



Audience & Market Foresight
Trends and Foresight in Digital Media

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Executive Summary

This report provides an overview of trends in digital media over the period from 2009-2015. It applies scenario analysis to provide foresight on macro trends in the economy, politics, society and culture that will impact upon digital media market development in Australia, and the prospects for growth in online and digital media industries. It considers developments in the diffusion of innovations in advertising and marketing, mobile media, user-created content, and legal issues for consumers engaging in online transactions.

Two key sets of variables are identified as shaping user demand and digital media markets in Australia over 2009-2015. First, there are those associated with political-economic forces, including economic growth rates, political developments, population growth, and the legal and policy environment. Second, there are developments associated with a network society, culture and values, including broadband development, cities and regions, energy and environment, and 'digicult' values.

From this analysis we identify four scenarios: (1) Confident Australia (high economic growth/high 'digicult' values); (2) Quarry Australia (high economic growth/low 'digicult' values); (3) Mad Max Australia (low economic growth/low 'digicult' values); (4) Comfortable Australia (low economic growth/high 'digicult' values).

Understanding the Web as an interconnected ecology, developing at the core of a networked information economy, we argue that a shift is occurring in the diffusion of innovations (DOI) away from the traditional 'Bell Curve' model of early/late adopters with the rise of Web 2.0 and social media. This points to the importance of new models of advertising including Advertising on Demand, User Engagement with Advertising, and Advertising as a Service. It also indicates to the centrality of content and marketing communication strategies to the dissemination of media messages in the networked information economy.

This is most apparent in the mobile media space, which is being termed 'Web 3.0', with the convergence of user-created content and the mobile Internet to generate 'any time, any place, any device' digital media communications. Mobile media points to the importance of the locative Internet, and the potential for growth for services that take advantage of context-aware media and enable user access to hyper-local services.

Leveraging user-created content (UCC) to business advantage has been an ongoing challenge of the Web 2.0 environment, and strategies are identified to enable commercial opportunities from content generated by 'produsage communities'. These include: feeding the hive; helping the hive; harboring the hive; harnessing the hive; and harvesting the hive. The risk for businesses is that, in a rush for short-term profits from UCC, they may seek to 'hijack the hive', or seeking to lock-in produsage communities for unevenly distributed financial gain. The resulting loss of trust and reputational damage this may engender is a risk to established commercial brands, and is not a sustainable strategy in the medium-term.

Risks to trust, reputation and medium-term commercial viability in the digital media environment are apparent in consideration of issues facing consumers in online purchasing decisions. The interaction between consumer protection legislation and questions of privacy and information security present an ongoing challenge in growing markets and promoting innovation in digital products and services, and consumer concerns will be heightened by perceived predatory behaviour in relation to user-created content.

Introduction: Using Scenarios & Foresight Analysis

The approach developed in this report build upon scenarios and foresight analysis. It is influenced by the work of the Dutch management theorist Kees van der Heijden, who developed scenarios while working at Shell (van der Heijden 2005). Scenario-based planning differs from forecasting in its assumption that there are elements of irreducible uncertainty in the business environment, but that relationships between events and lines of causality can nonetheless be identified. It requires thinking outside of existing ‘mental maps’, introducing option and ‘what if’ propositions into corporate strategy.

The focus of this report is on the external environment facing organisations over which they have little or no influence, although they have considerable capacity to respond to such changes if they can be anticipated. It is not on the industry or transactional environment, where the organisation seeks to anticipate and respond to the strategies and actions of its competitors or other relevant stakeholders. The focus is also not on the organisation itself: we seek to provide models for consideration of the scope to plan for and anticipate changes in the external environment only, rather than methodologies for evaluating corporate strategy such as SWOT analysis.

Scenarios for Online Services Development: Environmental Scanning for Foresight in Australian Service Markets

Scenarios for online services development in Australia over the next seven years (2009-2015) are likely to be influenced by two sets of forces in the external environment:

1. **Political-economic forces:** the primary factor here is the average rate of growth in the Australian economy over 2009-2015, which will be influenced by both trends in the global economy and Australian domestic politics, and will in turn influence population trends and the policy and legal environment¹;
2. **Network society, culture and values:** this includes the development of enabling infrastructure for digital and online services (networked and wireless broadband), but also trends in the use of non-renewable resources, demographic trends and changes in Australian cities and regions, and the values and culture of public and private sector organisation and Australian society overall, and the question of ‘Digicult’ values.²

Four variables have been identified within these two sets of forces, and a positive and a negative scenario identified for each in terms of developments in online services markets

Political-economic forces

¹ Population, policy and legal trends are dependent upon economic growth and the political environment, but economic and political developments are partly interdependent and partly autonomous. The global economy significant shapes the Australian economy, but so too does domestic politics. On the relationship between these trends in Australia, see A. Parkin, D. Woodward and J. Summers (eds.), *Government, Politics, Power and Policy in Australia* (Pearson, 2006, 8th Edition).

² The term ‘network society’ is taken from the sociologist Manuel Castells, who has also emphasised the role of culture and values in the development of the Internet; see ‘The Culture of the Internet’, in Castells, *The Internet Galaxy* (Oxford, 2001), pp. 36-63. ‘Digicult’ values refers to concept such as collaboration, peer networking and open source development emphasised in Don Tapscott and Anthony Williams, *Wikinomics: How Mass Collaboration Changes Everything*, Atlantic Books, London, 2006, and Clay Shirky, *Here Comes Everybody: The Power of Organising without Organisations*, Penguin, London, 2008.

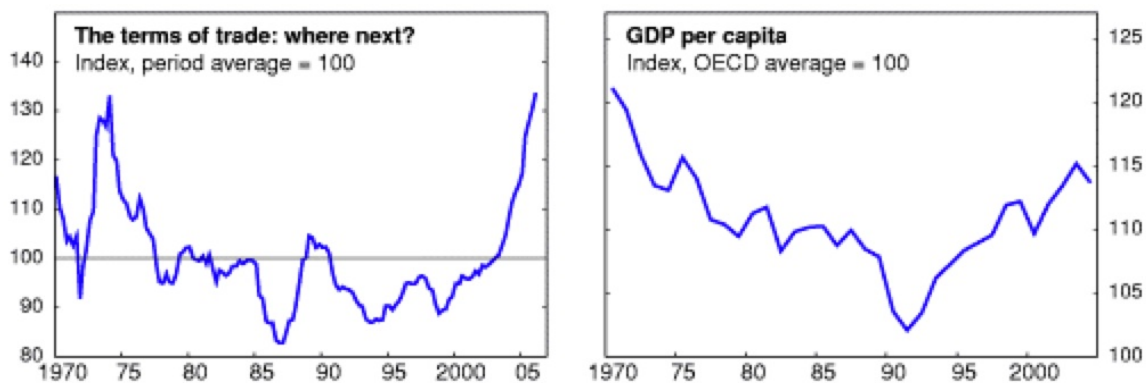
1. Economy

A *fast growth* scenario for the Australian economy over the period 2009-2015 would envisage average economic growth rates of 4-5% per annum through this period, with limited fluctuation in macroeconomic variables such as inflation, interest rates and unemployment.

A *slow growth* scenario would envisage average growth for the Australian economy of 0-2% over this period, most likely accompanied by significant fluctuation in inflation and interest rates, as well as rising structural unemployment.

Figure 1 shows that while Australia has experienced significant per capita economic growth from the early 1990s to the present, it remains strongly linked to rising global commodity process, and hence to the state of the world economy. It is unclear whether growth is sustainable in Australia should there be a reversal of trends towards rising world commodity prices, and if the economy would then revert to its poor performance in the 1970s and 1980s.

Figure 1: Australia's Terms of Trade and Economic Growth compared to OECD overall



Source: OECD (2006)

2. Politics

A *positive* scenario for Australian politics would envisage a period of relative stability, where Federal governments were able to develop forward-looking policies that responded to the challenges of globalization and the knowledge economy, where State governments were reasonably effective in delivering services and infrastructure, and where common themes began to emerge about the direction Australia should be going.

A *negative* scenario envisaged high levels of instability in government at all levels, an inability or lack of will to develop forward-looking policies, and increasing degree of short-term opportunism across the political spectrum. It may see more regular changes of government and the dominance of minor parties in State and Federal parliaments.

3. Population growth

One scenario would be for *high population growth* over 2009-2015, that is particularly driven by business and skilled migration, and where Australia is identified as a highly desirable destination for the world's knowledge workforce and creative class. This migration is welcomed as it adds to the human capital base of the economy and the diversity of the population and culture.

A *low population growth* scenario may see Australia become a less desirable destination for knowledge workers and the creative class, growing insularity and ‘backlash’ amongst the established population, and growing levels of emigration of skilled Australian workers, who choose to take advantage of better opportunities in Europe, North America and Asia.

4. Legal and policy environment

A *proactive* legal and policy environment for the development of digital and online services would be one where the Federal government, supported by the states, seeks to address key enablers to the development of these services.

By contrast, reactive legal and policy frameworks could include rent-seeking behaviour by existing asset holders (e.g. further tightening of copyright protections to benefit owners over users), and an inability to get agreement over issues such as interoperability standards and broadband service provision. The multi-billion dollar bailout of investment banks and insurance companies by the U.S. Federal Reserve, as well as large bailouts to the motor vehicle also industry, indicate how short-term priorities and the dominance of ‘industrial era’ interests in the political process can dominate policy-making in the absence of foresight at the level of government.

Enabling Digital Content Policies

The Organisation for Economic Co-operation and Development (OECD) considers six sets of government policies to be critical to enabling the development of digital broadband content industries and what it terms the ‘participative Web’, or Web 2.0.

