

XXI Triple Helix Conference – 2023

TITLE:

Innovation districts, precincts, and hubs as innovation ecosystems — reconciling urban development, university, and innovation policy objectives and the role of systems integrators: case analyses from New South Wales/ACT (Australia).

TYPE (a. original research, b. research Design or c. practical case / experience analysis)

c. Practical case/experience analysis

TRACK:

6. Innovation ecosystems for urban, economic, and social development

PURPOSE:

The formation and growth of innovation regions, districts, precincts, and hubs are an important aspect of the Triple Helix narrative of institutional convergence.

But do these place-based institutional forms reflect convenient co-location rather than a wellspring of genuine knowledge spillovers and triple helix effects between businesses, research organisations and governments?

In recent years a great deal of research effort has been applied to identifying and “mapping” innovation precincts using location and agglomeration analysis. There is often a presumption that co-location delivers logical connections between participants, sometimes represented in complex maps or wiring diagrams.

A “logical connection” does not mean that actual organisational connections and human interactions are present, that information and knowledge flows are occurring, or that valuable spillover benefits are being delivered. Connections may be little more than contractual and transactional relationships between suppliers and customers — or creators and users of knowledge. The concept of an *Innovation Intermediary* was developed to facilitate this form of knowledge exchange and transfer.

Innovation itself is an interactive process with strong social as well as spatial, physical, and technological linkages between users and innovators. This, in turn creates a focus on social capital. Innovation ecosystems have the hallmarks of highly complex adaptive systems.

This Paper endeavours to move beyond a discussion of innovation intermediaries into an analytic framework of systems integration that develops cooperation, collaboration, partnership, and trust-based relationships among participants.

Innovation ecosystem integrators are companies or organisations that specialize in bringing together different components or technologies to create a cohesive and functional system. They

work towards connecting participants and introducing new participants. They may be government funded organisations, private consulting firms, industry associations, non-profit organisations, or start-up accelerator programs. The innovation media (newspapers, blogs, social media) also has an important and growing role.

The Paper will address how system integrators create value, their business models, governance structures, and funding.

An ecosystem can still function without a system integrator, but it may be less efficient, effective, and coordinated. Start-ups may have more difficulty accessing resources and expertise, and collaborations and partnerships may be less common.

Additionally, without a system integrator, there may be less (or no) coordination and communication within the ecosystem, leading to less effective use of resources and a less cohesive community.

The Paper will also address integrator roles in securing sustainable development objectives, particularly creating jobs, addressing social inequality, affordable housing, environmental sustainability, access to healthcare, and amenities, such as parks, restaurants, and cultural activities, encouraging the use of renewable energy and promoting energy efficiency by the construction of energy-efficient buildings and infrastructure.

DESIGN/METHODOLOGY/APPROACH:

The Paper will explore the proposition that the effective performance of an innovation ecosystem is *contingent on the nature and extent of connections and connectedness* between structural and technology elements underpinned by the strength of *social capital*, in the knowledge that people do business with people they trust. Systems failures come into play when connections are weak or faulty.

The proposition will be explored through investigation, analysis, case examples and experience of:

- The Ultimo/Central Sydney/Camperdown District in Sydney, known as “TechCentral”. UTS Start-ups, INCUBATE (USyd), and Cicada Innovations (USyd, UNSW, UTS, ANU) perform important system integration roles.
- The Newcastle/Hunter region (north of Sydney). Previous papers presented to Triple Helix IV and the EU JRC addressed the absence of an integrator. This may have been addressed in subsequent years.
- The Canberra-Southeast Region of NSW. The role of the Canberra Innovation Network (CBRIN) as an integrator across the region.
- The Western Sydney “Aerotropolis” District, being developed around the new Western Sydney Airport. A system integrator has not yet emerged.
- The Parramatta Square /North Parramatta (Westmead) precinct.
- Other university-specific initiatives including The UNE Smart Region Incubator, the Wollongong University Innovation Campus, the Southern Cross University Enterprise Lab, and the Charles Sturt University Agripark Campus.

