TRACK 10: Innovation Ecosystems – a Governance Challenge for Companies and Policy Makers?

Session Proposers:

Kornelia Konrad
k.e.konrad@utwente.nl, Faculty of Behavioural, Management & Social Science, Technology and Policy Studies (STePS), University of Twente

Lisa Dale-Clough
lisa.dale-clough@manchester.ac.uk, Manchester Institute of Innovation Research, Alliance Manchester Business School, University of Manchester

Katrin Hahn
k.hahn@utwente.nl, Faculty of Behavioural, Management & Social Science, Department Science, Technology and Policy Studies (STePS), University of Twente

Chiara Marzocchi
Chiara.Marzocchi@manchester.ac.uk, Manchester Institute of Innovation Research, Alliance Manchester Business School, University of Manchester

Description:

Innovation system concepts have become a major reference for innovation policy and proven to be a useful lens for capturing features of innovation processes which transcend the boundaries of innovating organizations, such as institutions or networks. Innovation system concepts have been used to analyze innovation dynamics and the specific conditions for innovation at national or sectoral levels, or in particular technology fields. In doing so, they have been productive for deriving innovation policy approaches (Wieczorek & Hekkert 2012; Smits et al. 2010a; Smits & Kuhlmann 2004).

While these concepts are useful for capturing systemic features at highly aggregated levels, they are arguably less tuned towards capturing the dynamic evolution of innovation systems (Smits et al. 2010b) and how the organizations within an innovation system make use of and interact with this system in their innovation processes and strategies, or how they actively contribute to shaping these systems (for exceptions see Planko et al. 2016; Musiolik & Markard 2011). Empirical research shows that companies cannot typically manage the challenges of adapting new technologies, introducing innovations, establishing and sustaining business interrelations, and maintaining competitiveness using just internal resources and capabilities. Companies are systematically shaping their innovation environment to improve innovation capabilities and processes (Coombs and Georghiou, 2002). These interactions are both directional, such as creating more or stronger co-operations, and reactionary responses to environmental change or changing positions within an innovation value chain, which create new system boundaries e.g. insourcing specialised innovation activities.

The concept of an innovation ecosystem (IES), which emerged from the innovation management literature (Autio & Thomas 2014; Adner & Kapoor 2010; Moore 1993), has received increasing attention because of its potential to addresses system-level phenomena from a company perspective, respectively the interface between companies and ‘their’ innovation (eco)system. This idea pays particular attention to the flows of money, knowledge,

people and services between organizations, to identify interdependency, as in a biological ecosystem.

“The added value of thinking of this system as an ecology is the focus it brings to the distribution and abundance of research performers and knowledge and their interactions with each other and the broader environment.” (European Commission 2008: 23)

A company’s innovation ecosystem (IES) is not limited to an industry sector or specific region as implied by concepts such as sectoral, regional innovation systems or clusters (Malerba 2002; Braczyk, et al., 1998, Porter 1998), or to a particular technology as implied by the technological innovation system concept (Carlsson and Stankiewicz 1991). It is comprised of all the contacts and inter-linkages to other organizations around specific products or technologies, and thus companies may have to manage and manoeuvre within multiple or overlapping innovation ecosystems. The innovation process involves suppliers and customers but also competitors or universities, investors and policy actors, each of whom may control important resources or dependencies in a specific IES. This perspective has new implications for Governments, whose policy concerns will encompass the stability/change in populations and configurations of actors within IES’; facilitating interactions across sectors, geographies and value chains; ensuring effective flows of ecosystem resources, and addressing systemic imbalances.

We invite contributions which discuss conceptually or empirically:

- Strategies: the ways that innovating organizations strategically mobilize their innovation environment and/or try to shape it as part of the innovation process and/or anticipate the future environment.
- Ecosystem change: how do ecosystems change? What strategies can companies and governments use to respond to or induce ecosystem change?
- Concepts: what are the conceptual merits and shortcomings of the IES concept? How does the concept relate to other innovation system concepts?
- Governance and policy implications: how are innovation ecosystems governed and by which actors? What is the role of policy-makers within innovation ecosystems and what are the approaches and policy instruments for supporting and directing innovation within IES? How is the tension between the diverging boundaries of often international and highly dynamic innovation ecosystems, and national and regional innovation systems and policy frameworks, and how may policy address this challenge?

References:

Adner, R. and R. Kapoor (2010). Value creation in innovation ecosystems: How the structure of technological interdependence affects firm performance in new technology generations, Strategic Management Journal Vol.31 No.3 pp. 306-333.

Autio, E. and L.D. Thomas (2014). Innovation ecosystems; Implications for innovation management, in: Dodgson, M., Philips, N. and D.M. Gann (Eds.), The Oxford handbook of innovation management, Oxford: Oxford University Press, pp.204-228.

Braczyk, H.-J., P. N. Cooke, M. Heidenreich (1998). Regional Innovation Systems: The role of governance in a globalized world. London: UCL Press.

Carlsson, B., and R. Stankiewicz, (1991) On the Nature, Function and Composition of Technological Systems. Journal of Evolutionary Economics, 1(2): 93-118.

Coombs, R., and L. Georghiou, (2002). A New Industrial Ecology. Science, 296: 471.

European Commission (2008). Challenging Europe's Research: Rationales for the European Research Area (ERA), EUR 23326 Luxembourg: Office for Official Publications of the European Communities.

Malerba, F. (2002). Sectoral systems of innovation and production. Research Policy, 31: 247-264.

Moore, J. F. (1993), Predators and prey: A new ecology of competition, Harvard Business Review, Vol.71, pp.75–86.

Musiolik, J., J. Markard, (2011). Creating and shaping innovation systems: Formal networks in the innovation system for stationary fuel cells in Germany. Energy Policy, 39: 1909-1922.

Planko, J., J. Cramer, M. P. Hekkert and M. M. H. Chappin (2016). Combining the technological innovation systems framework with the entrepreneurs' perspective on innovation. Technology Analysis & Strategic Management: 1-12.

Porter, M. (1998). Clusters and the New Economics of Competition. Harvard Business Review, 76(6): 77-90.

Smits, R., S. Kuhlmann and P. Shapira (2010a). The theory and practice of innovation policy: An international research handbook. Edward Elgar: Cheltenham.

Smits, R., S. Kuhlmann and M. Teuball (2010b). A system-evolutionary approach for innovation policy. The Theory and Practice of Innovation Policy: An International Research Handbook: 418-448. Edward Elgar: Cheltenham.

Wieczorek, A. J. and M. P. Hekkert (2012). Systemic instruments for systemic innovation problems: A framework for policy makers and innovation scholars. Science and Public Policy 39(1): 74-87.