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PLACE AND SPACE: COMMUNITY IN THE INTERNET ECONOMY AND WHAT THIS WILL MEAN FOR PROPERTY

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ABSTRACT

By 2020 Australia's National Digital Economy Strategy aims to increase household online participation and engage 12 per cent of all employees in teleworking arrangements. Achieving these goals is generally perceived as positive due to the reduced impact on the natural environment from less use of transport. However, this also will enable greater flexibility as to where people live and thus will impact upon the maintenance and formation of communities and on property use. This paper commences by clarifying what is Australia's internet economy before highlighting the impact of the internet on community formation and maintenance. The paper concludes by identifying what the achievement of these goals will mean for property use in the future.

Key words: NBN, high speed broadband, internet, internet economy, community

INTRODUCTION

Generally the internet is open to all potential users with its content and services easily accessible by anyone from anywhere. (Cradduck, 2011) This openness and accessibility enables businesses and consumers to more easily engage with others. Ease of use and ease of access facilitates innovations (Stoneman, 2010, 134), which in turn leads to economic growth (Lee et al, 2010) and the further development of the internet economy. (OECD, 2008) Individuals' use of the internet, and engagement in the internet economy, is supported both by the available technologies and the digital communities that can be created. (ACMA, 2010)

The ease of use of the internet, in combination with the peculiarities of Australian distances – the distances between Australian communities (Battersby, 2006, 207) and its geographic isolation from the rest of the world (Bradbrook et al, 2007, 1) – will impact upon how Australians use the internet, their 'community engagement' and property use. Modern Australia still is "exceedingly distant" from the rest of the world, (Capling and Nossal, 2001, 448) and internally at the same time "both sparsely populated and very large". (Battersby, 2006, 209) This physical divide impacts significantly upon internet adoption and usage in rural and remote Australia, and in how communities are created and maintained. The internet support business operations by providing greater flexibility for businesses seeking to expand. (Waterhouse, 2011) It also creates unique policy challenges for all levels of government. (DBCDE, 2011a) The ability of the internet to support communities and businesses will impact upon property usage as Australians have greater flexibility in their choice of work and residence. (Cradduck, 2011)

The future success of the Australian internet economy is inextricably linked with the use of the internet by individual Australians. Florida et al (2008) go so far as to suggest that it is this "human capital [that] drives economic growth." (Florida et al, 2008, 616) For government the importance of the internet economy is that the internet is more than just an economic tool as it is a means of encouraging 'civic engagement' by all levels of society. (West, 2010) With the internet playing such a vital role in Australia's future the importance of individual end user engagement cannot be underestimated. (Cradduck, 2011) Bearing this in mind, the Australian federal government is working to facilitate the internet economy through policies, legislation and practices that implement high-speed broadband and support its use.

As part of this process the government has introduced property specific policies targeted at facilitating the rollout of broadband in new developments (Cradduck, 2011a) and to encourage participation in the internet economy. The most recent of the participation projects are designed to facilitate end-user engagement with the services that will be available by delivering targeted training within the community itself. (DBCDE, 2011) These projects are supportive of communities, in particular those in rural and regional areas. However, what is not appropriately identified nor currently addressed is what impact this spread of high speed broadband will have for property use in the future as work habits, business operations, community engagement and community configurations change.

The aim of this paper is to identify issues for property use arising as a consequence of increased engagement in the internet economy by people as individuals and as employees. To do this the paper commences by clarifying what is meant by Australia's Internet Economy before highlighting the impact of the internet on community formation and maintenance. This paper concludes with a consideration of the impact on property generally of both the new and changed use for land; as well as changed uses for existing buildings and land, arising as a consequence of increased use of and access to the internet.

AUSTRALIA'S INTERNET ECONOMY

The internet is constructed by, and of, many networks and technologies (Burmeister, 1999) and as such has been more accurately described as being a "network of networks". (Kariyawasm, 2007, 19) As Svantesson (2005) identifies, the internet is recognised as being "a unique combination of features that makes [its] communication significantly different and a novel phenomenon". (Svantesson, 2005, 41) Information technologies now pervade almost every aspect of everyday life (Chin, 2000) with internet access becoming essential for living and no longer merely a tool for research or work. (Peña-López, 2009) As described by former Justice Michael Kirby, the internet is "ubiquitous, borderless, global and ambient in its nature". (Dow Jones, [2002] [80])

The internet can be used differently depending on who you are and your wants and needs. (Slater, 2002) As the primary users of these technologies individual end users, as well as providing ideas for future developments, are now essential for the operation of the internet and the innovations that it enables. (von Hippel, 2005) At the beginning of the second decade of the 21st Century the internet has become a transformative communication space. (IIA, 2010) It has the capacity to enable everyone to work, play, compete (Macey, 2003) and communicate at the touch of a button. All this can be achieved without the need for users to move from the comfort of their lounge rooms, schools or offices. (ACMA, 2009a) The internet's future potential is unlimited, (Rheingold, 2001) other than by the capacity of end users and the available means of access. (IIA, 2010) These advances in technology however present significant challenges for property use. (Irons and Armitage, 2003)

The internet economy is constituted by the business operations that are enabled through use of the internet as an information source and method of service delivery. (Choi and Whinston, 2003) The services delivered are influenced by the demands and desires of individuals. (Florida et al, 2008) The internet can be used for radio broadcasts and conferencing; (ACMA, 2009b) video/television program delivery; (Svantesson, 2005) creating communities; (ACMA, 2009) knowledge-sharing; (Mintz, 2007) and as a general communications tool. (Slater, 2002) Internet economic activity also includes the production, acquisition and consumption of digital goods and services occurring purely online; (Mandorf, 2008) the online collaboration, design and production tracking of physical goods; and advertising and/or selling of real-world goods. (Mandorf, 2008) The internet economy is not limited merely to online commerce.

