Brisbane's Digital Strategy (BDS): An Economic Strategy for the Digital Age?

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Abstract

A growing number of cities around the world have now realised the need to use digital technology to capitalise on the rapidly growing digitally driven economy. In mid-2013 Brisbane, Australia released its 'Digital Strategy' document to strengthen its economy through improved productivity for local businesses. The article is based on a combination of policy analysis and empirical data gathered through interviewing a sample of stakeholders involved in the strategy development process. It aims to understand how Brisbane intends on using the potentials of the digital economy. The results raise questions around the role defined for the digital economy in the future, and shed light on the 'smart city' concept as a plausible digital-enabled direction for cities and regions with reference to the third wave of economic development, and the Triple (Quadruple) Helix of knowledge development. The lessons learned here may be applicable to any city interested in playing a proactive and productive role in the new economy.

Keywords

Digital strategy, economic strategy, business strategy, smart city, triple helix, third wave

Introduction

Advances in digital technology are changing how cities deliver services and the ways they engage with citizens. A growing number of cities around the world have now realised

the need to strategically capitalise on the rapidly growing digital economy. (Bloomberg, et al., 2010; Bloomberg, et al., 2013; Carter, 2013). Cities have started to develop digital strategies to speed up the pace of change, to ensure that the digital economy is a high priority, and to move digital planning and policy making approach from ad-hoc to an integrated and strategic one that utilises the potentials of digital economy in social, spatial and economic planning (Jayasundara, 2011; Willson, et al., 2009).

In this paper we focus on Brisbane's Digital Strategy (BDS) and question its core focus on digital economy, and the role defined for this new economy in the future development of the city. The analysis is based on a combination of policy analysis and interview data collected from a sample of stakeholders involved in preparing the BDS. The paper begins with a literature review of digital strategies versus economic strategies. It then describes the methods used to examine the BDS and reports the findings as they relate to the third wave of economic development and knowledge economy models. The article concludes with a discussion on the smart city concept as a digitally-enabled direction for cities in the new economy. The lessons learned here can be applied to a much broader setting, as they suggest how the digital economy can (or should be) utilised for productive, socially just, and environmentally sustainable outcomes.

Digital versus Economic Strategies

The first generation of digital strategies focused on businesses of all types and sizes (Bornheim, 2001; Kulatilaka and Venkatraman, 2001; Mithas and Lucas, 2010). Businesses were asked to realize that digital technology had reached the mainstream, so e-business or e-commerce was now everyone's business in the new economy (Fingar and Aronica, 2001). The internet was understood as a new infrastructure for a new way of doing business and competing in the digital economy. Nevertheless, competition is a core concept in the post-

industrial new economy, with new challenges and opportunities that must be tackled globally not locally (Rondinelli, et al., 1998).

The competitive angle of digital economy has also reached the national level as governments have begun to develop strategies to take advantage of the fast-growing technology-based economy. National digital strategies now exist in a growing number of both developed and developing countries including: Singapore; India; Taiwan; China; South Korea; Malaysia; Ireland; Israel; Australia; and Finland. It has been argued that national strategies are needed for digitally-enabled development in the new techno-economic paradigm, and must be operationalized to gain a competitive edge (Hanna, 2004). The pace of technological change suggests that a “wait and see attitude” would pose serious risks to development effectiveness and could result in increasing marginalization (Gibbs and Tanner, 1997).

There is an established body of literature analysing and evaluating national digital strategies produced under a wide range of titles including: national ICT strategy; national information infrastructure strategy; national telecommunication strategy; national e-strategy; and national digital economy strategy (Friis, 1997a, 1997b; Hanna, 2004). The variety of national approaches taken across Europe vs. the US, and developed countries vs. developing countries has been examined to understand the key success factors in relation to economic development of different nations (Yoon and Chae, 2009). However, it is not possible to develop a universal conceptual framework for how national digital strategies should be defined and applied in different country settings.

There is a growing body of literature that focuses on digital implications at the local economic development level. For example, Graham (1991) outlined some of the implications of telecommunications and expounded a framework for the local policy maker based on the analysis of several leading attempts at developing locally controlled telecommunications infrastructure in the UK, as agents of economic and social development. In another study,

Gibbs and Tanner (1997) examined the link between telecommunication and local development in the UK, and offered an overview of the development of local digital initiatives from survey evidence. The evidence suggested that telecommunication is an important component of local economic-development policies, but the impact could be limited in the absence of a co-ordinated national response.

