

Record of the Communications Policy & Research Forum 2007

**compiled by
Franco Papandrea and Mark Armstrong**

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P R E F A C E

The aim of this volume is to share with everyone interested in communications the papers delivered at the Communications Policy & Research Forum on 24-25 September 2007. This was a formidable gathering of experts on telecommunications, broadcasting, journalism, Internet and new media, as reflected in the papers.

The Forum is a co-operative effort by Australian centres with interests in communication and media policy and research. The objectives are to promote policy discussion and share research findings and analysis. It brings together a broad community of interest including academic researchers, policy makers, and professional and industry practitioners.

When reading these papers, you may start thinking about what you would like to write on a similar topic. If so, please feel very welcome to propose a talk for the next Communications Policy & Research Forum. It is held in late September each year, in Sydney. It is very open to all viewpoints. Proposals for papers and talks are refereed by an independent program committee, as explained below. You will find details of the next Forum on the web at <http://www.networkinsight.org>.

We would like to thank the authors of these papers, who spent so much time and effort to produce the work you will read here. Thanks also to the many people from the six supporting research centres who made the 2007 Forum such a success. They include Cristina Abad for brilliant management and execution, supported by Bruce Moir, Shilo McLean and Peter Darling. The convenors of the four panels added a really valuable breadth and immediacy. They were Trevor Barr (Innovation), Gail Hambly (Free Speech), Peter Gerrand (Broadband Ratings) and Lesley Osborne (Evidence-Based Regulation). Like many others, they helped the Forum as work for the public interest, with no tangible reward. Thanks also to Noelene Lowes, the editor and publisher, who brought this volume into existence with great speed and skill.

We also thank the five sponsors whose generosity and public spirit made it possible to promote the Forum, and to offer participation at a more researcher-friendly price:

The Australian Computer Society Telecommunications Board
The International Institute of Communications Australian Chapter
Gilbert + Tobin Lawyers
News Limited
The Smart Internet Technology CRC

The process for selecting the papers

The papers were volunteered by researchers from around Australia and overseas, in response to the call for submissions earlier in the year. Proposals for papers and talks were refereed by an independent program committee. To ensure impartiality, the committee assessed the proposals without any identification of the authors. These are the committee members:

Chair: Professor Franco Papandrea, University of Canberra;
Professor Trevor Barr, Media and Communications Unit, Swinburne University;
Associate Professor Terry Flew, Creative Industries Faculty, QUT;
Associate Professor Andrew Kenyon, CMCL, University of Melbourne;
Professor Don Lamberton, Queensland University of Technology;

Professor Julian Thomas, Director, Institute for Social Research, Swinburne University

This was the process, with two main stages. The first stage came after the call for proposals, when all submissions were initially evaluated by the Program Committee. Offers to present papers at the Forum were then made on the basis of that initial evaluation.

Proposals for inclusion in the refereed section of the program went through more intensive scrutiny in the second stage of the evaluation process. All those receiving an offer to present a refereed paper were required to submit full papers for anonymous peer-review by two experts in the relevant field. The criteria used for the evaluation of full papers were fully consistent with DEST specifications for refereed conference papers. Final inclusion on the program as a refereed paper was conditional upon a positive assessment by referees and, where relevant, resubmission of the paper after adequate amendments taking into account observations and recommendations made by referees. Refereed papers are marked by the word '(refereed)' adjacent to their title in this volume.

Whilst there has been a careful and objective process for evaluating papers, they are entirely the work of their authors. No views or statements expressed in them should be attributed to any organisers of the Communications Policy & Research Forum. Similarly, the authors are the exclusive owners of the copyright in their work reproduced here. Any questions about further reproduction should be addressed directly to the authors.

The underpinnings of the Forum

The Forum is supported by the following six centres:

ARC Centre of Excellence for Creative Industries and Innovation
Centre for Media and Communications Law, University of Melbourne
Communication and Media Policy Institute, University of Canberra
Institute for Social Research, Swinburne University
Network Insight Institute (which provides the Forum's management)
Smart Internet Technology Co-operative Research Centre

Reinforcing the Forum's independence and openness are six custodians, who advise about major issues affecting it. They are all committed to ensuring that research and policy experts in communications have a way to share their insights with each other and with the community at large; regardless of any boundaries within institutions, professions, or industries. The custodians are:

Mark Armstrong, Director, Network Insight Institute;
Professor Trevor Barr, Media and Communications Unit, Swinburne University;
Emeritus Professor Reg Coutts, Electrical and Electronic Engineering, University of Adelaide;
Professor Franco Papandrea, Director, Communications and Media Policy Institute, University of Canberra;
Debra Richards, CEO, ASTRA
Dr Christina Spurgeon, Queensland University of Technology.

Franco Papandrea and Mark Armstrong
Sydney, October 2007

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ABOUT THE CONTRIBUTORS

NICK ABRAHAMS

Nick is the national leader of Deacons' Technology, Media & Telecommunications Group. Nick's group won IT Law Firm of the Year in 2005 and were runners up in the Technology, Media & Telecommunications category in 2006

Prior to joining Deacons, Nick was head of the Technology Media and Communication Group at Andersen Legal. Before Andersen Legal, Nick was the Chief Operating Officer of Spike Networks Limited's operations in Los Angeles. Prior to Spike, Nick was an executive with Warner Brothers in Los Angeles.

Before relocating to the US in 1997, Nick spent eight years with Blake Dawson Waldron's Sydney office and affiliated law firm in Tokyo. Nick received a "highly recommended" mention in the Technology, Media and Telecommunications section of the *AsiaPacific Legal 500*. Nick is on the Cyberspace Law Committee of the American Bar Association and is President of the Australian Communications & Media Law Association.

Nick has a Masters in Film & Television Producing from the University of Southern California and produced *Searching for Alison Porchnik* featuring Woody Allen.

PETER ADAMS

Peter Adams has lived the issues of telecommunications for the past 20 years in his professional life. He currently researches and teaches in the area of telecommunications at Charles Sturt University and is co-host the ABC Radio show Digital Living. Peter has worked in a range of sectors including local government, the media and the airline industry where he was IT Manager for Australia's largest regional airline. His research interests include consumer broadband adoption, the digital home and strategic use of ICT in multi-layered organisations. He is an advocate for improved telecommunications infrastructure in regional Australia and has been deputy-chair of the Wagga Wagga City Council's Commercial Strategy Committee for a number of years.

GUNELA ASTBRINK

Gunela Astbrink has nearly 20 years of experience in disability and technology issues both in Australia and internationally.

Currently, Gunela is contracted as Policy Advisor with TEDICORE (Telecommunications and Disability Consumer Representation) and has ongoing input to government and industry reviews, inquiries and codes and standards development. She initiates issues of concern relating to disability and communication technologies.

Gunela was elected in 2000 as a Director on the Board of the Internet Society of Australia (ISOC-AU) and continues to serve into a third term.

Gunela has worked on a range of Internet accessibility projects for government and industry both in Australia and internationally. She was an expert advisor to the development of the Irish web accessibility guidelines.

Previously, Gunela worked with the Telematics and Disability Centre of Swedish Telecom (now Telia) and was Secretary of the Nordic Forum on Telecommunications and Disability and Chair of the Information Transfer Working Group of COST 219, a European Commission Action on telecommunications and disability. She is currently the Australian member of COST 219 ter.

Gunela has written many articles and given papers at Australian and international conferences on the Internet, accessibility and disability.

TREVOR BARR

Trevor Barr is Professor of Media and Communications at Swinburne University of Technology, Program Manager, Smart Internet Technology CRC and a Principal Investigator for the ARC Centre of Innovation and Creative Industries. His four major books have each been standard references in university media and telecommunications courses for many years and influential in policy formulation. He has been employed as a senior adviser or consultant by a number of government and industry bodies, including the Commission for the Future, Telstra, and Ericsson Australia. He was the inaugural Director of the Australian Electronics Development Centre, an initiative of the Commonwealth and Victorian governments to develop small and medium sized companies in information based industries.

Trevor Barr has been a regular national media commentator for a long period, notably on ABC Radio, with AM and PM, Background Briefing, and regularly on Terry Lane, but also on Australia's leading news and current affairs television programs, including Four Corners, and the 7.30 Report. In May 2001 Trevor was invited to deliver one of the Alfred Deakin Lecture Series as part of The Federation Festival in Melbourne where 53 leaders in their field were invited to discuss critical issues regarding Australia's future. Trevor is also currently Co-Chair of the Telstra Consumer Consultative Council (TCCC), a national consumer advisory body to Telstra. This year he was awarded the Charles Todd medal at the Annual ATUG Conference dinner.

CINZIA COLAPINTO

Cinzia Colapinto is an Italian Postdoctoral Fellow in Media Economics at the Department of Economics, Business and Statistics of the University of Milan (Italy) and a Researcher at the China Media Observatory, within the Media and Journalism Institute (IMEG) of the University of Lugano (Switzerland).

She holds a PhD in Business History and Finance and a Master in Political Sciences (curriculum Economics) from the University of Milan.

Cinzia's main research interests are media policies concerning the digital switch-off process and the international media flows in China.

Cinzia has lectured in Microeconomics and Media Economics at the Faculty of Political Sciences (Milan) and in organizational behaviour at the School of specialization for the training of secondary school teachers, Faculty of Education, University of Bolzano.

REG COUTTS

Reg formerly Professor of Telecommunications at the University of Adelaide now runs his own consulting company Coutts Communications www.couttscommunications.com specialising in the assessment and development business opportunities of wireless / mobile telecommunications technologies including regulatory strategies.

Reg brings to this area nearly 30 years experience which includes 12 years in technology research, 5 years in commercial business strategy in a dominant telco and the last 10 years in a University building commercialisation opportunities. From this experience, Professor Coutts understands the whole technology life cycle and the way technology can be managed to provide competitive advantage. Also from this background with particular reference to the telecommunications sector he understands how to manage the Government / Regulatory environment in which a company must operate.

Professor Emeritus Coutts also has an Adjunct role at the University and supervises graduate students in Engineering and in technology commercialisation and is developing another venture Red Button Technologies www.redbuttontechnologies.com. Reg is also actively involved in the professional associations of the ICT industry the Australia Computer Society (ACS) and the Telecommunications Society of Australia (TSA). Currently Reg is national Chairman of the TSA and Director of the ACS Telecommunications Board.

KIM DALTON

Kim Dalton graduated from the Flinders University Drama School in 1973 and worked as a freelance production manager and assistant director prior to moving to London in 1976.

During five years in London, he completed a post-graduate Diploma in Arts Administration, freelanced in the film industry, managed one of London's leading independent cinemas, and ran an independent UK production and distribution company.

Kim returned to Australia in 1980, working initially as an independent producer. From 1984 to 1987 he was General Manager of the Melbourne-based screen resource organisation, Open Channel.

In 1987, Kim formed his own production company, Warner Dalton Pty Ltd, and co-produced the mini-series *The Magistrate* for ABC TV, and UK and Italian broadcasters, and a telemovie, *Street Angels*, for ABC TV.

In 1992, Kim became the Australian Film Finance Corporation's Melbourne Investment Manager and was involved in financing many TV projects and major feature films such as *Muriel's Wedding* and *Priscilla, Queen of the Desert*.

Following a brief period as General Manager of the Australian Children's Television Foundation in 1994, Kim joined Beyond International Limited in February 1995 as Manager of Acquisitions and Development.

In 1999, Kim joined the Australian Film Commission as Chief Executive. He was responsible for a significant restructure and refocusing of the organization.

In January 2006, Kim was appointed ABC's Director of Television.

LEE DUFFIELD

Lee Duffield's research interests extend from European media and politics to communication for development in the Pacific region; leading him to investigate the possibilities of burgeoning new media formats. He is a former ABC journalist and overseas correspondent of over twenty years' standing and is today a Journalism Lecturer at the Queensland University of Technology. Lee Duffield's 2003 doctoral dissertation reflected on his experience covering the collapse of the communist bloc in Europe. On leave during the last year for professional re-engagement, he was reporting again from Europe for ABC News and Radio Australia -- and his pilot online service *EUAustralia.com*. His specialised teaching interests are in broadcast and online journalism, and international mass media. He co-edited with John Cokley the 2006 book *I Journalist*, on globalisation and media practice. Recent publications and papers from Lee Duffield are on the use of mass media by international non-government organisations; media and government relations in Papua New Guinea, and internationalisation in Higher Education.

ALEX ENCEL

Alex Encel is chairman and proprietor of International Dynamics Australia, an importer of sound and vision equipment predominately sold through specialist AV stores throughout Australia. He also heads a retail group that includes some of Australia's most respected AV outlets.

As the Australian agent for Loewe of Germany, one of the world's longest established TV brands, Alex first became involved in the digital TV debate in the late nineties and has been active ever since. Prior to start up he was one of those considered responsible for encouraging the shift in policy to ensure the broadcast of standard definition digital was included. As someone with direct experience with the buying public, his predictions at the time in relation to digital take-up proved to be highly accurate.

These days his focus has shifted to pursuing the most efficient means of effecting a full transition to digital. He has put forward a solution to the problem that would save the taxpayer billions of dollars.

TERRY FLEW

Associate Professor Terry Flew is Head of Postgraduate Studies in the Creative Industries Faculty at the Queensland University of Technology, Brisbane, Australia, and is course co-ordinator of the Creative Industries postgraduate degree program. From 2001-2006, he was the Head of Media and Communication in the Creative Industries Faculty. He has a wide range of research interests and research experience, and has been an author of two books, six research monographs, 26 book chapters, 35 refereed academic journal articles, and has been an editor of five special issues of academic journals.

He is the author of Australia's leading new media textbook, *New Media: An Introduction*. *New Media* was first published by Oxford University Press in December 2002, with the second edition published in January 2005. A third edition will be published in January 2008.

His second book, *Understanding Global Media*, was published by Palgrave in March 2007.

He has also contributed book chapters to leading international publications such as *Dewesternising Media Studies* (eds. J. Curran and M.-J. Park, Routledge, 2000), *Handbook of New Media* (eds. L. Lievrouw and S. Livingstone, Sage, 2002), and *Creative Industries* (ed. J. Hartley, Blackwell, 2005). He has also been published in the *International Journal of Cultural Policy*, *Television and New Media*, *Communication and Critical/Cultural Studies* and *International Journal of Cultural Studies*.

He is First Chief Investigator on an ARC Linkages-Projects Grant titled *Investigating Innovative Applications of Digital Media for Participatory Journalism and Citizen Engagement in Australian Public Communication*. This project in 'citizen journalism' was awarded \$382,000 by the Australian Research Council in June 2006, and is funded until June 2009. The industry partners on the project are the Special Broadcasting Service, Cisco Systems Australia, National Forum (publishers of *On Line Opinion*), and The Brisbane Institute. The project has developed *youdecide2007.org*, a citizen journalism site profiling user-generated content in the 2007 Australian Federal Election.

He is a member of the *Smart Services Co-operative Research Centre*, which has \$54 million on government, industry and university funding, and will commence operations in November 2007. Within the Smart Services CRC, he will have a key role in the Audience and Market Foresight and Social Media Programs.

He is also a member of the *Cultural Research Network*, which has received \$1.75 million in ARC funding over the 2005-2009 period, with a particular involvement in the Cultural Technologies research node.

He has been Chief Investigator on an Australian Research Council Linkages grant with Kids Help Line to develop interactive web-based counselling for young people, and is currently a Chief Investigator on an Australian Research Council Discovery grant, *Internationalising Creative Industries: China, the WTO, and the Knowledge-Based Economy*. He has also worked with industry partners such as the Brisbane City Council, the Media, Entertainment and Arts Alliance, On Line Opinion and the Communications Law Centre.