Although many internet economy activities will have a physical-world construction and/or delivery point, arriving at that point takes place in a manner that is unlike previous methods of economic activity. (Sadeh et al, 2001) A fundamental difference between real-world economic activity and internet economic activity lies in the increased ability of the internet to enable the leveraging of knowledge, collaboration between partners, and businesses' understanding of

their customers' and consumers' demands and requirements. (Mandorf, 2008) Internet economic activity thus has an appreciable impact on the physical economy. (Barua et al, 1999) Further, unlike physical-world economic activities, which are in decline, online businesses are showing increased sales growth of 25-30 per cent. (Waterhouse, 2011) The direct benefit of internet economic activity to the Australian economy as a whole was recently accessed at approximately \$50 billion with the value of the wider, indirect economic benefits to households, businesses and government estimated to be \$80 billion. (Deloitte, 2011)

However, unlike the physical economy, which does not require the consumer to understand of how businesses operate, (Burcham, 2008) the internet economy is dependent on the engagement of the individual end users in the internet. (Kellerman, 2004) Internet economic activity also is dependent upon there being "ubiquitous high-speed networks" (Barua et al, 1999) through which the end users may engage. Business engagement in the internet economy thus is dependent upon employees with appropriate internet skills and engagement capacity; and connection to the internet. As has been recognised by government and industry alike, "[t]he ability of individuals to adopt and benefit from the internet and associated ... ICT ... has major social and economic benefits, influencing participation in the online economy, education and learning, access to services, political participation and social inclusion". (ACMA, 2008)

In addition to being a tool for business operations, the internet is a valuable resource in ensuring access to government and government services, by both individuals and businesses. (Plumb and Zamfir, 2009) The current policy focus of the federal government therefore is twofold. Simply put, this focus is on laying the cables for the National Broadband Network ('NBN') (Cradduck 2011a) and enabling engagement by consumers and businesses. (DBCDE, 2011 DBCDE, 2011b) Most recently, the National Digital Economy Strategy establishes eight 'Digital Economy Goals'. The Goals variously seek to implement strategies to improve online participation and engagement; improve health and aged care; expand online education; increase teleworking; enable better management of energy use; and improve government service delivery. (DBCDE, 2011a) However, projects that look to the future use of property tend to be focussed on improved efficiency (DBCDE, 2011a, 31) rather than addressing the changed needs for consumer and business accommodation and activities, and what this will mean for current property stocks and future property use.

METHODOLOGY

The aim of this paper is to identify issues for property use arising as a consequence of increased engagement in the internet economy by people as individuals and as employees. Relevant literature has been reviewed for the purpose of identifying what community is in the internet economy. This includes data made publicly accessible by the Australian Bureau of Statistics and Australian Communications and Media Authority, which was reviewed to identify levels of internet engagement by the Australian population and recent trends in telecommuting. Extensive literature from a variety of Australian and international sources was reviewed in order to determine any perceived issues for property use arising from increased engagement and use of the internet.

This paper is not designed nor intended to be a comprehensive consideration of all property and property-use related issues arising as a consequence of the exponential growth of the internet economy. As such it does not approach the consideration of the issue of the internet economy's impact upon property from the perspective of traditional property-related roles (Gamby and Lynn, 2006) but rather from a consideration of issues arising from the changes to community structures that arise as a consequence of engagement in the internet economy. The primary purpose of this paper is not to proffer solutions but to articulate the issues that will impact upon property use in the future. The secondary purpose is to bring these issues to the attention of industry stakeholders and, hopefully, government policy makers.

WHAT IS COMMUNITY?

Community has been defined to include both living with others in a village, and working collaboratively with colleagues who live on the other side of the world. (Slevin, 2000) Collaboration by itself has been found to lead (unintentionally) to the creation of community. (Poole, 2009) As other authors have considered, all a community needs to exist are: members, a structure, interaction between the members and a collective identity. (Van Dijk, 1998) Modern Australia's view of what is meant by the term community is influenced by the manner of its (recent) birth and without the history and connections found in many other countries. (Pusey, 2003) Community in Australia therefore is perhaps better defined by reference to informal, rather than formal or longstanding, ties. (Hampton, 2004)

In considering what the term 'community' means for Australia it is noted that there has been a "redirection of emphasis from geographic place to a feeling or sense of collectivity". (Jankowski, 2002, 37) An appropriate internet economy definition of community may be one based on whether or not people interact with others; the quality, or lack thereof, of that interaction; and not on the how, when or at what time they interact. (Pusey, 2003) There are four essential underlying characteristics required for a community to exist. These are "members, a social organization, language and patterns of interaction, and a culture and common identity". (Van Dijk, 1998, 39) When these elements exist there is a community. Our understanding of community however is now impacted by the method of operation of the internet, which enables ongoing long-distance relationships for education, employment and business. (Cradduck, 2011)

THE IMPACT OF THE INTERNET

In the internet economy, what a community is (i.e. social, local or economic) and how it is created may be more important than where (or if) the community and its members are located in a fixed place. This is because the "interrelationships created by the internet exist outside conventional geographic boundaries". (Dow Jones, [2002], per Kirby J [80]) Australians — with the physical disadvantages arising from their geographic separation from other countries — are primary benefactors of the swift exchange of information that is now possible via the internet. (Blainey, 2001) The benefits that the internet and its related services bring arguably compensate for any potentially negative effects. However, the impact of the internet on community is not without controversy. (Baym, 2002)