Promoting research and development (R&D) in content, networks, software and new technologies that can be effectively commercialized, and promoting relevant ICT skills development to enable spillovers from the technology-intensive sectors to the economy as a whole;

Developing competitive, non-discriminatory frameworks across the value chain, including access to network infrastructure and interoperability of services for all content providers, particularly small firms;

Enhancing broadband infrastructure and universal access to high-speed broadband services, both for downloading and uploading content;

Regulatory environments that recognize how convergence has blurred traditional industry boundaries (e.g. between broadcasting, print media and telecommunications), and ensure benefits to users as well as suppliers. Of particular importance here is the question of how to manage current and future intellectual property rights in ways that recognize user-led innovation as well as stimulating innovative e-business models;

The role of governments as producers and users of content, and the scope to stimulate further innovation in response to citizen demand (e.g. Creative Commons licences for government publication, discussion platforms on government online sites, commercial re-use of public sector information). Source: OECD (2007)

Network society, values and culture

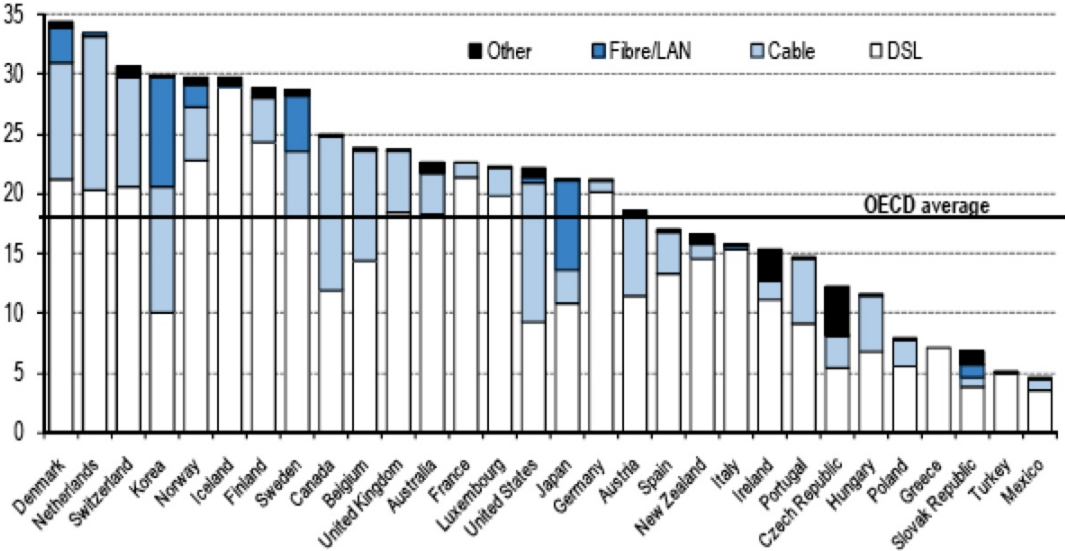
5. Broadband development

It has been argued that Australia has gone from being a world leader in the adoption of ‘first generation’ dial-up Internet services to being a laggard in the take-up of high-speed broadband services (Barr 2007). As of June 2007, Australia was 11th among OECD nations in broadband

penetration per 100 inhabitants, with 23% of households having a broadband Internet connection (OECD 2008). Broadband penetration relative to GDP per capita was close to the OECD average, but the significance of policy factors in broadband take-up can be seen in the much higher levels of take-up among countries with comparable GDP per capita to Australia, such as Denmark and The Netherlands, and with lower GDP per capita, most notably Korea (see Figure 2). While landmass and geography are relevant factors in Australia, policy is also a highly significant variable, and broadband policy analysts such as Trevor Barr have argued that ‘Australia has a long way to go to resolve fundamental public policy questions about broadband systems, players, and rules of the game’ (Barr 2007).

A *positive* scenario would involve a speedy resolution of these policy questions. A *negative* scenario would see broadband development in Australia that is slow, fragmented, unevenly distributed and costly by international standards. It is beyond the scope of this report to consider the policy issues involved, but it is important to note that high-speed broadband is essential not only for growth in demand for online and digital product and services, but also to generate new opportunities to marketise user-created content (OECD 2007)

Figure 2: Broadband Penetration by Country and Technology (per 100 inhabitants), June 2007



Source: OECD (2008)

6. Cities and regions

Economic geographers such as Richard Florida (2002, 2008) and Allen Scott (2008) have drawn attention to the ways in which *creative cities* can be unique aggregators of creative talent on the basis of their social and cultural attributes and openness to diversity and innovation. Australian cities could become more cosmopolitan and outward looking over this period, and this would provide a positive stimulus to innovation, as other Australian regions sought to re-brand themselves as open to an influx of creative talent. Cities such as Brisbane and Melbourne have actively sought to position themselves as creative cities over the 2000s, and Adelaide, Perth and Darwin have also developed creative cities strategies.

At the same time, the volatility of global financial markets, combined with uneven development across Australia, could trigger a rise in regional parochialism and reactive local politics. The experience of *negative equity* could grow in Australia, as it has in the United States, with one-third of American home-owners who bought in the last five years now having negative equity. In this situation, people may be less likely to move between cities as they cannot realise the value of their original purchase.

7. Energy and environment

Rising oil prices over 2008 have drawn attention to the implications of *peak oil* for future economic and regional development, as well as living standards. It is estimated that world oil production will peak somewhere between 2015 and 2025, raising the issue of how to reduce the demand for oil without a significant crisis in the global economy (Hirsch *et. al.* 2005). Concerns about climate change and global warming created by human activity (anthropogenic global warming) have also heightened expectations that governments will act to reduce greenhouse gas emissions from businesses and consumer activities, which could generate uncertainty about the short-term impacts of policy measures such as the introduction of an Emissions Trading Scheme (ETS).

A positive response to these trends would be that businesses and consumers respond to rising oil prices and the need to cut greenhouse gases through greater use of renewable energy sources combined with more efficient use of non-renewables such as oil and coal. A turn towards more fuel-efficient motor vehicles such as hybrid cars greater use of public transport and more energy-efficient housing and urban design would be significant mitigating responses to the potential peak oil crisis. There may also be success in technological developments such as coal liquefaction and gas-to-oil conversion, but these would take up to a decade to have a significant impact.

The *negative* scenario is that there is no pro-active response to the looming 'peak oil' phenomenon, and rising oil prices lead to rising inflation, unemployment and social dislocation, as well as the bankrupting of firms in key industries such as air and road transportation and motor vehicle manufacturing. This was what occurred in the world economy in the 1970s, and could occur again. A similar outcome could heighten a variety of social/political economic tensions both within and between nations.

8. Culture and values

The concept of a *digital culture* – *digicult* – comes from the realisation that the mass popularization of the Internet from the early 1990s on to become the central component of the global information and communications infrastructure is having a wide range of implications for how we live, how we think, and how we organise collective activities.

Yochai Benkler (2006) refers to the networked information economy, and argues that the model of social production it enables is promoting human freedom and creativity, demands for a more responsive and democratic polity and public sphere, new development opportunities in poorer nations, and a culture that is more open and transparent, self-reflective and participatory. Clay Shirky (2008) proposes that new social media tools enable greater group self-organisation, and that this has enabled 'a remarkable increase in our ability to share, to cooperate with one another, and to take collective action, all outside the framework of traditional institutions and organisations' (Shirky 2008).

'Digicult' values are often wrongly attributed to 'Generation Y', or those born after 1979 that have lived with the Internet since their teens. There is nothing inherently age-based about the new cultures and values associated with digital media technologies. They do, however, present profound challenges not only to existing economic and political institutions, but also to institutional logics and established organisational hierarchies.

A *negative* scenario would be that the rise of 'digicult' values is thwarted both within organisations - through suppression of use of social media in the workplace, for example - and in the wider political and legal field, through lobbying to protect established interests of the industrial era (around, for example, copyright laws). We could witness further generational conflict along the lines of the recent 'Culture Wars' in Australia and the U.S., as the legitimacy of new modes of communication and engagement with the public sphere are consistently challenged, denigrated, and in some instances suppressed, by incumbent forms of power and authority (e.g. Keen 2007).

Global Environment

Australia is a relatively small and open economy that is strongly influenced by international trends in culture and technology by virtue of being an affluent, English-speaking and culturally diverse nation, situated in Asia but historically shaped by European and American ideas, culture and values. Global trends therefore will play a very important role in shaping scenarios for Australia over coming years, as they always have. The October 2008 financial meltdown and its impact on the value of the Australian Dollar makes it clear how susceptible Australia is to international trends over which it has little direct control.

Using the PESTEL framework³, we can identify some of these issues in the global environment:

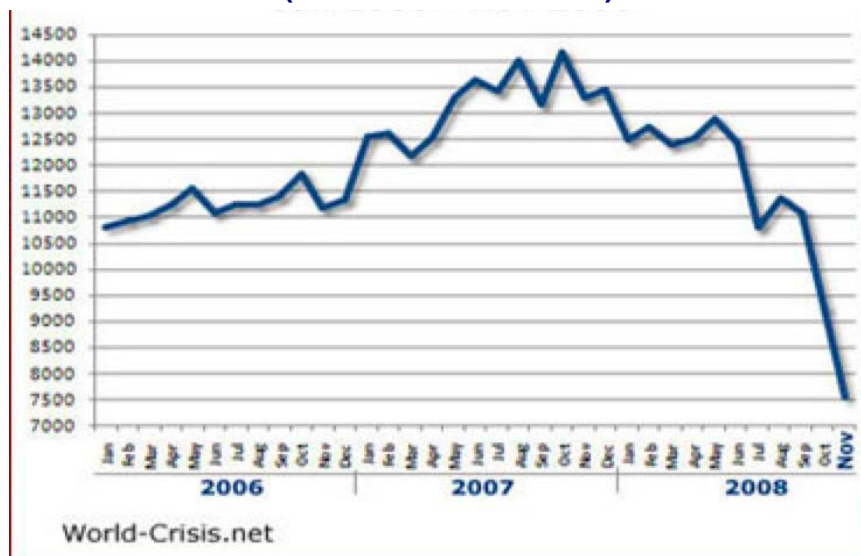
9. Political factors

The coinciding of the 2008 U.S. Presidential elections with the global meltdown in financial markets means that the period from 2009-2015 will be one of fundamentally different directions in U.S. domestic and foreign policy, and its global impacts. The Middle East remains a geo-political hot spot, as an Obama presidency will seek to withdraw U.S. troops from Iraq while remaining involved in Afghanistan and Pakistan. Relations between the U.S., the European Union and a resurgent Russia remain an issue to watch.