MARCUS FOTH

Marcus Foth is a Senior Research Fellow with the Institute for Creative Industries and Innovation at Queensland University of Technology (QUT), Brisbane, Australia, and a 2007 Visiting Fellow at the Oxford Internet Institute, University of Oxford, UK. Dr Foth is also the recipient of an Australian Postdoctoral Fellowship supported under the Australian Research Council's Discovery funding scheme. Employing human-centered and participatory design methods, his research pioneers new development approaches towards interactive social networking systems informed by community, social, and urban studies. Dr Foth has published over thirty articles in journals, edited books, and conference proceedings in the last three years, and is currently editing a book on Urban Informatics to be published by IGI Global in 2008. He received a PhD in digital media and urban sociology from QUT. He is a member of the Australian Computer Society and the Australian Interactive Media Industry Association. More information at www.urbaninformatics.net.

ROB GARRETT

Rob Garrett is the Group Leader of the Research & Development, Engineering and the Support Team at NovitaTech.

Rob has been using his Electronic Engineering background to assist people with disabilities since 1985. Over this period Rob has been involved in the provision of assistive technologies such as speech generating devices, computer access and environmental control that meets the needs of those with functional limitations. As telecommunications has become entrenched in the lives of most people, the access for those with disabilities has become an issue. Over the last 15 years Rob has contributed to numerous ventures designed to improve this situation.

Rob's interests include the application of Universal Design principles to telecommunication products and the development of products and processes to enhance the lives of people who have a disability.

He is an author of approximately 40 published papers.

LIZA HOPKINS

Liza is an ARC funded post-doctoral research fellow currently working on a project investing media use, community formation and identity amongst Australians of Turkish descent. She completed a PhD at the University of Melbourne in 2000 with an ethnoarchaeological study of a settlement site in north-eastern Turkey. Since then she has been working at the Institute for Social Research on a variety of projects investigating the intersections between new media, social inclusion and ethnic diversity, including the Wired High Rise project and the Carlton Community Lifelong Learning Hub.

SAL HUMPHREYS

Sal Humphreys currently works as a post-doctoral fellow in media studies at the Queensland University of Technology in the Faculty of Creative Industries. She completed her doctoral thesis on the role of productive players in MMOGs, using *EverQuest* as a case study. She has published papers in a variety of scholarly journals including *Journal of Communication and Critical/Cultural Studies*, *Media Arts Law Review*, *Australian Journal of Communication*, and *Media International Australia*. Contact email: s.humphreys@qut.edu.au

GLENN JESSOP

After completing a Bachelor of Social Science (Psychology) degree with honours at Swinburne, in 2003 Glenn Jessop worked on the Institute for Social Research's Wired High Rise Project as part of the School of Social and Behavioural Science's Industry and Community Studies Strand. Within the context of the Wired High Rise Project, Glenn's research focused on people with a disability, technology and service provision. Having explored issues concerning disability and technology, Glenn turned to the area of mobile telephony. In particular, his PhD explores the regulation of mobile phone use while driving. Having submitted the thesis in June, he is currently teaching eSociety (a sociology subject examining the intersections of technology and society) and working as co-ordinator for a research project exploring vulnerability and resilience to problem gambling.

ANN KNOWLES

Ann is an associate professor in psychology at Swinburne University. Ann's PhD studies were in the area of children's understanding of television. She was Head of Psychology at Swinburne and is a past president of the Victorian branch of the Australian and New Zealand Association of Psychiatry, Psychology and Law (ANZAPPL). Ann is currently a member of the ANZAPPL journal *Psychiatry, Psychology and Law* editorial committee. She has strong interests in professional and ethical issues, and in the methodology of measuring attributions and attitudes. Ann was a member of the CRC for Smart Internet Technology research team led by Professor Trevor Barr which investigated motives for using the Internet, perceived barriers to Internet financial transactions, the role of trust in mediating Internet use and personal experience of Internet crime.

BERNADETTE LUCK

Bernadette is currently working as a Policy Officer for the Community Strategy Branch at the Department of Families, Community Services and Indigenous Affairs (FaCSIA). She has a keen interest in social policy, particularly in relation to young people and social participation. Whilst working at FaCSIA Bernadette has assisted in developing a youth policy which focussed on increasing the social participation and inclusion of at-risk youths in Australia.

Bernadette is also studying a Bachelor of Community Education at the University of Canberra which has primarily focused on such topics as Social Psychology, Health Promotion and Community Development. Upon completion of this degree Bernadette hopes to conduct more research on a number of social issues including an extension of the research she is presenting on cyberbullying.

DAVID LUCK

David Luck is currently a telecommunications consultant. He has had many years experience in research in communications at the former Bureau of Transport and Communications Economics and the Communications Research Unit in Canberra, Australia. He designed the original USO Cost Model in 1989.

SHILO MCCLEAN

Shilo McClean is an AFTRS graduate with a PhD in Digital Effects in filmmaking (UTS). She was awarded the Kenneth Myer Fellowship to undertake research in the use of computer-generated images in filmmaking and is the author of the books: 'Digital Storytelling: the narrative power of visual effects in film' (MIT Press, 2007) and 'So What's This All About Then: a non-user's guide for digital effects in film' (AFTRS, 1998). She is a regular guest lecturer for tertiary courses in filmmaking, digital visual effects and writing and is a consultant to the FTO's Digital Visual Effects Scheme. She designed and conducted the FTO's professional industry seminars on digital visual effects - How Long is a Piece of String and Adding Strings to your Bow and directed and produced the documentary videos on these seminars. She is the Vice Chair of SIGGRAPH (Sydney Chapter) the international professional association for computer graphics. She was Digital Strand Curator for the 2006 & 2007 Sydney Film Festivals and produced/directed a series of podcasts for the Festival site in 2006. Her consulting work ranges from digital image curation for games developers, strategic advice on educational, industry development and digital content. She is the editor for the Network Insight Institute and the author of various articles for industry publications including the chapter on digital visual effects for the Australian Film Commission's production management 'Satchel' and worked with Ausfilm in the development of its international Factsheet series for filmmakers.

PETER MANNING

One of the doyens of Australian journalism, his career has included reporting at *The Bulletin*, the *Sydney Morning Herald* and the *Sun-Herald*. He is an Adjunct Professor at UTS. In earlier years at ABC TV he produced programs such as *The Big League*, and introduced *Lateline*, *Foreign Correspondent* and *Landline*, among others. As GM of Radio National, his initiatives included the ABC website. Then at the Seven Network he was head of Current Affairs and head of Corporate Development. At UTS, he has lectured in investigative journalism, TV and specialist reporting, and researched dog-whistle politics and journalism. His latest book is *Us and Them: Media, Muslims and the Middle East* (Random House, 2007).

ROBERT MORSILLO

Since 1995 Robert has been working in consumer affairs at Telstra. Prior to that he was employed in the community legal and financial counselling sector, in parish work, and started his career at the Australian Atomic Energy Commission computer laboratory. Robert has a background in electrical engineering, computer science, community development, public policy and consumer affairs. Robert is responsible for Telstra's consumer

consultation programs, customer service charter, disability services and services for people on a low income. He is particularly interested in the role of telecommunications in encouraging “community connectedness” and in “user innovation” within the industry. Robert lives in Pascoe Vale, about 10km north of Melbourne, with his partner Julie and has two adult children.

MATTHEW NICHOLLS

Matthew Nicholls LLB(Melb)(Hons) BCom(Melb) has extensive expertise and over 13 years’ experience in Technology & Communications Law. His experience includes practising in the technology and intellectual property departments in major national law firms Clayton Utz and Corrs Chambers Westgarth. In 1998, Matthew established the position of Regulatory & General Counsel at Primus Telecom, one of Australia’s largest telecommunications carriers, before establishing a private practice in May 2000. Matthew’s principal areas of practice include: technology and communications, intellectual property, eMedia, commercial and trade practices. Contact: matthew@nicholls-legal.com.au

CHRISTOPHER PAVLOVSKI

Chris Pavlovski is the Chief Architect, Technology and Innovation for IBM Australia and New Zealand. He is an IBM Distinguished Engineer and a member of the IBM Academy of Technology. Chris completed his PhD in Cryptography and its application to Electronic Cash.

MARK PESCE

Known internationally as the man who fused virtual reality with the World Wide Web to invent VRML, Mark Pesce is the author numerous articles and five books, including *The Playful World: How Technology is Transforming our Imagination*, and has written for such publications as *Wired*, *Salon*, and *The Age*. For the last three series, Pesce has been a panellist on *The New Inventors*. From 2003 to 2006, Pesce chaired the Emerging Media and Interactive Design Program at the world-renowned Australian Film Television and Radio School. Last year he received an appointment as an Honorary Associate in the Digital Cultures Programme at the University of Sydney, and has gone on to found FutureSt, a Sydney Media and Technology consultancy, with clients that include some of the largest media companies in Australia.

ANETA PODKALICKA

Aneta Podkalicka is a PhD candidate in Media and Communication at Queensland University of Technology and a recipient of International Postgraduate Research Scholarship funded by the Australian government. Her current research interests include multicultural broadcasting policy, translation and inter-cultural communication. Aneta's PhD thesis 'Lost in Translation? Language policy, media and community in the EU and Australia: some lessons from SBS' draws on extensive fieldwork into multilingual broadcasting and media translation practices in Europe and Australia (e.g. BBC WS, Deutsche Welle, ARTE, and SBS). She holds master degrees in European Culture and Economics, Ruhr-University Bochum, Germany and Linguistics, University of Wroclaw, Poland.

PAUL ROBERTS

Paul has strategic research, analysis, synthesis, negotiating and planning skills from his experience as a government adviser in communications, media and transport policy and regulation, and as an adviser to industry in fisheries management policy.

Currently based in the Melbourne Central office of the Australian Communications & Media Authority (ACMA), Paul leads the horizon scanning & research support and coordination services.

Previously, Paul managed the development of Vision 20/20, a scenario planning project on the future of communications regulation; and coordinated emerging services analysis.

Paul has a BA from the Victoria University of Wellington and an MBA from Massey University (New Zealand).

MANDY SALOMON

Mandy is an established media practitioner, having worked as a journalist and commentator in radio, television, newspapers, theatre and documentary film. Mandy joined the Smart Internet Cooperative Research Centre in 2006. Based at Swinburne University of Technology in Melbourne, Australia, she researches the social impact of new interfaces, innovative web practices, and user-led innovation.

With a specialist interest in virtual worlds, Mandy consults with major public and private sector organisations. In August 2007, she was an invited speaker at the Harvard, Yale and New York Law School convened 'State of Play

V' Conference in Singapore. Locally, Mandy has contributed to AMIA, AIIA, World Internet Partners (WIP) and Asia Link events on this emergent field.

Under the auspices of the newly incorporated Smart Services CRC, Mandy will lead research on user needs in virtual worlds, exploring issues of identity and trust, work and recreation, education practices, content creation, community building, media practice and consumption, governance, finance, trade and entrepreneurship. She is currently undertaking a feasibility study for an 'innovation foundry' in the immersive 3D environment *Second Life*, where it is envisioned CRC stakeholders will trial new applications and experiences for users. Recent publications include the Smart Internet '2010' Report to which she contributed the chapter on voice technologies and 'Business in Second Life: an introduction' (May 2007).

DARREN SHARP

Darren Sharp is a Senior Researcher in the User Environments program of the Smart Internet Technology CRC, based at Swinburne University of Technology in Melbourne. He holds Bachelor of Multimedia (Media Studies) and BA (Honours) degrees, and has taught social science subjects from TAFE to Masters level.

Sharp was principal researcher on a project commissioned by Multimedia Victoria in 2004 which examined community use of the Internet. He also co-authored the Smart Internet 2010 report writing chapters on Social Networks and Open Source. He has presented his research at a range of national and international conferences and industry fora including Cebit, AIMIA and W3C.

Sharp was recently invited to present his work on citizen innovation and participatory research to the 3rd International Living Knowledge conference in Paris (École Nationale Supérieure des Mines de Paris). His research interests include Internet Culture, Social Software, Blogs, Wikis, Peer Production, the Knowledge Commons, Communication Futures and User-led Innovation.

Sharp has led the development of the audience and social media research programs for the newly established Smart Services CRC. This suite of research will provide thought leadership and surface market opportunities for CRC stakeholders in the media, finance and government sectors.

Sharp was an associate editor of the website Australian Policy Online (www.apo.org.au), and produced multimedia for SBS New Media and Eclipse Group. He has appeared in The Age, Sydney Morning Herald and The Courier Mail providing commentary on media related issues, and has been interviewed by ABC Radio and the 7.30 Report about his research.

CHRISTINA SLADE

Christina Slade is Dean of Humanities at Macquarie University in Sydney and professor of Media Theory at Utrecht University. She has taught at the Australian National University and the University of Canberra, at New York University and at La Universidad Ibero Americana and the ITESM, Xochimilco in Mexico City. In 1996-7 she was Harkness Fellow in New York and from 1976-7 a Commonwealth Fellow at Somerville College, Oxford. She is on the editorial board of the Australasian Journal of Philosophy, the Journal of Culture and the Journal of Informal Logic. She has edited key volumes of Television and New Media, and of Media International Australia in 2003. Her last book is *The Real Thing: Doing Philosophy with Media*, was published in 2002 by Peter Lang, New York.

DAMIEN SPRY

Damien Spry is a PhD researcher in the Institute for International Studies at UTS. His work examines youth mobile media use in Australia and Japan, with a particular focus on policy implications. In 2007, he has presented at international conferences in Tokyo and Sydney. He has been invited as a visiting researcher to the Tokyo Institute of Technology and Chou University (Tokyo) for 2008.

Damien's work focuses on the sociology of childhood in an era when increasingly ubiquitous information communications technology (ICT) is blurring boundaries between home and school, public and private, and child and adult. He suggests that current policy settings and social norms will be under pressure by these significant shifts, and that the experiences and ideas of young mobile users are an important part of the necessary public debate about mobile ICT use.

Damien is a regular visitor to Japan. In addition to his research into youth mobile cultures he takes an active interest in Japanese popular culture more generally, as well as in Japan's international relations and foreign policy. Previously, Damien worked in media relations and external communications in the private and non-government sectors, including Flight Centre Limited and Amnesty International Australia.

MARTIN STEWART-WEEKS

Martin Stewart-Weeks has over 20 years' experience in organisational management and consulting in the corporate and public sectors and with a wide range of not-for-profit organisations.

Born in Sarawak, East Malaysia and educated in Sarawak, the UK and Australia, Martin has lived in Australia since 1978 after completing his school and undergraduate education in England.

A consistent theme of his professional experience has been public policy and management. He has held senior policy, management and advisory positions for Ministers and government agencies at the federal and state government level in Australia. In the early 1980s, he held the position of Senior Private Secretary to a Federal Minister and in the early 90s, was a consultant in the Office of Strategic Planning in The Cabinet Office in New South Wales.

In his consulting work over the past 18 years, Martin has specialised in strategy, policy analysis, facilitation and market and social research. In his work with the Internet Business Solutions Group (IBSG) at Cisco, Martin's focus is primarily on the public sector. He works at the senior executive and political level to help shape Internet business solutions and online strategies at both an agency and whole-of-government level. He has been a key member of the global team developing a new e-government framework, the 'connected republic, for Cisco's public sector work. He has also been part of a small team contributing to the Australian and regional broadband policy debates.

