Industry and Innovation

Special Issue Call for Papers

Innovation policies and practices within innovation ecosystems

Guest editors

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Background and Objective

Now more than ever, we are confronted with discontinuous (Bessant, 2005) and potentially disruptive (Christensen, 2013; Christensen, Raynor, & McDonald, 2011, 2015) technologies such as big data analytics, artificial intelligence (AI), or Internet of things (IoT). These are all drastically changing the way firms are designing, prototyping, testing and manufacturing new products and services (OECD, 2017). The uptake of these technologies requires intersectoral investments and collaboration across a wide range of organisations on an unprecedent scale. Ecosystems, and particularly innovation ecosystems, with their "set of actors with varying degrees of multilateral, nongeneric complementarities that are not fully hierarchically controlled" (Jacobides et al., 2018:2264), and involved in a mix of formal and informal relationships provide the right framework to analyse such extended collaboration.

We need a new model of "co-innovation" (Lee, Olson, & Trimi, 2012) both at the technological and organizational level, and a new set of adapted policies to support ecosystem-based innovations. Research must now equip organizational actors with frameworks for thinking, public policies, decision-making tools, means of action and indicators to bring about the necessary transformations in ecosystem innovation. One such framework could be based on an extension of the upper-, middle-, lower-ground system proposed by Cohendet, Grandadam, & Simon (2010), where the middleground "is the level where the work of communities is decisive in designing the grammars of use and other common platforms of knowledge necessary for the knowledge transmission and learning that precedes innovation in those geographically bounded innovative environments." (Cohendet et al., 2010: 92).

However, the way in which innovation ecosystems emerge and adapt to paradigm shifts brought about by new discontinuous and potentially disruptive technologies, and bridge the gap between science and technology (S&T) and the commercialization of innovation is still poorly understood. Ecosystems are indeed not static, but evolve as innovations develop (Attour & Burger-Helmchen, 2014). While countries obsess about scaling up, i.e. to create the next generation of multinational enterprises (MNE), and capitalising on their S&T investments, well-organised innovation and business ecosystems may provide an interesting and potentially more agile model to consider as an alternative. But how to scale up ecosystems remains a challenge to be surmounted.

The common characteristic of discontinuous and potentially disruptive technologies is the extensive combination of knowledge and technologies that spans widely across numerous sectors and disciplines. In this context, governments need to co-develop new, adapted and targeted public policies as well as appropriate regulations with the right stakeholders to ensure innovation success. Breaking down disciplinary and sectoral silos within ecosystems will be crucial. In line with these public policies and government programs as mechanisms of their implementation, industrial processes and practices will need to be put in place to benefit from this multiplicity of discontinuous technologies that will soon be available to a vast array of sectors. In essence, the mobilisation required for the success of innovation ecosystems is more akin to a rugby attack line, with the occasional scrum, where all players involved keep advancing to drive innovation forward while closely sharing knowledge and technologies as the necessary feedback loops for the team.

An example of new, somewhat experimental, policy is the world-leading *Innovation Superclusters Initiative* created by the Canadian government "to promote commercial innovation and global presence, from ideation to value creation" (ISED, 2016). In contrast with Sectoral Systems of Innovation (Malerba, 2002), the Innovation Supercluster Initiative is centered on technologies rather than industrial sectors. All five Superclusters selected have a strong local base, they all span several regions of the country and internationally, aiming to benefit from numerous strong local technology hubs. The pure industrial cluster/district framework is therefore not entirely appropriate. If we are to understand how this and similar initiatives, or government programs for the support of discontinuous and potentially disruptive technology within innovation ecosystems, can become a success, no single strand of the literature is enough. In a time when smaller countries fail to build multinationals and when scaling up is on everyone's lips, it is imperative to assess whether well-organised innovation ecosystems provide the necessary agility and performance to become the engine of economic development and wealth creation.

Work is needed to understand the organisational structures of innovation ecosystems and how these are managed in order to accelerate and improve the innovation process and lead to better economic development and wealth creation. The goal of the special issue is therefore to provide a critical review of the past and current innovation policies and practices within and outside of innovation ecosystems in order to assess their appropriateness and effectiveness.

We encourage authors to submit articles that span multiple approaches and literature. Submissions can take many forms:

- Quantitative or empirical papers
- Experimental papers
- Theoretical papers (including models and simulations)
- Literature reviews
- Qualitative or case study-based papers

Research Topics

Potential research questions for the theorical and empirical papers submitted to this special issue may include, but are not limited to:

Institutions and policies for successful innovation ecosystems

- Are ecosystems self-emerging or the result of specific initiatives (public or private)? Which model is more appropriate/sustainable and in what circumstances?
- What public policies, innovation policies in particular, facilitate the emergence of these ecosystems?
- How to co-develop these policies alongside industrial practices and processes to ensure innovation success?
- How to co-develop the regulatory framework in order to foster rather than halt the innovation process?
- How to anticipate the commercialisation trajectories of research being performed within universities, firms and the ecosystem in general?
- As the speed at which new technologies are being developed continues to increase, how to ensure that all stakeholders are involved from the get-go in well-coordinated entities, such as innovation ecosystems?

Transformation and sustainability of innovation ecosystems

- How do ecosystems evolve and remain agile as new technologies are developed, diffused and adopted?
- What new configurations, spaces and networks are required for the successful evolution of innovation ecosystems?
- Who are the instigators of these transformations, within firms, institutions and ecosystems?
- What drives their evolution?
- How do multiple point of views aggregate to ensure the sustainability of the ecosystems?
- What are the commonalities and divergences of the ecosystems as they emerge, transform or evolve?
- How does public policy need to change/adapt to foster the necessary transformations?
- How sustainable is the ecosystem once it has emerged, or has evolved?
- How to scale up ecosystems? And is this an alternative or a complement to scaling up firms?

Governance of innovation ecosystems

- What organizations/individuals (at the core of the network) are the convenors and/or facilitators of innovation ecosystems?
- How are innovation ecosystems managed/governed?
- How integrated are the formal and informal processes within innovation ecosystems?
- What new practices, platforms, roles and functions are required to operationalize and govern innovation ecosystem?
- How to co-develop the policy/regulatory framework and innovation practices/processes that will enhance innovation rather than slow its progress?

Relation between collaboration, innovation and economic performance

- How do we measure success in collaboration within ecosystems?
- What role does open innovation play within ecosystems to foster greater innovation and economic performance?
- What is the socio-economic impact of intersectoral/interdisciplinary collaboration on innovation and economic development?
- Does the ecosystem facilitate/accelerate innovation production?
- What are the key performance indicators (KPIs) for measuring success of collaboration and innovation, of firms within ecosystems, of innovation ecosystems?

Important deadlines

- Submissions to the Special Issue due by **January 31st, 2020**
- Publication of the Special Issue in **2021**

Related events

The Partnership for the organisation of innovation and new technologies (4POINT0)[1] will organise an international workshop on 11-13 May 2020 on his particular subject. This workshop will be open to researchers from outside the remit of the partnership. In particular, we will be seeking international scholars to be invited to the event which will take place in Ottawa, Canada. The proposed special issue is planned as one of the academic outputs of the workshop. The call for papers will be advertised at the same time as the workshop, and again more widely right after the workshop to ensure that scholars not involved in 4POINT0 will have a chance to submit papers.

Submission Process

Paper submissions will undergo rigorous editorial screening and double-blind peer review by a minimum of two recognized scholars. The standard requirements of ***Industry and Innovation*** for submissions apply. Please consult the journal submission guidelines available at http://www.industryandinnovation.net.

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