10. Economic factors

The crisis in global financial and share markets of October 2008 makes it highly likely that the 2009-2010 period will be one of recession in the U.S. and European economies, with rising unemployment and possible inflationary pressures arising from the various bank bailouts. Regulatory thinking has fundamentally shifted, with a turn towards Keynesian economics of demand stimuli, combined with demands for international economic policy co-ordination and governments acquiring equity shares in major banks and demanding stricter financial regulations.

**Figure 3: Dow Jones Industrial Average
(Jan 2006 – Nov 2008)**



³ Gerry Johnson, Kevan Scholes and Richard Whittington, *Exploring Corporate Strategy*, Prentice-Hall, Harlow, 7th Edition, 2005.

⁴ http://en.wikipedia.org/wiki/Financial_crisis_of_2007%E2%80%932009

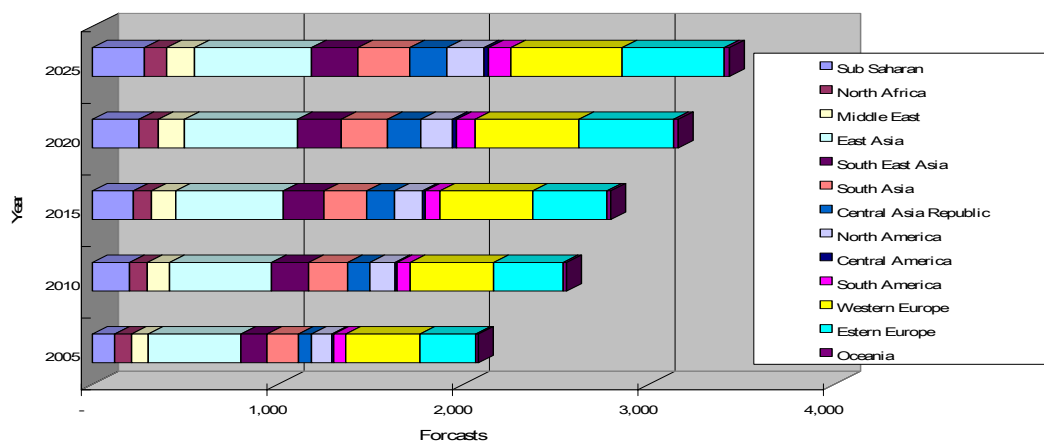
The impact of a downturn in the U.S. and Europe on emergent economies such as China and India is unclear at present, as is the question of whether there will be a turn towards domestic protectionism in the wake of the failure of the Doha Round of WTO multilateral trade negotiations.

11. Socio-cultural factors

Notable socio-cultural trends over 2009-2015 will include:

- Continued rapid growth in mobile phone and Internet uptake, increasingly driven by populations in developing countries;
- Continued aging of populations in developed economies, particularly in Europe;
- Internet growth being fastest among non-English-language populations;
- Rising global environmental awareness, which may prove to be particularly strong in countries such as China;
- Continued growth in international population movements driven by higher education, in the forms of international student enrolments and the growing global mobility of skilled workers.

Figure 4: Regional Forecasts of Global Demand for International Higher Education



Source: Banks et. al. 2007 (figures in '000).

12. Technological factors

Trends away from mass communications media (newspapers, broadcast TV) are expected to continue, with growing competition for media consumption time from Web-based social media. This is accompanied by the expectation of more participatory media cultures with user-created content. There will also be greater convergence between the Internet and mobile media technologies, described in this report as Web 3.0 or the locative Internet.

13. Environmental factors

The possibility of 'peak oil' emerging between 2015-2025 will hasten both the search for energy alternatives to fossil fuels, and pressures to reduce average energy consumption by businesses and

households. Policies to reduce carbon emissions will accentuate these trends, which may in turn impact upon the design of cities to be more compact and energy-efficient. There is a continuing question of waste disposal associated with technologies, particularly computers, and the digital media industries are themselves significant contributors to global emissions.



14. Legal factors

The ever-growing ease of digitally reproducing and re-using media content is placing continuing pressure upon existing forms of copyright law and intellectual property regimes, and tensions between the United States and China in particular. Creative Commons licences have emerged as an alternative promoted by legal experts and creative content producers, and there may be significant growth in CC licences, particularly in developing countries.

International legal and regulatory harmonization is an on-going challenge particularly between the OECD economies and the emergent economies of China, Russia and the Middle East. New legal questions also arise from the growth in international trade in services, as national governments have historically played a much greater role in regulating access for service providers in industries such as media, telecommunications, education, health and transport.


From these eight variables, we can develop four scenarios for the external environment that will shape the development of online services in Australia over 2009-2015:

Fast economic growth scenarios

<p>1. Confident Australia: In a context of high economic growth and forward-looking public policy, Australian cities become more cosmopolitan and attract skilled workforce from all parts of the world, while regions benefit from ‘sea-changing’ and ‘tree-changing’ among the ‘Baby Boomers’ as well as growing international demand for a wide range of Australian products and services;</p>	 <p>5</p>
<p>2. Quarry Australia: Australia experiences high economic growth, but it is primarily due to demand for primary products and resources, leading to uneven development and highly variable experiences of economic growth (‘multi-track’ economy). This in turn exacerbates conflict and tribalisation, that is reinforced by political instability and a lack of social cohesion and policy foresight;</p>	 <p>6</p>

⁵ Source: Image from Foraggio Fotographic's (2008) <http://www.flickr.com/photos/foraggio/2857913191/>
⁶ Source: Image from Piston9 (2008) <http://www.flickr.com/photos/piston9/2374997079/>

Slow economic growth scenarios

<p>3. Mad Max Australia: Slow economic growth accentuates tribalisation, as declining economic fortunes promote blame-shifting, scapegoating and political instability. Highly fragmented and unstable political environment prevents effective policy development and young Australians with globally demanded skill are inclined to emigrate.</p>	 <p>7</p>
<p>4. Relaxed Australia: Australians increasingly accept a trade-off between economic growth, environmental sustainability and quality of life, and consensus emerge around 'Digicult' values and culture that are post-materialist and in a harmonious relationship with nature and sustainable cities and regions.</p>	 <p>8</p>

These four scenarios can be mapped in the following way

⁷ Source: Image from Gifford (2008) <http://www.flickr.com/photos/rgifford/2359783374/>
⁸ Source: Image from Aschaf (2006) <http://www.flickr.com/photos/aschaf/285577102/>



Networked Information Economy

A number of terms exist to describe the 21st century environment, including the network society (Manuel Castells), the networked information economy (Yochai Benkler), Wikinomics (Don Tapscott and Anthony Williams), the new business ecology (Greg Hearn), and the creative economy (John Howkins). At a general level, its key driver is the Internet and networked personal computing, where the level of connectivity and individual ICT capacity grows as the costs of access and the barriers to participation in this networked environment continue to fall. Benkler (2006) argues that the rise of the Internet is a necessary but not sufficient condition for explaining the rise of the networked information economy, and we also need to consider:

1. *Knowledge-intensive service industries* (media, information, communication and creative industries) moving to the centre of post-industrial economies - these have always needed to be more flexible and agile than traditional manufacturing industries;
2. The boost that the Internet gives to the *co-ordinate effects* of a multiplicity of individual activities and actions that have a diverse range of market and non-market motivations, and which collectively enrich the networked information environment (Shirky 2008);
3. The rise of *peer production and sharing* of information, knowledge and culture through large-scale co-operative efforts, as one of the key trends associated with what is termed Web 2.0, social media or the *participative Web* (OECD 2007), and the general impetus this gives to *openness and mass collaboration* more generally (Tapscott and Williams 2006; Leadbeater 2008).

Tapscott and Williams (2006) describe the new environment for business in the following way:

The new Web – which is really an internetworked constellation of disruptive technologies – is the most robust platform yet for facilitating and accelerating new creative disruptions. People, knowledge, objects, devices and intelligent agents are converging in many-to-many networks where new innovations and social trends spread with viral intensity. Organisations that have scrambled to come up with responses to new phenomena such as Napster or the blogosphere should expect much more of the same – at an increasing rate – in the future.

Previous technology-driven revolutions, like the electrification of industry, took the better part of a century to unfold. Today the escalating scope and scale of the resources applied to innovation means that change will unfold more quickly. Though we are still just beginning a profound economic and institutional adjustment, incumbents should not expect a grace period. The old, hardwired “plan and push” mentality is rapidly giving way to a new, dynamic “engage and cocreate” economy. A hypercompetitive global economy is reshaping enterprises, and political and legal shifts loom (Tapscott and Williams 2006).

