Urban Renewal in Asia-Pacific: A Comparative Analysis of "Brainports" for Sydney & Kuala Lumpur

Suresh C. Sood
University of Technology, Sydney
School of Marketing, Faculty of Business
University of Technology, Sydney,
P.O. Box 123 Broadway NSW 2007
Australia
Suresh.Sood@uts.edu.au

Hugh M. Pattinson
University of Technology, Sydney
School of Marketing, Faculty of Business
University of Technology, Sydney,
P.O. Box 123 Broadway NSW 2007
Australia
Hugh.Pattinson@uts.edu.au

Abstract

This paper reviews the concept and applicability of "Brainports" from a South-East Asian context. The concept of "Brainports" is explored both from as an extended concept applied to existing physical and information infrastructure but what emerges from the research is Brainports as a component of a new and emerging global creative infrastructure with new features and capabilities including the facilitation of global mobility of human talent. Application to existing infrastructure is achieved by focusing on two specific cities in the region that have different approaches to this form of urban renewal - Sydney, Australia and Kuala Lumpur, in Malaysia which it associated "Multimedia Super Corridor" (MSC) intelligent city concept. The comparative analysis conducted by the authors helps to setup the attributes and a framework by which other cities in South East Asia or globally can be reviewed as Brainports. The research method used was Bricolage which includes interviews with domain experts, government officials of both cities and creative talent providing a rich description for the attributes as well as workshops with key stakeholders and video footage of the key locations under investigation.

Keywords: Brainports, Sydney, Kuala Lumpur, bricolage, creative infrastructure

Introduction

At the outset of the research project discussed in this paper, the authors assumed a fairly literal working definition for a “brainport” as an intelligent knowledge-based shipping port city, with higher shipping and capacity, smart transport logistics and interchange, plus redevelopment of port areas into creative precincts.

However, we recognise that the term “brainport” has been applied to other cities that are not necessarily port cities, but possess clusters of advanced industries that need to share knowledge to create new products and services.

Conceptualisation of “knowledge cities” highlights issues with defining just what constitutes a “knowledge economy” and in some instances could be regarded as interchangeable with the term “Brainport” (Carillo 2004). Van Oort & Raspe (2005) link Eindhoven as a knowledge city (with the surrounding South Brabant region as a knowledge economy) to also be a “brainport”. Ergazakis, Metaxiotis & Psarras (2004) also have reported on Eindhoven as a “brainport”, but other cities analysed by them as knowledge cities, such as Barcelona, Delft, Melbourne, and virtual cities in Brazil – all could be regarded as “Brainports”.

An alternative to defining “knowledge cities” is to understand the emergence, diffusion and contribution of infrastructures to economic development. Economic history since the Industrial Revolution can be classified into five long-wave economic cycles based on resources developing new technologies which in turn produced new infrastructures to drive international economic growth and associated business and social developments. These long-term Kondratiev curves appear to explain economic development and major economic structural changes more effectively than conventional shorter business cycles.

Perez & Freeman(1988) mapped the five main long-term cycles as “techno-economic paradigms” in the late 1980’s and updated this work in 2000-03 (see also Perez (2002), Arthur (2002); Freeman & Louca (2002). These techno-economic paradigms are:

1. early mechanization (1770s-1840s);
2. steam power and railway (1830s-1890s)
3. electrical and heavy engineering (1880s-1940s);
4. Fordist mass production (1930s-1990s);
5. information and communication (1980s-2040s?) (Freeman and Perez, 1988, pp. 47, 50-7).

These techno-economic paradigms produce infrastructure that radically change economies at all levels including:

- emergence of new industries based on the key technologies and resources;
- strong solutions to the limitations of previous techno-economic paradigms;
- new infrastructure;
- new organizational forms and industry structures for existing firms;
- countries gaining technological and economic leadership positions from the application of key technologies and resources associated with the paradigm;
- new approaches to national and international regulation;
- new training and education systems;
- new services linked to the techno-economic paradigm;
- new innovative entrepreneurs; and
- new political economists and philosophers

(Freeman and Perez, 1988).

The current technoeconomic paradigm based on silicon and represented by information infrastructure is about 20-30 years into a 50-60 year cycle. This means that technology is emerging for a new paradigm due around about 2025-30. Although, speculative, the next paradigm may be based on biological material and/or new nanotechnological materials with possibly light also being a significant base resource for a new infrastructure.