As Rheingold (2001) explains, when computer-mediated communications "technology becomes available to people anywhere, they inevitably build virtual communities with it, just as microorganisms inevitably create colonies" (Rheingold, 2001, 276). In addition to the internet being an information source, the services and communications technologies available via the internet can enable communication that is "effectively and efficiently [equal to] face-to-face communications". (DBCDE, 2009, 31) This expands the ability to make and maintain community beyond your current physical location. (Kollock and Smith, 1999) Internet communities can be created, exist and end without their members ever meeting in the real-world. Howkins refers to these communities as eco-systems where "ideas and knowledge go on forever". (Howkins, 2009, 87) Therefore to be considered a community potentially means that there no longer has to be "solitary groups of densely knit neighbours [as community] could also exist as social networks of kin, friends, and workmates who do not necessarily live in the same neighborhood". (Wellman and Guila, 1999, 16)

A potentially anti-community aspect of the internet is that improving the capacity of individuals to "do more for and by themselves" (Benkler, 2006, 8) may lead to self-reliance at the expense of community. That is, the acquisition of self-reliance may come at the expense of individuals engaging, interacting, or connecting with others. (Benkler, 2006, 15) However, there is a fine line between self-sufficiency and not needing to rely on others – or to connect or communicate with them – and not wanting to. Just because a communication technology exists cannot make us either want to connect or communicate or not to. Technology can only provide additional means of connection or communication if we choose to communicate with others in the first place. Internet technology can assist users to create new connections that have the capacity to progress to relationships in the real-world. (Baym, 2002) It is debatable however as to whether

technology or virtual communities by themselves can "reclaim ,lost' community in society". (Van Dijk, 1998, 40) For real-world communities to regenerate it is necessary for the members of those communities to work out how they can reconnect, or continue to be connected, and then to do so essentially "face-to-face, one-to-one". (Mackay, 1999, 261)

Kollock and Smith (2003) posit that so called online communities, by their very nature, operate differently from real-world communities. By purely relating to others in a detached way, it is possible that no true community will be formed. (Slater, 2002) Instead, the interaction will be surreal only, due to the "loss of personality that often accompanies the mediation of communication via computer". (Jones, 1996, 7) The argument is raised that online "groups do not constitute real communities" (Kollock and Smith, 1999, 16) in that where personal interaction is virtual only, true community does not exist. The societal changes wrought by technology, particularly with regards to how people now choose to spend their free time, have been drastic. (Cooper et al, 2004) There is the concern that the digital technologies, while facilitating the exchange of information, have led, to a decline in existing communities. (ACMA, 2008) Our forebears were concerned as to "whether community had been destroyed or transformed by the telephone ... or the automobile". (Wellman and Guila, 1999, 170) That fear is now held about the internet, although the adoption of the prior technologies brought with them a panic that, as yet, has not been associated with the internet. (Hampton, 2004)

Some believe that, at best, the internet has changed what we understand by the term community. (Jones, 1996) Others argue that, at worst, the internet destroys community in the context that what constitutes a community on the internet is not a real community. (Kollock and Smith, 1999) Another common complaint is that some people feel that the mobility of this technology, as opposed to being beneficial, is now intrusive. (ACMA, 2008a) The internet however has not destroyed the desire nor need for real-world communities, as the ongoing "need for meeting and relationships" (Mitchell, 1999, 3) remains strong. It remains as an essential and intuitive human trait to want to be part of a community, and to engage and interact with others. (Mackay, 1999)

The internet as a tool can be used both to create and maintain community. (Schellong, 2008) The impact that the internet has on community is both beneficial and unique. As discussed, the internet enables the creation of communities in ways not previously possible. Many existing communities are able to continue when previously, because of changed work or living arrangements of their members, the communities would have ended because of a lack of contact between members. As Ewing and Thomas (2010) report –

"More than four in ten respondents felt that their contact with people who shared hobbies ... had increased ... Almost two thirds of respondents in 2009 felt ... the internet had increased their contact with family (65.1%), with 30.4% saying that levels ... had not changed. Seven in ten reported increased contact with friends (70.7%) ... when asked about time spent face-to-face, sizeable minorities felt that they spent less time with household members (27.7%) and friends (14.8%) since being connected to the internet." (Ewing and Thomas, 2010, 12)

Although not designed as a means of "interpersonal interaction", in practice the technology of the internet is in fact "fundamentally social" in nature. (Baym, 2002, 62) It facilitates the ability "to connect people to people"; (Kollock and Smith, 1999, 3) and as an information source and a meeting place it makes possible increased involvement in local communities. (Hampton, 2004) In many ways work and home have been greatly changed by modern communications technologies, which is reflect in changed social goals and law. (Farrar, 2010) In addition to enabling communities, in a more environmentally conscious world, the internet can facilitate telecommuting for workers, although this often comes at the cost of separation of home from work. (Perry et al, 2001) Telecommuting, however, usually benefits the individual users, and their local community, as it leaves them with greater time to participate in their local community instead of spending that time travelling to work. It also can encourage greater employment opportunities for those in rural and regional areas. (DBCDE, 2011a)