Features of the Participative Web

In its report on the *Participative Web: User-Created Content (OECD 2007)*, the OECD identified six major socio-economic impacts of the rise of user-created content:

1. Digital content innovations will be less based on traditional R&D strategies, business models and scale and incumbency advantages, and will instead favour new entrants, decentralized creativity, organisational innovation and new value-adding models;
2. Traditional content publishers and broadcasters will face new forms of competition, particularly from Internet based services, for audience time, advertising revenue and content sources, as well as audiences/users who will demand 'any time, any place, any device' content and will be more inclined to comment on, rank and criticize content;
3. Professional content providers (journalists, photographers, video producers, graphic designers etc.) face new challenges from 'pro-am' content producers through social media sites;
4. Users have a less deferential and passive orientation towards media and information content, as participation, re-use and remediation become core aspects of the consumption experience, particularly (but not only) for younger users (Deuze 2006);
5. 'Long tail' economics (Anderson 2006) mean that, as the 'distributional bottleneck' to content availability is radically diminished, more diverse and niche-oriented consumption patterns will be revealed, as 'popularity no longer has a monopoly on profitability' (Anderson 2006);
6. Open platform media means that traditional 'gatekeeping' media and information sources co-exist with a plethora of other sources of information and content, meaning that information access and quality control, traditionally managed by government regulators or the media and communication industries themselves, are increasingly becoming the responsibility of user/consumers, posing new challenges to maintaining reputation and trust.

The Web as Ecology

Hearn and Pace (2006) argue that we need to understand a resulting shift in the conceptualisation of value creation in business towards what they refer to as value ecology thinking. The five component shifts they identify are:

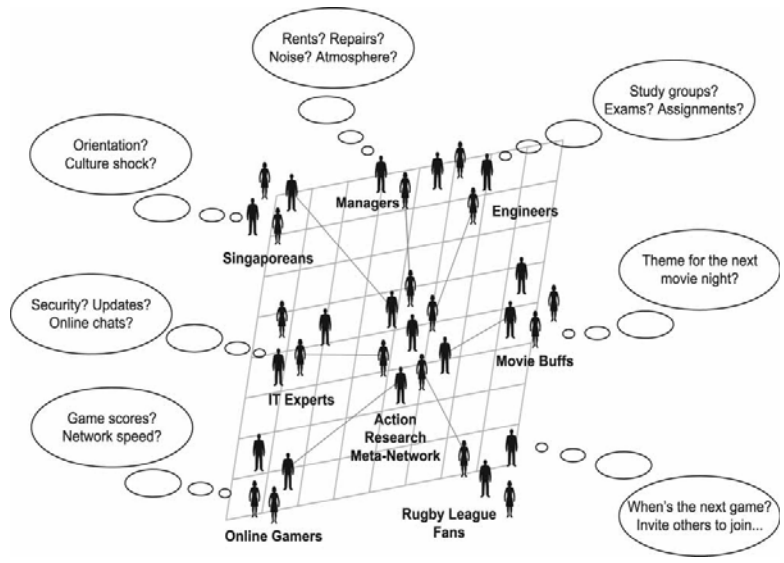
1. From thinking about consumers to thinking about co-creators of value
2. From thinking about value chains to thinking about value networks;
3. From thinking about product value to thinking about network value;
4. From thinking about simple co-operation or competition to thinking about complex co-opetition;
5. From thinking about individual firm strategy to thinking about strategy in relation to the value ecology as a whole.

They argue that in relation to these shifts 'the creative digital sectors are the canaries in the mine ... the first signs of the wave that is moving through all industries' (Hearn and Pace 2006). If we think in terms of value ecologies and value networks rather than supply chains or value chains, three further implications follow:

1. The health of the overall ecosystem and the health of individual agents within it are interconnected e.g. growth of information on networks builds the value of connectivity to the network, and network users will re-route around blockages in the network (e.g. pay-per-view proprietary content or 'walled gardens');
2. Networks cannot be segmented in the manner that industries and professions traditionally could (e.g. journalists co-exist with bloggers, Sensis co-exists with Google, filmmakers co-exist with YouTube, and educators co-exist with Wikipedia);
3. Those with the most/best connections within a network accrue the most resources for competitive advantage, particularly as universally available free information places a premium on what are termed *untraded interdependencies* (e.g. MIT commenced its largest building program as it put all of its courseware online for free, as 'free' MIT content placed a new premium upon being on the MIT campus).

Foth and Hearn illustrate the challenge associated with undertaking research within networked communities, and the importance of action research frameworks where the researcher is embedded within multiple networked communities of interest (see Figure 5).

Figure 5: Network Action Research



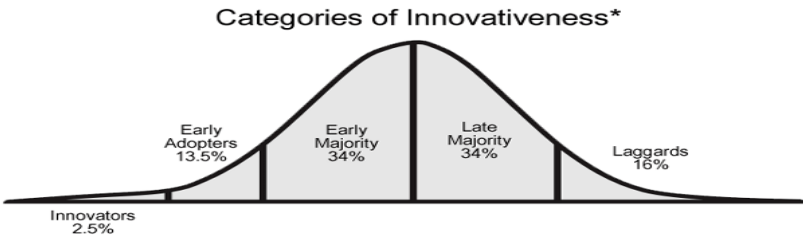
Source: Marcus Foth and Greg Hearn (2007).

Diffusion of Innovation and the Future

Diffusion of innovation (DOI) theory explains the process through which the decision to adopt an innovation occurs (Rogers, 2003). This process can be viewed from the user perspective and the innovation perspective. From the user perspective, Rogers (2003) identified five adopter categories classified by the innovativeness and diffusion patterns that are represented theoretically as a bell-shaped curve. Innovators and early adopters are the first two groups to adopt innovations, followed by the early and late majorities as the innovation gains acceptance and wider use in a society. Laggards are the last group to adopt and are normally identified with being risk averse in adopting innovations (see Figure 1). The user perspective suggests that DOI treats adoption as copying behaviour.

From the innovation perspective, the five main characteristics that are important when determining how successful an innovation will be are: relative advantage, complexity, trialability, compatibility, and observability (Rogers 2003). These attributes are often used as salient beliefs in diffusion/adoption studies relating to information technology and help to predict which factors are most important in the diffusion (e.g. Davies et al., 1989; Karahanna et al., 1999; Moore and Benbasat, 1991; Ploufee et al., 2001).

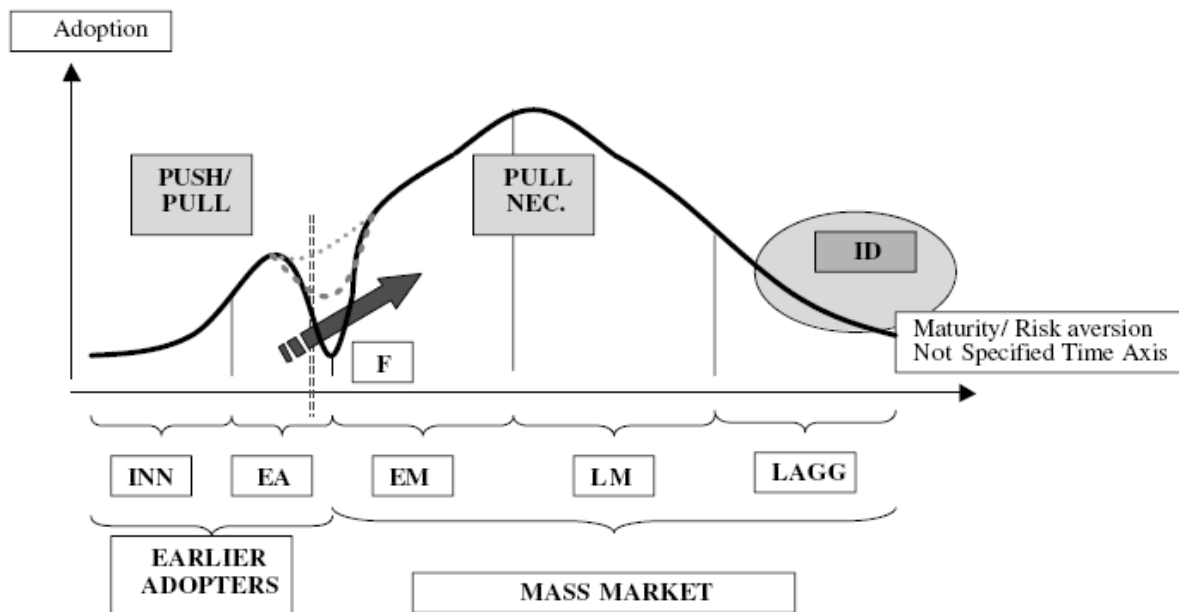
Figure 6: Diffusion of Innovation



Source: Rogers, E.M., Diffusion of Innovations, 4th edition (New York: The Free Press 1995)

In recent research a revised version of the diffusion curve has been developed to incorporate backsliding or ‘the chasm’ (De Marez Lieven and Verleye, 2004), a period that separates the honeymoon period of early adoption and its many expectations and promises and adoption by the majority, usually after the innovation has stabilised and the public know to some solidity what they expect and gain from the innovation.

