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Districts of Innovation in the World

Abstract

The 20th anniversary of the innovation district of Barcelona, the 22@Barcelona, provides the rationale for this special issue. Key actors in the academia, organisations and institutions from several innovation districts around the world, have joined this celebration project that has materialized in the collection of articles that conform “Districts of Innovation in the World”. The result is a unique compilation of experiences, analysis and evaluations that evidence the relevance of innovation districts as tools for urban, economic and social development but also as urban cores of production of technology and innovation. Benefiting from years of exchange of ideas and mutual collaboration, this special issue offers, from an evolutionary perspective, an analysis of the transitions, adaptations and mutations that innovation districts have experienced around the world.

Keywords: innovation districts, urban transformation, technology, governance, triple helix, knowledge based urban development

Districtes d’innovació al món

Resum

El 20è aniversari del districte d’innovació de Barcelona, el 22@Barcelona, justifica plenament aquest número especial. Actors clau del món acadèmic, organitzacions i institucions de diversos districtes d’innovació d’arreu del món s’han sumat a aquest projecte de celebració que s’ha materialitzat en la col·lecció d’articles que conformen “Districts of Innovation in the World”. El resultat és una recopilació única d’experiències, anàlisis i avaluacions que evidencien la rellevància dels districtes d’innovació com a eines per al desenvolupament urbà, econòmic i social, però també com a nuclis urbans de producció de tecnologia i innovació. Beneficiat d’anys d’intercanvi d’idees i col·laboració mútua, aquest número especial ofereix, des d’una perspectiva evolutiva, una anàlisi de les transicions, adaptacions i mutacions que han experimentat els districtes d’innovació arreu del món.

Paraules clau: districtes d’innovació, transformació urbana, tecnologia, governança, triple hèlix, coneixement basat en el desenvolupament urbà

Distritos de innovación en el mundo

Resumen

El 20 aniversario del distrito de innovación de Barcelona, el 22@Barcelona es la principal motivación de este número especial. Figuras clave del mundo académico, organizaciones e Instituciones de diversos distritos de innovación de todo el mundo se han reunido para este proyecto de celebración que ha acabado materializándose en el conjunto de artículos que conforman este “Districts of Innovation in the World”. El resultado es una compilación única de experiencias, análisis y evaluaciones que ponen en evidencia la relevancia de los distritos de innovación como herramientas para el desarrollo urbano, económico y social, así como para configurar centros urbanos de producción de tecnología e innovación. Apoyándose en años de intercambio de ideas y de colaboración mutua entre los autores de este número especial, ofrecemos desde una perspectiva evolutiva un análisis de las transiciones, adaptaciones y mutaciones que los distritos de innovación han experimentado en el mundo.

Palabras clave: Distritos de innovación, transformación urbana, tecnología, gobernanza, triple hélice, conocimiento basado en desarrollo urbano.

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Like business organisations, cities are dynamic and resilient entities that adapt to the requirements of globalization and take advantage of new technologies. Their resources, the private and public actors and the existing institutions shape the well-being of citizens and communities. Economic growth and the creation of jobs have been at the core of their activities for decades. The increasing concentration of population and economic activity within their boundaries claims for actions that guarantee inclusion and sustainability, without losing competitiveness in the international scenario. Despite the global goals, it is in the territory where actions and policies take place.

22@Barcelona, the innovation district of the city of Barcelona celebrates the 20th anniversary. The district is an example of resilience and transformation along time. From an evolutionary perspective, the 22@Barcelona of the XXI century is a sample in the territory of the transformation of the economic system: the district has shown its capacity to accelerate and to slow down according to the macro scenario, to adapt to the changes of the dominant economic model to include new economic requirements, to accommodate a variety of key actors in the decision-making processes that affect its future and to modify obsolete administrative structures. In sum, the current district has been reframed without losing its essence to answer the existing challenges of the moment, with successes and accomplishments but also with conflicts and errors.

