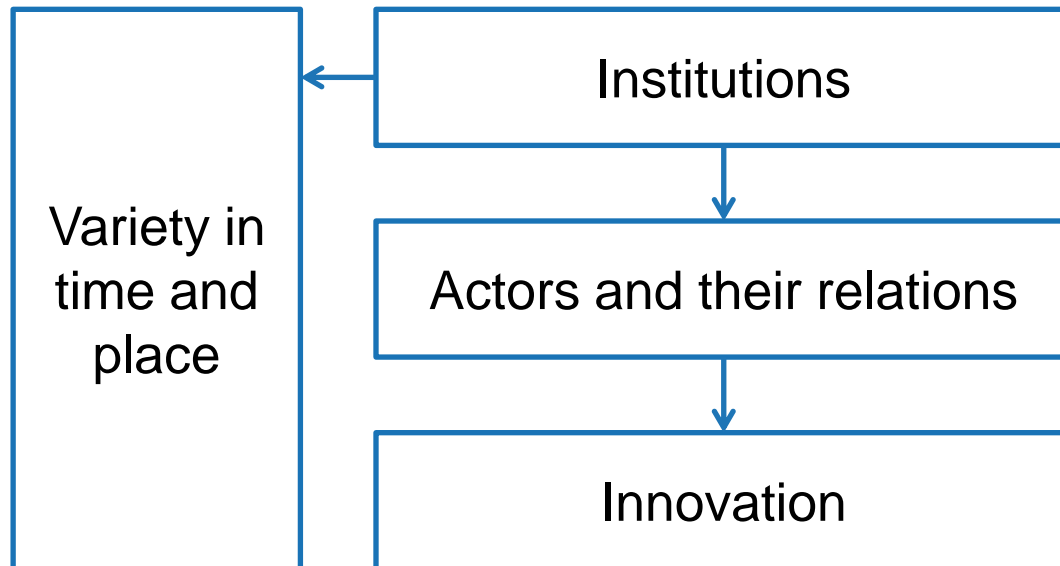
Relationships

Innovation  
policy as  
actions  
by public  
organizations  
  
(explicit  
measures)





- A process of a new practice, activity, norm, belief, or some other institution, becoming established part of an existing system, organization or culture (Sotarauta & Mustikkamäki, forth)
  - Institutionalised practice has attained a high degree of resilience (Scott 2001)
  - ...like a rule in collective thought and social action (Scott 2001)
  - The formation of such collective actors who defend the emergence of a new institution are an essential part of the institutionalisation process (d'Ovidio & Pradel 2012)





## Simplified understanding of institutions and agency

- **From** existence and absence of actors **to** study of purposive agents (Uyarra 2010; Uyarra & Flanagan 2010; Sotarauta & Pulkkinen 2011)
- **From** a narrow definition of institutions (Doloreux and Parto 2005) **to** proper empirical studies to see what they actually are
  - Institutions are sometimes circularly defined by their outcomes
- **From** a single-level understanding of institutions **to** seeing their combined multi-scalar effect



an engineer who designs some desirable states of affairs in the economy by choosing from a 'tool box' of policy measures?

(Witt 2003)

*Rational  
approach*

**OR**

an adapter rather than optimizer who often pursue policy of trial-and-error or imitation

(Metcalf 1994)

