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Institutional Agency and Smart Specialisation

How Institutional Entrepreneurs and Navigators Work to Institutionalise a New Science-based Industry

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The research questions

- How do intentional actors, independently or in collaboration, change the institutional arrangements?
- How do they navigate complex institutional arrangements?
- A call for a more nuanced understanding of agency and institutions (e.g. Hung & Whittington, 2011; Ritvala & Kleymann, 2012; Sotarauta & Pulkkinen 2011)
- Two cases, one country, one city-region
 - Human spare parts industry and optoelectronics in Tampere, Finland
 - One institutional arrangement?



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Content

- Key concepts
- Some observations from two case studies
- Suggestive conclusions

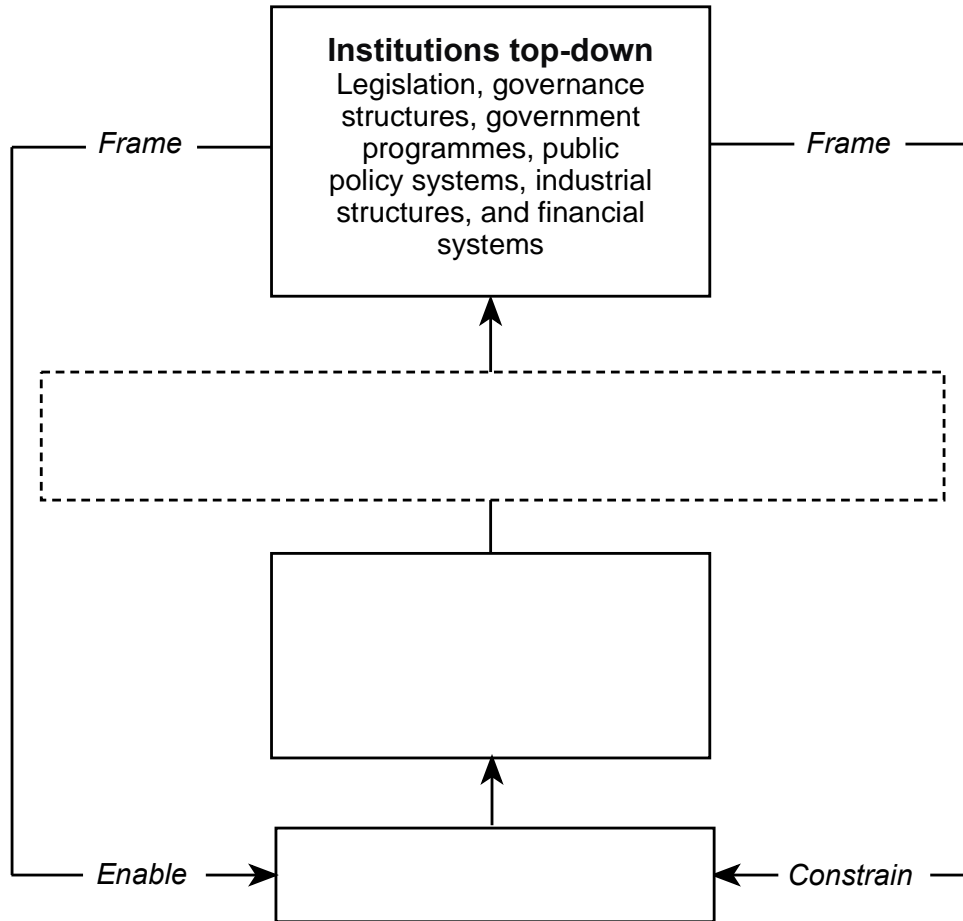


- Emergence of the optoelectronics industry (from the 70s to the late 00s)
 - The Lab/Centre
 - 7 spin-off firms (+ 2 international companies)
 - A specialized intermediary organization to market the case specific technology as well as the entire university's laser expertise
 - 25 interviews and an extensive document analysis
- Emergence of the human spare parts industry (from the late 90's to present day)
 - An institute administrated by two universities
 - 10 not so successful spin-offs
 - 52 interviews and an extensive document analysis



