KNOWLEDGE HUBS, INNOVATION PRECINCTS, TECHNOLOGY PARKS, EMPLOYMENT CENTRES – WHATEVER LABEL YOU WANT – THEY’RE MUCH MORE THAN REAL ESTATE PROJECTS!

Over recent decades governments around the world have attempted to boost economic development prospects by focussing businesses and sometimes supporting institutions, such as education and research centres, in well defined geographic precincts. The rationale is robust, with evidence of benefits derived through co-location clearly established. However, for these benefits to eventuate, the effort directed towards building ‘soft’ infrastructure needs to match that directed towards land and ‘hard’ infrastructure design and development. One without the other doesn’t work. A long term commitment from development stakeholders underpins success.

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Introduction

Specialised employment centres are appearing in many countries and regions around the world, and their numbers continue to increase. The businesses in these parks are often export oriented and compete at an international level. As a consequence, the parks and precincts from which they operate increasingly compete at both a national and international level.

The range of names for geographically clustered areas of businesses and institutions is broad and includes terms such as business parks, employment estates, knowledge hubs, and technology, science and innovation precincts. Although there are distinctions between these types of parks, they share a common rationale for existence.

Co-Location Benefits

It was during the Industrial Revolution that businesses first recognised the benefits of being located close together (i.e. agglomerating), with Marshall (1920) describing the benefits that arose in early industrial estates.

Generally speaking the benefits of co-location comprise:

- Access to a pool of employees, suppliers and other firms;
- Access to specialised services, facilities and infrastructure;
- Ease of ‘comparison shopping’ for buyers, and exposure of firms against surrounding business practices;
- Knowledge spill-over via informal networks; and
- Lower costs of transport and communication.

Agglomeration of activity reduces the transaction costs within the supply chain and intermediate markets as a result of reduced search and comparison costs for buyers and end-users. Furthermore, agglomeration enables the creation of a ‘critical mass’ to allow for specialisation and to deliver shared infrastructure cost-effectively. Last but not least, agglomeration can create highly competitive environments, resulting in better, smarter and cost-efficient products and services.

Clustering

Clusters are a relatively new term but basically re-badge mush of the theory of agglomeration economies. Clusters are defined in many ways but an illustrate definition is posed by Putnam (1995) – groups of companies and related activities concentrated in a particular geographic area that are interrelated through alliances, buyer-supplier or customer-seller transactions and which draw on a common talent, technology, and support base.

The essential element delineating a ‘cluster’ from a mere ‘co-location’ or ‘agglomeration’ of activities is the social infrastructure that facilitates the building of co-operative business linkages. This incorporates the processes between people that establish networks, norms and social trust and which facilitate co-ordination and co-operation for mutual benefit (Putnam, 1993).

Indeed a cluster requires social interaction, trust and a shared vision in order to create the dynamism of competitiveness and innovation (Le Veen, 1998), which have been described as key determinants of economic
growth as far back as the 1950s (Solow, 1956). These relationships were quantitatively articulated by Romer (1986), and have subsequently featured strongly in debate around regional competitiveness (after Porter, 1990).

One of the main lessons from the Silicon Valley experience in the 80s and early 90s is that it is the relationship between firms, not their simple presence in co-locations that matter (Saxenian 1994). This reflects the importance of ‘tacit’ knowledge or ‘know-how’ in the innovation process and the need to engage constructively with others agents of innovation.

Parks, Precincts and Hubs

Parks, precincts and hubs aim to develop an environment that promotes the benefits of co-location and clustering.

Cutler (2009) notes there are various development pathways for employment or activity precincts. These pathways range from organic (Monash/Clayton precinct in Melbourne) to incentive driven development and anything in between. Incentive driven models are often sourced from government incentives or foreign direct investments. The proposed MFP in Adelaide is a good example of the latter.

Precincts may be developed from a brown field site, in which the site managers tend to invest in linkages and leveraging from existing assets and branding. On the other hand, green field sites require the establishment of both the hard and the soft infrastructure bases (including marketing and branding amongst other things).

Precincts and centres may focus on varying themes ranging from tourism, culture and retail to science, technology and industry. But in many cases, but by no means all, precincts and parks aim to foster innovation (i.e. the commercialisation of inventions), growth and maturation of enterprises.

Richard Lester from MIT identifies three shaping trends towards innovation precincts (Cutler, 2009):

- The increased importance of cross-sectoral collaborations for both research and industrial outcomes.
- The growing prominence of ‘wicked problems’ requiring inter-disciplinary, cross sectoral and cross-functional skills and partnerships, such as climate change, urban growth and food security.
- The demand for ‘interpretative spaces’ and open spaces for information exchange and discovery.

Precincts can mobilise resources around a topic or ‘wicked problem’. They can bring together the scope (breadth of resources provided) and depth (level of specialisation demanded) of resourcing required to be effective.