- The Northern Sydney Global Innovation Corridor, which lacks a system integrator.

Reference will be made to overseas innovation ecosystems driven by urban renewal objectives, such as 22@Barcelona.

The paper will not address but may refer to virtual and digital ecosystems.

FINDINGS OR EXPECTED OUTCOMES:

The Paper is expected to find:

- Many designated innovation regions, districts, and precincts in Australia have been driven by a property development and urban renewal objective. They are often located adjacent to a university or public research organisation, but the connections are more often asserted rather than demonstrated.
- System integrators, particularly those connected to universities and public research organisations, can ensure that a vibrant innovation ecosystem emerges.
- Notwithstanding the interest and involvement of the State Government and property developers, innovation outcomes rely on the active leadership *and investment* by universities and public research organisations driven by long term and committed campus development plans. In some instances, universities have become *de facto* property developers.
- Universities have a clear understanding that investments in public research infrastructure are fundamental for driving private-sector research investment. University led investments in research infrastructure encourage international businesses to locate and collaborate over the longer term.
- University infrastructure investment has filled a gap in declining government research infrastructure investment. Global competition for inward R&D investment is tough, and universities are now part of the game.
- More work needs to be done to develop consistent and coherent Commonwealth and State/Territory policies that connect regional development, innovation ecosystems, foreign direct investment, and public investment in research capability and ability.

ORIGINALITY/VALUE:

There are few studies on institutional frameworks for effective innovation ecosystems and innovation systems integration.

PRACTICAL/SOCIAL IMPLICATIONS:

The Paper will have significant implications for innovation, higher education, and industry policy.

DIRECTIONS FOR FURTHER RESEARCH/LIMITATIONS:

Further research will focus on innovation ecosystem integration in other Australian States and internationally.



KEYWORDS (3-5)

Innovation Precincts. Social Capital. Public Research Investment. Regional Development.

REFERENCES

Reference material will include —

- Agarwal, R., Bajada, C., Green, R., & Josserand, E. (2018). *Mapping NSW Innovation Precincts Report*. University of Technology Sydney.
- Bajada, C., Agarwal, R., Skellern, K., Luff, S., Soco, S., & Green, R. (2022). Enablers of successful innovation precincts. *Regional Studies, Regional Science*, 9(1), 732-756.
<https://doi.org/10.1080/21681376.2022.2144427>
- Beyhan, B., Akcomak, I. S., & Cetindamar, D. (2022). How do technology-based accelerators build their legitimacy as new organizations in an emerging entrepreneurship ecosystem? *Journal of Entrepreneurship in Emerging Economies*, ahead-of-print(ahead-of-print). Retrieved 2023/01/25, from <https://doi.org/10.1108/JEEE-06-2022-016> 1
- Breznitz, D. (2021) *Innovation in Real Places: Strategies for Prosperity in an Unforgiving World*, Oxford University Press.
- Cheng, J. L. C., Love, E. G., & Chillar, D. (2020). National Innovation Ecosystems in the G-20 Countries: Institutions, Knowledge Infrastructure, and Firm Capabilities. Paper Presented at the 2019 Academy of Management Meeting, <https://ssrn.com/abstract=3682175>
- Department of Industry. (2018). The Sydney Innovation and Technology Precinct Report. NSW Government, https://gsc-public-1.s3-ap-southeast-2.amazonaws.com/s3fs-public/tech_precinct_panel_report.pdf
- Department of Industry Innovation and Science. (2019a). Innovation Precinct Insights: Guidance for innovation precincts: Planning a new innovation precinct. Australian Government, <https://www.industry.gov.au/sites/default/files/2019-04/innovation-precincts-insights-planning-an-innovation-precinct.pdf>
- Department of Industry Innovation and Science. (2019b). Stocktake of government programs supporting collaboration and innovation precincts in Australia. Australian Government, <https://www.industry.gov.au/sites/default/files/2019-04/stocktake-of-government-programs-that-support-innovation-precincts.pdf>
- Esmailpoorarabi, N., Yigitcanlar, T., Guaralda, M., & Kamruzzaman, M. (2018). Does place quality matter for innovation districts? Determining the essential place characteristics from Brisbane's knowledge precincts. *Land use policy*, 79, 734-747. <https://doi.org/10.1016/j.landusepol.2018.09.016>
- Greater Sydney Commission. (2019). Camperdown-Ultimo Place Strategy. Greater Sydney Commission <https://gsc-public-1.s3.amazonaws.com/s3fs-public/gsc-collaboration-area-ca2018-camperdown-ultimo-place-strategy-2802.pdf>
- Green, R. (2008). Spikiness in a flat world. *Monash Business Review*, 4, 20-23. Retrieved 2023/01/20, from <https://opus.lib.uts.edu.au/handle/10453/16849>
- Horrigan, D. (2011). *Strategic Serendipity: The art of being in the right place at the right time ... with the right people*. Australian Business Foundation.
- Howard, J. H. (2009). From Transactions to Partnerships in National Innovation Systems: A Triple Helix



