



Does place quality matter for innovation districts? Determining the essential place characteristics from Brisbane's knowledge precincts



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ABSTRACT

The emergence of knowledge economy has prompted many cities across the globe to provide special zones for concentrated knowledge and innovative activities. These zones require specific place characteristics to foster, attract and retain talent and investment and in consequence accelerate their socioeconomic performance. Our understanding on such characteristics of these zones—so-called innovation districts—, however, still remains limited. This paper aims to identify the essential place characteristics of innovation districts. The methodological approach includes mixed methods—qualitative and quantitative—to analyse data from three case studies that are designated as innovation districts in Brisbane, Australia. The results reveal a list of essential place characteristics and specific strengths and weaknesses of the investigated case innovation districts in fostering, attracting and retaining talent and investment. The findings of the study inform policymakers, urban and economic development planners, architects and urban designers in their decisions on various aspects of innovation districts.

1. Introduction

Creativity, digital disruption and knowledge-based activities have increasingly characterised contemporary global markets (Lee et al., 2014; Cooke, 2017). In a knowledge economy, productivity is mostly characterised by intangible and symbolic values (Boddy, 1999; Meijer and Thaens, 2018). Those values include the capacity of knowledge generation, institutional networks, knowledge flows, and quality of scientific, high-tech, and artistic outputs (Cooke, 2004; Carrillo et al., 2014). Productivity is mainly related to innovative ideas generated by educated and talented workforces, who are being considered as a key asset of stimulating economic growth (Clifton, 2008; Pancholi et al., 2017b). Consequently, investments to foster, attract and retain human asset have become a key priority in knowledge economy (Glaeser, 2005; Pancholi et al., 2018a).

Urban development strategies play a prominent role on economic transition (Benneworth and Hospers, 2007; Yigitcanlar and Velibeyoglu, 2008). At first, it was assumed knowledge workers and industries could locate wherever they would like due to advancements in information and communication technologies (ICTs) (Hall, 1996).

However, real-world experiences, such as Silicon Valley, Cambridge Science Park and Sophia Antipolis along with other examples, revealed the opposite (Carvalho and Van Winden, 2017). Knowledge-based industries clustered with universities and research institutes around specific locations to share knowledge, workforce and facilities (Sohn and Kenney, 2007; Youtie and Shapira, 2008). Place and lifestyle were recognised as significant factors to foster, attract and retain knowledge workers (Wolfe, 1999; Storper and Venables, 2004). Global cities, as well, embraced knowledge-based urban development (KBUD) strategies to thrive their local economies (Metaxiotis et al., 2010; Yigitcanlar et al., 2012).

KBUD not only targets infrastructural, institutional and financial requirements of industries, but also considers socio-spatial desires of workers (Sarimin and Yigitcanlar, 2012). This development paradigm encourages clustering of creative and knowledge-based activities (Benneworth and Ratinho, 2014). Clustering empowers firms to increase their innovative capacity by sharing ideas, products, services and workforces (Reve et al., 2015). Simultaneously, it gathers communities of creative and knowledge workers, who are the architects of economic growth (Martin et al., 2015). These clusters represent neighbourhood-

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scale places, such as innovation districts, knowledge precincts, creative hubs, technology parks and the like (Yigitcanlar and Bulu, 2015). Economic growth is accelerated by many urban elements at urban and regional scales. However, the cluster-scale is recognised as specifically important as it is the scale where the tangible place is designed and day-to-day activities take place (Trip, 2007; Durmaz, 2015).

The academic literature clearly underlines the importance of clustering for economic growth. However, our understanding on the role that place plays at the cluster-scale along with the essential place characteristics are still limited. This paper aims to identify the essential place characteristics of innovation districts that can support a flourishing knowledge economy performance. The paper attempts to address two research questions. Firstly, whether place quality matters for innovation districts; and if yes, secondly, what the essential place characteristics of innovation districts are. In order to tackle these issues, the research undertakes an empirical study, analysing three innovation districts from Brisbane, Australia—i.e., Kelvin Grove Urban Village (KGVU), Diamantina Knowledge Precinct (DKP), Brisbane Technology Park (BTP).

2. Literature review

Innovation districts, also referred to as knowledge precincts particularly in the context of Australia, are local industrial specialisations that are generally clustered around universities, research institutions, and knowledge-based industries with a high internal and external networking and knowledge sharing capabilities (Clark et al., 2010; Millar and Ju-Choi, 2010). Innovation districts require knowledge workers, who are in theory no longer attracted to locations solely by employment opportunities (Yigitcanlar et al., 2007; Van Winden et al., 2013).

Many knowledge workers chose their locations particularly considering the place characteristics and lifestyle options, which fulfil their sophisticated needs and creative identities—e.g., amenities, authenticity, quality of meeting places for business and leisure (McCann, 2004; Baum et al., 2009; Kloosterman and Trip, 2011). These place characteristics influence where knowledge industries locate, as they seek places with the highest concentration of talent (Florida, 2005). Therefore, depicting specific place characteristics that help knowledge economy grow is beneficial for gathering agglomeration of talent, attracting investment and forming an appealing socioeconomic platform (Lonnqvist et al., 2014).