In January 2007, Martin took up a position as a Director in IBSG to lead the growth of its public sector practice in Asia-Pacific

Martin holds a BA (Hons) in English from the University of York, a Graduate Diploma in Applied Economics from Canberra University (formerly the College of Advanced Education) and a Masters in Social Science and Policy from the University of New South Wales.

INGRID VOLKMER

Ingrid Volkmer has been appointed as Associate Professor at the University of Melbourne, Australia in February, 2007. She is also Deputy Director of the Media and Communication program.

Ingrid Volkmer has taught at various international universities, such as in Europe, the US (New School University, New York) and New Zealand (University of Otago). She has been Visiting Scholar at MIT, Cambridge (2001), Fellow at the Kennedy School of Government (Harvard) (2002) as well as at the University of Amsterdam (ASCoR) (2003-2006).

Prof Volkmer has worked for many years in the field of global communication. She has submitted various books and articles on these issues. Her particular interests are the new worldwide media infrastructure of political communication and the impact on societies and cultures.

She has been a speaker on a variety of international conferences, such as "50 Years European Communication Research" (University of Amsterdam, 2005), "ICT and Capacity Building" (UNESCO, Paris, 2005), "Globalization, Identity, Diversity," Forum of Cultures, Barcelona, Spain.

DANIELLE WILLIAMSON

Danielle is an Honours student in Psychology at the Swinburne University of Technology. Her research interests include online identity exploration and individual motives for using online media, particularly for people in the "emerging adulthood" stage of life (aged between 18 and 25 years). In 2004 Danielle completed a Bachelor of Arts and a Bachelor of Commerce at the University of Melbourne, with major studies in Psychology and Management. In the future she aims to continue research and practice in Psychology.

MEDIA

CAN THE MEDIA TAKE CRITICISM?

KEYNOTE ADDRESS BY PETER MANNING*

There is no doubt we journalists are a thin-skinned lot. The latest example is my friend George Negus in last week's *Sydney Morning Herald* TV Guide. SBS is under attack for increasing advertisements, lowering ratings and bad management but George complains about other journalists who use anonymous quotes from staff. And he comes to the defence of SBS management. He's been around a long-time. I suspect we've both in our time used tips, sources and backgrounders from people whom we have protected by suppressing their names.

ABC TV's *Media Watch* is nothing if not a display of journalist's sensitivities to criticism. In fact the show's slogan is 'everyone loves it until they're on it'. And I remember my own time as head of ABC TV News and Current Affairs when the head of Drama, Penny Chapman, revealed she had come up with a sure-fire hit. Its secret was it would send up current affairs shows. In an ABC television management executive conference, I hit the roof. Why would we trash our own output, I asked? And it would never work, I said. Penny stuck to her guns and the then managing director, David Hill, supported her. The show was called *Frontline*. It was a huge success. I think I was being a bit defensive!

Journalists' defensiveness comes from a fierce sense of independence. It's a bit tribal, a bit like the police. It is founded on key myths which sustain even the most troubled journalist faced with withering criticism. You could list four of them. First, the notion that you report 'without fear or favour' and if someone suffers in the process, well too bad. Second, that the story under attack is 'in the public interest' and this protects the journalist in a legal sense. Third, that it is 'for the public benefit' (slightly different) and that the story should be told even if the audience has no interest in it. And fourth, the general notion, now embodied in freedom of information laws, of the 'public's right to know' in a democratic polity.

These are powerful myths to sustain any working reporter. They give a halo to your daily work and a *raison d'être* to your profession. I'm sure law, medicine, teaching and building have similar myths.

But in my view they are being called on to do the wrong kind of work. They are being used to defend individual stories and individual reporters rather than act as benchmarks for a wider loss of independence which is happening simultaneously. It is these wider questions which lie beneath many of the issues being raised at this conference – and particularly as the digital world changes our media utterly. One of these questions is whether in the new media world the old paradigm of 'the media versus the people' will be relevant or whether we are heading into an era where the model will be a media which is 'our media', one in which practitioners are much closer to those consume the product. And that involves some form of community 'ownership'.

* PETER MANNING is a journalist, writer and media commentator. He is a former head of TV News and Current Affairs at the ABC and the Seven Network, author of *Us and Them: Media, Muslims and Middle East* (Random House, 2006) and Adjunct Professor at the University of Technology, Sydney.

The current myths I have named before act to maintain the ‘media v. the people’ model. They are the flags flown from the battlements of the castle walls of the media giants. So resistance to criticism takes the following classic forms:

- denial of errors;
- delay in reply such that the chance to correct is lost;
- no replies (one commercial boss told me he throws letters in his bin);
- bureaucratic snow-job (‘thanks...considered...but sorry...’); or
- the hospital pass to other agencies (‘try the Press Council’).

The attitude is one of negativity, paternalism and exclusion. I know because I’ve been on the other side! But that was 10 years ago and we are now in a different (digital) era.

The result of this Easter Island faceless denial of human error is now a growing sense of community restlessness by those most affected by repetitive misreporting. My studies (*Dog Whistle Politics and Journalism*, ACIJ, UTS, 2004) indicate the Muslim and Arab communities in Sydney have every right to feel that they are being stereotyped not by the events of September 11, 2001, but by a vicious, entrenched ‘orientalism’ that names every Arab and Muslim, no matter how innocent they are, as guilty of terrorism, anti-modernism and crimes against women. The Aboriginal community, similarly, has every right to feel their ‘narrative’ about police behaviour is not taken seriously and that rioting and drunkenness is somehow part of being black. Similarly, again, the refugee community who, far from being welcomed to this country, feel they are demonized, marginalized and labeled as ‘un-Australian’.

So the reaction is now not individual, but structural. Various communities have formed lobby groups to newly represent their interests. Media watch organizations are growing to document journalists’ work. ‘Representation studies’ have taken off in universities, unpicking the meanings between the lines of journalists’ work and comparing them with both other journalists around the world and other narratives, especially government ones. Media managers and key personnel are being targeted for special treatment: as I speak, the NSW Jewish Board of Deputies is following up its campaign decrying the previous Fairfax Middle East correspondent for anti-Israel bias by taking the next correspondent to lunch. And, of course, none other than former Queensland Premier Peter Beattie has lambasted the media for its standards and called for community mechanisms to ensure feedback actually happens. You could be forgiven for thinking these are all warning signs for the old media of a change in the air.

Note that these community responses are peculiarly asymmetric. They are not so much about individual complaints of error but about persistent bad reporting. It’s not about just ringing *Media Watch* with examples of the latest outrage. Instead, these are structural responses to a perceived underlying problem.

The structural reaction, in my view, is entirely appropriate. Why? Because the threats to journalists’ beloved myths of independence are not ‘nutty’ individual complainants but big-picture economic, social, political, technological and legal changes. And it’s these changes that are at the bottom of the editorial and content ‘errors’ of which marginalized, but growing, communities, complain. Let me list three types of structural change threatening the independence of journalists

First, there are the ‘global’ ones which simply wash over Australia. These include:

- the ever-reducing variety of ownership of our media. Now our newspapers are down to two - Murdoch and Fairfax – and in places like Brisbane, it’s Murdoch town;
- investments in new media by the old media leading to cuts of staff, news space and resources in newspapers, TV and radio (Fairfax are rumoured to be implementing 16% cuts to the Age and SMH to help cover their new digital investments);
- anti-terrorism laws heavily restricting reporters’ ability to report key federal agency activities (including detention without charge or trial);
- digital technology offering niche ‘news’ (sport, soft porn, food, etc) that ignores the activities of the key institutions of our society; and
- the final triumph of the consumer-as-king, demolishing the Reithian (BBC) notion of a ‘high culture’ that ‘needs’ to be passed on. Ratings rule!

Second, there are the narrowing of the political agendas in the public space. My studies indicate that, whether we are talking state or federal governments, Liberal or Labor, what you might call the ‘government narrative’ and the ‘media narrative’ have become shockingly close. In other words, the line the government wants to push tends to be that reporters, editors and opinion pages support. My impression from years gone by was that reporters tended to be sceptical, larrikin types who kept their physical and intellectual distance from governments of all stripes. In the last 10 years or so, not so. Why is this so? Let’s consider the reasons.

This could be because governments have finally got it right! But Iraq, climate change, broadband and the water crisis don’t seem to attest to that, so I doubt it. It could be because of the ‘war on terrorism’: media cosy up to governments when there’s an external threat. It could be because the public relations and spin-control industry is bigger and more powerful than ever. It could be because audiences are more conservative than ever and media are playing to them. It could be that journalists and/or editors have lost their interest in scoops and investigative journalism and/or offending the hands that feed them. Or a combination of all of the above. I don’t know. What I do know is that we seem to have less space for genuine debate in our mainstream media and there appears to have been a capture of the Fourth Estate by governments. Our democracy has suffered.

Finally, there has been growth inside media offices of what I would call ‘top-down reporting’. By that I mean more strict delineation by the media organization of what it expects the story to look like once the reporter returns to the office. The more ideological the outlook of the news agency, the more this is so. The result at one level can be hilarious and ridiculous: reporters begging Muslim women to put on hijabs they never wear so that news photographers can make them look more threatening on the front page! But more structurally it means reporters having less space to find ‘the truth’ and find stories that are genuinely surprising and revealing. Increasingly, journalists are losing their independence not from outsiders’ complaints but from their own bosses.

Let me conclude by saying it is these major structural questions that should be the subject of journalists’ concern. Whether they got something wrong is important but small in the big picture. Journalists will get things wrong and there should be fast, efficient and commensurate ways of addressing those errors.

But unions, community groups, media consumers and media workers of all types should be addressing the wider issues and structural changes which are driving bigger losses of

independence and making such practices as stereotyping and demonizing more likely rather than not.

We are told we get the media we deserve, just as we get the politicians we deserve. I am not sure that this is true. But to the extent it is true, we should be claiming the media in the new digital era as 'our media' and not considering it as inevitably behind those castle walls. Once claimed, it can change.

A CITIZEN JOURNALISM PRIMER

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What is Citizen Journalism?

Citizen journalism can in one sense be defined by some of its more conspicuous examples. The Korean *OhMyNews* site (<http://english.ohmynews.com/>), which was established in 2000, has as its slogan “every citizen is a reporter”, and accesses only 20 per cent of the content for its online site from its employed staff, with the balance coming from the estimated 25,000 South Koreans who post news stories onto the site. The *malaysiakini.com* site (www.malaysiakini.com) was established in 1999 by two young journalists, Steven Gan and Premesh Chandran, who had become disaffected with the degree of state control over and self-censorship within Malaysia’s print and broadcast media, and saw an opportunity to ‘use the Internet to provide free and fair news to the Malaysian public and to set new standards in journalism as well as to support the development of freedom of speech, social justice and democracy in Malaysia’ (Malaysiakini 2007; c.f. George 2006). In the United States, bloggers are variously credited with the political demise of the Senate Majority Leader Trent Lott for remarks he made supporting racial segregation, and with revealing that a story run by CBS news anchor Dan Rather claiming that George W. Bush avoided the draft was based on forged documents. In Britain, the BBC is promoting a citizen journalism model linked to community activism from within its own portal, through its *Action Network* initiative (www.bbc.co.uk/dna/actionnetwor/). In Australia sites such as *Crikey* (www.crikey.com.au), *New Matilda* (www.newmatilda.com.au) and *On Line Opinion* (www.onlineopinion.com.au) seek to both promote new stories and to generate alternative means of gathering and aggregating news and opinion online. Internationally, the *Indymedia* network (www.indymedia.org), founded in the U.S. in the context of the 1999 ‘Battle of Seattle’ protests against the inaugural meeting of the World Trade Organisation, is a global, activist-based network of print, satellite TV, video and radio that is all user-generated, and has over 150 independent media centres worldwide, across over 30 countries.

Is there then a new model of citizen journalism emerging around these various new media initiatives? There are a number of influential voices who think so. Dan Gillmor, founder of the Centre for Citizen Media, argues in *We the Media* that whereas conventional ‘Big Media ... treated the news as a lecture’, the new models of citizen journalism enabled by Web 2.0 technologies will see an evolution towards ‘journalism as a conversation or seminar’, as:

The lines will blur between producers and consumers, changing the role of both in ways we’re only beginning to grasp now. The communication network itself will become a medium for everyone’s voice, not just the few who can afford to buy multimillion-dollar printing presses, launch satellites or win the government’s permission to squat on the public’s airwaves (Gillmor 2006: xxiv).

Bowman and Willis (2003) refer to the rise of *participatory journalism*, which arises from ‘the result of many simultaneous, distributed conversations that either blossom or quickly

atrophy in the Web's social network' (Bowman and Willis 2003: 9). They define participatory journalism as:

The act of a citizen, or group of citizens, playing an active role in the process of collecting, reporting, analysing and disseminating news and information. The intent of this participation is to provide independent, reliable, accurate, wide-ranging and relevant information that a democracy requires' (Bowman and Willis 2003: 9).

Couldry (2003) has explored the wider implications of the relationship between participatory media, alternative forms of journalism and questions of media power. Arguing that media power is best understood as a form of *symbolic power*, or the power to construct and communicate dominant ideas, Couldry finds the potential significance of user-generated media as lying in its capacity to accumulate organisation and economic resources that can be used to tell different stories, and generate alternative sources of influence. To achieve substantive changes in the concentration, organisation and uses of media, what needs to be looked for are:

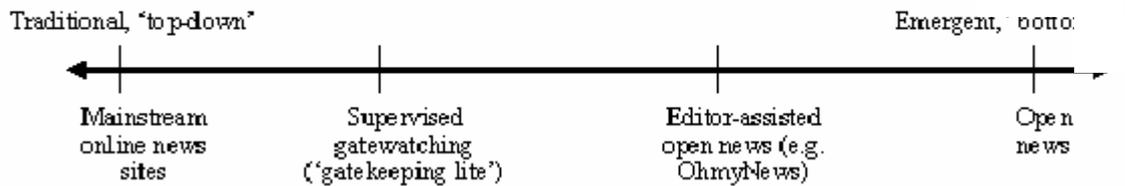
1. *New ways of consuming media*, which explicitly contest the social legitimacy of media power;
2. *New infrastructures of production*, which have an impact upon who can produce media and in what circumstances;
3. *New infrastructures of distribution*, which change the scale and terms on which media and other forms of symbolic production in one place can reach other places (Couldry 2003: 44).

For Couldry, the potential arises for new forms of media production and consumption associated with the Internet and user-generated content to generate 'new hybrid forms of media *consumption-production* ... [that] would challenge precisely the entrenched division of labour (producers of stories versus consumers of stories) that is the essence of media power' (Couldry 2003: 45).

Three elements are critical to the rise of citizen journalism and citizen media. The first is *open publishing*. The development of an open publishing architecture by Mathew Arnison and others involved in the 'Active Sydney' group in 1999, and the adoption of such open source models by the Independent Media Centres (*Indymedia*) that year was a landmark development in enabling new forms of news production. Arnison (2003) drew parallels between open publishing and the free software movement, arguing that the key to open publishing, as with open source software, was that the process of production was open and transparent. Second, *collaborative editing* is vital to citizen journalism. In his taxonomy of peer-to-peer (P2P) publishing, and the extent to which a site and a news practice can be deemed to be open and participatory, Bruns (2005) differentiates such sites on the basis of the scope for user participation at the input stage (contributing stories), output stage (ability to edit or shape final content), response stage (ability to comment on, extend, filter, or edit already published content), and the extent to which specific roles (editor, journalist, user, reader) are fixed in the production process. This generates a continuum of openness across online news sites, from mainstream online news sites where a division between the producers and users of news remains even if there is scope to comment on stories, through to 'gatekeeping lite' sites that promote user contributions and some collaborative editing, through to the editor-assisted open news model of Korea's *OhMyNews* and *Media Channel* in the United States, and the completely open and decentralised *Indymedia* models.