TRIPLE HELIX

26-29 JUNE 2023 XXI CONFERENCE

Entrepreneurial and engaged universities
for sustainable development

Linking education, research and innovation
to achieve the SDGs & ESGs

- Perspective Triple Helix VII, Glasgow.
- Howard, J. H. (2011). Great Expectations: Developing "Instruments for Engagement" in University, Business, Government and Community Relations Conference on Innovation Systems and the New Role of Universities, Bristol.
- Howard, J. H. (2017a). Assistance in the Preparation of the ISA 2030 Innovation System Strategic Plan: Towards the development of an innovation ecosystem policy (Howard Partners)
- Howard, J. H. (2017b). *Impact Review of the Canberra Innovation Network (CBRIN): A Report to the ACT Government* (Howard Partners)
- Howard, J. H. (2018). *Innovation, Ingenuity, and Leadership: Evolution of the Canberra and region innovation ecosystem: A Policy and Public Administration Biography*. Acton Institute for Policy Research and Innovation and ACT Government.
- Howard, J. H. (2022). Innovation in higher education happens through social capital. *Australian Financial Review*. <https://www.afr.com/policy/health-and-education/innovation-in-higher-education-happens-through-social-capital-20221117-p5bz0s>
- Howard, J. H., Williams, T., & Agarwal, R. (2016a). Smart Specialisation as an Engagement Framework for Triple Helix Interactions XIV International Triple Helix Conference, Heidelberg. <https://www.triplehelixassociation.org/helice/volume-5-2016/helice-issue-5-3-4/smart-specialisation-as-an-engagement-framework-for-triple-helix-interactions>
- Howard, J. H., Williams, T., & Agarwal, R. (2016b). Governance Models and Frameworks for Smart Specialisation. Changing Patterns of Territorial Policy: Smart Specialisation & Innovation in Europe: First SMARTER Conference on Smart Specialisation and Territorial Development, Seville. <https://opus.lib.uts.edu.au/handle/10453/76043>
- Howard Partners. (2005). *Knowledge Exchange Networks in Australia's Innovation System: Overview and Strategic Analysis*. Department of Education, Science and Training.
- Howard Partners. (2007a). *Melbourne: Australia's Knowledge Capital. A Study of the Economic, Social and Cultural Contributions of Victoria's Universities with a Melbourne Presence*. Melbourne City Council.
- Howard Partners. (2007b). *The Role of Intermediaries in Support of Innovation*. Department of Industry, Tourism and Resources.
- Howard Partners. (2008). *Innovation, creativity, and leadership: report of a study of the ACT Innovation System*. Australian Capital Territory Government.
- Howells, J. (2006). Intermediation and the Role of Intermediaries in Innovation. *Research Policy*(35), 715-728, <https://doi.org/10.1016/j.respol.2006.03.005>
- Katz, B., & Wagner, J. (2014). The Rise of Innovation Districts: A New Geography of Innovation in America (Metropolitan Policy Program, Washington, <https://www.brookings.edu/wp-content/uploads/2016/07/InnovationDistricts1.pdf>
- Leon, N. (2008). Attract and connect: The 22@Barcelona innovation district and the internationalization of Barcelona business. *Innovation*, 10(2-3), 235-246. <http://dx.doi.org/10.5172/impp.453.10.2-3.235>
- Noble, D. (2022). Do we need a national startup concierge service? *InnovationAus.com*. <https://www.innovationaus.com/do-we-need-a-national-startup-concierge-service/>
- Mayor, T. (2019). Bye-bye ivory tower: Innovation needs an ecosystem to thrive. MIT. Ideas Made to Matter. <https://mitsloan.mit.edu/ideas-made-to-matter/bye-bye-ivory-tower-innovation-needs-ecosystem-to-thrive>
- National Primary Industries Research and Innovation Committee. (2018). *Performance Review of*