Studies emphasised that the most critical place characteristics are the intangible and quality-based conditions or soft factors—e.g., urban ambiance, vibrancy, socio-cultural diversity, tolerance (Bereitschaft and Cammack, 2015). However, the importance levels of these factors do not totally detract the relevance of hard factors—e.g., investment availability, job opportunity, cost of living, salary level (Storper and Scott, 2009; Scott, 2010; Alfken et al., 2015). There is also a third approach, which recently gained popularity (Bontje and Musterd, 2009; Boren et al., 2013; Durmaz, 2015), claiming an attractive place should be capable of offering ideal conditions both in terms of hard and soft factors (Brown and Mczyski, 2009; Yigitcanlar and Dur, 2013).

In line with the third approach, Esmailpoorarabi et al. (2018a) introduced a multidimensional conceptual framework for investigating place characteristics in innovation districts—including the most significant hard factors, i.e., form and function, and soft factors, i.e., ambiance and image—that shape a place (Fig. 1). In the light of the literature, these factors are discussed below by following the structure of the abovementioned conceptual framework.

2.1. Context

Innovation districts should not be planned in isolation from their urban and regional contexts (Esmailpoorarabi et al., 2018b). Excellence of the ‘capital system’ and ‘quality of life’ in cities and their regions influence the appeal of their innovation districts (Trip, 2007;

Durmaz, 2015; Pancholi et al., 2015a). The capital system focuses on the assets of cities and regions as a whole. These assets provide the macro-scale requirements of KBUD of cities and regions—e.g., natural, financial, relational, digital, intellectual, human assets (Yigitcanlar and Dur, 2013). Quality of life is the umbrella concept for the mezzo-scale factors that contribute to the general experience of urban living—e.g., quantity and quality of amenities (Santos and Martins, 2007; Morais et al., 2013). Improved ‘capital system’ and ‘quality of life’ enhance the ability of cities and regions to attract a thick pool of talent and investment—which in return empowers the knowledge economy growth. One successful example of such context for nourishing and flourishing innovation districts, is the City of Barcelona. Barcelona has transformed itself into a knowledge city in the early-2000s—and a smart city in the late-2010s (Yigitcanlar, 2015). Urban regeneration in Barcelona not only helped meeting the infrastructural requirements for knowledge-based activities, but also augmented the cultural and social activities. Today, Barcelona and its world-class innovation districts, such as 22@Barcelona, are global magnets for talent and investment (Charnock et al., 2014).

2.2. Form

Form, in terms of physical patterns, layouts, structures and so on, should be carefully determined in the planning stage of innovation districts (Esmailpoorarabi et al., 2016a). The appeal of innovation districts is highly correlated with their physical conditions—e.g., inner-city or suburban location, urban form and design, architectural design, amenities. These tangible place characteristics create an attractive physical environment for the wellbeing of knowledge workers and industries (Brown and Mczyski, 2009; Kloosterman and Trip, 2011; Frenkel et al., 2013). Innovation districts also offer advanced amenities and physical spaces for creating unique user experiences. Exemplar innovation districts with such offerings include: One-North (Singapore) with its sustainable architectural and urban design, Dumbo (Brooklyn) with its luxury lofts and warehouses and Sophia Antipolis (Nice) with its environmentally-friendly spaces (Parker, 2010; Yigitcanlar and Dizdaroglu, 2014).

2.3. Function

Function of buildings and open spaces should be strategically determined at the planning stage of innovation districts (Esmailpoorarabi et al., 2016b). Functions are assigned to buildings and open spaces by considering the followings: Mixed-used or single-use developments; Type and variety of innovative activities; Significance of economic opportunities and company profiles; Quantity and quality of labour pool; Capability of knowledge generation and knowledge spill-over; Proficiency of professional networks (Grant and Buckwold, 2013; Pancholi et al., 2017a). Dynamic life offerings of multifunctional and mixed-use innovation districts, such as Arabianranta (Helsinki), Macquarie Park Innovation District and Westmead Innovation District (Sydney), are an advantage in comparison to those traditional and single-purpose technology parks—e.g., Australian Technology Park (Sydney) and Dandenong National Employment and Innovation Cluster (Melbourne) (Pancholi et al., 2014; Makkonen et al., 2018).

2.4. Ambiance

Ambiance, in terms of urban, cultural, creative, digital and so on, should be deliberated at the planning stage of innovation districts as a key attractor (Esmailpoorarabi et al., 2018b). Creative workers seek diversity of people, variety of lifestyles, multiculturalism and openness—briefly the ambiance. Talented workers prefer variety of scenes enhancing social vitalities, encouraging social and business interactions—e.g., music events, street art, nightlife, third-places.

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