Figure 8.1

A Continuum of Openness for Online News Models



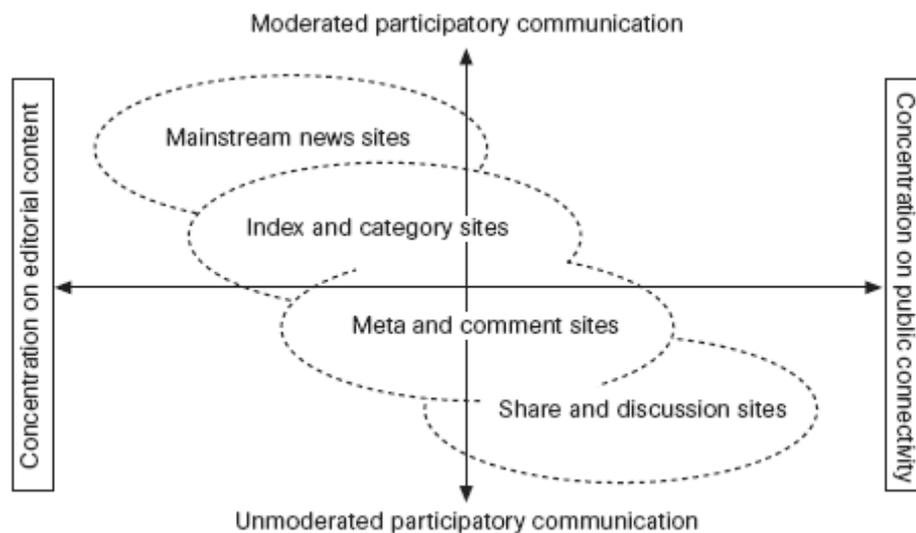
Source Bruns 2005: 124.

A third factor promoting citizen journalism is *distributed content* through RSS (Rich Site Summary or Really Simple Syndication) feeds. The great virtue of RSS is that it can take the work out of accessing new and interesting information, as users can establish an ongoing link with the sites that generate content that is of interest to them, and link to it on their own sites as they see fit. While RSS development has occurred at some distance from the concerns of citizen journalism, it greatly assists it by reducing the search costs associated with accessing valuable information and insight from trusted sources, as well as building user communities, thereby transforming news and information distribution from a hierarchical, top-down model with high barriers to entry to a more decentralised and networked model.

Deuze (2003) has proposed that the diversity of forms of Web-based journalism can be conceived of as operating across two axes of control and connectivity. One relates to *content*, and the extent to which the content that appears on an online news site is primarily or exclusively sourced from an existing news organisation's staff of employed journalists, with the content that is published subject to established editorial protocols, as compared to sites that source content widely and emphasise the forms of network *connectivity* that arise from a diversity of sources participating in providing content to the site. The second relates to the *cultures* in which content is generated, and the extent to which participatory communication is either non-existent or is highly moderated, as compared to sites where comment and participation is open and largely unmoderated. For Deuze, this generated the following differentiation between the online news sites of mainstream news organisations such as CNN, BBC and MSNBC, index and category sites such as the *Drudge Report* or *Crikey*, meta-comment sites such as *MediaChannel*, and share and discussion sites such as *Slashdot*.

Figure 8.2

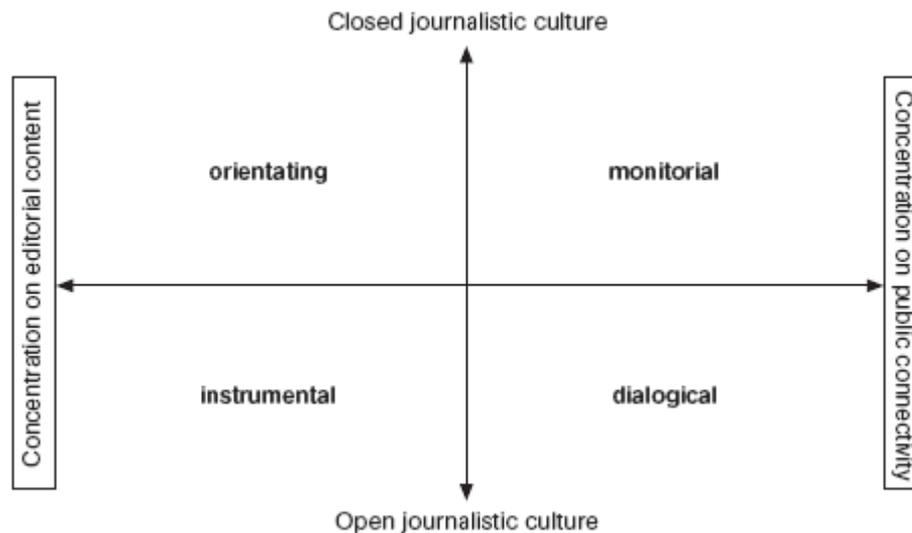
Categorising Online News Sites by Content Generation and Participatory Communication



Source: Deuze 2003: 205.

For Deuze, this in turn raises the question of what it means to transfer news production and distribution to the online environment. He suggests a four-fold typology of ways in which online news media is related to the content-connectivity access on the one hand, and the extent to which journalistic culture is open or closed on the other. To take the four types outlined in Table 8.3 below, (1) *orienting* online journalism is largely a repurposing of pre-existing media content; (2) *monitorial* online journalism is principally driven by news organisations seeing better user demographic data; (3) *instrumental* online journalism is useful for the journalist involved, as it enables him/her to better understand their audience, but does not generate new models for how news and information content is developed into the future; and (4) *dialogic* online journalism begins to take journalism in quite new directions, by opening up new models for news production, collaborative editing and filtering, and user participation in site development.

Table 8.3

Types of Online Journalism

Source: Deuze 2003: 218.

Contextual Factors behind the Rise of Citizen Journalism

1. From CAR and Public Journalism to Web 2.0 and the Public's Journalism

At one level, journalists quickly identified the potential of the Internet to enhance their professional capacities, as it gave them vastly expanded access to information and new channels for distribution. The Internet also emerged at a time of perceived crisis for journalism, arising from a sense of growing disconnect between journalism as an organised and institutionalised professional practice and the audiences and communities it intended to serve.

Two key developments in the 1990s to this environment of opportunity and threat were computer-assisted reporting and public journalism. *Computer-assisted reporting* (CAR) enabled a triangulation of reporting, where journalists could cross-check information provided to them by key informants with other sources of information and data that were on the public record and now readily accessible through the Internet. CAR aimed to make journalism a more scientific practice, and is advocates looked for a new era of 'precision journalism', where the truth-claims of journalists would be backed up by thickets of verifiable data (Cox 2000). The second development was the rise of *public journalism*, also known as civic journalism. The core principle underpinning public journalism was that of 'seeing people as citizens rather than as spectators, readers, viewers, listeners or an undifferentiated mass', in order to act in ways that can 'bring a genuine public alive' (Rosen 2000: 680, 683). Campbell (2000) saw experiments in public journalism as aiming to: '(1) treat citizens as experts in their own lives and aspirations ... (2) treat citizens as political actors who create public knowledge by deliberating together ... [and] (3) create new forms of story-telling and reporting to enrich information' (Campbell 2000: 693). Public journalism had the aim of reinvigorating the democratic and participatory nature of democratic society by emphasising journalism's social responsibility remit of 'encouraging citizens to engage each other in a search for shared values' (Glasser 2000: 683).

Despite their differences, both nonetheless rested upon a common assumption that there exists a unique and powerful professional grouping – journalists – who may or may not choose to use new media to better serve another constituency – audiences, or the general public – and that the choice to do so essentially rests with the profession itself. It is this dynamic that has been eroding quickly with the rise of Web 2.0 and social software, to the point where advocates of public journalism, such as Witt (2004), observed that ‘public journalism’, where journalists, academics and news editors could meet and discuss what to do next, into ‘the public’s journalism’, where a new generation of new media users were taking matters into their own hands.

2. Questioning Journalism as a Professional Ideology

The technological developments associated with the rise of citizen journalism have occurred at a time when claims to the uniqueness of journalism as a profession have been contested. Zelizer (2004, 2005) has argued that journalism has to be ultimately understood as a culture, and those who self-define as journalists ‘employ collective, often tacit knowledge to become members of the group and maintain their membership over time’ (Zelizer 2005: 200). Other definitions of what constitutes journalism and journalists – as a profession, an industry, an institution or a craft – are, for Zelizer, inadequate, as they always present boundary issues as to who is included and excluded. By contrast, the cultural definition clarifies why, how and by whom these boundaries about what is journalism and who is a journalist emerge, linking the them back to the culture of journalism itself, and the ‘connections [that] are made that link internal mind-sets about how the world works with the external arrangements by which social life is set in place’ (Zelizer 2005: 201).

Deuze (2005) has argued that journalism is ultimately an occupational ideology shared among those who self-classify as journalists. Ideology is understood here in the dual sense of being ‘a system of beliefs characteristic of a particular group, including – but not limited to – the general process of the production of meanings and ideas within that group’, and as a process whereby ‘the sum of ideas and views – notably on social and political issues – of a particular group is shaped over time, but also as a process by which other ideas and views are excluded or marginalised’ (Deuze 2005: 445). Deuze tests this hypothesis by identifying five common claims that are made about journalism by journalists themselves and by those who research journalism as a profession, and testing these against two potentially disruptive influences upon journalism: the impact of new media technologies, and multiculturalism, or the implications of greater cultural diversity in modern societies.

Table 8.4

Journalism as a Professional Ideology: Deuze’s Analysis of Change Factors

Core elements of journalists’ professional self-definition	Underlying concepts and applications in practice	Impact of new media technologies	Impact of multiculturalism
<i>Public service</i>	Acting as ‘watch-dogs’ or ‘alert services’ to the wider public	‘The public’ is increasingly using new media to tell its own stories	Need to actively seek new angles and voices from undiscovered communities

Core elements of journalists' professional self-definition	Underlying concepts and applications in practice	Impact of new media technologies	Impact of multiculturalism
<i>Objectivity</i>	Need for neutrality, fairness, impartiality and 'professional distance' from sources	Interactivity presents the journalist with multiple and conflicting points of view	Need to move from binary ('both sides of the story') to multiperspectival approaches
<i>Autonomy</i>	Freedom from censorship, whether by governments, companies or colleagues	Collaborative production models increasingly becoming the norm	Need for more community-based reporting and awareness of entrenched social inequalities
<i>Immediacy</i>	Information needs to be produced and disseminated quickly in order to have value and currency	Reflection, complexity and ongoing editing and updating of news becomes possible, involving users in the process	Speed tends to negate recognition of diversity, in terms of newsroom cultures, sourcing, and how news is distributed
<i>Ethics</i>	Need to be guided by a formal code of ethics as collectively agreed to by one's peers in the organisation and/or relevant professional body	New media tend to evoke an 'ethics on the run', as online site moderation cannot mirror an internally derived organisational ethic/culture	Issues about what is/is not 'suitable' content become more complex as societies become more diverse, and mechanisms for dialogue need to be established

Source: Deuze 2005.

3. The Decline of 'High Modernism' in Journalism and the end of 'Journalist as Hero'

Hallin (1994) has argued that the period from the 1960 to the late 1980s marked a period of 'High Modernism' in American journalism, as 'an era when the historically troubled role of the journalist seemed fully rationalised, when it seemed possible for the journalist to powerful and prosperous and at the same time independent, disinterested, public-spirited, and trusted and beloved by everyone, from the corridors of power around the world to the ordinary citizen and consumer' (Hallin 1994: 172). The 'journalist as hero' had a clear image in the popular consciousness, as Dustin Hoffman and Robert Redford portrayed the *Washington Post* journalists Carl Bernstein and Bob Woodward in the 1976 film *All the President's Men*, about the reporting of the Watergate scandal and the resignation of Richard Nixon. The image was that of young investigative journalists with a commitment to late nights at the office, checking their facts and sources closely, and linking up with well-connected insiders, who could bring down the U.S. President. Through the 1970s and 1980s, the wages of high-profile journalists continued to rise, particularly in television, as the cult of the 'journalist-as hero' was embraced through programs such as *60 Minutes*.

Hallin noted that there were inherent problems with journalists seeking to fill a vacuum in political institutions and public debate. One reason is that journalists are often ‘too close to the powerful institutions whose actions need to be discussed’ (Hallin 1994: 175) Another problem is that the commercial nature of news makes it difficult for journalists in large, mainstream organisations to veer too far from what they perceive to be ‘public sentiment’, or to get too far offside with any major political entity, for fear of losing audience or market share. Hallin also argued that the journalistic ideal of objectivity tended to generate a focus upon ‘attributions, passive voice constructions, and the substitution of technical for moral or political judgements [that] is largely designed to conceal the voice of the journalist’ (Hallin 1994: 176). Hallin argued for new forms of journalism that aimed to be in dialogue with the wider public rather than ‘mediating between political institutions and the mass public’, and where ‘the voice and judgement of the journalist ... [are] more honestly acknowledged’ (Hallin 1994: 176). Hallin wrote *We Keep America on Top of the World* before the rise of the Internet and blogging; many advocates of blogging would argue that it has sought to fill the vacuum in ‘high modern’ journalism that Hallin identified.

4. The Hand That Feeds: Journalism and its Sources – From Contact to Capture

Access to quality information sources has long been at the heart of quality journalism, but this reliance upon contacts generates its own problems. It is no coincidence that Woodward and Bernstein worked at the *Washington Post*, and not in Montana or Arkansas; being located in the heart of the American political beast – Washington D.C. – and with a well-resourced newspaper behind them, they could successfully pursue source-led investigative journalism. But this insider access generates its own forms of capture. At its most overt, as with the concept of ‘embedded journalists’ developed during the 2003 U.S.-led invasion of Iraq, journalists stand accused of essentially reporting the U.S. military point of view as the condition of access to combat zones. More generally, one can simply count the number of phrases such as ‘Sources close to the Prime Minister/President say’, ‘Government officials say’, or ‘Well-placed insiders say’ in the stories of many feature writers, columnists, political correspondents, and front-page newspaper stories to get a sense of the extent of the reliance of much mainstream journalism upon official sources, and the relations of dependence this generates. This has become increasingly sophisticated in recent years with the rise of what Ward (2003) terms the ‘PR state’, where government management of media through public relations moves beyond issue-based ‘spin’ to highly co-ordinated information management strategies, and where large-scale government advertising aimed at ‘selling’ new policies becomes a vital part of the revenue stream of commercial media organisations (Young 2006).¹ Indeed, some have noted that it is increasingly political satire, as seen in U.S. programs such as Jon Stewart’s *The Daily Show*, *The Colbert Report*, and Australia’s *The Chaser’s War on Everything*, to irreverently comment on developments in politics that one would expect leading political journalists to be more attuned to.