Many higher education institutions have previously facilitated 'distance education'. (Page, 2006) The internet, while not originally used as a teaching medium, (Ellram, 1999) is now is a significant means of course delivery and interaction. (Page, 2006) For those on- and off- campus (Groves, 1999) course material is more easily available and it is common

practice for "study materials and even lecture videos [to be made available] online". (DBCDE, 2009) Internet learning, however, is more than just enabling where, when and how materials can be accessed. (Mak et al, 2010) The internet facilitates interactive communication between the students; and the lecturer and student/s (Ellram, 1999) and allows students to pursue their studies without the need to move from where they reside. (Kanuka, 2009) This means they can study without the need to choose between pursuing education and meeting family commitments. (Legg et al, 2007) The internet facilitates distance education, previously only deliverable by means of provided materials or static CD-ROMs, enabling course delivery in a more interactive and up-to-date manner. (Legg et al, 2007) The internet is used to engage students as it enables innovative delivery of course materials in a variety of formats addressing the needs of all students, particularly those with a disability. (Badge et al, 2008) It also can be of significant benefit to those in remote areas or without the ability or means of otherwise attending classes. (Bradley Report, 2008)

PROPERTY USE IMPLICATIONS

While the internet has, and continues to effect positive changes in the way in which Australian businesses operate (Deloitte, 2011) the physical impact upon population centres can be less positive, as is the resulting impacts upon property ownership that arise from changed needs and use. The negative impact in some areas appears more dramatic, particularly in rural and more remote regional areas where existing problems appear exacerbated by both the lack of access or, in some areas, the ease of access.

In the 21st Century, Australia's population remains decentralised with most population bases being coast-focussed, (Mckinsey Report, 2010) and with population bases in many remote areas substantially reduced. (Glasson Report, 2008) While Australia's size is comparable to that of Europe, its population density is not – as Australia's population is 30 times smaller than Europe. (Islam et al, 2008) This results in a population density of approximately 2.8 people per square kilometre. (ABS, 2009) Currently, the percentage of the population choosing to live in cities – more than 78 per cent of the total Australian population – is increasing while rural and regional populations decline. (ABS, 2009) Australian cities therefore generally continue to be stable or to grow. Conversely rural and regional areas are more likely to decline. (Kooymans and Flehr, 2000) Their remoteness makes rural areas' need for internet services, as a means of enabling and maintaining community, greater than for those in urban areas. As studies show, remote communities that can see significant benefits from the introduction of such services (Molloy et al, 2008) are seriously disadvantaged by the lack of telecommunications services.

Virtual communities and places, therefore, are predicted to become as important, if not more so, than physical ones. (Crang, 2000) As a consequence physical location, for many services and activities, may become irrelevant through use of the internet. (Baym, 2002) For others, however, as Haythornthwaite (2001) notes the distinction between the physical and virtual worlds is so blurred that it is often difficult to distinguish between the two. This is not a concern for all as many, particularly the generation that has grown up with the internet; do not find it necessary to chose between their worlds. (Slater, 2002) However, irrespective of how easily you can move between these worlds, your place will continue to be important for lifestyle (Florida, 2002) and economic development. (Florida, 2008) Further, internet economic activities by legal necessity must have a connection with a physical jurisdiction (Kogut, 2004) and thus Australia's internet economy remains connected with the physical Australia and its laws and people. Nonetheless, the current physical location of individuals will be less important due to decentralisation of economic activity (Florida, 2008a) and the fact that the internet, usually, can be accessed from anywhere. This will have an impact on commercial, retail and residential property use as the internet enables more flexible work, living and education arrangements.

Irons and Armitage (2003) noted the increased drivers for "increased efficiency and flexibility within organisations" (Irons and Armitage, 2003, 6) and their impact upon business location and activities. In order to capture the possibilities presented by the internet economy, current industry initiatives are targeted at educating and encouraging retailers and small businesses as to how to set up websites and 'get online'. (DBCDE, 2011a, 19) These initiatives are complemented by similar government initiatives. (DBCDE, 2011a, 28) In particular one appreciable, and arguably negative, effect of

the growth of the internet economy for property is that when existing business seek to expand they no longer look to establish another physical location. While select areas are seeing a growth in the demand for office space, driven mainly by the resource sector, this is the exception not the rule (PCA, 2011) As Waterhouse (2011) notes; the internet enables expansion without the overheads associated with leasing additional premises. Therefore, although positive and profitable for businesses, the consequence for commercial property owners is a diminished pool of prospective tenants.

The impact of the internet economy on traditional property roles is significant and cannot be underestimated. This is seen both in the evolution of property-based roles (Gamby and Lynn, 2006) and marketing practices as regards data accessibility by consumers, thus creating an international market for property. (Razali, 2008) As well as impacting upon the methods used for business expansion, changes to businesses operations from more traditional work environments to an internet engaged one also will impact upon future property use.

The consequent adjustments to the accepted method of organisational operations as well as the changing needs, and expectations, of office workers will have a direct impact upon the property asset itself and it uses. These impacts will derive both from internal as well as market-led demands and perspectives regarding office layout and location. (Irons and Armitage, 2003) The increase, for example, in online banking transactions (Deloitte, 2011) has in many areas resulted in a reduction of the number of physical bank branches. Although other factors such as declining population bases also are relevant for branch closures (Martin, 2009) the increased use of the internet for such transactions is likely to continue to have a negative impact in the future. Bearing in mind the international bank experience, (Taherabady *et al*, 2010) Australian bank branches are likely to develop from transaction-venues into problem-solving venues as the number of in-bank transactions decrease. This change will impact both on the space that is required for bank branches, where they are located and the use of that space. It also will directly impact upon population centres as the number of employees required will correspondingly reduce, thus impacting on the need and desire for other property related services such as residential accommodation, and centres for shopping and leisure activities.