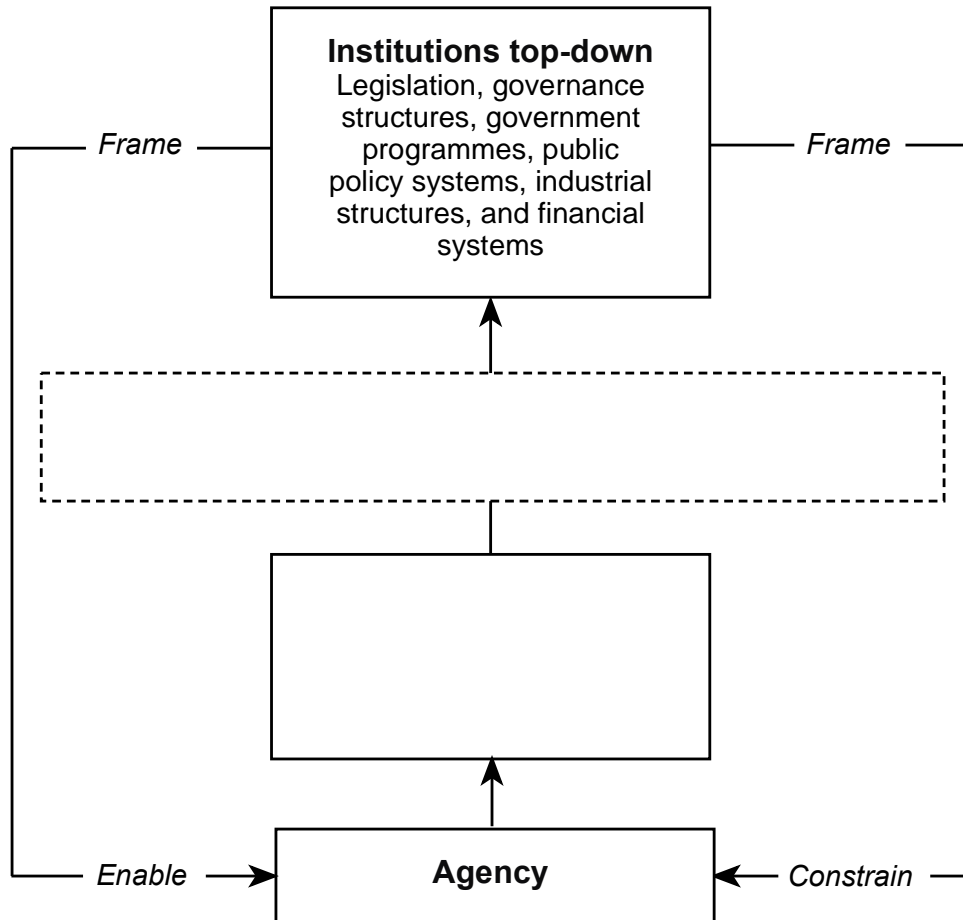
Simplified understanding of institutions and agency

- **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; Rodriguez-Pose 2013) **to** proper empirical studies to see what they actually are
- **From** a single-level understanding of institutions **to** seeing their combined multi-scalar effect



Institutions

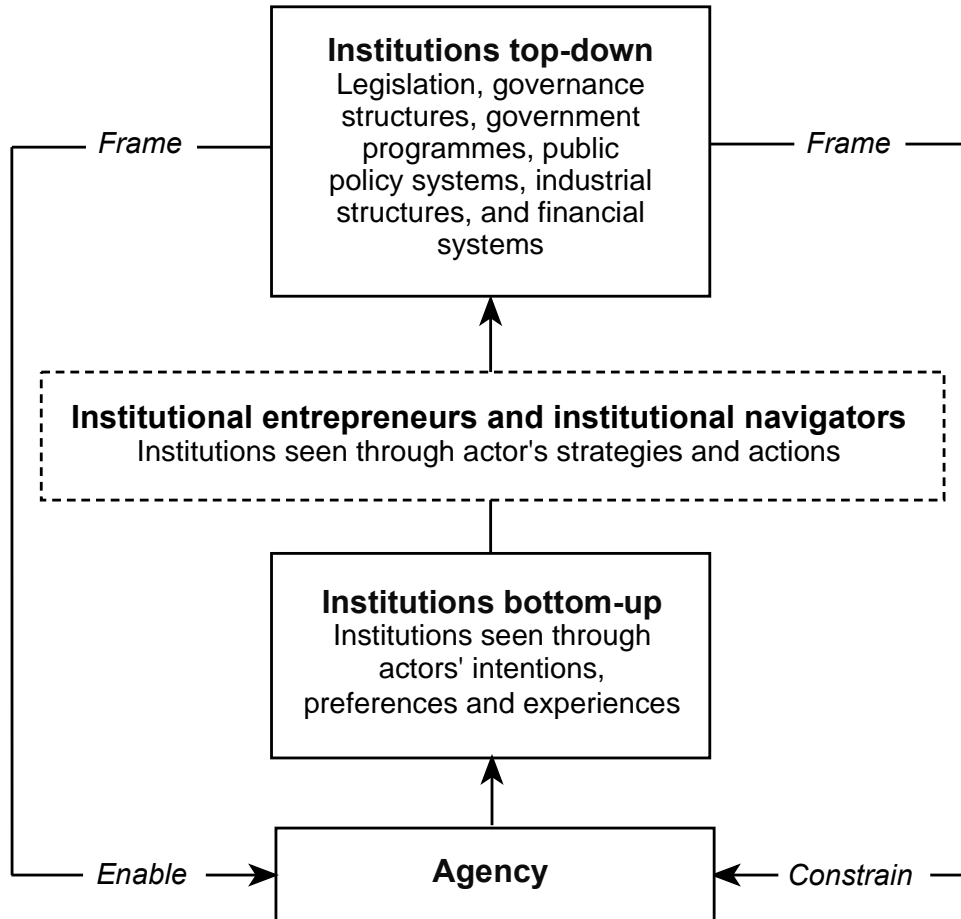
- Recurrent patterns of behavior (habits, conventions, and routines) (Morgan 1997)
- Socially constructed rule systems or norms that produce routine-like behavior (Jepersson, 1991)
- Regulative, normative and cultural-cognitive institutional pillars (Scott 2001)
- Rules of the game (North 1990)