Figure 7: Double peaked diffusion curve

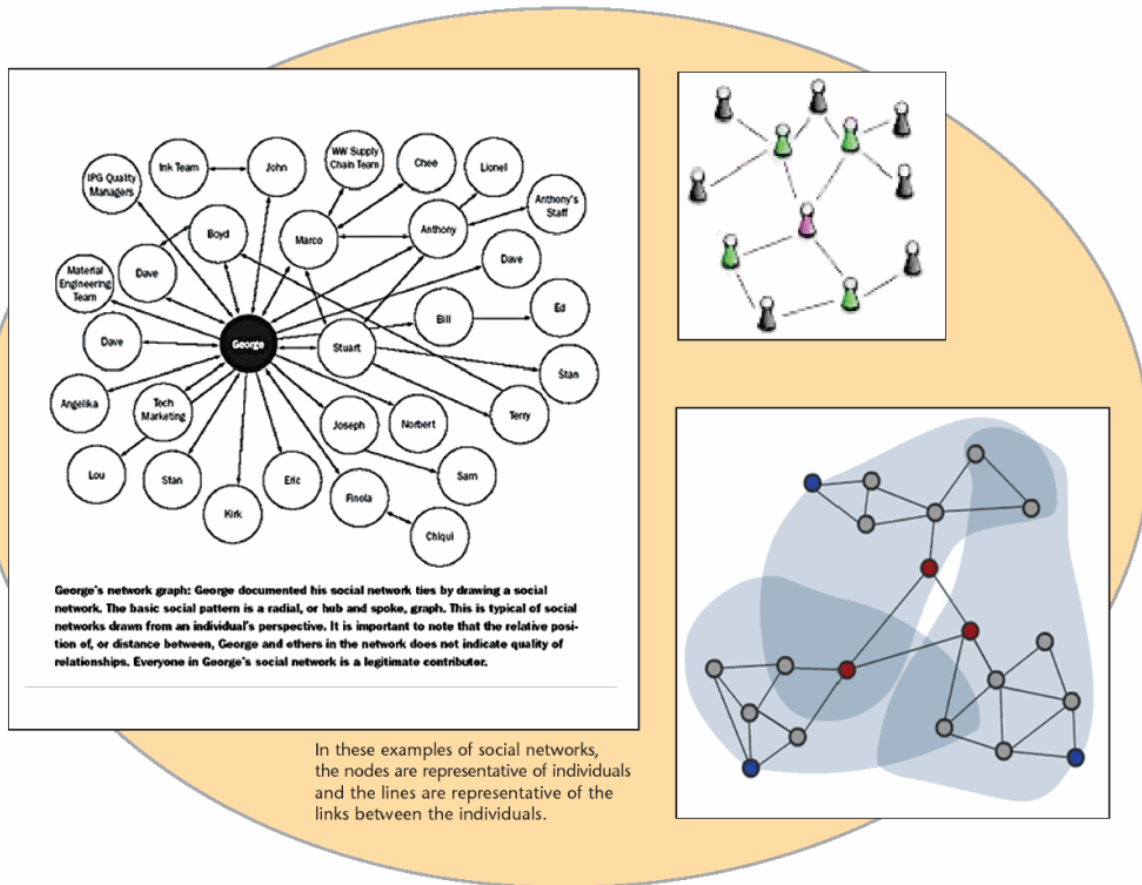


Source: De Marez Lieven and Verleye, 2004.

It could be expected then that this period ([F] – see Fig 2.) would be the ideal time for market segmentation review, strategic and tactical action and product development to bring the innovation to its second peak. Evidence is emerging to suggest that under certain circumstances these traditional perspectives may be of less value in explaining how patterns of diffusion can be applied to the diffusion of digital innovations. For example, De Marez Lieven and Verleye (2004) proposed an adjusted double-peaked curve and argued that it better reflects current diffusion patterns for technological innovations.

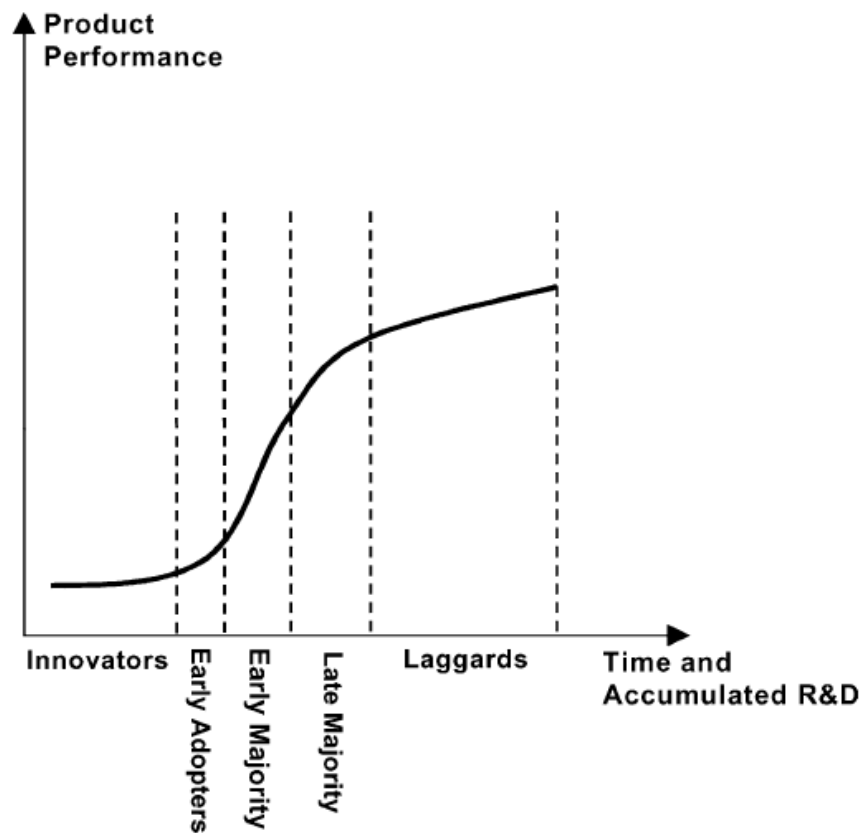
The introduction of the double peaked curve introduces the previously overlooked potential category (ID) Innovation Dislikers, who may have no interest whatsoever in the innovation and its adoption. De Marez Lieven and Verleye (2004) criticise the modelling technique suggesting that it implies a linear, almost ‘mechanical’ process of diffusion, quite different from most interpretations of social networking (see Fig 3). Although it is not examined in this manner, the ID segment could potentially be a contributing factor in the post-innovation backslides and information distribution; if not made up of disillusioned early adopters.

Figure 8: Social Network Layout Examples



Grantham and Tsekouras (2005) argue that technology innovations often fail to cross the tipping point from the innovators and early adopters in order to reach the early majority (See Figure 4). Using Rogers' adopter categories to guide diffusion and marketing activity of mobile services or new technologies can often mislead both developers and marketers which can result in companies delivering less attractive services to the marketplace (De Marez Lieven and Verleye, 2004). One example is virtual social network sites.

Figure 9: Technology Adoption Life Cycle and Types of Adopters



Source: derived from Grantham & Tsekouras (2005)

The Web 2.0 phenomenon has, with the assistance of social media, heralded an age of transparency, communication and sharing – for both personal and professional purposes. Such activity supports the proposition that social media has played a significant role in the development of interpersonal communication. Today’s iGeneration rely on new media for information, and specifically Gen Y spend more than 70 hours per week within these new media environments (Goetz and Barger 2008). They have also pioneered the growth of virtual social network (VSN) sites including MySpace, Facebook and YouTube. Industry surveys show VSN enables communication and relationships to develop with others with whom we share beliefs, interests, values or similar experiences, despite geographic, socio-economic, cultural or other communication limitations that would have prevented or decreased the likelihood of such relationships in the past.

There appears to be mixed opinion on exactly when VSN sites were first launched, this clash seems mostly to be over a conflict of definition of what an online social networking site actually is, or the functions it needs to fulfil to qualify. According to the definition supplied by Boyd and Ellison (2007), the launch was in 1997 (see Figure 5) with limited success. Other references point to a broader definition of the facility of an online ‘social network’ and establish the beginnings of online social networking with Usenet in 1979 (Reid & Gray, 2007).

For the purposes of a contemporary examination of Diffusion Theory, not too much attention needs to be paid to origins, but rather to current trends and usage patterns that will influence further diffusion of new innovations.

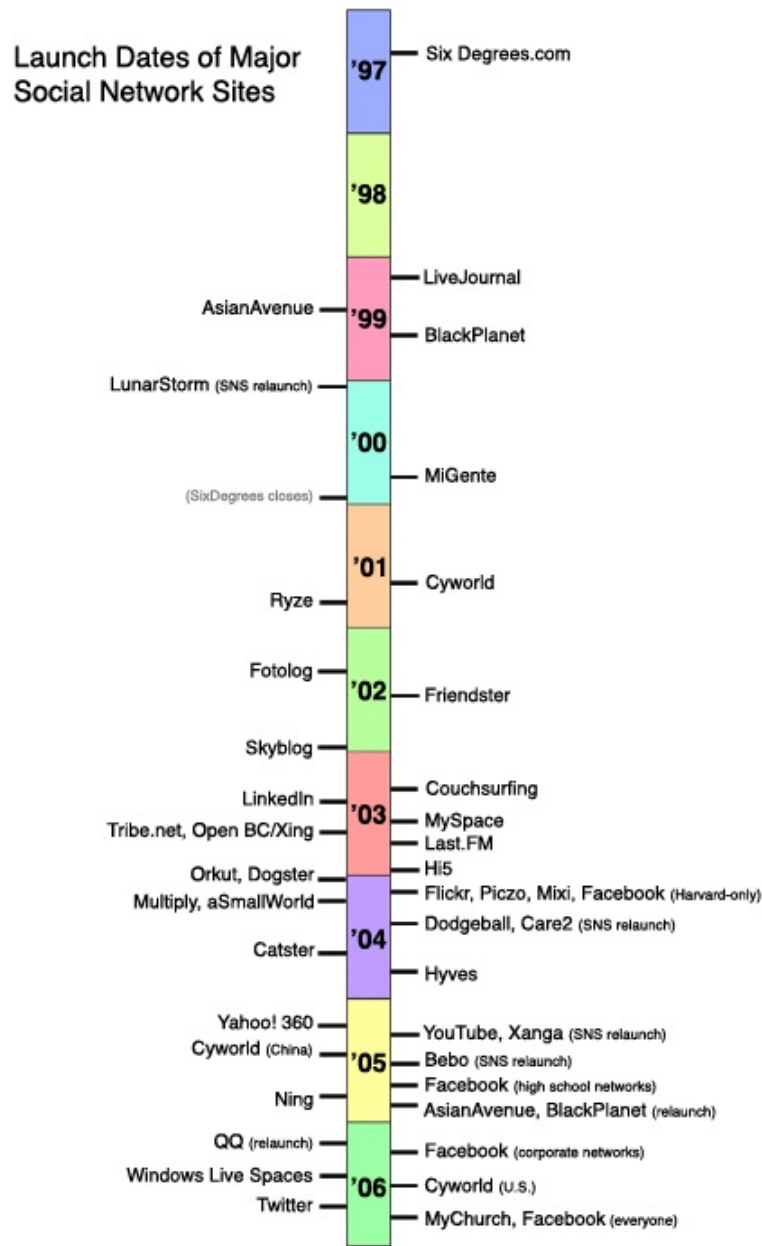
Despite all the history, we are most familiar with the rise of Myspace and its supersession by Facebook. This began around 2004, when teenagers began to embrace the new frontier offered by MySpace that marketers realised the huge potential in reaching this elusive market (Boyd and Ellison 2007).