Changes wrought by increased involvement in internet economic activity also have a flow-on effect to other aspects of community life. The function of a local library is now equally, if not more so, to house computers and enable access to the internet than it is for the borrowing of books. (ALIA, 2011) The space that is required for libraries, and how that space is used, is changing and will be further impacted by the rollout of the NBN. (ALIA, 2011) Equally, the increased number of people now engaging purely online with government services (Tang, 2009) requires a rethinking of the services provided, how they are provided and where they are provided. Government services and systems must be properly implemented, easy to use, and secure in order to encourage citizens to use them and thus to be truly effective. (Plumb and Zamfir, 2009) If more services are provided on line then, similarly to the reduction of bank branches, the number of government office spaces is likely to reduce with fewer offices needed to provide the required face-to-face services. The size and location of government office accommodation spaces and what facilities need to be provided at these offices (OECD, 2008) therefore requires coordinated consideration by all levels of government.

The use of public spaces, and the facilities provided in them, also will be impacted by the internet economy. A potential negative of increased internet economic activity is that public spaces may be used less, or for less involved purposes, as internet use is intrinsically a sedentary activity. (Mellor, 2005) While Wi-Fi enables internet access from almost anywhere, this use generally is not an engaged activity rather it is a stationary one. A lack of physical interaction within public space leads both to health risks (Haggerty and Reid, 2002) and the need to rethink the design of public spaces to accommodate this change in use.

Finally, the internet will, in addition to its positive impact upon flexible education delivery, impact on education-property use. The significance of this impact on education-property use cannot be underestimated. While primary and secondary education remains more commonly focussed on student participation at a set venue, tertiary education delivery has experienced significant changes in the last decade. Separate from those enrolled in clearly defined distance-education programs, student desire for the flexibility that online learning provides influences the delivery of more

courses with an increase both in the delivery of online courses, or by means of blended learning. (Yam and Rossini, 2011) While the ability to undertake e-learning any place any time may reduce administration costs and provide flexibility; it also impacts upon the need for infrastructure provision and location of that infrastructure. (Deloitte, 2011) Where blended learning takes place, that is a combination of traditional and internet education delivery, the need for large lecture theatres, or even attending lectured (Badge *et al*, 2008) is a thing of the past. As many students elect not to attend the lecture component focusing on attendance for tutorial activities instead, lecture theatres are being reshaped resulting in the construction of specially designed interactive classrooms instead. (RMIT, 2011) Purely online courses also are tending to replace the more traditional forms of distance education, many of which had a residential component, thus obviating the need for any on-campus classrooms as lecturers can prepare, record and upload lectures from their offices. (Kanuka, 2009) Universities of the future therefore may bear little physical resemblance to what exists today.

CONCLUSION

The internet has an ongoing and vital role to play in Australia's future. The benefits of appropriate internet access are not limited to that of improving education levels. The internet is also a means of nurturing and ensuring continuity of community, of providing access to information, and providing a means of access to business and government services irrespective of time or place. Although technology may provide easier means of remaining connected, (Hampton, 2004) it has not completely replaced the need or desire for physical proximity with others. Nor does the internet enable all of our economic activities to be effected in the virtual world only. Therefore, while impacting upon our business habits, the internet has not entirely replaced our real-world activities. We may browse, choose, compare, select and purchase a pair of shoes online; however they still must be delivered to and worn by us (and seen by others) in the real-world.

A significant impact, however, of the internet is that it has changed how education is delivered; how we shop; where we find work; and how we engage with others. This in turn impacts upon where we chose to live, learn and work and directly impacts upon our use of property. Seeking the answer to the question as to how to continue to appropriately use property as the internet economy expands is the question to which governments now must turn their minds. Policies that promote internet economy engagement thus must be expanded to include appropriate property use into the future. As Florida reminds us, the importance of place in the internet economy has not been entirely displaced –

"With the Internet and modern telecommunication and transportation systems, the thinking goes, it is no longer necessary for people who work together to be together, so they won't be. But this end of geography theme has been with us since the turn of the nineteenth century, when experts predicted that technologies from telegraph and the telephone to the automobile and the airplane would essentially kill off the cities." (Florida, 2005, 28)