5. Implications of Eroding Revenue Bases for Traditional Media

The media business has traditionally been a highly profitable one, with major media outlets realising rates of profit well above industry averages. But there are several signs that the business models that served media so well in the second half of the 20th century are less

¹ In Australia, the value of Federal government advertising went from \$5-10 million in the first half of the 1990s to \$20-100 million in the late 1990s and 2000s under the Howard government. \$100 million was spent on advertising in June 2000 when the new Goods and Services Tax (GST) was introduced, and advertisements to publicise new government policies involved \$60 million of expenditure at the time of the 2001 and 2004 Federal elections (Ward 2003; Young 2006).

robust in the early 21st century, and this has implications for how news production is to be financed. In the case of newspapers, classified advertising has traditionally provided the ‘rivers of gold’ that cross-subsidise other activities within the organisation, but this is now seriously challenged by the rise of sophisticated search engines such as Google that can be both global and hyper-local, and by direct selling of products and services through sites such as eBay. Broadcast television has lost significant market share to cable and satellite-based subscription services throughout the world, and there are fewer and fewer opportunities to reach the mass audiences that were once the lifeblood of commercial television. More generally, television is now in serious competition with other media for audience attention, not only with the personal computer and Web-based services such as *YouTube* and *Joost* ([ww.joost.com](http://www.joost.com)), but with the other ways in which the television itself can be used, including console-based gaming and DVD viewing.

This is not to proclaim the end of mass media, as a number of high-profile analysts wrongly prophesied in the 1990s (e.g. Gilder 1994; Negroponte 1995). This over-estimates the significance of changing media consumption patterns for particular demographics in countries where media such as television is long-established, and under-estimates the significance of the growth of access to television and other mass media on a global scale. Moreover, it conflates the media as distribution conduits with media as program content; theorists of ‘TV III’ (Rogers *et al.* 2002; Creeber and Hills 2007) point out that successful TV content, whether it be *The Sopranos*, *Big Brother* or live feeds of World Cup soccer, are now accessed across multiple platforms, ranging from TV to DVDs, networked personal computers, mobile phones and other wireless and handheld devices, and is repurposed in multiple formats to best ‘fit’ the relevant media form. The issue is rather with advertiser spending, and the extent to which it is migrating from media forms to technologically-driven niches, and the implications of this for cross-subsidy of various form of journalism within organisations that produce news. One feature of blogs and citizen journalism is that they are typically a lower-cost means of generating content than traditional news practices (e.g. hiring feature writers, high-profile on-air presenters and opinion journalists), and this is certainly attracting the attention of established news media outlets.

6. Expanding the Definition of Journalism: Lifestyle, Entertainment and Celebrity Journalism

The space that is increasingly occupied in media of all forms by lifestyle, entertainment and celebrity journalism is clearly observable, from the plethora of new magazine titles devoted to these topics, to their prominence in the online environment, although we currently lack an authoritative academic analysis of these forms (on celebrity and journalism, Turner 2004; Hermes 2005; Marshall 2006). Many accounts of these developments tend to critically reflect upon how the rise of this space is ‘eroding’ journalism, rather than upon these forms of journalism themselves, which dominate the magazine industry, are increasingly central to television, and occupy a growing space within the print media industries, particularly in their online versions (see Turner 1999, 2005 on ‘tabloidisation’ debates in relation to journalism). Bloggers are of course well represented in these fields, as seen with widely-accessed sites such as *Welcome to Perez Hilton* (<http://perez Hilton.com>). At the same time, it is very notable how prominent the celebrity, entertainment and lifestyle formats are on the online versions of the established news media sites. There is a study yet to be done about whether the prevalence of this content is greater on these sites than it is in the print and broadcast equivalents, and what should be made of it. Related to this is the need for more detailed information about how news and information is consumed online. One theory is that online news is frequently consumed in small chunks by office workers, and this fits well with the format that has

evolved with celebrity magazines, which get through a lot of stories very quickly, and which typically require little background or context, as readers typically know who the celebrities already are (Newson 2006).

7. The Crisis of Democracy and the Decline of Deference

It has been argued that, in the established democratic nations, there is increasingly a *crisis of democracy*, where ‘old styles of representation have come under pressure to change ... [as] traditional structures and cultures of policy formation and decision-making are perceived as being remote from ordinary citizens’ (Coleman and Gøtze 2001: 4; c.f. Castells 1998; Giddens 1998). Coleman and Gøtze have observed that:

As citizens have become less deferential and dependent, and more consumerist and volatile, old styles of representation have come under pressure to change. There is a pervasive contemporary estrangement between representative and those they represent, manifested in almost every western country by falling voter turnout; lower levels of public participation in civic life; public cynicism towards political institutions and parties; and a collapse in once-strong political loyalties and attachments (Coleman and Gøtze 2001: 4).

It was argued in Chapter Five that, overall, blogs are a positive factor in the development of social capital, with their mix of subjectivity, interactivity and connectivity (McNair 2006: 122-124). Similarly, since more active participation by citizens in the policy process is believed to lead to both better public policy and greater public trust in its implementation (OECD 2003; Coleman 2006), it can also be argued that citizen journalism formats that are widely accessible, independent of powerful vested interests, and can have wider public influence, will have a positive impact upon reinvigorating the democratic public sphere. This is even acknowledging that they are often more partisan and feisty, as reflective of a wider decline in deference to established forms of elite authority, from political leadership to opinion-leading journalism. As McNair observes, ‘If one function of the public sphere is to render power transparent before the people ... it is better from the democratic perspective to have an excess of critical media scrutiny ... than a deficit’ (McNair 2006: 73).

8. New Opportunities to Express Alternative Views in Countries with State-Controlled Media

The significance of the Internet as an alternative source of news and information is even starker in those countries that are not democracies, or are recent democracies, and where there is a history of state control (direct or indirect) over official media sources. The relationship between the rise in Internet use in Indonesia and the gradual, complex democratisation of Indonesian society and politics in the period following President Soeharto’s ‘New Order’ provides a fascinating case study of this. One consequence of the fall of the Soeharto government in 1998 was an explosion in independent journalism during the subsequent period of *reformasi* (Romano 2003). The Internet has been quickly embraced as a tool by political activists and reformers, and has been a vital element of scrutiny and commentary on elections and political affairs generally since the first free elections in Indonesia in 1999 (Hill and Sen 2005).

George (2006) has discussed the role played by the Internet in enabling *contentious journalism* in Malaysia and Singapore. Both Malaysia and Singapore are countries that have held formal democratic elections, but where the same political organisations – the United Malaysian National Organisation (UMNO) and the People’s Action Party (PAP) in the Singaporean case – have held power continuously since independence. A variety of controls

over the media have been important components of this continuous rule, including Internal Security and Official Secrets Acts, defamation laws, the allocation of print and broadcast media licences, close personal connections between media owners and government officials, and controls over media access and sources (George 2006: 43-54). The Internet has opened up a space for dissenting points of view and what George terms contentious journalism, in countries where dissenting journalists 'have enough space to practice their craft openly on the Internet ... but not constitutional protection from political censorship or politically motivated reprisal' (George 2006: 3). The ability to do this has been driven in part by the commitment of governments in both countries to rapid development of the Internet and a leading position in the global information economy, through Singapore's *Intelligent Island* policies and Malaysia's *Vision 2020*, but George's book documents the continuing precariousness of Web sites dedicated to alternative points of view, with *Malaysiakini.com* being the most notable survivor over time, while *Sintercom.org* was ultimately forced to operate outside of Singapore (George 2006; c.f. Lee 2006 on Singapore).

We need to be careful about easily equating the rise of the Internet with moves towards greater democratisation, media freedom and citizen journalism. Kalathil and Boas (2003) have discussed how governments can widen the population's access to the Internet while simultaneously maintaining political and media control, citing China and Singapore as case studies. Even without the elaborate network of controls and filters that have developed in China, which critics have dubbed the 'Great Firewall of China' (Human Rights Watch 2006), Kalathil and Boas note that the Internet need not constitute a wedge which threatens dominant political forces since: (1) most Internet traffic does not have an ostensibly political purpose; (2) there are periodic crackdowns by governments on some forms of Internet use; (3) mechanisms for content control and filtering can be developed for online content akin to those of other media within a national information infrastructure; and (4) state authorities can use the Internet to more effectively deliver their own messages and enhance their own legitimacy. Indeed, in the case of both China and Singapore, Internet censorship has occurred alongside measures to improve citizen access to government services online and some citizen-government direct interaction. Nonetheless, when crises of control do emerge, as occurred in China and Hong Kong SAR during the 2003 SARS outbreak, the Internet emerges as a vitally important source of alternative information (Nip 2006).

Citizen Journalism, a New Public Sphere, and Journalism as a Human Right

In Jürgen Habermas's classic account of the public sphere (Habermas 1995), it is envisaged as a domain of our social life through which public opinion can be formed out of rational public debate, so that informed and logical discussion and debate could lead to democratic decision-making arising out of an informed public consensus. Authors such as Carey (1995) have argued that the commercial imperatives of news media and the need for 'instant news' have undercut journalism's claims to be contributing to Habermas' modernist vision of a rational public sphere. But the question has been asked as to whether new media developments can generate a new public sphere? The example of Korea's *OhMyNews* demonstrates one possibility that it might. In a similar vein, the Qatar-based media service *Al-Jazeera* has been identified as contributing to an Arab and Muslim public sphere, through its presence as a clear alternative to highly censored Middle East media, its willingness to address controversial issues, its positioning as an outlet for dissenting and oppositional voices, and its capacity to provide voice to those elements of civil society and popular opinion not represented by the

governments or the state-controlled media outlets of the region (El-Nawawy and Iskandar 2002; El Oifi 2005).

In considering whether the Internet can constitute a public sphere, Papacharissi (2002) makes the important qualifying point that ‘a new public space is not synonymous with a new public sphere’, since:

As public space, the Internet provides yet another forum for political deliberation. As a public sphere, the Internet could facilitate discussion that promotes a democratic exchange of ideas and opinions. A virtual public space enhances discussion; a virtual sphere enhances democracy (Papacharissi 2002: 11).

With this qualification in mind, Papacharissi concludes that the Internet could not yet be considered a virtual public sphere due to inequalities of access, difficulties in bringing together conflicting points of view, and some of the limiting imperatives of reliance upon commercial funding models from large-scale distribution, but that it certainly advances the possibility for such a public sphere to emerge. Importantly, she emphasises that the nature of the medium itself, and the relationship between interconnectedness, real-time discussion and communication at a distance make it unlikely that the Internet would ever conform to the Habermasian ideal of a public sphere. She instead speculates that ‘the Internet will not become the new public sphere, but rather something radically different [that] will enhance democracy and dialogue, but not in a way that we would expect it to, or in a way that we have experienced in the past’ (Papacharissi 2002: 18). It is far more likely to be, as Brian McNair (2006) has also argued in relation to this question, a more crowded, noisy, chaotic, competitive and rancorous communications space than was envisaged for the modernist public sphere, but that does not in turn dismiss the potential to generate something more akin to a globalised and democratising public sphere.

The British journalist and editor Ian Hargreaves has argued that ‘In a democracy, everyone is a journalist. This is because, in a democracy, everyone has the right to *communicate* a fact or a point of view, however trivial, however hideous’ (Hargreaves 1999: 4). In a similar vein, Article 19 of the United Nations Universal Declaration of Human Rights asserts that everyone has ‘the right to freedom of opinion and expression’, and the right to ‘seek, receive and *impart* information and ideas through any media and regardless of frontiers’ (United Nations 1948 – emphasis added). Hartley (2008) has drawn upon these arguments to propose that the right to practice journalism is a human right, and one that user-generated content, participatory media and the turn from ‘read-only’ mass communications to ‘read-write’ citizen media is accelerating this possibility. This complements the turn to opinion, subjectivity and the personal found in the rise of blogging as an alternative form of reporting and commenting on events to the traditional journalism paradigms. Hartley argues that a major barrier to the further development of citizen journalism in these forms is in fact professional journalism itself, which has evolved into a representative function, acting on behalf of the public rather than as a part of the public (Hartley 2008).

McNair (2006) has argued that citizen journalism and user-generated news content needs to be understood in the context of a wider shift in the underlying paradigm of journalism and news production from what he terms the ‘control paradigm’ to ‘cultural chaos’. Drawing upon the rise of ‘chaos theory’ in the natural sciences, McNair refers to *cultural chaos* in the context of ‘a contemporary communications environment in which, as in nature, chaos creates as well as destroys, generating in the process enhanced possibilities for progressive cultural,

political and social evolution, as well as trends towards social entropy and disorder' (McNair 2006: xii). McNair argues that as we are moving from information scarcity to information abundance and from closed to open information systems, and as the competition for providing news and accessing audiences for news increases, this challenges the entrenched authority of both political institutions and established media organisations. With the capacity to produce and distribute news, information and journalism is becoming more and more available to more and more people, the sheer proliferation of voices and opinions enabled by new media generates 'a significant augmentation of the degree of diversity of viewpoints available to users of the globalised public sphere' (McNair 2006: 201). While this raises associated issues about quality, selectivity and accuracy, it also raises new questions for the consumers of news about the extent to which reliance upon 'trust in brand-name mastheads or credible journalistic by-lines' (Hartley 2007: ...) remains a suitable alternative to a more DIY-ethos of assessing the contributions of individual providers of news and information services, or indeed producing your own alternatives. even while most media organisations remain hierarchical and centralised, as do many of the political, business and other institutions that they report on, the combination of the networked structure of the internet and 24-hour, real-time news 'produces an environment where information cascades become more unpredictable, more frequent, and more difficult for elites to contain when they began' (McNair 2006: 202).

Scott (2005) has questioned the saliency of the business models underlying much online journalism, noting that online news services can potentially lead to a further 'tightening' of news content in order to better meet the demographic targeting of news audiences by advertisers, with online site content increasingly driven by the marketing divisions of news organisations rather than by their journalists. While this is certainly one potential outcome, that will no doubt reveal itself in a number of news media organisations, the argument that has been developed here proposes that if mainstream news media organisations responds to the threat/opportunity matrix that they face by stripping back online news provision to the bare bones in order to cut costs, they will be met by a new generation of competitors for 'access to eyeballs' in a rapidly changing new media environment. What is apparent is that debates about the relationship between democracy, citizenship, news and journalism have acquired a new intensity in the 21st century, as the impact of new media shifts the underlying paradigms that have informed journalism and news production in the 20th century age of mass media and mass communication.

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JOURNALISTS AND ONLINE MEDIA:

The engagement of journalists in creating new forms of media content, presentation and service to publics; a case study approach and reflection on practice.

LEE DUFFIELD

(Refereed)

Synopsis

The paper examines the translation of journalism as it has been known into new media forms, principally its contribution to content-making for online services. It rests on the significance of content: what media are available to carry certain content; what content is being provided by certain media? The paper is in two parts: First, it reviews an explosion of activity in the online journalism field; it notes adaptation and innovation which this has produced, and considers future possibilities. Second, it provides a case study based on an online service launched by the author, in the context of findings made by the above review, illustrating aspects of it.

A movement has taken hold among journalists internationally to exploit the possibilities of online publishing. News organisations have come forward to position themselves among leading providers of online services, and apart from that, practising journalists as individuals and in groups have taken up the new medium in novel ways. The article refers to work under way, on craft issues (developments in how to write, illustrate, represent using this medium); on economics and resources of online publishing; adaptation to different types of online media; and reporting practices. Content issues arise: Online media through making new markets generate more specialised and creative journalistic work, both in terms of what information appears and how that information is worked into the fabric of the presentation.

In a case study the author recounts setting up an online service that provides specialised international news, as a reflection on practice. The case study traces conceptualisation of the service, funding, and construction of a website using modified “blog” software. It recounts the development of a journalistic modus operandi and style, experience of ten months’ operations, and accumulation of an audience. It will describe the project as being in various essentials, an example of independent journalistic exercises around the world. It will especially look at content issues – surveillance, selection of material, writing, matters of presentation and illustration.

Taking a segmented approach to proliferating new media, by looking at the contribution of journalism-in-place, narrows down the field of inquiry and makes it manageable. It may help with an understanding of certain central questions: what is the relationship between media formats and content; what familiar contents material is being accommodated; what new content is being induced by the nature of the media? It should add to understanding of new media in mass communication generally.