In January 2009, market share ranked by percentage share of visits within Australia were MySpace with 44%, Facebook 3%, Bebo 8.7% and Orkut 2%. In New Zealand Bebo topped the Hitwise rankings with 41%, second Facebook: 35% and MySpace 8.6%. Friendster and Facebook are the two most popular in Singapore. While in Hong Kong, Facebook leads with 37.7% and Xanga has 33.6 % (Source: Hitwise, 2008).

When looking at the diffusion process it is hard not to see the importance of advertising within VSNs. \$19 million was spent on advertising in VSNs in Australia in 2008, and is estimated to reach \$30 million in 2009. Three new models of advertising that may be worth exploring in line with the Diffusion process are Advertising on Demand, Engagement and Advertising as a Service Models (Rappaport 2007).

Firstly, On Demand Model allows consumers to select and choose the content that they want and when they want to see it. Marketers must stimulate demand and interest. Internet search tools and digital recording devices such as TIVO support the On Demand model by allowing the consumer to view content at a time that suits them. Home pages can be managed to provide information from many different areas: for example weather, sports, celebrity gossip and stock prices. As consumers hold the control and can easily block out marketing messages (see Figure 6), marketers must focus on targeting the person rather than the demographic (Rappaport 2007).

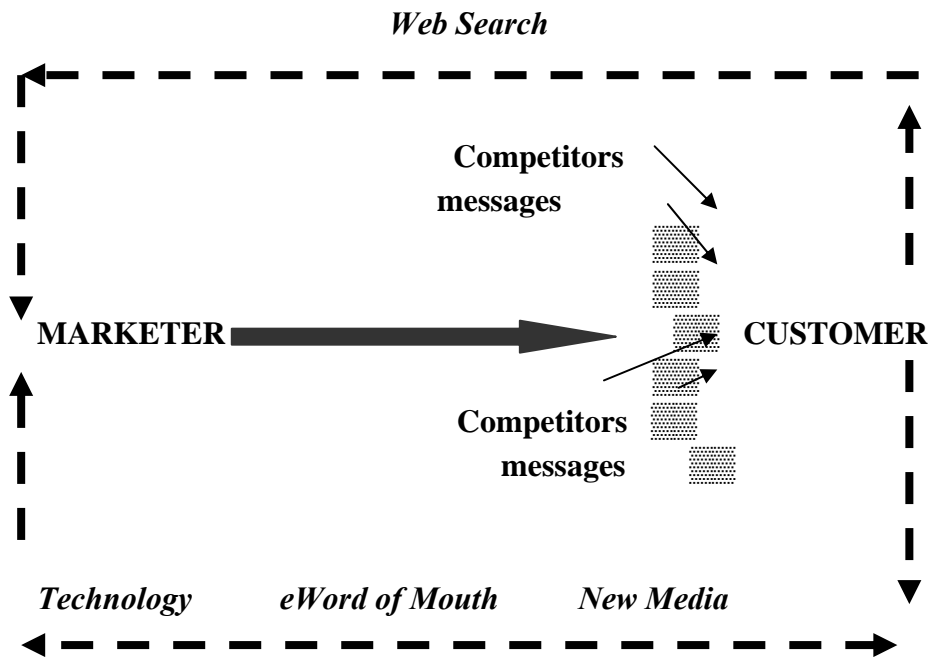
Figure 10: Introduction of Social Networking Sites



Source: <http://jcmc.indiana.edu/vol13/issue1/boyd.ellison.html>

Secondly, the Engagement Model centres on two key components: high engagement and the emotional connection between brand and consumer. New technologies allow interactions which increases engagement and customer loyalty. Rappaport's third model, Advertising as a Service Model suggests that marketers need to provide information and capabilities that increases engagement or make the decision making process easier and more experiential (Rappaport 2007). Marketers must identify consumer's needs and preferences to provide appropriate services.

Figure 11: Consumer's response to messages



Source: Adapted from Schultz, 2007

Advertising within VSN sites such as Myspace and Facebook seem to support all of Rappaport's models. Advertising and information is available on demand, the use of corporate social networking sites aid in engaging the consumer and the information provided by the online users through their profiles and search patterns allows marketers to tailor their advertising to a receptive audience. Marketers know the age, locations and interests of users and with this information, can provide precise advertising. Communication must continually challenge them and affect this market. It is not enough just to have the technology but to ensure that the content is available and relevant to them no matter how it is delivered.

Mobile as Web 3.0: Key Foresight Trends

Web 1.0 referred to the early, read-only internet; Web 2.0 refers to the ‘read-write web’ in which users actively contribute to as well as consume online content; Web 3.0 is now being used to refer to the convergence of mobile and Web 2.0 technologies and applications. The current shift towards the use of mobiles as internet devices mirrors the development of the internet: the internet emerged as a one-to-many broadcasting technology, but is now a many-to-many technology. The mobile phone began as a strictly one-to-one communication device, but is now shifting towards the many-to-many model as users use their phones to upload images, communicate with their social networks, play games, and share content.

Mobile internet and network operators: tools not rules

The Australian Interactive Media Industry Association’s (AIMIA) August 2008 *Australian Mobile Phone Lifestyle Index* report reveals that:

- In terms of consumer expenditure to the network operator, traditional voice, SMS, and MMS services continue to dominate, with only 9% of the 2,079 Australian users surveyed purchasing content, and 7% using email
- There was a slight drop in content purchased from the network operator since 2007
- 17% of users had purchased content from the network operator’s online portal

However, the report demonstrates that users are not wedded to purchasing content, or obtaining content, solely through their network operators:

- 48% purchased content via the internet, with only 17% purchasing content from the network operator’s portal
- 50% had created and shared content on their phones in the last 12 months, with 61% using Bluetooth for sharing

These statistics support the idea that users want to control their own mobile internet experiences and use, rather than having their network operators dictate these to them. The use of Bluetooth is notable: users are finding ways to bypass network operators’ costs for data upload.

Users are more loyal to applications such as Flickr, Facebook, and Gmail than they are to their network operator. If the network operator tries to replicate these services or to limit their customers’ experiences of them, their customers will simply find ways to bypass the operator. The growth in WiFi-enabled mobiles will escalate this trend, as it allows users to access the internet through their mobile devices without going through the network operator. Network operators should become “enablers” rather than “creators” of users’ mobile experiences and uses, and network operators should create “tools not rules,” allowing users to shape their mobile experiences themselves, as easily and efficiently as possible.

Purchasing trends

The AIMIA report identifies the top types of content purchased for / by mobile internet:

- Games
- Truetones (recorded music, usually requiring record label permission for use)
- Wallpapers

Ringtone and wallpaper sales revenues contributed almost double the amount per download to the Australian Performing Rights Association than CD single sales, demonstrating the growing importance of this market.

There was a 113% increase in digital content downloads purchased since 2007

50% of respondents purchased or subscribed to information services on their mobiles, with news (53%), weather (50%), and sport (34%) being the most popular types of information.

Table 1: Percentage of respondents who purchased content
(as a proportion of those who had purchased content)

Content	Survey 2 2006	Survey 4 2008	% Change
True Tones	15	42	173
Games	16	43	171
Digital Music Download	7	14	113
Wallpapers	23	33	43
Video	5	7	25
Screensavers	12	15	22
Sound FX	5	5	8
SMS Alerts	17	18	8
Poly Tones	29	30	3
Greeting Cards	6	3	-44
Mono Tones	8	3	-61
Logos	9	2	-72

Source: Australian Interactive Media Industry Association
Mobile Industry Group. (2008) *Australian Mobile
Phone Lifestyle Index*, pp. 51

Content creation and mobile 3.0

Anyone who has tried to access a rich internet site through their mobile device is aware that mobiles and desktop computers do not give the same experience. Trying to duplicate the desktop experience through a mobile device is likely to fail. Instead, creators of content need to understand users' "communication ecosystems," and to design content for these. For example, users are more likely to use desktop computers for uploading rich content to the internet, but are more likely to use mobiles to upload real-time information about their activities and whereabouts.