Innovation districts, areas of innovation, technology parks, strategic clusters... these are different urban approaches to produce areas devoted to knowledge creation by clustering organisations and other actors such as government, industry and universities. Different academic models such as the Triple Helix model (Etzkowitz and Leydesdorff 1997) or the Knowledge Based Urban Development model (Yigitcanlar and Inkinen 2019) have pointed out

the needed factors that ensure a successful result in the territory that contributes to the urban competitiveness of a particular city.

In the origins of innovation districts, the obsolescence of industrial areas or the extended unused brownfields or greenfield have often represented a catalyser for urban authorities to find out alternative uses related to new economy, where technology and innovation play a key role. In a similar vein, consolidated actors such as universities or established business organisations, have seen in the promotion of nuclear areas responsible for Research and Development, crucial sites to produce and transfer innovation.

On many occasions, the location of these areas responds to traditional patterns of location: the proximity to central areas of the city, to large infrastructures and with easy access to the market are common characteristics. The shift of the economic activity towards peripheral locations in the second half of the XX century left obsolescent areas in central areas of the city that required the definition of a clearer pathway for the future. The processes to set up innovation districts in urban areas varies accordingly to several factors; the origin, the geographical area, the definition of the leadership role along the process, the resources and the institutional context are, among others, factors that contribute to the identity of a particular innovation district. Despite the existence of a planned trajectory, external shocks such as the GFC in 2008 or the COVID-19 pandemic in 2020, can alter the development of a project. The capacity of the district to adapt to these externalities will prove the resilience of the area and the transformation of crisis into windows of opportunity.

As the economy is global, districts of innovation perform in a globalized network of flows and relations (Engel 2022). Technological innovations favour an extended network of connections,

a global community of talent, where entrepreneurs, local incubators, venture capital investors, accelerators, research centres and mature organisations, among others, participate. The local ecosystem of innovation is a paradigm for the local-global relationship.

As an international referent, 22@Barcelona has strong connections with other innovation districts around the world. In fact, throughout knowledge exchange processes, the transferability of the model has contributed to imagine and reproduce other innovation districts that mirror partially or totally the features of the innovation district in Barcelona. Since its beginning, the 22@Barcelona is involved at different dimensions (territorial, economic, social and governance) in knowledge transfer and mutual processes of learning with other districts. To evidence this global connection, this special issue has contributions from all over the world. Based on the 22@Barcelona experience, **Carina Rapetti, Montserrat Pareja-Eastaway, Josep Miquel Pique and Didier Grimaldi** propose multidimensional indicators to ensure the effectiveness of the measures adopted in the innovation district. **Patrick Cohendet, Richard Chenier, Laurent Simon and Lucy Stojak** analyse the experience of Centech, a world-class incubator located in a cultural heritage building, the old Planetarium, at the *Quartier de la Innovation* in Montreal, Canada. **Poh Kam Wong** studies the developments of *One North*, the innovation district in Singapore and the relevance of the voices of critical actors in its development. **Daria Tataj, Paul Louis Krutko and Joan Bellavista** develop a new approach to areas of innovation as a network of co-located entrepreneurial companies and reflect the case of *Ann Arbor SPARK* as an example of a networked community. **Leonardo Gonçalves, Clarissa Teixeira and Josep Piqué** identify the role of Ruta N as a success factor in the trajectory of the *innovation ecosystem of Medellín*. **Alexander Chekanov** focuses on the *Skolkovo Innovation Centre* to identify the role of actors associated to the Triple Helix model.

Marta Fernández and Tom Bentley study social innovation in the early evolution of the *Melbourne innovation district*. **Carina Rapetti, Josep Miquel Pique, Aline Figlioli and Jasmina Berbegal-Mirabent** apply performance indicators to the case of *Porto Digital* in Recife and **Alessandra Giglio Hirtenkauf, Kerem Gurses and Llewellyn D W Thomas** provide a district-branding analysis involving several of the case studies of the special issue. As a complementary input, the Research Note from **Jiwu Wang** explores the Tsinghua university science park — *TusPark* — in China.

Despite the global arena for competition, geography still matters. The future of innovation districts is intertwined with the global transformation of the economies and the change of priorities and goals at the international scale. The inclusion of the Agenda 2030 principles, mostly sustainability, digitalisation and inclusion, will pave the future evolution of local innovation systems around the world.

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