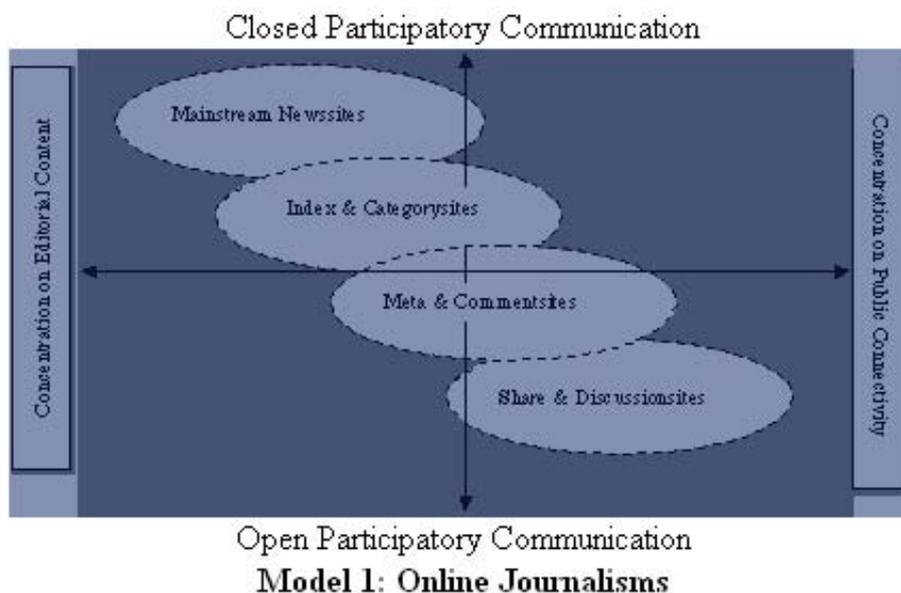
Introduction

This began with a niche, an expertise, a reporting base, and a platform now available which, at last, could be afforded. The niche was provision of news for Australia from Europe

unimpeded by having to go through usual media channels *via* London, i.e. news more narrowly based and direct, from the European Union emanating mainly from Brussels. Having worked from Brussels as a correspondent for Australian broadcast media the writer had seen this news theatre yield headline news and much information related to Australian industry and trade, drawing substantial audience attention, and had confidence in being able to maintain a good flow of reportage from the particular area of activity. It could be covered using media facilities available in the city which provided reporters with authoritative, free, well researched daily information as a reliable staple. A resident media corps of some 1600 journalists and buoyant mass media outlets keeping up with agendas provided a supportive environment. There was no competition from other Australian news media. The World Wide Web offered the opportunity to publish. The outcome has been a simple yet well-stocked online publication called *EUAustralia Online* (referred to as *EUAustralia*), a site built on modified web log (“blog”) software, but published as an edited newsletter with limited interactivity at this time. It offers compact, easy-to-access text with thumbnail pictures as emblems or illustrations for each one, dispensing on average 1.2 stories per day and, after ten months, drawing average site visits of over 220 p.d. It thus has potential to earn money and equally can be continued indefinitely as an independent private-professional undertaking without earning anything.

Definitions and descriptions of online publications

More will be told about this product as a case study to help illustrate practices and issues in online journalism. The treatment of these begins here as a search to find a context and definition for the *EUAustralia* project -- the better to explain it. Amid much recent writing on the explosion of online publication, Mark Deuze has produced typologies or models that show the relationship among the relevant concerns -- media contents, platforms, production styles, relations with and among audiences. His 2001 typology (2001) Model 1, (Model 2 looks at the four types of news site in relation to their use of “hypertextuality, interactivity and multimediality”), sets up two axes: an horizontal axis between concentration on news content and concentration on audience “connectivity” (acting on people’s desire to connect with others as a prime motivation in using the Internet), and a vertical axis between closed participatory communication and open participatory communication.



In this scheme *mainstream news sites* (e.g. *CNN*, *MSNBC*) offer a selection of editorial content, both recycled and original, and limited, often moderated participatory communication. (More recent times have seen this participation cultivated by the large media providers and made to flourish, e.g. *BBC.com*). *Index and category sites* (*Yahoo*, *Newsindex*) often associated with search engines or marketers have journalists providing tips and links. They can offer forums and will critique sites that people post. *Meta and comment sites* tend to be sites about sites, frequently to review media and publicise or debate media issues (*Freedomforum*, *Poynter's Medianews*), calling in a variety of journalists and other contributors to review online media and discuss their underlying production processes. *Share and discussion sites* are heavily towards the connectivity dimension and provide platforms for the exchange of ideas and stories. This category has a background providing political forums (e.g. "Indymedia" sites) or computer news (e.g. *Slashdot*). It stands to develop into a powerful set of providers of general news by virtue of the collective force of the great numbers of people contributing -- adjusted for whatever system of filtering and management of volume comes to be used.

Deuze's model for a "good online journalism", quoted by Balnaves et al, in Rao (ed.) (2003:132), saw online media providing a full range of services. It stands for the kind of cross-media offerings being constructed, as platforms (the sites and services offered from them) become more complex and users better equipped and adept at exploiting them. The range of offerings: publication of news, with a rich field of original content; photojournalism; a searchable archive; audience participation through online reader discussions and conferencing; layering of content; easy-to-use navigation; an electronic message board; thence media convergence, and also customisation. "Production" issues, as opposed to matters of content, get due emphasis in this model: the site itself should be useful and efficient in design; easily accessible for users, and amenable to users finding what they are looking for once they have obtained access.

More recent developments have put greater emphasis on calling in sound and especially moving images, with implications for how reporting is conceived and crafted. An important example is provided by Ted Anthony (Junnankar, 2007), founding editor of the very large Associated Press (AP) news portal *Asap*. Investigating demand among younger users (18-34), he determined it was "much more about the way media was being consumed than it was about the subject matter chosen", prompting him to work on "reconceiving storytelling" by the AP, with greater use of cross-media forms and implementation of a "multimedia litmus test" for reports, especially those intended for the younger market. These writings provide a frame for developers of online services which can be built up over time on the lines indicated, e.g. extension of services into more amenable and extensive archiving, or progressively the creation of more active, diverse multi-media artefacts to tell stories.

Journalistic thinking in the new media settings

New media formats already accommodate a large range of types of operation, as indicated in the observations and typologising exercises referred to above. This article is concerned with the application of received journalistic practices to new media. It considers the detailed case of *EUAustralia* in particular as an adaptation of the way that conventionally recognised news values can be used as the guiding principle for a new publication in a new field of mass communication. "News values" amongst other things focus on tidings; establishing facts about what is new and interesting. This does not say all new types of publications should adapt to existing practices. The burgeoning interest in online publishing as evidenced by debate about it in online forums, includes demand for ongoing innovation with art work and

design; also demand for entirely new forms of publication, even new forms of communication exchange, to accommodate emergent very big numbers of active participants. The innovation can be seen both under the aegis of main media providers and in the independent sector.

A survey by Bruns (2005) is concerned with developments in the independent sector, identifying fresh models of journalism which in the Deuze typology would mostly reside in the “share and discussion” category: a *participatory journalism* model exploiting open source software, centrally brokered or coordinated to some degree; an *open submission but closed editing* model; *peer to peer* models; *metablog* sites which aggregate individual blogs on specific topics; and more libertarian schemes where many bloggers, “rather than contributing to the collaborative news coverage of open news sites ... prefer to provide their own idiosyncratic coverage of events they feel are of interest; if what they do can be called journalism at all it is a form of *many-to-many* journalism” (6).

In that kind of analysis developments are seen as driven by the possibilities of the technology and by a very prevalent, evident desire among the public for expression and communication over an almost limitless range: “Digital storage and transmission has massively expanded space and time available for media content, to a point where from the producer’s point of view bandwidth restrictions become irrelevant, while at the same time greater access to the means of media production has significantly enabled more users to become producers and publishers of media content”(13). This may lead to a “multi-faceted , multi-perspectival coverage of news events”, with “a lasting impact on our understanding of, our engagement with our ownership of the news that affects us.” If such developments might come to “limit or eliminate the need for journalistically trained staff” (3-8), they are seen also as a way for journalism theorists like Gans (70) to realise on liberal concepts of mainstream media, to provide “fact and opinion reflecting all possible perspectives.”

This writer has argued previously that as well, all participants in new media should be able to profit from using standard journalistic practices and ways of thinking. The idea was put forward that proliferation and democratisation of the supply of information had created intense demands on individuals needing to cope -- introducing the proposition that everybody could do well to become a journalist:

“Here it is proposed that learning to be journalists is a key life skill for private citizens this century. Principally, coping with vast floods of information, like a journalist, is first base for coping with workaday and private life. Information may well be, and is, continuously catalogued, indexed, edited, illustrated and served in manageable proportions, for example by commercial databases; yet coping will demand more. It will demand habits, skills and intuition for using the information with effect. Put another way, information handling alone will not do. ... What is required for life in this world is to have also the different intellectual faculty of retentive knowing, and knowing how to use. After that, the requirement becomes to craft something new out of what you have been finding out. At issue is finding a mechanism for coping with copious information through actively using it, by publishing and communicating with it.” (Duffield and Cokley, 2006:5-6)

Media debate on services and publics – which way to go

While “journalistic ways of thinking” can be highly serviceable to all, professional practitioners especially, in the new era are having to think innovatively about their products and services. Conventional news outlets notably newspapers are experimenting on a large

scale with their online offshoots in the face of weakening sales for the traditional product. There is concern especially that younger people, being already attached to electronic forms of communication media outside of the mainstream, may never “mature into” ordinary media use as they would do in the past.

A wide-ranging debate in the journalistic community, global and on line, has brought in company representatives, individuals, professional organisations and academic contributors, (see some main Websites, **Appendix 1**). Leaders in the discussion such as Rich Gordon (2007), a journalism academic on the heavily used *Online Journalism Review* site, characterise the present as a time of crisis marked by excitement, danger and opportunity:

“This explosion of choice is good for consumers but bad for the companies that thrived during the mass-media era. There’s probably nothing that can reverse the trend of shrinking audiences for TV news and newspapers ... We’re seeing these companies maintain their profitability by cutting expenses. But they can’t do this indefinitely without harming quality, reducing the appeal of their products and thereby accelerating the decline in the size of the audience. All of this is why many of the most successful media companies now have a multiplatform strategy – newspapers, Web, TV, cable, magazines and more.”

Niles (2007) in the same debate has challenged media managers to know audiences better; to develop intricate measures of audience use of new media, asserting the abandonment of simple data on page views or hits, in favour of information on “time spent on a website”, would still not tell enough of what they needed to know about online users: “What good is advertising on a site where readers will spend an hour, if none of these readers care about what you sell? Audience composition is, and always will be, the metric of primary importance to advertisers”. A Stanford-Poynter study, *Project Eyetrack*, analysed online users, finding they “read shallow but wide, at the same time pursuing selected topics in depth; they’re using both mainstream general news sources, and multiple news sites, but in recent times changing to more of the latter and less of the former” (Balnaves 126). A marketing site (*emarketer*, 2007) reported on a Harris Interactive study of news sources used by the public, describing the relationship between media and audiences in now familiar terms; it shows support for mainstream media, but that support is being withdrawn in favour of maturing online options:

“TV Network news is the biggest news source in five European countries (France, Germany, Italy, Spain and the UK), Australia and the United States ... The lowest percentage of adults who said that major daily newspapers would be their source for news and information in five years was in the UK and Italy (4%) each, while the highest percentage was among German adults (12%). Reasons given for not reading the newspaper included lack of time, biased publications and the ease of going online for news and information. In the next five years, online news and information web sites will become the Number One source of news and information for adults in the US, France, Italy, Spain and Australia... Half of adults in Germany and Australia, as well as more than half of French, US and Spanish adults, access online news and information sites at least once a day... Less than a third of UK adults do not access online news sites with any regularity ...”

In such a context editing a pilot publication like *EUAustralia* is a promising experience in probing the enduring riddle of journalists’ relationship with audiences. Work in journalism proceeds with an intention to keep everything “interesting”, for which there are no set rules,

and even in the present era sparse investigation of potential audiences and their ways. Yet interest is sparked; mass media are taken up by publics. What will happen once mass media develop closer contact, and a closer appreciation of the minds of their audiences; once they can interact with them routinely in manageable, adequately moderated ways? This is important in a discussion where news values are invoked, since by convention “newsworthiness” must include interest value -- along with newness, a notion of importance of the event or process being reported, and informativeness. Change stands to enhance the quality of the interest factor as we can better find out from audiences what interests them.

Concentration on content; news values and verification

The conventions of “news values” and “newsworthiness” are mentioned also because as the object of discussion in this article, the pilot publication *EUAustralia* opts to function as an adaptation of standing journalistic practice in a new media environment. It initiates its material, finding the information and posting it, here not experimenting with new paths like subsisting on contributions from users, exploiting “connectedness”. It is based on *content*, for which definitions can be broad; two for mention here: *firstly* content in terms of the audio-visual presentation of the artefact to users, and *secondly* content as the text – the editorial content, what the words say and the pictures show.

In the first case, the amenity of products to consumers, as with the presentation of information on a news website, can be called content; not to be confused with Deuze’s (2003, above) “production” issues, like range of effects that can be generated, or accessibility of the site. With websites then; “content” can be considered as many variant layouts and design features on offer, for instance:- A “*puk-ah-pu ticket*” look mixing attention-getting devices rather randomly on the same page – flashing panels, moving images, colour; e.g. commercial sites aimed at selling; a “*tabloid*” page, following design principles from compact newspapers; e.g. many corporate home pages, small enterprises; *conservative formatting* focused on one main message but bordered by images, break-outs and pointers to other pages; most online outlets of major media organisations – and chosen in a very reduced form for *EUAustralia*; *text-based* sites with lists of titles and links, focused on words with very sparse illustration; e.g. the appearance of directories, *metablog* sites.

As has been mentioned the presentational aspect was secondary for the online product under review here, *EUAustralia*, set up as an adaptation of the practices of mainstream professional journalism to a new field of media, with different purposes.

That consideration brings the discussion back to content as the text, and journalistic ways of thinking and operation. The initiation of news and information, as the content, is achieved through a standard journalistic practice; application of news values, as with the reporter’s reflexive questioning of their material: *is this new? is it true? where did it come from? who is it for?* The matching of working practices and habits of mind, the immediate juxtaposition of skills and thinking, is well recognised. It was expressed most recently by a UNESCO panel on professional preparation in journalism, which saw in journalistic thinking the same immediate concurrency of investigative thought and crafting of words and artefacts: “The professional skills of journalism involve methods of knowing and thinking as well as recording and representing”; ideally, practitioners are “in command of the complex skills marking the craft and are also in command of the knowledge and thought to support the reporting and analysis called for in a beat.” (UNESCO: 7-9) In the present case of *EUAustralia* the “beat” or reporting “round” is defined as a key sector of activity in Europe and the proposition is being made that a scaled-down professional journalistic model, involving a smaller and more identifiable audience, is one good way to take up the possibilities of online media.

The deployment of news values as the chief means to determine content and inveigle potential audience members into using the service also demands an idea of truth; establishing facts is at the centre of it. *EUAustralia* works on the premise that users want factual accounts, making *verification* a foundational concern. Most frequently this will be a naïve empiricism well known to media users; its most positive aspect being transparency and readiness to correct transient errors. Finding facts indeed sets the agenda for the publication. If it can be demonstrated that something new has occurred in the European theatre, which Australian audiences may find interesting, and which may be important to them in some way, and which includes information for them; it stands to be reported.