Institutional entrepreneurs

- mobilize resources and competences
- initiate divergent changes and actively participate in the implementation of them
- take the lead in change efforts
- challenge existing rules and practices and institutionalize the alternative rules and practices

(DiMaggio, 1988; see also Battilana, 2006; Battilana et al. 2009; Sotarauta & Pulkkinen 2011; Garud & Karnøe, 2003; Sotarauta 2016)



Institutional navigators

- work to position themselves, and other agents, in the jungle of complementing and conflicting sets of institutions
- aim to comply strategically

(Sotarauta 2016)



Institutions top-down, highlights

- National regulations and policy pressure against university-industry interaction (70's)
- Structural holes (70's)
- Gradual policy turn (80's)
- Innovation policy hype (90's)
- Finland joined EU (1995)
- New commercialization act (00's)
- New University Act (2010)
- Conflicting incentives (Today)

Institutional agency, highlights

- Experimental research, semiconductors (70's)
- Some actors working against the tide (70's and 80's)
- Local initiatives emerging (80's)
- Exploitation of new opportunities (90's)
- Intermediaries and double positions
- Universities becoming more active as institutions (10's)



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Emergence of human spare parts industry in Tampere

(Sotarauta & Mustikkamäki 2015;
Sotarauta et al 2016)

Institutions top-down, highlights

- Emergence of regenerative medicine (tissue engineering) globally (90's)
- Strong local science capacity in the related fields but a structural hole
- Decline in global expectations (early 00's)
- National funding and permissive legislation
 - But very fragmented funding

Institutional agency, highlights

- Two active professors launched the process (90's)
- Support community crucial in belief formation (early 00's)
- UTA with the other actors institutionalised new field of research (00's)
- UTA & TUT established BioMediTech (2011)
- First breakthrough treatment (2008)
- Commercialisation trail behind (10's)



- IE and IN are a collective and processual form of agency (Ritvala and Kleymann 2012; Drori & Landau 2011; Hung and Whittington 2011)
 - Different actors with different strategies in different phases of process (Sotarauta & Mustikkamäki, 2015)
- In early phases IE often is an unplanned, highly personal and intuitive form of agency (Ritvala and Kleymann 2012; Sotarauta & Mustikkamäki 2015)
 - Support community seems to be crucial
- IEs but also INs softly frame the conditions for future institutional changes
- IEs operate in the nexus of existing visions that produce continuity and new visions that push for institutional change (Drori & Landau 2011)



- Actors are framed by the entire institutional arrangement
-> regulative, normative and cultural-cognitive institutions
-> conflicting
- Policy initiatives do not always help, as they are normative but do not recognise complexity of regulatory and cultural-cognitive institutions
- **Strong agency both inside and outside universities**



- Institutional change explicitly initiated and directed (**reform**)
 - Focus on top down institutions (often on the normative side of the coin)
 - Seems to follow a long series of bottom up activities (soil cultivation → c-c institutions)
- Key actors cease behaving according to the rules and practices prescribed by a preexisting institution (**defection**)
- Actors learn new ways of thinking and construct new interpretations of themselves, rules as well as practices, without abolishing the institutions themselves (**reinterpretation**)
- Actors bend to a wish, command, regulation or other external factors (**compliance to receive funding**)
- Actors simply are unaware of new or changed institutions (**ignorance**)



- Institutional entrepreneurs and navigators devise and effectuate institutional change through...
 - **Framing**
 - **Belief formation**
 - **Knowledge justification**
 - Collective action, shared goals
 - Group tensions, challenging other actors, fighting, bullying
 - Political tactics
 - Professionalization
 - Making decisions and channeling resources



- Institutional change is creeping by nature
- IE and IN are not to be located in the attributes of individual 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 and IN reveals the roles
 - Support communities play a crucial role



- The concepts of institutional entrepreneurship and navigation add 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