At this stage though there has been a radical change associated with development and deployment of information and communication infrastructure – and yet we may just be only about halfway through that transition. Clearly, there is substantial room to apply and development existing information infrastructure to improving areas such as transport and logistics. There is sufficient development capability to

incorporate and facilitate considerate creative activity and mobility within extended versions of current information infrastructure technologies. In other words current and emerging information structure is capable of supporting quite advanced brainports based in rejuvenating existing ports and regional areas which manufacturing and distribution industries.

As we progress further through the information and communications techno-economic paradigm, a far more advanced creative information infrastructure can be expected that may indeed point to a true virtual knowledge network with nodes that could be recognised as brainports – and that is before a new paradigm emerges probably based on a biotechnology taking the concept of a brainport well beyond the scope of this research project and our imagination.

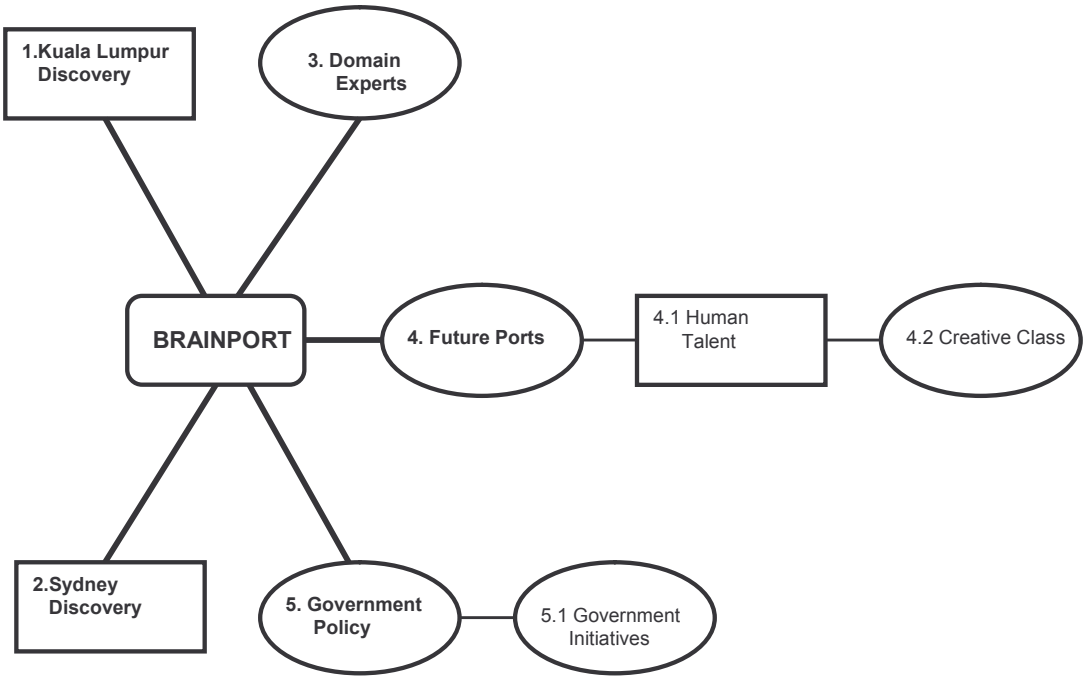
Research Approach

As actual definition and taxonomy associated with brainports is still not fully articulated, a research approach that enables a 'bricolage' or a "do-it-yourself" concept definition, but using a diverse range of material as inputs was adopted. McLeod (1999) refers to qualitative research/inquiry as 'bricolage'. Wikipedia (2005) offers definitions for bricolage drawing from:

- Arts ("a technique where works are constructed from various materials available or on hand")
- Biology ("to describe the apparently cobbled-together character of much biological structure, and views it as a consequence of the evolutionary history of the organism")
- Culture ("the processes by which people acquire objects from across social divisions to create new cultural identities") and
- Content Management ("is an open-source content management system"). All of these definitions are rolled into one to reflect a more complete and diverse bricolage approach.

Research inputs and processes making the bricolage approach for the project are presented as a meta-analysis diagram in Figure 1. The oval shapes represent workshops and interviews with relevant stakeholders whilst rectangles represent the collation and subsequent analysis of unstructured information from a variety of sources including Web sites, newspaper articles, video materials as well as the workshops.