Locative internet

One of the most important developments in mobile 3.0 is geography: with many mobiles now equipped with GPS, mobiles promise to "bring the internet down to earth." The internet was heralded as "the death of geography" with predictions that with anyone able to access information from anywhere, geography would no longer matter. But mobiles are changing this. GPS allows the location of the user to be pinpointed, and the mobile internet allows the user to access locally-relevant information, or to upload content which is geotagged to the specific location. This is referred to as "context-aware media" and "hyper-local services." Location-based services are one of the fastest-growing segments of the mobile internet market: the AIMIA report indicates that user access of local maps increased by 347% over the previous 12 months, and restaurant guides/reviews increased by 174%. It should also be noted that the majority of mobile location-based content providers are now businesses, rather than network operators; the "participation by the masses of businesses around the world has bolstered the business model and the profitability of [location-based services]" (Bellavista et al 2008, p. 87).

Locative mobile media and Google's Android

One of the major mobile internet developments in 2008 has been the unveiling of Google and the Open Handset Alliance's Android open-source mobile phone platform. Google offered prizes of US \$10m for developers to create desirable applications for the platform; winners were announced 1 Sept. 2008 (see http://code.google.com/android/adc_gallery/). In line with the notion that network operators should be enabler rather than creators of content, Android is in part designed to create a gap between mobile internet applications and network operators, shifting mobile applications to ISPs instead of network operators (and at the same time allowing Google to generate new revenue streams from mobile internet advertising).

Of the 20 winners of Google's global competition, 10 are "hyper-local services," demonstrating the ascendancy of locative services in the mobile internet. The application cab4me uses the phone's GPS to allow users to order a taxi: with a single click it automatically contacts the nearest taxi company so that the user does not have to look up its phone number, informs the taxi company of the user's location, and informs the user as to the taxi's location as it approaches. BreadCrumbz provides users with photographic navigation, using GPS to show them pictures of their route as they navigate it. Breadcrumbz harnesses user input, allowing users to upload their own photos and routes for others to use. GoCart allows users to scan a product's barcode with their phone, and then to receive a list of comparative pricings from other local stores; the mapping feature provides users with a map to find the local store with the best price.

Business Models for User-Generated Content

Business models which address the continuing growth in user-generated content largely leave the process of content creation itself to the community of users, and are instead built around the provision of services to such content creation communities. This follows a ‘crowdsourcing’ logic, and shifts the role of the corporate entity from producer to service provider while repositioning the audience as engaged not only in content usage, but in content produsage⁹.

In such approaches, the organisational thought process seeks to engage with the collective intelligence (Lévy 1997), the hive mind, of produsage communities. Crowdsourcing in this context describes a number of related possible approaches to the commercial embrace of produsage communities and of the content they create, however. Overall, such approaches can be broadly divided into the following models:¹⁰

Feeding the hive: an extension of the crowdsourcing model which describes all contributions of content into the produsage environment. Commercial operators may make such contributions in recognition of the beneficial outcomes which can result directly or indirectly from the community’s produsage-based processing of the content, even though the specific material fed to the hive will now be governed by commons-based license and is therefore lost to direct commercial exploitation.

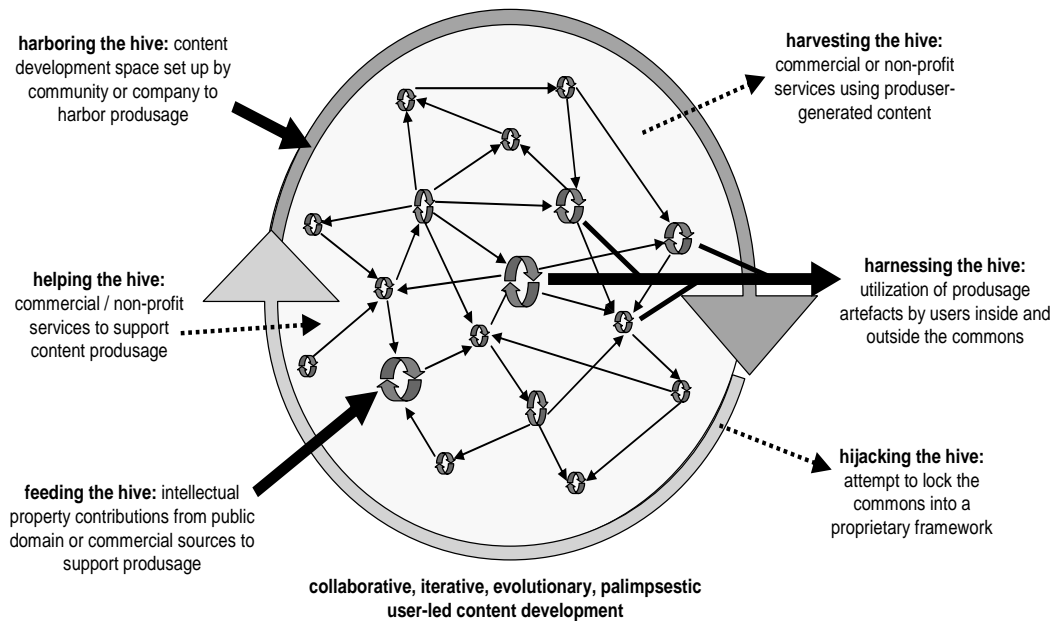
Helping the hive: reversing the ‘harvesting’ model, here commercial or non-commercial operators provide services aimed at the produsage community itself. Such services may be directed at communities to help them coordinate their produsage processes, or at individuals to help them overcome obstacles to effective participation. The emergence of ‘drop shops’ for items to be auctioned off on eBay, or production services for the print publication of collaboratively produced texts, are examples here.

Harbouring the hive: another form of helping the hive, this model points to the provision of hosting services to the produsage community—for example community hosting as it is offered by *SourceForge* for open source projects, by *Wikia* for wiki-based knowledge management communities, or by *Flickr* for photo enthusiasts. Again, such practices are mostly benign unless a community lock-in to the harbouring service is exploited by the service provider (and such threats may exist in the context of the increasing reliance of users on *Flickr* for photosharing or YouTube for videosharing, for example).

⁹ In collaborative social media communities the creation of shared content takes place in a networked, participatory environment which breaks down the boundaries between producers and consumers and instead enables all participants to be users as well as producers of information and knowledge. ‘Produsage’ is a term coined to describe this collaborative and continuous building and extending of existing content in pursuit of further improvement. For more information, see Axel Bruns, *Blogs, Wikipedia, Second Life, and Beyond: From Production to Produsage* (New York: Peter Lang, 2008) or <http://produsage.org/>.

¹⁰ Based on a framework introduced in: Axel Bruns, *Blogs, Wikipedia, Second Life, and Beyond: From Production to Produsage* (New York: Peter Lang, 2008), pp. 31-33.

Figure 12: Business Models for Engaging with User-Generated Content



Harnessing the hive: adapted from Herz (2005), this model describes the non-commercial or commercial utilisation of produsage artefacts by organisations inside and outside the produsage community, while respecting applicable content licenses and cooperating with the community. It describes for example the aggregation services in the blogosphere, which identify and collect the most-cited blog posts or tags and make them easily accessible to all participants.

Harvesting the hive: this model describes the provision of value-added services, aimed mainly at non-participants, using artefacts developed by the produsage community—for example, the development of ready-to-install open source software distribution packages by companies like Red Hat. Such practices are mostly benign unless applicable content licenses are ignored by the harvester.

Hijacking the hive: combining the worst aspects of harvesting and harbouring, this practice deliberately aims to achieve lock-in of produsage communities for financial gain. Recent debates for example over the heavy-handed enforcement of end-user license agreements (EULAs) in massively multi-user online games like *EverQuest*, where game operator Sony attempted to bar its users from selling their hard-earned game characters and artefacts on eBay, can be seen as highlighting instances of this practice (Sandoval 2000).

While the commercial lock-in and exploitation of produsage communities may turn out to be highly profitable in the short term, and while large, well-established produsage communities may appear to be very lucrative prospects for such exploitation, commercial operators should be well aware that approaches which overtly aim to contain and lock in community participants must ultimately generate as much bad publicity and negative community response as they might offer positive outcomes in the short term. A more enlightened and sustainable strategy will be to seek open and equitable collaboration with the produsage community itself.



myHeimat.de

The German site myHeimat.de broadly follows the model of a commercially-operated citizen journalism project set by the South Korean leader OhmyNews, but also expands on that model in a number of significant ways. Contrary to standard citizen journalism models, its focus is more strongly on 'softer' community and lifestyle news than on 'harder' political reporting and commentary; this has also enabled it to operate effectively alongside and in cooperation with local mainstream newspapers. In doing so, it employs a number of the strategies for engaging with user-generated content that have been outlined here.

In the first place, myHeimat acts as a central space for its users to engage in citizen journalism. The project takes a localised approach, with users from different regions and towns in the country seeing in the first place what others in their area have contributed to the site. In other words, while providing a unified place for citizen journalists to contribute content, the myHeimat site acts as a support platform for a large number of local and hyperlocal communities which may or may not be aware of one another's existence and participation in the project. This community harbouring approach is supported in part through on-site advertising.

Additionally, myHeimat has entered into a number of commercial collaboration agreements with local (print) newspapers, to both boost the level of content in regions where it is still developing its membership, and provide a further incentive for participation for the local community. This feeds the hive of local participants by providing some seed content that acts as an example of good practice and/or a starting-point for discussion, and helps locals hone their own reporting skills as they engage and collaborate with professional journalists on the site.