TRIPLE HELIX

26-29 JUNE 2023 XXI CONFERENCE

Entrepreneurial and engaged universities
for sustainable development

Linking education, research and innovation
to achieve the SDGs & ESGs

- Australia's Rural Innovation System*. Canberra: Howard Parters
[https://www.dropbox.com/s/8frbxa1gs6tnqdm/Performance Review of the Rural Innovation System - Main Report.pdf?dl=0](https://www.dropbox.com/s/8frbxa1gs6tnqdm/Performance%20Review%20of%20the%20Rural%20Innovation%20System%20-%20Main%20Report.pdf?dl=0)
- NSW Innovation and Productivity Council. (2018). NSW Innovation Precincts Lessons from international experience. <https://www.investment.nsw.gov.au/assets/Uploads/files/IPC/Full-Report-IPC-NSW-Innovation-Precincts-2018.pdf>
- NSW Innovation and Productivity Council. (2022). The Role of Anchors: lessons from international innovation precincts. <https://www.investment.nsw.gov.au/assets/Uploads/files/IPC/The-Role-of-Anchors-lessons-from-international-experience-I-September-2022.pdf>
- Ove Granstrand and Marcus, H. (2020). Innovation ecosystems: A conceptual review and a new definition. *Technovation*, 90-91, 102098. <https://doi.org/https://doi.org/10.1016/j.technovation.2019.102098>
- Pancholi, S., Yigitcanlar, T., Guaralda, M., Mayere, S., Caldwell, G. A., & Medland, R. (2020). University and innovation district symbiosis in the context of placemaking: Insights from Australian cities. 99, 105109. <https://doi.org/https://doi.org/10.1016/j.landusepol.2020.105109>
- Parker, P. (1998). The Multi-Function Polis 1987–97: an International Failure or Innovative Local Project. Australia–Japan Research Centre, <https://crawford.anu.edu.au/pdf/pep/pep-283.pdf>.
- RDA Hunter. (2016). *Smart Specialisation Strategy for the Hunter Region: A Strategy for Innovation Driven Growth*. Hunter RDA.
- Todeva, E. (2013). Governance of innovation and intermediation in Triple Helix interactions. *Industry and Higher Education*, 27(4), 263-278. <https://doi.org/10.5367/ihe.2013.0161>
- Todeva, E., & Danson, M. (2016). Regional dimensions of the Triple Helix model. *Industry and Higher Education*, 30(1), 5-11. <https://doi.org/10.5367/ihe.2016.0294>
- Walsh, D. (2023). Tech Hubs are expensive, but mostly worth it, research finds. MIT Sloan, Ideas made to matter. <http://mitsloan.mit.edu/ideas-made-to-matter/tech-hubs-are-expensive-mostly-worth-it-research-finds>
- Wiewel, W., & Knaap, G.-J. (Eds.). (2005). *Partnerships for Smart Growth: University-Community Collaboration for Better Public Spaces*. ME Sharpe.
- Wiewel, W., & Perry, D. C. (Eds.). (2008). *Global Universities and Urban Development: Case Studies and Analysis*. ME Sharpe.

CONTACT INFO

NAME AND SURNAME	COUNTRY	ORGANIZATION	EMAIL
Dr John H Howard	Australia	University of Technology Sydney Howard Partners Pty Ltd	John.Howard@uts.edu.au john@howardpartners.com.au