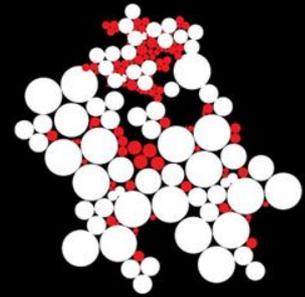


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Anticipation in the Governance of Innovation

Expectations, Foresight and Technology Assessment

Kornelia Konrad, STePS, University of Twente, NL

EU-SPRIng School

Vienna, March 15-17, 2012





Anticipation in the governance of innovation

- Increasing importance of anticipatory features in the governance of innovation
 - formal types of expectation-building as foresight etc. have become established elements in the repertoire of governance tools
 - promises (and risk concerns) related to innovation not new but increasing reflection by innovation actors and media, e.g. hypes
 - responsible innovation
- increasing body of literature analyzing / facilitating anticipatory processes
- Different forms and procedures of expectation-building addressed by different literatures



Aim

- bring together insights on anticipatory processes and their role in the governance of innovation from the different literatures
- explore how the different types of anticipatory processes (inter)relate



Revisiting guiding questions

- Role of SDE, FTA in governance of innovation (knowledge)?
 - different settings (policy, corporate, science, public), different technology contexts (e.g. emerging vs. established, specific IS), nations and cultures?
 - Vargolici, Bakker, Andersen, Berti, Voelker, Kumar, Rosskamp, Luo
- How can we trace the impact of societal exp dynamics, FTA?
 - for specific actors, organizations, technology fields?
 - Jarmai, Ghisa, Vargolici
- How are expectations generated and shaped (outcome, practices, institutions)
 - in different contexts (discourse(s), FTA procedures, nations and cultures? Which kinds of expectations are 'produced' and which actors are central?
 - Beumer, Cuijpers, Bos, Markiewicz, Berti, Rosskamp, Klimek
- How are exp/impact in discourses, FTA related?
 - Alvial
- How are expectations conceptualized in different approaches?



Positioning FTA from a SoE perspective?

- **Change of perspective:** focus specific FTA events (and its impacts) to FTA as specific loci/nodes within ongoing anticipatory processes
- -> **SoE** draw attention to ‘formalized’ anticipatory processes so far little attention - why?
 - FTA not that performative? – forecasting mentioned more often!
 - Assumption: influence depends on how they link up with decision-making – also beyond specific actors! or broader anticipatory processes
 - Another reason might be the typical sets of actors and arenas considered
- be (more) attentive to different modes of expectation-building
- -> **FTA:** suggests different approach to assess impact
 - shift from specific FTA processes to actors in an ongoing process of strategy-building, policy-making, ...
- New insights on how to set-up processes?



Conceptualizing anticipation in the governance of innovation - governance of and by expectations

- Governance
 - different modes or institutional rules of coordination ranging from hierarchical steering to networks and market-like forms of coordination organized by formal and informal rules (Benz et al. 2007)
- Governance of expectations
 - different modes how expectations are (generated and) coordinated
 - Based on specific actor constellations and institutional settings
- Governance by expectations
 - different modes of how exp contribute to coordination of innovation processes
- Intentional and de-facto governance



Different modes of governance *of* expectations

- **Market**
 - voicing of expectations as part of public discourses (media, policy, science, ...)
 - Commercial expectation market
- **Network**
 - Exp negotiated within more or less closed networks according to more or less codified rules, e.g. innovation networks or foresight processes
- **Hierarchy**
 - Religious communities?
 - Dominant role of certain actors in expectation-building