*Evolutionary  
approach*

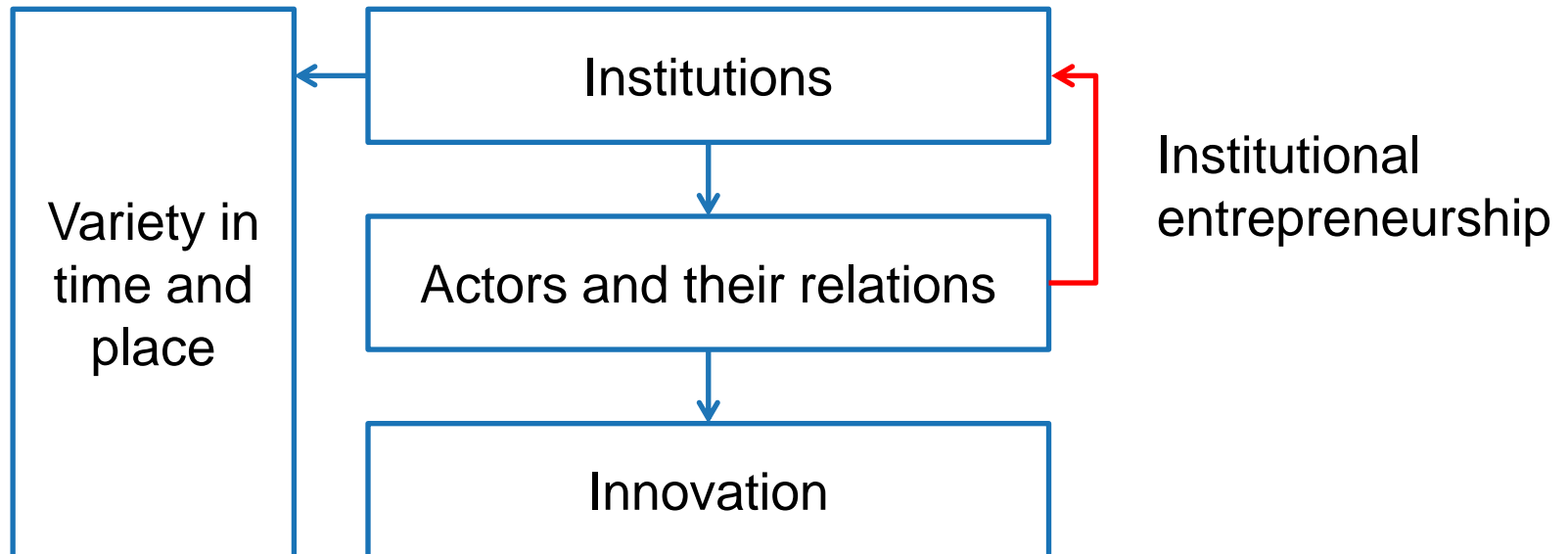
**OR**

a learner in the midst of politics, practice and theory;  
a carrier and transformer of meta-rationales

(Sotarauta 2012)

*Policy  
learning  
approach*







- have an interest in particular institutional arrangements
- mobilize resources and competences to create new institutions or transform the existing ones
- initiate divergent changes and actively participate in the implementation of these changes
- take the lead in change efforts
- are often constrained by the very same institutions they aim to change (embedded agency)

(DiMaggio, 1988; see also Battilana, 2006; Battilana et al. 2009; Sotarauta & Pulkkinen 2011)



- Recurrent patterns of behavior (habits, conventions, and routines) (Morgan 1997)
- Performance scripts that provide stable designs for chronically repeated activity sequences (Jepperson 1991)
  - Deviations are counteracted by sanctions or are costly in some manner
- Regulative, normative and cultural-cognitive institutional pillars (Scott 2001)
- Rules of the game (North)



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Institutions by definition imply permanence and stability, and one of their key characteristics is that they are resistant to change.

Restrictive view is being complemented and also the enabling role of institutions is being acknowledged (Hage and Meeus 2006)



Far-fetched example...?



- 3D printing -> ???
- Stem cell + biomaterial research -> regenerative medicine (Tampere)
- Copier and camera industry -> optoelectronics (Rochester)
- Tyre industry -> polymer industry (Akron)
- Forestry -> bioenergy (Finland)



- Intellectual property right laws; other laws;
- Various standards; environment, safety and ethical regulations;
- Organization and industry specific rules;
- Industry specialization and structure; governance structure;
- Financial system;
- The research and development structure;
- R&D investment routines;
- Training and competence building system

(see e.g.; Autio 1998; Braczyk et al. 1998; Edquist 2005 and 2008).



- **IE is a collective and processual form of agency (Ritvala and Kleymann 2012; Drori & Landau 2011; Hung and Whittington 2011)**
- IE is often an unplanned, highly personal and intuitive form of agency (Ritvala and Kleymann 2012)
- IEs ‘softly’ frame the conditions for future development (Kulve 2010)
- IEs are important in the long run as they bridge macro level (policy) and micro level (academic research) in a process of cogeneration (Karlsen et al 2012)
- IEs operate in the nexus of existing visions that produce continuity and new visions that push for institutional change (Drori & Landau 2011)
- All this calls for relational, contextual and systemic understanding of institutional entrepreneurship





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(Sotarauta & Mustikkamäki, forth)