The habit of establishing facts manifests itself at all levels such as multiple sourcing for stories on *EUAustralia* where issues may be in doubt, and regular reviews of reports to check for errors. The idea of a journalistic truth obviously warrants discussion beyond the scope of this article. The departure point might be that in the journalists' view a process of discovery must be engaged in. Where standards or definitions of truth are in dispute, the quality of examples taken from news media as a whole will be mixed, much journalism by definition being hurried and improvised. In this connection, Bromley (2007) considers journalistic work has to be recognised at its different levels. Any descriptive paradigm for journalism must valorise processing of inquiry and discovery, "making a claim to a certain sort of truth". Longer-term research employing journalistic styles of inquiry would be seen as the main currency separated from the dross:

"This may be no less (or no more) shaky than any other form of truth, but the distinction between it and the kind of truth which is produced by routine journalistic practice lies in application of the research process... It seems to me that journalism cannot be described without central reference to inquiry, discovery and the formation of new knowledge. Of course journalism can exist without any of these things ... just as chemistry, engineering, the law and even medicine can exist without any inquiry, discovery or formation of new knowledge ..."

Kinds of online enterprises

Adjustment to change needs to be learned. The mobilisation and trading of ideas and information within the media industry and professions contributes to responses being made. The corporate response to the advent of online technology has seen the major media organisations -- all major newspapers most notably -- continuing to strive to establish their brands as chief portals; the trusted places to go for whatever media can provide. While a vast trade exists in copy and images being "repositioned" or "repurposed" on independent sites, principal outlets like websites of the major newspapers are resisting trends to proliferation and open exchange. The majority give out news piecemeal, as alerts or just for the day, locking away the full story, and archives, for paying subscribers. Likewise copyright and intellectual property rights are more jealously guarded by the day. (In parallel, these news organisations continue to solicit and now respond to mass feedback in their publications, and will coordinate thriving blogging exercises). Corporate strength is being applied to developing customised, "push" services, i.e. interrogation of customers and electronic delivery to them of services they have requested, no browsing or logging-on required. Where it was orthodox to see Web-mounted services as appropriately global in outlook; market-driven services are now often heavily concentrated on local, especially where these are tie-ins of large regional newspapers.

Yet as corporate consolidation goes on, independents thrive. The technological revolution has made new markets, such that there looks to be enough for everybody, at least for now, in what is still a transitional phase. For instance the listing of individual favourite Websites for a regular daily check is a common habit that extends into the ranks of younger citizens, 18-24, previously not so widely engaged with information media. Further; through digitisation, availability of networks and affordable production equipment, everybody can be a producer and many are trying it. The environment encourages new small businesses, and journalists are included in the trend, finding greater scope for stand-alone enterprises on a stronger footing than older models of freelancing or small print publications.

Journalists and new online outlets

Journalists are engaged in all forms of response to change in the online field; as corporate employees working on their new products, or as independents of various kinds, including those building the “share and discussion” operations, more technology-driven, which facilitate a flow of information and ideas through connectivity rather than content. Among small projects proliferating in the online field, *EUAustralia*, the online news service, forms part of a distinct sub-set where the drive for the project comes from the producers being journalists who *are* focused on *content*. A perusal of journalist discussion forums turns up descriptions of other small operations trading viably, with subscriptions, advertisement columns and the like, on a base of as little as 45000 site visits per month, with some group operations running a number of sites totalling 250000 site visits per month. For an example, Geoff Rynex in *OJR* (2007) reported on the creation of the dramatically named *Daily News*:

“Geoff Dougherty had had enough... No more bosses. No more corporate interests getting in the way of solid investigative journalism. No more *Chicago Tribune*. After more than a decade in the mainstream media, Dougherty decided to call it quits at the *Tribune* last November and start up his own news organisation. The website he created took the name of a legendary Chicago paper: the *Daily News*. With the *Chi-Town Daily News* Dougherty saw an opportunity to do everything he thought the mainstream media was failing to do, especially in the realm of the Internet ... So how will the daily *News* revive and innovate the news? Along with a non-profit corporate model run by PublicMedia Inc., of which Dougherty is CEO, his plan is to include hyper-local coverage reported by citizen-journalists and to spark discussion about local issues on blogs.... But Dougherty’s website takes advantage of more than just citizen journalism and news blogs. The *Daily News* hyper-local coverage includes podcasts about Chicago sports teams and the local music scene, RSS feeds [“really simple syndication” technology], and plans are in the works for a cooking blog ...”

A similar report, on emerging business models for the Web, identified one case where “individual journalists are using the Web to market themselves”, that of Dan Washburn and his “Shanghai Diaries” blog: “Washburn is a former newspaper journalist who covers China as a freelancer and is working on a book. With no book contract yet, he solicits donations via PayPal. In doing so, he’s taking a cue from Chris Allbritton, a freelancer whose blog readers ponied up \$15000 in 2003 so he could cover the Iraq war. Allbritton is now based in Iraq and being paid by several media outlets.” (Gordon, 2007)

These enterprises are mentioned because of the similarities with the present Australian case study. For all such exercises we can refer again to Balnaves et al (2003: 135-6), who identify online reporting, as with web logs, as a break from content “passively received or ignored”, to a situation where journalists can demand interactivity from audiences, and “at the very least

may involve a niche market segment of the audience”. The journalist can publish new developments in a story instantaneously, and encourage audience members to return for more timely news. However these writers in their review of online media practices, also subscribe to the view that online journalism is an evolving process, moving from stage to stage:

“If this is the sole level of interactivity, the advantages conferred by weblogs would be only marginally more than those to be found in the offerings of popular columnists in ‘traditional’ media, where writer and audience members develop a rapport that can develop into a devoted following. But weblogs offer at least two more things, apart from their timeliness: the potential for content that would not find its way into ‘traditional’ publications and, in their ultimate form, an authoring partnership between journalists and audience members ...”

They have quoted Deuze, setting up a process of elaboration of services, to make a site “good”; and they draw on Pavlik (1997), identifying stages in the evolution of news content on the Internet, which individual publications might themselves follow:

1. Online journalists mostly re-purpose content from their mother ship, print newspaper and such news content still dominates most news sites.
2. In most of the better news sites, online journalists create original news content and augment it with additives such as hyperlinks, interactive features and a degree of customisation.
3. Stage 3 is characterised by original news content designed specifically for the Web as a new medium of communication. Online journalism; willingness to experiment with new forms of storytelling allows the readers to enter and navigate through news reports in ways different from just reading them and this is usually done through new technology.

Case study -- *EUAustralia Online*

The task of making the news service *EUAustralia* and keeping it going is conceived as a process – always dynamic, leading somewhere else. That is because of its inner characteristic in being a work of journalism in a world of changing events (on the sources and audience side), and its environment of changing possibilities in mass communication (on the format, production and technology side of the operation). A fact of life of this production is that very simply while the service keeps going, and the site is supplied with its average 1.2 stories a day, its audience keeps attending, and to date keeps accumulating; whereas if it is neglected the audience falls off quickly. This suggests audiences have a repeat-visit and accumulating character, more than just a casual once-off browse-and-find one; and so the journalistic work must always keep going. Changing and developing the product is also natural to what it is as a website, since more possibilities are always available for enhancing the story-telling. It began as a text product, randomly providing ten stories on the front page, with read-more tags, soon to be reduced to seven, one-per-day-a-week, and the pictures have already moved from nominal thumbnails to a little more adventurous photo coverage using different sizes, where possible to indicate engagement by time and place – to show us being there. Regular use of the Urchin monitor system was adopted after the first five months as a guide to audience responses. Here, while audiences keep growing, there is another “process” element: it must be assumed somebody new is always being introduced to the service, its offering and styles.

Other changes can be installed, such as a blog for inter-activity, moving images and sound, graphics with the text, and in the editorial field some compartmentalisation to accommodate an interviews section to further exploit access to newsworthy people, and opinion sections. The exploratory character of the operation makes it a process; the foundation in daily news also makes it a process. The changing-about and adding-on leads towards a kind of presentational product that can be imagined because of the larger online sites which exist, as models. Expansion of the “journalistic” service -- the editorial content -- is more problematic, harder to imagine, more demanding to work at. The exercise is described chronologically in the following four categories: the *purpose and plan*; *resources and logistics*; *operation and design – the pilot project*; *development, continuity and futures*.

Purpose and plan

As mentioned above *EUAustralia* was seen as a way to fill a niche, with a pool of news in Europe and a prospective market in Australia. Anecdotally users of *EUAustralia* say they don't get the same offering elsewhere in Australian media; they would be unlikely to get it all in the same place, as easily. It grew out of an old notion to supply business or trade information to Australian industries with any kind of interest in the EU. As a correspondent in the area the writer knew about disputes over trade, worth covering, and indications that Australian enterprises were missing out on a large market by not paying attention to it. The service therefore would be set up on the model of a business news letter, but well and truly embellished with an eclectic choice of stories for wider interest. There was an idea of playing on Australian codes, e.g. by selection of the cockatoo motif, to keep a watch on Europe and screech out if something came up that would concern us. The news coverage could be kept to a manageable agenda, not too much for one good reporter. On the “supply side” of news production, focus on a core of potential business or economic news, government news or diplomacy, would mean obtaining access to information provided by professionals with authority, difficult to grasp and translate but materially easy to access, so it would be a viable core for the service. Colour material, human interest, commentary and the like would be extra. Even when the idea first came up, in 1991, it was proposed to offer a service on line, but the advent of the World Wide Web and associated developments made it cheaper to set up by 2006, by a factor of more than 10.

Resources and logistics

The three main resources were: the editor with his skills, time and money; the website; and the media services of the European institutions. The key decision at the start was to keep the scale of the product small enough for it to be done by one person. Could it then be “big” enough to make worthwhile impact with potential audiences? The productivity potential of a 21st Century online outlet suggested it could. A judgment was made that as necessary, where possible, guest contributors, part-time editors and other occasional staff could be used; but beyond that no thought has yet been given to making it a full-time operation. As the *auteur*, and prime resource, the editor would have motivation and command of the concept, good background in the European news field, knowledge of journalistic processes, and advanced reporting and production skills (drawn from radio and television) -- and a job as an academic which fortunately linked with the project. There would be applied research opportunities and Journalism students could work on the service as part of their learning. There was time, ten months of extended leave of different kinds obtained after a moderately difficult negotiation with the university management. The partners of an excellent small IT company understood the plan quite well enough to design a very suitable site and package including the domain name, training and an ongoing help-desk and marketing assistance program; costing less than \$6000.

The third major resource was the Spokesperson's Service of the European Commission at Brussels. Journalists accredited with the Commission can work at its media centre, at the Commission headquarters building, with security, free desk accommodation, online and telephone, ready physical access to media staff and other officials, the daily mid-day briefing for an open feed of announcements, periodic media conferences on the premises, subsidised cafeterias and other facilities. This was important because of the special character of the information they provide, averaging twenty governmental decisions per day. Also, the Commission is the executive and it initiates governmental action, so its announcements are authoritative and they are the first outing for any decision in a process of implementation. They are a good source of both headline news and new information for features or commentary. The EU has an expressly liberal policy on media and so while it is a communication management system journalists working from there write freely and choose from a *smorgasbord* of offerings. The large number of journalists present provides a work community for isolated freelance journalists. It is difficult to get initial access; quite rightly it became necessary to exploit journalistic reputation and contacts to convince the relevant professional committee to grant accreditation. The well-known yellow accreditation card is recognised by the other EU institutions, and for many general purposes, e.g. getting into political rallies, crossing police lines and the like. NATO headquarters is the second important media centre at Brussels relevant in this case because of the Australian military commitment in Afghanistan.

Operation and design – pilot project

The ten months plan allowed for the enterprise to be conducted as a pilot and a testing run for an editor new to the online medium. After the ten months it might be operated from “offshore” for extended periods with the help of informants and colleagues in the field, in the EU. It was set up as a news operation, for a freelance correspondent, governed by availability of information and time differences between Europe and Australia. “Being there” entailed going to local jobs, e.g. Anzac Day commemorations in Flanders, and a trip to another European country once a month, e.g. EU Berlin summit March 2007. There would be interruptions to routines based on the EC mid-day briefing, e.g. outside events occurring at odd hours. All this activity permitted a full briefing over time on current news agendas and creation of a good contacts book. There were concurrent projects: university work including some research, and freelance journalism for Australian radio, the latter possibly helpful for publicising the byline used in the online publication. The equipment pack -- computers, recorders, cables, telephone, camera and stock -- was about 15 kilograms, reducible with more miniaturised gear. The kit was not too difficult to transport and adequate for a home office; of course less had to be carried on short jobs. Costs for this independent media operation, travel included while the days of budget airlines continued, were not exorbitant; the online option has made low-cost overseas operations more viable.

Choice of material for reports was tested by news values, e.g. newness of the story to its audience, or notions of its social importance and interest value, but adjusted for the blurring of distinctions among types of item -- news report, feature, documentary or other form -- which the online medium permits. Also, mentions of Australia were picked up for inclusion and news was sought on matters of known interest to Australian people (e.g. Anzac Day in Flanders) or Australian industry (e.g. ending sugar industry subsidies). Otherwise the selection could be unclassified, (though not arbitrary), and this might be called a virtue where it produced interesting variety. For reasons already given, information processed by the European Commission provided bread and butter, but even this could be supplemented amply by more on-the-ground material (e.g. from a NATO summit), especially resulting from travel,

e.g. a report on the Broncos playing St Helens Rugby League at Boulton in England, a traveller's tale dug out of the file, on Belfast, to catch a ride on the political reconciliation story there, Paisley and McGinnis; or coverage of the Presidential election campaign in France, such as material got at a major rally during a visit there. Governed by availability of resources as with all news operations, and being a niche operator, this service could make a strong point out of not having to cover everything, instead looking for user interest at every turn. The approach was: to be there, and be well backgrounded; to give attention to main headline stories, enough to ensure credibility, hence attendance at the EU summits; otherwise to find angles, points of colour, or openings for a comment that might strike a chord. Since this was international news for Australia each report needed to include enough background for it to stand alone without need for further explanation. A brief selection is given in **Appendix 2** to indicate the range and flavour of contents.

The actual website was built to order with a simple and accessible look, based on a front page dominated by a broad central column with a short queue of stories displayed chronologically. These could be split with full text available in a second layer; past stories would be available in an easy archive; each report would have one picture to mark it and maybe illustrate it. Categories would be provided for subscribers, so material could be placed on exclusive pages for particular, individual subscribers – looking ahead to possible commercial applications. Since the product would promote itself just on the content of stories posted on most days, it seemed sensible to feature those and not have a crowded and bitty layout. This would be easier to manage as well. There were some requirements on art work, well met, e.g. use of the cockatoo design, and a few management or executive pages, with some important material, e.g. journalism code of ethics. A mailing list of ninety Australian companies and organisations with presumed commercial or other interest in European affairs was compiled and used for emailed alerts on coming reports; beyond that the exercise has been promoted only through its own resources, with as yet no use of interactivity / dialogues or forums to generate traffic. It does not build on social networks like a blog, though users obviously can see clearly what work is being done and can easily communicate with the editor. It has an RSS feed and demonstrably it is being found by search engines on a busy day for a particular story, e.g. when there was a lot of inquiry about the “doctors’ plot” to set off bombs in London and Glasgow. With the time available and given remoteness from the preferred market, in Australia, it has not been possible to do more to draw users, without sacrificing time to be spent on content. It was thought that generating attention without offering a substantial product must fail. In its trial the service showed good potential to build a large following once it does come to be promoted systematically.