In Australia most strategic planning for digital technologies and their socio-economic implications has been carried out by the Federal Government. The latest of these is the *National Digital Economic Strategy* (DBCDE, 2011), and its updated version, *Advancing Australia as a Digital Economy* (DBCDE, 2013), which were released by the Federal Government outlining the vision for Australia to become a leading global digital economy by 2020. These national strategy documents set eight 'Digital Economy Goals' including: increased online participation by Australian households; improved online engagement by Australian businesses and not-for-profit organisations; smart management of our environment and infrastructure; improved health and aged care; expanded online education; increased teleworking; improved online government service delivery and engagement; and greater digital engagement in regional Australia. Both documents highlight a range of initiatives to promote the goals and to enable more Australians to benefit from e-Health, e-Education and e-Business opportunities of the super-fast broadband.

Also, both of the national strategies recognized the importance of working with state and local governments to coordinate strategies to drive digital economic growth. However, the strategies defined the transition of Australia's economy to a digital one as a 'market-led phenomenon'. As a result, the majority of initiatives address Australian households, businesses and organizations directly and did not define clear roles for either state or local governments.

However, there have been some activities at the state and local government level to guide and

regulate the implications of digital technology and economy. In 1993 the Ipswich City Council adopted an economic development program that endorsed the principle of development led by information technology as a key strategy (Middleton, 1997). This led to the establishment of the Global Info-Links project (Stapleton, 1997), which was designed to function as an information technology and telecommunications hub. More recently, and since the development of the *National Digital Economic Strategy*, a growing number of local governments have shown interest in capitalising on the digital economy, and have begun to develop digital economic strategies. The remainder of this paper focuses on the BDS in order to understand the intended role of the digital economy in the future direction and development of the city.

Research Methodology

In mid-2013 Brisbane, the capital of Queensland, released the ‘Brisbane Digital Strategy’ (BDS) to capitalize on the digital economy and to enhance digital connections amongst citizens, business and the city as a digital organization (Brisbane Marketing, 2013; [City of Vancouver, 2013](#)). The BDS was the result of extensive consultation processes with stakeholders in the community including external and internal advisory groups and subject matter experts.

This article attempts to understand the process behind the BDS development, and the role currently defined for the strategy document. The following sections provide a brief policy analysis of the BDS; and then an analysis of data collected from 10 interviews conducted with a sample of stakeholders involved in the preparation of BDS. The interviewees included state and local government officials, SMEs and corporate businesses and academics. The interviews were recorded, transcribed and then analysed. A thematic analysis of the 10 interviews identified a range of issues important to the interviewees. This paper, however, focuses on ‘the role defined for the strategy in the digital economy’, as this was clearly the

most important theme discussed across all interviews.

A Policy Analysis of the BDS

The following provides a policy analysis of the BDS focusing on the context in which the strategy document was prepared. It contains a review of the development process and a content analysis of the document clarifying the priorities and focus:

Context: The BDS was prepared by Brisbane Marketing, a subsidiary of the Brisbane City Council (BCC), with the responsibility of driving long-term social and economic benefits to the city (Brisbane Marketing, 2013). BCC is the local government area that has jurisdiction over the inner portion of the Brisbane metropolitan area. With a population of 1,041,839 (ABS, 2011), BCC has a largest population than of any local government in Australia, and serves almost half of the metropolitan area's population. Brisbane is one of the fastest-growing capital cities in Australia averaging 2.2 per cent annually over the past decade (ABS, 2013).

Development Process: The need for a digital strategy was recognised in the *Unique Window of Opportunity* report prepared by the Lord Mayor's Economic Development Steering Committee (2011). As a result, a "Digital Brisbane" business unit was established in Brisbane Marketing and a Chief Digital Officer was appointed. The position was established as a key priority following consultation with Brisbane businesses in the development of the Economic Development Plan 2012- 2031 (Brisbane City Council, 2011). The development of the BDS used an engagement process that involved over 1,000 points of consultation including 19 industries, local and state government, industry associations and academia. Moreover, Brisbane Marketing in partnership with Regional Development Australia commissioned Brisbane Digital Audit (Ernst & Young and UQ Business School, 2012) to identify where digital innovation takes place across the Brisbane community, and to inform the BDS. The

audit involved a survey of 500 small-medium enterprises (SMEs) and identified the SMEs displaying outstanding digital innovation – “digital champions”-- to encourage more SMEs to adopt digital technology. The development process behind the BDS tended to focus on the business community.