REFERENCES

- ABS, (2009) 3218.0 Regional Population Growth, Australia, 2007-2008, released 23 April, 2009 http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/3218.0Main+Features12007-08?OpenDocument (viewed 06/11/2009)
- ACMA, (2008) 'Telecommunications Today Report 6: Internet activity and content, September 2008 http://www.acma.gov.au/webwr/_assets/main/lib310210/report_6_telecommunications_today.pdf (viewed 07/01/2010)
- ACMA, (2009) 'Australia in the Digital Economy Report 2: Online Participation', May 2009, 1 http://www.acma.gov.au/webwr/aba/about/recruitment/online_participation_aust_in_digital_economy.pdf (viewed 07/01/2010)
- ACMA, (2008) 'ACMA Communications Report 2006-07', 14 Feb 2008, 191 http://www.acma.gov.au/webwr/assets/main/lib310631/0607commreport complete.pdf (viewed 17/01/2010)
- ACMA, (2009a) 'Communications Report 2008-09', 10 November 2009 http://acma.gov.au/webwr/assets/main/lib311252/08-09 comms report.pdf (viewed 17/01/20140)
- ACMA, (2009b) 'Changes in the Australian VoIP market', December 2009 http://www.acma.gov.au/webwr/assets/main/lib310658/changes_in_australian_voip_market.pdf (viewed 07/01/2010)
- ACMA, (2008a) 'Telecommunications Today Report 5: Consumer choice and preference in adopting services', April 2008, http://www.acma.gov.au/webwr/_assets/main/lib310210/report_5-telecommunications_today.pdf (viewed 07/01/2010)
- ACMA, (2010) 'Technology developments in the digital economy', August 2010, http://www.acma.gov.au/webwr/assets/main/lib311925/technology_developments_in_digital_economy.pdf (accessed 09/10/2010)
- ALIA, (2011) 'ALIA Internet Access in Public Libraries Survey 2011', August 2011, Australian Library and Information Association http://www.alia.org.au/advocacy/internet.access/Internet.Access.Survey.2011.pdf (viewed 26/08/2011)
- Badge J, E Dawson, A Cann and J Scott (2008) 'Assessing the accessibility of online learning', *Innovations in Educations and Teaching International*, 45(2), 103-113
- Barua A, J Pinnell, J Shutter and A Whinston, (1999) 'Measuring the Internet Economy: An Exploratory Study', (1999) Working Paper http://www.singstat.gov.sg/statsres/conferences/ecommerce/f109.pdf (viewed 16/09/2010)
- Battersby B, (2006) 'Does Distance Matter? The Effect of Geographic Isolation on Production Level' (2006) (1) OECD Economic Studies, 205
- Baym N, (2002) 'Interpersonal Life Online' in L Lievrouw and S Livingstone (Eds) *Handbook of New Media: Social Shaping and Consequences of ICTs* (Sage Publications, London, 2002)
- Benkler Y, (2006) *The Wealth of Networks: How Social Production Transforms Markets and Freedom* (Yale University Press, New Haven and London)
- Blainey G, (2001) The tyranny of distance: how distance shaped Australia's history (Macmillan, Sydney)
- Bradbrook A, S MacCallum and A Moore, (2007) Australian Real Property Law (Lawbook Co)
- Bradley D, P Noonan, H Nugent and B Scales (2008), 'Review of Australian Higher Education Final Report', December 2008, DEEWR ('Bradley Report') http://www.deewr.gov.au/HigherEducation/Review/Pages/ReviewofAustralianHigherEducationReport.aspx (viewed 20/10/2009)
- Burcham P, (2008) 'Toxicology Down Under: Past Achievements, Present Realities, and Future Prospects', 21(5) Chemical Research in Toxicology, 967
- Burmeister K, (1999) 'Jurisdiction, Choice of Law, Copyright, and the internet: Protection Against Framing in an International Setting', 9 Fordham Intell. Prop. Media & Ent. LJ, 625
- Capling A and K Nossal, (2001) 'Death of distance or tyranny of distance? The Internet, deterritorialization, and the anti-globalization movement in Australia', 14 (3) *The Pacific Review*, 443
- Chin G, (2000) 'Technological Change and the Australian Constitution' [2000] MULR 25

- Choi S and A Whinston, (2003) 'The IT revolution in the USA: the current situation and problems', in *The Internet Revolution: A Global Perspective* (Cambridge University Press, Cambridge, 2003) 203
- Cooper R, G Madden and G Coble-Neal, (2004) 'Measuring TFP for an Expanding Telecommunications Network', in R Cooper and G Madden (Eds) *Frontiers of Broadband, Electronic and Mobile Commerce* (Physcia-Verlag, Heidelbery) 112
- Cradduck, L, (2011) 'The future of the Internet Economy: Addressing challenges facing the implementation of the Australian National Broadband Network', SJD Thesis, Queensland University of Technology
- Cradduck, L, (2011a) 'Concerns about he rollout of broadband: a legal consideration of Australia's NBN greenfield policy', 17 (1) *Pacific Rim Property Research Journal*, 48-69
- Crang M, (2000) 'Public Space, Urban Space and Electronic Space: Would the Real City Please Stand Up?' 37(2) *Urban Studies*, 301
- DBCDE, (2011) 'NBN-Enabled Education and Skills Services Program', May 2011, Department of Broadband, Communications and the Digital Economy
- DBCDE, (2011a) '#au20 National Digital Economy Strategy', May 2011, Department of Broadband, Communications and the Digital Economy
- DBCDE, (2011b) 'Digital Communities Initiative', May 2011, Department of Broadband, Communications and the Digital Economy
- DBCDE, (2009) 'Australia's Digital Economy: Future Directions', Final Report, 14 July 2009, 31 http://www.bcde.gov.au/digital_economy/final_report (viewed 12/08/2009)
- Deloitte, (2011) 'The Connected Continent', August 2011, Deloitte Access Economics
- Ellram L, (1999) 'Purchasing Education on the Internet' (1999) 35(1) The Journal of Supply Chain Management, 11
- Ewing S and J Thomas, (2010) CCI Digital Futures 2010: The Internet in Australia, CCI, May 2010, 2-4 http://cci.edu.au/sites/default/files/sewing/CCi%20Digital%20Futures%202010.pdf (viewed 08/07/2010)
- Farrar J, (2010) Legal Reasoning (Thomson Reuters, Sydney)
- Florida R, (2005) Cities and the Creative Class (Routledge, London)
- Florida R, C Mellander and K Stolarick, (2008), 'Inside the black box of regional development human capital, the creative class and tolerance', 8 *Journal of Economic Geography*, 615
- Florida R, (2002) 'The Economic Geography of Talent', 92(4) Annals of the Association of American Geographers, 743
- Florida R, (2008) Who's Your City? How the Creative Economy is making where to live the most important decision of your life (Basic Books, New York, 2008)
- Florida R, (2008a) 'Megaregions: The Importance of Place', 86(3) Harvard Business Review, 18
- Gamby E and A Lynn, (2006) 'Pushing the Boundaries: An exploration of the role of e-commerce in the evolution of property management', *Twelfth Annual Pacific-Rim Real Estate Society Conference*, Auckland, New Zealand, 22-25 January, 2006
- Groves J, (1999) 'Online Education and Training for Australian Farmers' (1999) 99(4) Rural Industries Research and Development Corporation, Project No BDL-3A
- Haggerty J, and T, Reid, (2002) 'Epidemiological data on health risks in the Philippines', in D. Dror, & A. Preker (Eds.), Social re insurance: a new approach to sustainable community health financing, (Geneva: ILO)
- Hampton K, (2004) 'Networked sociability online, off-line' in M Castells (Ed) *The Network Society: a cross-cultural perspective* (Edward Elgar Publishing Limited, Cheltenham, UK, 2004) 218
- Haythornthwaite C, (2001) 'Introduction: The Internet In Everyday Life', 45 American Behavioral Scientist, 363
- Howkins J, (2009) Creative Ecologies: Where Thinking is a Proper Job (University of Queensland Press, St Lucia,)
- IIA, (2010) 'Principles for a Digital Economy', 27 July 2010, Internet Industry Association http://iia.net.au/images/resources/pdf/manifestor-2010.pdf (accessed 09/10/2010)
- Irons J and L Armitage, (2003) 'The Future of Office Property', Ninth Annual Pacific-Rim Real Estate Society Conference, Brisbane, Queensland, 19-22 January, 2003
- Islam A, N Selvadurai and G Town, (2008) 'Wireless Broadband Technologies for Regional and Rural Australia: A last-mile perspective', 58 (2-3) *Telecommunications Journal of Australia*, 28.1