Figure 1 Meta Analysis of Brainport Research



At the conclusion of each stage a set of themes representing distinct outputs were documented. Where new ideas were uncovered that stood out amongst a range of themes and required investigation further analysis or research workshops were conducted to learn more about the newly discovered concept. After closely knitting the outputs from each of the stages together the concept of the Brainport emerged. Each stage is now discussed in greater detail.

1. Kuala Lumpur Discovery

The discovery stage here used a technique called “train of thought” analysis that used materials from a variety of sources including the Web and newspaper articles to uncover key themes. Some time was spent on a “walkabout” of the location under study and video footage was recorded for later analysis. This provided the researchers with as close a possible feel to being there as well as knowledge of key landmarks and typography. For Malaysia the location researched was CyberJaya which is a flagship intelligent city and hosts information technology infrastructure.

2. Sydney Discovery

The discovery stage here was the same method as outlined at stage 1. The major difference was that Sydney is a port city in the traditional sense although a walkabout of the harbour port area through to the outskirts of the airport did reveal some features common with Malaysia including a science technology park, universities and high tech industries in close proximity to the harbour.

3. Domain Experts

A panel of domain experts was selected with considerable face to face time spent in semi structured interviews. These experts were familiar with ports across Asia as well as global trends. The experts were asked to consider the future of Ports over 5, 10 & 25 years. Other questions included the specifics regarding the future of Asian ports and experts were finally asked to think of the term Brainport and what it meant. The key findings are:

a) The core activities of ports, how they are set up and how they owned and operated was not expected to change much even over the next 25 years. This was underpinned by the knowledge that setting up a port is very costly owing to the infrastructure and it serves a very specific purpose.
b) Where this occurs, there has been the birth of integrated logistics providers as well as new port services relating to the provision of information services for the community
c) Investment in ports is growing, both the expansion of existing ports or literally the building of brand new ports in every country.
d) One of the trends being seen with ports is how they are no longer seen in isolation but have become part of a "transport corridor". If they not part of a corridor, they would appear very unattractive because any gains from improving operations of the port will be lost in poor transportation as one moves to other modes.
e) The entire shipping line industry has seen a resurgence in the last 10 Years primarily because of the amount of trade that China does. This entails longer berths, more cranes, better access roads, more dredging, and land reclamation & improved efficiency in loading and unloading.
f) The industry still lags behind when it comes to the investment and adoption of information technology. One big challenge ports have is to play a part in integrating information flows all the way up and down the transport chain - i.e. collect information at point of origin only once and propagate the chain.
g) Due to the geographic layout of Asia and poorer trans-Asia road/rail transport infrastructure, ocean transport is very important in Asia.

4. Future of Ports

This research process was orientated at helping participants imagine the future. Attendees included a diverse group that had an interest in understanding the future of ports in Asia especially Sydney. All workshop attendees were asked to consider if it was 2025 “How would the business of ports be changed?” This was built on scenarios shared with attendees encompassing the trends discovered from domain experts. Attendees used flipcharts to capture their views. Beyond this, a gap analysis was

undertaken to understand today's position and how will port operators move towards the business of 2025.

All the flipcharts were recorded from each workshop and the results processed for themes and additional comments. The participants without exception projected a vision of the future on an existing port structure. The emergent construct from these workshops was human talent which was a focal idea not considered by the domain experts.

In addition to direct workshop material, "montages" of photo's and video records of port areas of Sydney and Kuala Lumpur (including the Cyberjaya area) from different periods or eras of the mid and late 20th century and early in the 21st century were collected and will be analysed and presented later in 2005.

4.1. Human Talent

The workshops saw the port environments as being a magnet for human talent. There was an expectation that people should be able to move freely between ports in Asia as well as elsewhere in the world with minimal of border checks. Port environments may become attractive precincts or locations for mobile and creative human talent. Brainports would support and facilitate mobility and critical strategic contributions from creative human talent.

4.2 Creative Class

Florida's (2005 and Sydney Morning Herald 2005) "Creative Class" are critical components of a brainport concept. Examples of "Creative Class" human talent including key executives of software organizations, the animation industry and selected academics were consulted in both Sydney and Kuala Lumpur. The key linkage between interviewed parties was mobility and to qualify for consideration they must have relocated to either Sydney or Kuala Lumpur from elsewhere or have a presence in at least one other location in Asia.