Importantly, to be effective, the strategic intent for co-location in precincts needs to be clear and depict the expected value-added to stakeholders. Knowledge transfer and commercialisation should be optimised through the successful definition, structuring, operation and management of precincts. A separate body should support commercialisation via support services (e.g. incubator scheme, intellectual property, business planning, seed and venture capital, partnering). Universities and research centres are often driving forces (Porter, 2007).

Furthermore, it is important not to create a precinct from scratch, but instead to build on existing and emerging clusters and/or champions.

In recent times attention has been drawn towards social capital or social infrastructure. As introduced earlier, social capital comprises “the features of social organisation such as networks, norms and social trust that facilitate coordination and cooperation for mutual benefit” (Putnam, 1995). For a precinct to be effective, soft infrastructure aspects should also be translated into program and policy design principles. That is, there is a clear role for a market organiser or broker of relationships, both formal and informal. Universities often act as places where these relationships can evolve in the form of education, forums, events and research programs.

Key Success Factors

In some recent work, SGS combined the insights from the above research base, summarise in Figure 1, with numerous case study investigations of co-location precincts that have worked well and others that have not. Case studies included:

- The Australian Technology Park, Sydney;
- Cambridge Science Park, Cambridge, UK;
- Brisbane Eco-Sciences Precinct, Brisbane;
- Science Park Amsterdam, Netherlands;
- Sophia Antipolis, France;
- London Sustainable Industries Park, UK;
- Mawson Lakes, including Technology Park Adelaide; and
- Techport, South Australia.

The case studies represent parks with a focus on science and innovation, eco-industrial activity and recent Australian practice. They also represent parks from various stages in their life cycle, from the developing to the maturing stage. Some generic lessons can be learned and these are listed in the following subsections.

Key Success Factors

The case studies and literature have brought forward a number of best practice principles that are common among all or most the cases analysed. These include various elements of soft infrastructure development, and include:
Initially the parks are incentive driven. The parks are often integrated in a government program aimed to strengthen the science and related sectors in the jurisdiction. In addition, the park may be integrated in a government strategy for employment and science precincts. The eco-sciences precinct in Brisbane, Queensland is an obvious example of this.

Strong park management board and/or development corporation. The management of the park needs to follow clear guidelines and objectives. The management needs to display a long term commitment to allow the parks to evolve and become a point of attraction. Involved boards and development corporations aim to establish relationships and collaborations between businesses. Some park managers play an active role in external networking and lobbying with governments and (inter)national network relations.

Involvement of a university or knowledge and research centre. Universities and knowledge centres are not only centres for education but also places to meet and develop new ideas. Further they are the places that may generate spin-offs and innovations that can be further commercialised in the park.

Support for spin-offs and business incubators. All parks provide some level of support to entrepreneurs starting up their businesses. The services range from the provision of business support, IP and legal advice, office and business space to access to venture capital.

Marketing and branding. The branding is often related to the unique selling points of the parks and key anchor tenants with an established reputation. Branding tends to underline the principles of sustainability, green and clean and community for knowledge workers.

Creating a community for the skilled workforce. Increasingly parks integrate residential uses within the precincts to establish a viable mix of uses. Residential uses provide sufficient density to support amenities and services: places for people to meet and exchange ideas.

Formal and informal places to meet, exchange ideas and collaborate. Parks often include conference centres, meeting rooms, flexible workspaces and more informal places such as cafes, restaurants, sports and cultural facilities. This increasingly includes the organisation and promotion of formal and informal events, ranging from forums to growers markets.
In terms of hard infrastructure needs, all case studies are highly accessible by major roads and most are accessible by public transport. Fast internet connections are common too. All parks provide for at least some shared infrastructure facilities including laboratories, conference centres, offices, education spaces, computer facilities, energy provision, business services centres and public open space.

Excellent access and proximity to major urban centres is not a point of difference, but more a necessary requirement.

From a design perspective, over and above the need for mixed uses, density, and formal and informal meeting spaces, parks are increasingly moving towards creating amenable communities with significant green/public open spaces and good pedestrian linkages. They also aim to establish, on a large scale, the ‘open door policies’ that are common in most modern offices: to create an environment where people and ideas mingle.

Most parks adopt development and design guidelines to ensure all development meets required standards, including setbacks and preferable building heights.

Strategic partnerships are crucial to the success of a park. The case studies show that upfront commitment is required from land corporations, relevant government bodies and key anchor tenants. Governments themselves can act as anchor tenants as the cases of the Brisbane Eco-sciences Precinct and Techport illustrate. Universities and research institutes are other key anchor tenants.

It takes time and long term commitment to allow precincts/clusters to grow and become a magnet for innovative business activity. Strategic partners in successful parks have demonstrated this commitment.

References

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Groves, L. (2007, draft), Technology Park Adelaide – Critical Success Factors, DTED