- Jankowski N, (2002) 'Creating Community with media: History, Theories and Scientific Investigations' in L Lievrouw and S Livingstone (Eds) *Handbook of New Media: Social Shaping and Consequences of ICTs* (Sage Publications, London) 37
- Jones S, (1996) 'The internet and its Social Landscape' in S Jones (Ed) *Virtual culture: identity and communication in cybersociety* (Sage Publications, London)
- Kanuka H, (2009) 'Understanding E-Learning Technologies-In-Practice Through Philosophies-In-Practice' in T Anderson (Ed) *The Theory and Practice of Online Learning* (Athabasca University Press)
- Kariyawasm R, (2007) *International Economic Law and the Digital Divide: A New Silk Road* (Edward Elgar Publishing Limited, Cheltenham)
- Kellerman A, (2004) 'Internet Access and Penetration: An International Urban Comparison' (2004) *Journal of Urban Technology*, 63
- Kogut B, (2004) The Global Internet Economy (MIT Press, Massachusetts, 2004)
- Kollock P and M Smith, (1999) 'Communities in cyberspace' in M Smith and P Kollock (Eds) *Communities in Cyberspace* (Routledge, London)
- Kooymans R and M Flehr, (2000) 'Arresting the decline in the number of office users in the Adelaide Central Business District', *Sixth Annual Pacific-Rim Real Estate Society Conference*, Sydney, New South Wales, 24-27 January, 2000
- Lee S, R Florida and G Gates, (2010) 'Innovations, Human Capital, and Creativity' 14(3) *International Review of Public Administration*, 13
- Legg T, D Adelman, D Mueller and C Levitt, (2007) 'Constructivist Strategies in Online Distance Education in Nursing', 48(2) *Journal of Nursing Education*, 64, 64-69
- McKinsey & Company/KPMG, (2010) 'National Broadband Network Implementation Study', 6 May 2010 ('McKinsey Report') http://data.dbcde.gov.au/nbn/NBN-Implementation-Study-complete-report.pdf (accessed 08/05/2010)
- Macey J, (2003) 'Regulatory Globalization as a Response to Regulatory Competition', 52 Emory Law Journal, 1353
- Mackay H, (1999) Turning point Australians choosing their future (Pan McMillan Australia, Sydney)
- Mak Y, W Sher and A Williams (2010), 'Students' Evaluation of an Online Postgraduate Property Program', Sixteenth Annual Pacific-Rim Real Estate Society Conference, Wellington, New Zealand, 24-27 January, 2010
- Mandorf S, (2008) Processes in the Internet Economy: The View of Electronic Processes (GRIN Verlag, Norderstedt)
- Martin J, (2009) 'Creating balanced partnerships for regional innovation and entrepreneurship: lessons from Australia's Community Banks ®', 5 (1-3) *International Journal of Foresight and Innovation Policy*, 181-192
- Mellor, D (2005), 'Broadband: Benefits and problems', Telecommunications Policy, 29 (2/3), 223-236
- Mintz D, (2007) 'Government 2.0 Fact or Fiction?' 36(4) Public Manager, 21, 21-24
- Mitchell W, (1999) *E-topia: Urban Life, Jim But Not As We Know It* (Massachusetts University of Technology Press, Cambridge, Massachusetts)
- Molloy S, B Burgan and S Rao, (2008) 'Creating new markets: broadband adoption and economic benefits on the Yorke Peninsula', Systems Knowledge Concepts Report prepared for the Information Economy Directorate, Department of Further Education Employment Science and Technology, Government of South Australia, June 2008 http://www.acma.gov.au/webwr/_assets/main/lib310554/ypbb2%20final%2020080813.pdf (viewed 07/01/2010)
- OECD, (2008) 'The Seoul Declaration for the Future of the internet Economy' OECD Ministerial Meeting on the Future of the internet Economy, Seoul, Korea, 17-18 June 2008 http://www.oecd.org/dataoecd/49/28/40839436.pdf (viewed 16/01/2010)
- OECD, (2008a) 'Making Life Easy for Citizens and Businesses in Portugal Administrative Simplifications and e-Government', OECD,
- OECD,(2009) Focus on Citizens: Public Engagement for Better Policy and Services (2009) OECD Studies on Public Engagement
 - $\frac{http://books.google.com.au/books?id=HNEQ6CHrJmEC\&pg=PA67\&dq=\%22internet+economy\%22+online+collaborations\&hl=en\&ei=yoKRTN-$
 - <u>wCtS8caqYte4G&sa=X&oi=book_result&ct=result&resnum=2&ved=0CDYQ6AEwAQ#v=onepage&q&f=false</u> (viewed 16/09/2010)