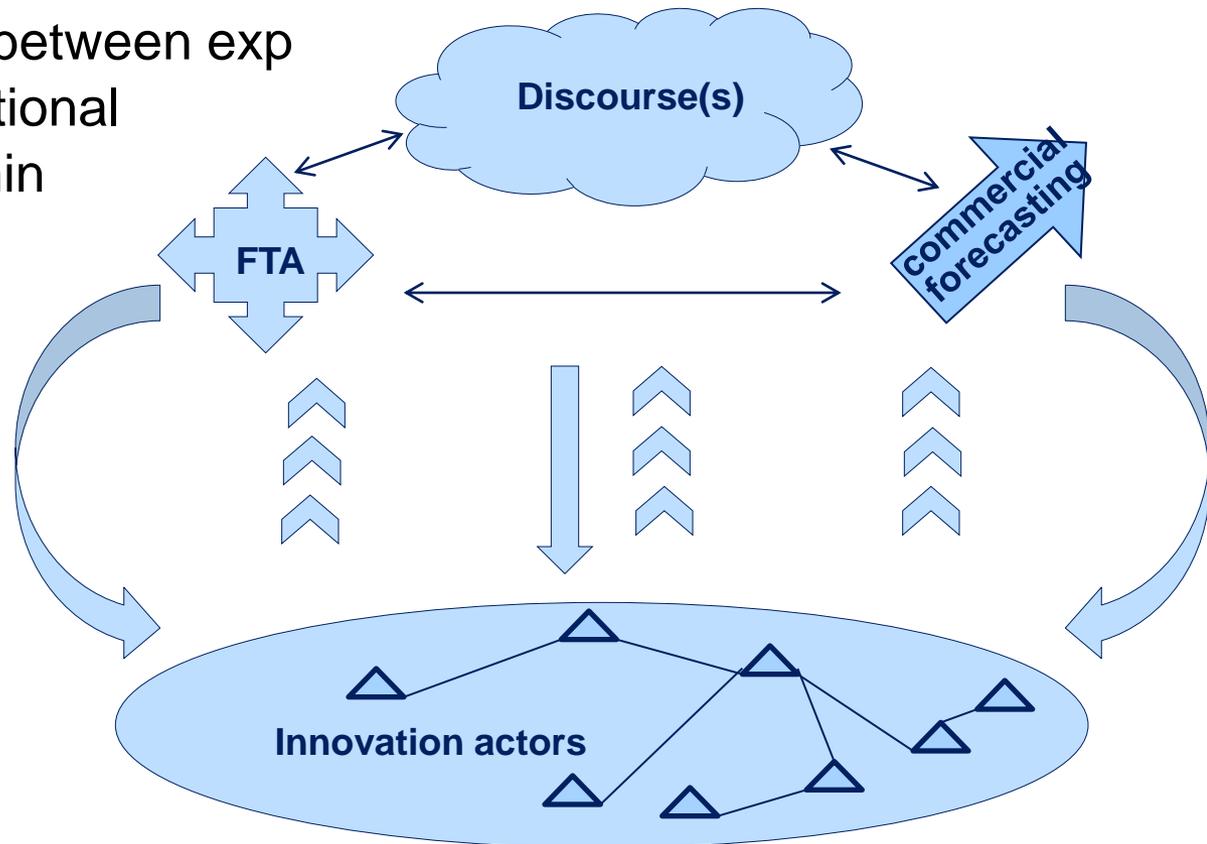


Different modes of governance *by* expectations

- ‘soft’ mode of coordination of actor strategies and constellations when expectations are rather fluid
- May become increasingly institutionalized and binding
 - collective expectations
 - taken up as part of obligatory institutional arrangements as funding schemes or as part of broadly accepted requirements (Moore’s law)

Governance of and by expectations

- Actors likely to draw on/contribute to different types of anticipatory processes – but how, when and to which extent?
- Societal discourses, FTA, forecasting likely to interrelate
- Reflexive relation between exp and actor & institutional arrangements within an innovation field





Recurring issues, new insights and ways forward

- Link up with approaches and ‘basic’ theories from within and outside STS (IS, MLP, economics, sociology, cultural theory)
- venture beyond S&T domains (DB: different policy domains)
- foundational insights from STS – beyond SoE -> mobilized for shaping TA approach
- for examining interaction formal - informal anticipatory practices: more research in SoE in policy settings and more attention to foresight in corporate settings
- Examining and strengthening the links of foresight (process, reports) with ongoing anticipatory practices and governance of innovation incl. adapting to setting/context
- What is foresight – ‘textbook foresight’ or variety of organized forward-looking practices? Answer may depend on focus being the process or the effect
- Symmetric view on promises and concerns (risks, grand challenges)
- Analyzing expectations – descriptive bias – venture actually into performative role “in action” – or actual shaping of expectations or discourse analysis
- Long-term analysis of (changing) forms of anticipation