5. Government Policy

The primary source for government policy were key Web sites, parliamentary speeches, interview transcripts of key dignitary visits e.g. Malaysian Prime Minister Abudullah Badawi visit to Sydney.

5.1. Government Initiatives

Government initiatives were similar for each of the locations except that in the case of Sydney it was necessary to work amongst a number of different government departments at state and federal levels whilst in Malaysia the Malaysian Development Corporation provided a single source of information pertaining to relevant government initiatives.

The bricolage research method has enabled the authors to extend and deepen the brainport concept for further discussion.

Discussion

Results from the bricolage method will be analysed and presented later in 2005. However, early findings highlight a number of interesting points on the concept of brainports.

Brainports as Smart Shipping Ports

Several port cities around the world are facing critical capacity and management issues as international shipping has grown quickly at a time when rationalisation and tight port investment strategies were prevailing management approaches. In particularly strong growth in manufacturing in China has seen many ports facing loading issues with natural resources outbound, on the one hand and handling large container loads of manufactured goods inbound.

Port authorities have applied various forms of information technologies since containerisation was introduced in the 1960's, and many ports have various degrees of integrated port management systems.

Newer ports may have integrated systems from the ground up and deeper intermodal/transport interchange systems. So if a new port was developed in the first decade of the 21st century what would make it a "Smart" Shipping Port or a "Brainport"?

Brainports as Intelligent Cities

Should a "Brainport" be separate from a concept of an Intelligent or a Smart City? Some port cities may have self-contained transport systems where movement of goods may be separated from the main transport infrastructure of the city or regional area. For example dedicated rail and road links to the port may be separated from passenger and commuter rail-lines and motorways mainly focused on transporting commuters to, from and around regional areas. But for many port cities, port traffic is competing with commuter and other traffic, and planners and managers face substantial challenges in developing additional transport capacity. When combined with urban renewal, substantial creativity and novel ideas are required to address these issues.

Sydney as a Brainport

The key issues facing Sydney are developing dedicated port transport and more non-port transport projects; defining what sort of port Sydney may be in future; competition against other interests that wish to bypass Sydney as port in future including the inland rail expressway and focus on Newcastle as a key port; focus on Melbourne as main shipping port; Urban renewal, particularly in the old port areas where a financial services centre is being relocated.

Kuala Lumpur (Kuala Lumpur) and the Multimedia Super Corridor (MSC) as a Brainport

Kuala Lumpur has really sidestepped issues regarding Port Dixon and introduced the notion of the MSC Concept. This compares with similar ideas such as scientific cities in Japan and Taiwan and newer ideas such as Cyberport in Hong Kong. Can a new "Silicon Valley" or "Route 128" area be created through managed development – and is this a model for a new "Brainport" that may be distinct from just being framed around an existing shipping port?

A Different "Brainport" - An Emerging Creative Infrastructure

So far, the concept of a Brainport has been based either on incorporating more information infrastructure to existing shipping ports, or developing intelligent precincts that could be regarded as brainports within a global information infrastructure.

However, through the research the key construct that emerges from bricolage is Brainports as representing the development of a new creative infrastructure where creative ideas can be shared between creative precincts around the world, plus creative people may also move between these precincts or "Brainports". In this environment, Brainports are creative nodes in a highly advanced creative global – but perhaps precinct-based information/knowledge infrastructure. Advancing existing information infrastructure what extension and new elements will be seen?

- Systems
- Government and Organisation Forms and Management
- Urban Distribution and Creative Location/Proximity and Knowledge Sharing
- Philosophies
- New "Economic" and "Creative" Sharing Systems
- Preconditions for Development of Creative Infrastructure
- Variations for culture and/or regional proximity?
- Specific Business and Marketing Concepts Associated With Creative Infrastructure

Further research is required to develop this new concept further but we believe that it is a substantial and worthy extension to the Brainports concept that merits further investigation across key Asian cities with particular attention to the movement of creative people..

There is synchronicity between the industrial age represented by ports and the practices of creative talent that could help unlock the issues overwhelming Asian ports as espoused by domain experts. But perhaps most of all there is a sense of history repeating itself. As we analyse the video footage and work

around the geographic locale of our areas of study, we cannot help but see the parallels laid out by history. The Opera house in Sydney is an ambassador of creative talent and it was built on the terminal for the trams during the late 1950s and the Australian Technology Park occupies the site of a railway hub. Malaysia's centre emanates from similar humble beginnings.

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