- Page K, (2006) 'A preliminary study on the current state of e-learning in lifelong learning', 123 *Cedefop Panaorama* series, 5
- PCA, (2011) 'Perth office market tightens as vacancy falls', 3 August 2011, Property Council of Australia http://www.propertyoz.com.au/Article/NewsDetail.aspx?id=4600 (viewed 26/08/2011)
- Peña-López I, (2009) 'Measuring digital development for policy-making: Models, stages, characteristics and causes', PhD Thesis [mimeo] http://ictlogy.net/articles/20090908_ismael_pena-lopez_measuring_digital_development.pdf (viewed 15/01/2010) 67-78
- Perry M, K O'Hara, A Sellen, B Brown and R Harper, (2001) 'Dealing with Mobility: Understanding Access Anytime, Anywhere', 8(4) ACM Transactions on Computer-Human Interaction, 323
- Plumb I and A Zamfir, (2009) 'Improving Urban Management through E-Government Servcies: the Romanian Experience', 13 *Theoretical and Empirical Researches in Urban Management*, 165
- Poole M, (2009) 'Collaboration, integration, and transformation: Directions for research on communication and information technologies', 14(3) *Journal of Computer-Mediated Communication*, 758
- Pusey M, (2003) *The Experience of Middle Australia: the Dark Side of Economic Reform* (Cambridge University Press, Cambridge)
- Rheingold H, (2001) 'The Virtual Community' in D Trend (Ed) Reading Digital Culture (Blackwell Publishers Ltd, Oxford) 276
- RMIT, (2011) 'Bundoora building boom', 22 August 2011, RMIT University http://www.rmit.edu.au/browse;ID=lgxmq79snygh (viewed 26/08/2011)
- The RTIRC, (2008) 'Framework for the Future', 5 September 2008 ('Glasson Report') http://www.rtirc.gov.au/Report/RTIRC_Report.pdf (viewed 04/02/2010)
- Sadeh N, D Hildum, D Kjenstad, and A Tseng, (2001) 'MASCOT: an agentbased architecture for dynamic supply chain creation and coordination in the internet economy,' 12(3) *Production Planning & Control*, 212
- Schellong A, 'Government 2.0: An exploratory study of social networking services in Japanese local government' (2008) 2(2) Transforming Government: People, Process and Policy, 225, 225-242
- Slater D, (2002) 'Social Relationships and Identity Online and Offline' in L Lievrouw and S Livingston (Eds) *Handbook of New Media: Social Shaping and Consequences of ICTs* (Sage Publications, London) 535
- Slevin J, (2000) The Internet and Society (Blackwell Publishers Ltd, Oxford)
- Stoneman P, (2010) Soft Innovation: Economics, Product Aesthetics, and the Creative Industries (OUP, Oxford)
- Svantesson D, (2005) 'The characteristics making internet communication challenge traditional models of regulation What every international jurist should know about the internet', 13(1) *International Journal of Law and Information Technology*, 39
- Taherabady, A, M Khotanlu, and A Nosrati, (2010) 'Explaining Efficiency in Electronic Banking' (November 26, 2010) Available at SSRN: http://ssrn.com/abstract=1709028 (viewed 02/09/2011)
- Tang H, (2009) 'The Networked Electorate: The Internet and the Quiet Democratic Revolution in Malaysia and Singapore', 2 *Journal of Information, Law & Technology* http://go.warwick.ac.uk/jilt/2009_2/tang (viewed 06/01/2010)
- Van Dijk J, (1998) 'The reality of virtual communities', 1(1) Trends in Communication, 39
- von Hippel E, (2005) Democratizing Innovation (MIT Press, London)
- Waterhouse J (2011) 'Booming internet hits \$80 billion', Sydney Morning Herald, 5 August 2011
- Wellman B and M Guila, (1999) 'Virtual communities as communities: Net surfers don't ride alone' in M Smith and P Kollock *Communities in Cyberspace* (Routledge, London)
- West D, (2010) An International Look at High Speed Broadband (2010) Governance Studies at Brookings http://www.brookings.edu/~/media/Files/rc/reports/2010/0223_broadband_west/0223_broadband_west.pdf (viewed 07/10/2010)

Cases

Dow Jones and Company Inc v Gutnick [2002] HCA 56; 210 CLR 575n ('Dow Jones')