Further, where a critical mass of participants has been attracted, content generated by local communities is harvested in the form of (in most locations, monthly) free print lifestyle magazines, funded through advertising and published by the commercial partners, which are variously distributed through central pick-up locations, to the letterboxes of local households, or as inserts in local newspapers. (In a number of developing myHeimat bases, content is similarly harvested on a smaller scale for weekly or monthly community pages in local newspapers.)

Consumers Online and Legal Exposure from Online Transactions

Forty one per cent of small businesses (defined by the Australian Bureau of Statistics as employing less than 20 people) in Australia have a web presence, 24 per cent receive orders from customers via the Internet and 42 per cent place orders via the Internet (ABS 2007). However Australian and international studies, discussed below, have indicated that businesses moving into the online environment do not fully comprehend their legal obligations in regards to consumer protection.

Consumer International (CI) undertook two studies in 1998 and 2000 relating to consumer experiences when purchasing via the Internet. A finding from the 1998 study was that many of the websites used during the study failed to provide adequate pre-purchase consumer information (Mayer 2002). While the 2000 CI study found that more websites were providing pre-purchase consumer information than

in the 1998 study, Mayer believes based on these findings that ‘it is not always possible for a consumer to be fully informed about an Internet business’ practices before placing an order’ (2002).

In 2003, the Australian Competition and Consumer Commission (ACCC) conducted a review of the terms and conditions of sales being offered to consumers by Australian websites (ACCC 2004). The ACCC found that of the 1000 websites examined, 265 sites had online terms and conditions. Of these sites, more than 50 per cent attempted to disclaim responsibility for the accuracy of the information on the site, 50 per cent had disclaimers of warranties clauses and 66 per cent attempted to limit liability (ACCC 2004, 4). Similarly, a 2007 study by Shelly and Jackson found that of the 27 websites examined that provided a disclaimer, 22 appeared to have breached their legal obligations to consumers under the *Trade Practices Act 1974* (Cth) (Shelly and Jackson 2008).

A 2006 study by the Office of Fair Trade (UK) into Internet shopping also found that 28 per cent of UK based online traders were either not aware or only slightly aware that they had legal obligations in respect to Internet trading (Office of Fair Trade 2007). The study showed that 56 per cent of consumers were not aware that they had the right to cancel their purchase within seven working days and receive a full refund under the Distance Selling Regulations (Office of Fair Trade 2007). It was also found that ‘seventy nine per cent of internet users surveyed were very concerned about the risks to the security of their payment details from online shopping’ (Office of Fair Trade 2007). The main reason provided by Internet users why they had not shopped online was that they preferred to see the physical item before purchasing or if the item is clothing, they prefer to try it on prior to purchasing it. Concern over the security of online credit card transactions saw 32 per cent of respondents indicating that they had purchased a product offline at a higher price (Office of Fair Trade 2007). In comparison 83 per cent of respondents indicated that the main reason that they had shopped on line was the convenience of 24 hours access and the time savings. Choice and perceived lower prices were the second and third main reasons provided by consumers for shopping online (Office of Fair Trade 2007).

Concern over the collection and handling of personal and sensitive information via the Internet is also increasing. Currently 94 per cent of Australian businesses (Employ 200 or more people) that are likely to have legal obligations under the *Privacy Act 1988* (Cth) have a web presence, 28 per cent receive orders via the Internet and 66 per cent place orders via the Internet (ABS 2007).

The results of a 1998 Federal Trade Commission (FTC) survey showed that 92 per cent of all websites (in a random sample of over 600 websites) collected personal information but only 14 per cent disclosed how the personal information was used. This study led the Federal Trade Commission (FTC) in the US to develop a set of fair information practice (FIP) principles to improve consumer trust in using websites (Federal Trade Commission 1998). However, Becker, in her 2004 study on the usability of Internet privacy policies for 40 state and commercial websites, found that while approximately 75 per cent of the policies assessed disclosed how personal information was collected, in respect to the FIP principles, each of the privacy policies in the study lacked the content that could promote consumer trust (Becker 2004). Results from other surveys in the US have also indicated that Internet users have been concerned about the apparent ‘lack of transparency in respect to the use and disclosure of personal information by websites’, the tracking of user’s searching activities as well as concerns over the security of their information within the online environment (Office of the Privacy Commissioner 2003).

In Australia, the Federal Privacy Commissioner’s office has undertaken research into the community’s attitudes towards privacy. In 2004, while 62 per cent of respondents were concerned about the security of their personal information when using the Internet, this concern did not influence whether a privacy policy was viewed prior to using a web site (Office of the Privacy Commissioner 2004). The 2007 survey found that 50 per cent of respondents were more concerned about providing personal information over the Internet than they were two years earlier. Also 25 per cent of respondents would ‘provide false information on forms and applications as a means of protecting their personal

information' (Office of the Privacy Commissioner 2007). As well, of 33 per cent of respondents who read privacy policies on web sites, 25 per cent indicated that it made them more confident and secure about using the web site (Office of the Privacy Commissioner 2007).

Similar results obtained by a Princeton Survey Research Associates study on behalf of Consumer WebWatch found that while 65 per cent of respondents believed that it is very important for a Web site to display a privacy policy, only 35 per cent reported reading the privacy policy on most sites (Princeton Survey Research Associates 2002). A survey on behalf of America Online (AOL) into individuals' attitudes to privacy also found 'a significant gap between what people say [they do] and what they [actually] do' (Out-Law.Com 2008) in terms of protecting personal or sensitive information online. Eighty four per cent of the survey's respondents (from a sample 1,000 online consumers) indicated that they would be not provide sensitive information via the Internet, however 89 per cent provided sensitive information as part of the study (Out-Law 2008).

A 2007 study by Shelly and Jackson examined 40 Australian based web sites that provided online purchasing facilities to identify the privacy, security and legal issues facing small business in the business to consumer (B2C) e-commerce environment (Shelly and Jackson 2008). Of the 39 websites that were deemed small businesses 14 indicated or implied on their websites that they were bound by the Privacy Act, but none of the business names appeared on the public register indicating that a business had opted-in to the national privacy principles (Shelly and Jackson 2008).

In summary, the level of businesses with an online presence is increasing and the level of consumers undertaking transactions via the Internet is also growing. Businesses that offer their goods and services online need to ensure that they are addressing and complying with their obligations under consumer protection legislation. In the US and UK, consumer protection legislation is beginning to protect the security of personal information. Businesses also need to be aware of privacy issues relating to the collection and handling of personal and sensitive information and ensure that their business practices are protecting this type of information irrespective of their obligations under privacy or consumer protection legislation.

Case Study on Web advertising and your privacy policy

As an organisation, you may have spent considerable time developing your privacy policy. However, if you display third party advertising on your Web pages, those advertisements could breach your privacy policy.

Most online privacy policies are written to represent the relationship between the Web user and the organisation that owns the Web page. Adding advertising to the pages adds third parties to the transaction: the advertiser and the advertising syndication company.

If the user clicks on an advertisement on your site, you are transferring information about them to the advertising syndication company, which will then be transferred to the advertiser. You have no contractual relationship with the advertiser, other than through the fact that you both have contracts with the syndication company.

At a minimum, the data that you provide about your user will include a cookie, the user's IP address and whichever of your pages they were looking at. The cookie will generally be a persistent cookie, so that it can be linked with cookies from other advertisements on other sites. The advertising syndication company can also include more intrusive technologies, like Web bugs. They can then on-sell this information to the advertisers. Some or all of this behaviour might breach your carefully crafted privacy policy

Conclusion

Three main conclusions can be taken from this Trends and Foresight analysis of digital media developments in Australia. The first is that large-scale shifts in consumption patterns and cultural expectations are taking place that are promoting greater use of digital products and services and the rise of what we have referred to as 'digicult' values. With their origins in the development of the Internet and the promotion of user-generated content through Web 2.0 technologies and software, these developments are now branching out into mobile media, with growth implications for electronic commerce enabled by locative media. For established media organisations, the general implication of such developments is the need to open up to greater user interaction, participation and engagement. The participative nature of the contemporary Web, as well as its functioning as an ecology where network relationships serve to flatten hierarchies and dissolve borders between industries, products and types of producers, mean that value creation in a networked information economy will increasingly be based upon building sustainable and dynamic networked relationships with engaged user communities.

The second major point is that macro-economic variables matter considerably to the development of digital media in Australia. What will be the trends over 2011-2015 will be subject to the nature and effectiveness of local policy responses, but Australia is reasonably well positioned in terms of a sound overall fiscal policy situation, scope to further reduce interest rates, and a sound domestic financial system. At the same time, the need to further promote the export capacity of Australian service industries, such as those in the digital media sectors, is also now apparent. Firms that are in both traditional and digital media and information sector should be watching for the use of digital media technologies to further *substitution* behaviour, or the use of these technologies to access lower-cost variants of existing services as well as new services. This will be a characteristic of advertiser behaviour as well as consumer behaviour over the period covered in this foresight analysis.

Finally, policy variables will be critical to the scope to exploit new opportunities in Australia over the 2009-2015 period. Australia has become a broadband 'laggard' by international standards, and the comparatively slow, costly and fragmented nature of Australian broadband access has served as a blockage to the further development of Web-related media industries such as digital content streaming. Current government policy aims for a National Broadband Network to overcome this, but the politics of achieving this still remain complex. More generally, the blurring of distinctions between firms and industries, as well as those between content producers, distributors and consumers, will bring forward a range of legal and policy challenges, ranging from the future of copyright laws to the question of how media policies interact with information and communication industry research and development policies. As the global financial crisis has demonstrated the relatively well-organised nature of incumbent manufacturing industries such as the motor vehicle industry, there will be a challenge for Australia's digital media product and service industries to get a place at the table in future policy development, rather than being the passive recipient of policy outcomes driven from other directions.

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