Content Analysis: The BDS is a five-year plan for a digitally driven economy. Its vision statement (Brisbane Marketing, 2013) suggests that “Brisbane is well positioned to use digital technology to drive economic development and prosperity through improved productivity for local business and by capitalising on business expansion and export opportunities.” In order to reach the vision, the strategy has three core programs: the digital business power-up; digital start-up kick-start; and cyber city. The first two programs focus on the business community, while the third one is geared for the public --defined as businesses, visitors and residents.

The emphasis on the business community continues throughout the strategy as sign of its commitment to digitally driven economy. However, this leads to a question around the concept of economy and economic development and its relationship with the business community. It is fair to ask whether the current focus on the business community is broad enough to establish Brisbane’s position in the digital economy and results in tangible economic outcomes for the wider community. To help answer such questions, we approached a sample of stakeholders involved with the development of BDS. The following section, based in part on the interviews, examines the dilemma around the “economic versus business strategy” in the BDS.

An Economic versus a Business Strategy

A key theme raised during the interviews was the role of the BDS --- was it a business strategy or a digital economy strategy? To help answer this question the interviews were

examined using three lenses: the third wave of economic development; the Triple/Quadruple Helix; and Smart Cities.

Throughout all interviews there was an emphasis on the digital economy as the focal point of BDS. “Digital economy” was mentioned 85 times and was a common theme, particularly from the point of view of the BCC. The following quotes represent a couple of examples:

It is a digital economy strategy for the city. Ours, I believe, is the first that I would call a Digital Economy Strategy for a city. Even New York’s wasn’t a Digital Economy Strategy.

The core idea was that businesses need to use digital more, so we developed a strategy around that for start-ups, and, I think that’s the key thing.

Such a strong view about the importance of digital economy was not necessarily contradicted by any other interviewees from other sectors of the community. More importantly, there was a consensus across all interviewees that the main mission of BDS was to enable Brisbane’s businesses to increase their own productivity:

This strategy is about influencing people to make individual changes in their business.

It is about behaviour change and at a local business level.

All interviewees were also in agreement that small and medium-sized enterprises (SMEs) were the main focus and beneficiaries of the strategy. This was stated 75 times and then linked to the economic development mission of the strategy:

Because this is an economic strategy, it’s unashamedly about businesses, because it’s an economic strategy.

The Third Wave Economic Development Theory. The emphasis on SMEs in the digital strategy is not surprising; as it has been widely recognized SMEs are crucial to economic stability and prosperity (Ashrafi and Murtaza, 2011). There is a growing body of literature on

the adoption of digital technologies in SMEs in developed and developing country settings (Shiels, et al., 2003; Taylor and Murphy, 2004). Previous studies provide an insight on the barriers for the adoption of digital technologies, and show that in most cases only a small number of SMEs are aware of the benefits of digital adoption. However, research shows a positive performance and increased productivity by utilizing digital-enabled opportunities in SMEs. The literature calls for more strategic efforts on increasing awareness and focused training among SMEs on the benefits of digital economy.

However, an alternative point of view was also discussed in the interviews, mostly from academia with some support from the business sector. This alternative point of view considered the sole emphasis on enabling businesses to be a simplistic approach and called for a strong ICT sector backed by research. Such a viewpoint is obviously critical towards the approach embedded in the BDS, and has a strong foundation in economic theory. The third wave of economic development theory (Blakely, 2001; Herbers, 1990; Ross and Friedman, 1990) suggests that the key factor for prosperity in the new economy involves the clustering of related firms. It calls for redesigning economic development strategies in order to establish hubs with an emphasis on technology-based globalization by establishing clusters of related industries, not just single firms. This thinking is at odds with the BDS because of its lack of focus on the ICT sector; in its current form it does not prioritize any activity clusters.

Triple/Quadruple Helix. During the interviews, there were attempts to justify the emphasis on the SMEs as well as other businesses because of their impact on economic productivity:

You can actually make each individual business more productive and as a result, increase productivity across the economy.