- Regenerative medicine
  - Biomedical approaches to heal the body by the stimulation of endogenous cells to repair damaged tissues, or the transplantation of cells or engineered tissues to replace diseased or injured ones (Riazi et al., 2009)
- In 2008, for the first time in the world, a patient's upper jaw was replaced with a bone transplant cultivated from stem cells isolated from the patient's own fatty tissue



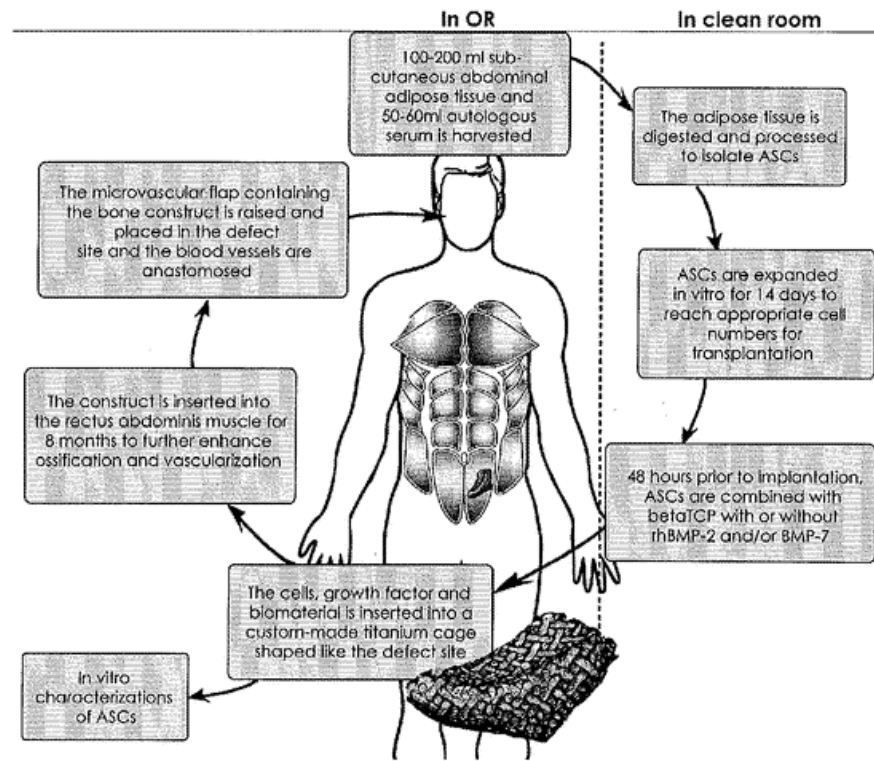


Figure 1

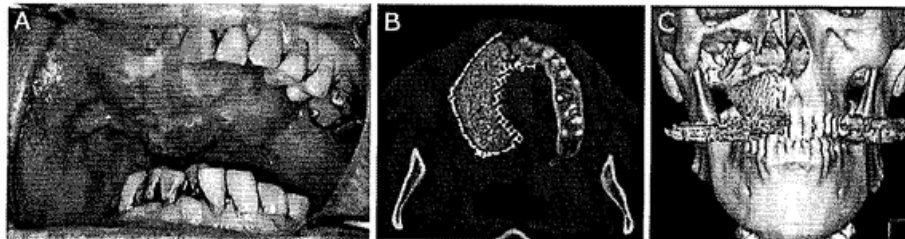


Figure 2



- **Seeds of change (97-00)**
  - Process lead by two professors (substance knowledge)
- **Collective belief formation (01-04)**
  - Process lead by a support community (policy and process knowledge)
- **Launch of activity (04-07)**
  - Process lead by the university (ie director of the new centre) (substance knowledge)
- **Institutionalization (08-?)**
  - Process lead by the Director of joint institute of two universities - BioMediTech (policy knowledge)





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- Institutional entrepreneurship is not to be located in the attributes of actors but in the relationships connecting actors in an innovation system and institutional change of it
- Policy-makers have a role in institutional change but not a linear one -> the study of IE reveals the roles
- Institutional change is creeping by nature and only seldom radical



- The concept of institutional entrepreneurship adds to our knowledge
  - How social actors **work to change** the institutions that govern their own activity
  - The ways **power** is exercised in these processes
  - How actors **strategise, mobilise** and **co-ordinate** tangible and intangible resources for institutional change
  - The ways **risk** and **opportunity** are taken not only for business but also for changing the rules of the game
  - **Institutionalisation** as an ongoing multi-actor and multi-scalar process