Government officials interviewed were quite adamant that the BDS is an example of “market signalling” that will result in the overall economic prosperity. However, such assumptions have been questioned in a number of recent studies in order to explain the specific

mechanism and institutional relationships, through which high-tech social and economic growth can be achieved at both local and regional level. The earlier studies (Lundvall, 1992; Nelson, 1993) consider the firm and/or government as having the leading role in innovating cities and regions. However, a second generation of studies suggest that a more inclusive network of collaboration is required for technology-based prosperity to take place. The Triple Helix Model (Etzkowitz, 2008) is a result of these second generation studies that build upon studies of transformation of different cities and regions in Europe and the US (Jones-Evans, et al., 1999; Klofsten and Jones-Evans, 1996, 2000). The Triple Helix introduces a model of development through collaboration of business, government and university. It suggests a more prominent role for the university – not just a supporting one, but accepting a new entrepreneurial role. Interestingly, the Triple Helix advocates a collaborative relationships model in which economic prosperity is increasingly the outcome of interaction among the three sectors rather than a prescription from government. Recent research has suggested a central role of the local community as an innovation base suggesting a Quadruple Helix Model where community works alongside business, university and government in the new economy (Alizadeh, 2010). In the Quadruple Helix Model, there is a dynamic network of collaboration where the community relates to the university and industry through connections of entrepreneurial academics and local business groups.

Smart cities. There is a fast-growing body of literature that suggests that the remarkable development of cutting-edge digital technology over the last few decades, has created the need for ‘smart cities’ (Bulu, et al., 2014; Heo, et al., 2014; Hollands, 2008). It is argued that smart technologies have now matured to the point that cities of all sizes can afford and benefit from their implementation. It is also acknowledged that cities are already making tremendous progress in achieving economic, environmental and social sustainability. The concept of smart cities doesn’t compete with these efforts. Instead, the smart city initiative

can support and enhance work already underway. In an effort to clarify a vision of how digital technology will transform the cities of tomorrow, the Smart Cities Council has recently released *Smart Cities Readiness Guide: The Planning Manual for Building Tomorrow's Cities Today*. The definition of a smart city offered in the Guide represents a comprehensive approach:

“A smart city uses information and communications technology (ICT) to enhance its livability, workability and sustainability.” (Berst, et al., 2014 p.6)

Such a broad definition for ‘smart cities’ is part of an argument made by Allwinkle (2011), Caragliu (2011) and Leydesdorff (2011) aiming to overcome the all too often over-reliance on an entrepreneurial route to smart cities. Moreover, in order to avoid any simplistic definition of smart cities, the concept has been described as a multi-dimensional initiative. Based on the exploration of literature from various disciplinary areas, Chourabi et al. (2012) identify an integrated framework for smart city initiatives around eight factors: management and organization; technology; governance; policy context; people and communities; economy; built infrastructure; and natural environment. Other studies have variations of the critical factors in the smart city, however, the common point is the emphasis on the multi-dimensional characteristics of smart cities with the long-term goal of sustainable urban development (Deakin, 2013). In other words, economic prosperity is only one of the multiple areas the smart city initiative hopes to see transformed by the digitally-enabled opportunities. From this perspective, the smart city initiative is a potential model for cities of the digital era, suggesting that cities, such as Brisbane, that want to play a proactive future-oriented role need to adopt a holistic and inclusive approach rather than focusing solely on economy. This will provide cities of tomorrow with a chance to integrate new technologies, the digital economy, social systems and ecological concerns.

Conclusions

Brisbane City Council should be commended for producing one of the world's first digital strategies. It demonstrates that their thinking is in the right place and provides a good foundation to build upon. Based on our review of the literature, the policy analysis and interviews of key stakeholders, we believe the BDS scope and vision needs to be broadened so that it better aligns **better** with current thinking on local economic development. We suggest a second generation BDS that considers some of the key findings from this article. First, from the perspective of the third wave of economic development theory, the BDS should consider strategically clustering related firms rather than the existing broad focus on SMEs. Second, the Triple/Quadruple Helix Model suggests that an inclusive network of collaboration is necessary for technology-based prosperity to occur. While the existing BDS is based on a government driven business approach, we suggest it be reconceptualised as a collaborative initiative with government, businesses, universities and the community each being equal partners. Third, the idea of smart cities also suggests a more expansive role for digital strategies that have as their ultimate goal – sustainable urban development. Thus we suggest that a second generation BDS embrace the smart city concept, but with the understanding that designing a smart city is more difficult than just putting smart urban technologies together like a jigsaw puzzle pieces.

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