The online platform proved flexible and amenable to experiment with different treatments of news and feature material. It is always advantageous to publish very early, but this medium is patient, as it allows stories to be put up rapidly (and directly by the reporter if need be), then holds them on show for a long time, with even an open archive; so in the absence of ready competition things can be posted a little later than an ordinary news deadline would require. Accordingly stories can be batched, three or four going up at once, which economises on the editor / reporter's time. The range for expression is good as it is a transparent medium. If a story invited a reasoned opinion treatment where the writer had good knowledge, in this rather personalised medium it would only need tagging as “opinion” to rate as honest communication. Likewise the same page would accommodate a short 100-word piece held just on the front page, or a print-style feature, 600-1000 words. The conventional, expedient news narrative form was adopted, though the medium can easily be made to accommodate other ways of writing and forms of presentation. Many possibilities for illustration presented

themselves, and at times pictures might dominate, leading the story; e.g. a rare snow scene for a report on the failed Winter and climate change. Conventions and packaged style guides come easily to hand with the online medium, for example URLs are universally recognised if attributing a source or offering further reading.

Development and continuity, and futures

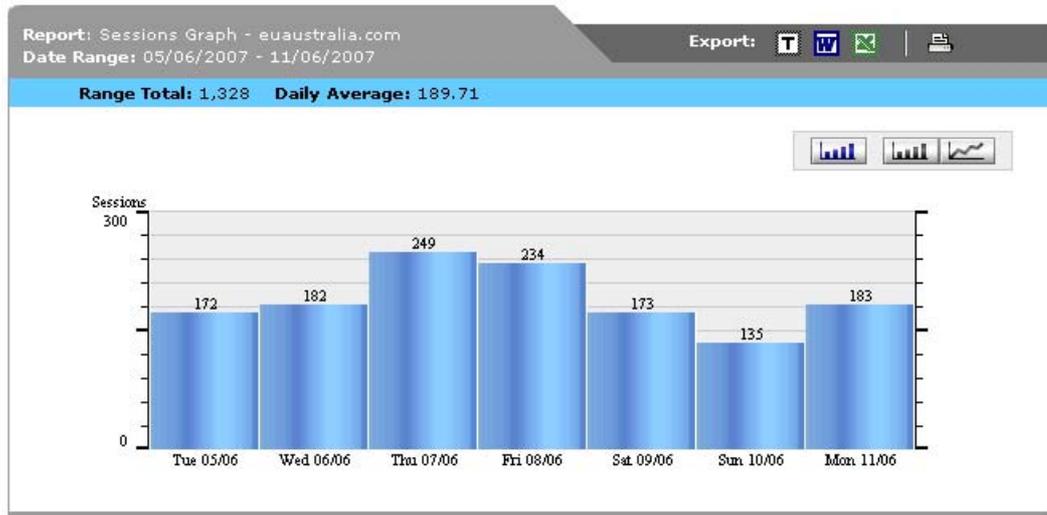
The exercise has matured to the point where it now calls for more thorough attention to users, about whom information can be inferred from daily data provided by the monitoring software installed on the site. The site was populated slowly from the date of the first posting 13.10.06 through to mid-January 2007, after which it was stocked more aggressively. Numbers responding rose correspondingly:

EUAustralia: Postings and site visits by month

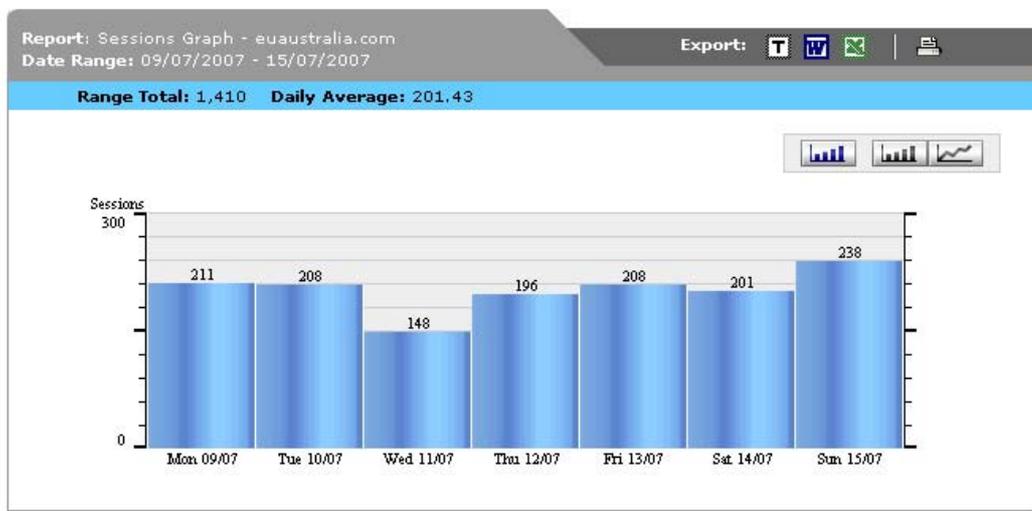
Calendar Month	Postings	Site visits per day	Site visits per month
October 2006	25	19.65	609
November 2006	27	41.90	1257
December 2006	19	59	1829
January 2007	25	97.84	3033
February 2007	21	128.43	3596
March 2007	41 (45)	147.23	4564
April 2007	43 (46)	158.53	4755
May 2007	41 (47)	154.68	4795
June 2007	41 (44)	194.60	5838
July 2007	38 (52)	221.26	6859

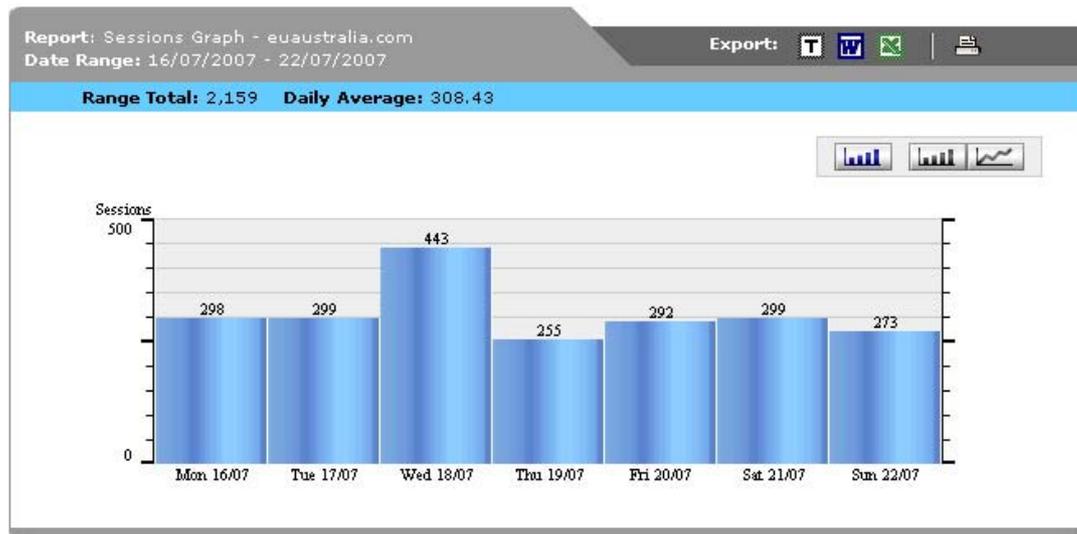
Some postings carry multiple reports, represented e.g. 41 (45)

Growth in usage appears cumulative not overall too sensitive to the number of postings over a month, though performance lifted sharply with the doubling of postings from early March, setting a platform of sustainable activity that looked like a viable standard for the product's growth. Day by day there is a clear relationship between inputs and responses, though it is not wholly direct or simple. Tracking shows that sometimes an expected rush of visits will arrive immediately, sometimes some days after postings. Visits are usually reduced on Sundays and Public Holidays, provoking the thought that users are located in both Australia and the EU, and possibly America, as "down days" match Public Holidays in all those places. Usage directly follows a group message. This has been observed when an alert or preview has been sent out to the *EUAustralia* mailing list, and happens particularly in response to trusted third-party recommendations. On 7.6.07 when the service reported on both the speech given at an Australian business lunch in Brussels, and completion of the Australia-EU wine agreement the same day, the business organisation ABIE (Australian Business In Europe) circulated the URL among its subscribers, and site visits rose (then subsided) as follows: Wednesday 6.6.07 182 site visits, 7.6.07- 249, 8.6.07 -234, 9.6.07- 173. (Table for Week Beginning 5.6.07).



Similarly a sharp turn-on followed posting of a report quoting European participants at a world sugar growers' conference in Brisbane (11.7.07) and then a report on Australia-EU trade taken from a speech by a senior Australian trade official (12.7.07), two cases where an alert would be sent out by third parties to a large group address: Tuesday 10.7.07- 208, 11.7.07- 148, 12.7.07- 196 ... 15.7.07- 238, 16.7.07- 298. A spike to 443 occurred on 18.7.07 during coverage of the UK-Australian "doctors' plot". It is driven by news flow not sedentary day-by-day habits of users. (Table for WB 9.7.07 and 16.7.07).





Additional statistics indicate users visiting for average periods of 7-10 minutes, with most often four page-openings per session. Given reports are often posted in batches the pattern is consistent with users checking the site, opening pages to read or peruse new stories, then often returning to finish the read; hence with such repeat visits a turn-on effect and surge of site visits when new postings are made.

The policy followed to date has been not to excite expectations through advertising, but to develop the product and let it take hold incrementally. However, since promotion does seem to bring appreciable shifts, more should be done to build a crowd now, through generating blog traffic; possibly also through expansion and more frequent use of the *EUAustralia* group address, and posting of messages to more controllers of mailing lists.

Possibilities for developing the product are limited on the editorial contents front because of the difficulty of finding or posting journalists on the ground in Europe for any extended periods. There are sound options however for extending interview pages or backgrounders. Possibilities for developing the structure and presentation of *EUAustralia* are much stronger, for instance with ample capacity to make “multi-media” reports. On the question of revenue raising, the operation may extend to syndicated advertising, e.g. Google ads, at some point; or find sponsors; or follow through on an existing subscriptions plan: an offer to organisations to provide additional services and intelligence, posted to a private page, which would involve hiring researchers and journalists for deep digging. The latter would resemble public affairs services though stopping short of providing representation on behalf of clients. Growth of the operation is unforced as it does not need to operate commercially. It faces no threats, save the routine threats to security of journalists in 2007, as it continues on the present basis and appears to succeed in providing a service that is favoured by a growing clientele, currently at over 6800 site visits per month. In the field of intangibles it is an interesting and rewarding outlet for continuing professional work, in scholarship and journalism.

Observations and conclusions

In terms of the Deuze formulae this operation is at the “contents” end of the spectrum favoured by the mainstream news sites, though the direct responses being received by groups of almost-identifiable users indicate a degree of intimacy may be established with them by this small operation. Because small and transparent, it is better positioned than any mainstream media to establish actual communication with users – more towards a

connectivity model. In terms of the Pavlik stages, it has always definitely operated beyond the Stage 1 level of a publicist for existing, hence fairly old news or commentary. It is a Stage 2 operation on the essential criterion of creating original news content, while demonstrating potential to augment that with “additives”, i.e. hyperlinks, interactive features and the like. It is a candidate to experiment with Stage 3 “new forms of storytelling”, as a demonstrator perhaps; but too small and too strong in terms of received journalistic values, for which it gets rewards, to venture far into experimentation.

It is a “good” online service when checked against the Deuze list, offering in its modest but hopefully most competent way, original reportage, key elements like the young and accessible archive, easy-to-follow navigation, or options for customisation (for users willing to pay). Its model offers ample potential for the other favoured features like audience participation. The high productivity provided by the software and the structure of the product, alone the capacity for illustration and for involvement of various contributors over time, will permit it to proceed beyond the conventional limits of common rapport between a columnist and readers (Balnaves *et al*, Rao:135-6).

It is also part of a movement where the tools of publishing are available virtually to all. When it is suggested in this paper that “everybody can be a journalist”, that means everybody may publish, and everybody, if they choose, may find it viable to undertake the task by engaging in the kind of journalistic practice – the professional model – employed by *EUAustralia*, as a case in point. Furthermore all publishers may expect to find that their users are also producers, or at least people versed in production, who know how it is done, and so are likely to make interesting respondents. With the entry of journalists into small scale online publishing, along with many others, a “pro-am” movement can be imagined getting under way that must bring together a formidable array of resources for mass communication in the coming years.

APPENDIX 1

Publishing and discussion sites on online journalism consulted.

Emarketer ... <http://www.emarketer.com>

First Monday: Peer reviewed journal on the internet, <http://www.firstmonday.org/>

International Symposium of Online Journalism, University of Texas (Austin), <http://journalism.utexas.edu/onlinejournalism/>

Journalism Education Association (Australia), email syndicate, jeanet@mailman.uow.edu.au

Online Journalism Review, Annenberg School of Communication, USC, <http://www.ojr.org/>

Online Journalism, University of Florida, Mindy McAdams, (how-to guides) <http://www.macloo.com.journalism/>

Poynter Institute, Washington, <http://poynteronline.org>

The Online News Association, <http://www.journalists.org/>

APPENDIX 2

Selection of reports, most followed up more than once as running stories, e.g. process of restructuring EU wine industry. Total postings 1.10.06 – 1.7.07: 321 (351 reports).

Study shows Europeans are heaviest drinkers (first story on EU Australia Online); Sir Nicholas Stern's climate change warning; restructure plans for Common Agricultural Policy (CAP); state sponsored EU wine marketing drive; retrospective, Hungary 1956; Iceland criticised on whaling; high-tech anti-terrorism measures; EU summit confronts Putin on energy supply; report from NATO summit in Latvia on Afghan war; Australian Trade Minister in Brussels; EU sugar industry changes struggling; Africa-EU talks on migration crises; PNG at world forest meeting; EU bans cat and dog fur; Australian states to join EU carbon trading, bypassing Commonwealth; Australians in Afghanistan come under NATO command, (later story, Australia shows "backbone" making commitments, says NATO); WWF calls Australia US poodle on climate; Kon-tiki feature from Oslo; EU December summit at Brussels, plan on immigration; Christmas stories – reindeer, gingerbread, spending; Fiji coup, EU threatens aid cuts; tension before EU and China / India meet on dumping cheap goods; Galileo space program; NZ settles a trade dispute over butter; children support anti-HIV campaign; personalities visit: Aga Khan, Ban Ki-Moon; NZ Minister visits; dealings with Indonesia to regulate forest product imports; Bulgaria and Romania join EU, amid job seekers trouble; karneval in Germany...

Internet protection for children; new CO2 rule for cars; Members of European Parliament probe US "rendition" of prisoners; butter mountain sold off; consumer protection of hair dye; Berlin 50th anniversary summit of EU, climate change marked as main policy; hot Winter in Europe; ASEAN / EU aid and trade assembly in Nuremberg; traveller's tale on new Berlin; Australian films on tour; football crowd trouble; Copenhagen youth riots; mobile roam charges capped throughout Europe; Fiji Ministers at Brussels; Antwerp fashion; Beethoven museum now hi-tech in Bonn; Easter season traditionals; bike racing starts for Summer; aid to Aceh; Dutch TV kidney hoax; sports and anti-obesity campaign by European Commission; Polish Minister attacks Teletubbies; EC says wants to avoid Tampa incidents with immigration; Sarkozy elected in France; Tintin anniversary in Belgium; coordinated moves against computer crime; uneasy Samara summit; Cannes films; Chuppa Chups firm in Spain averts bankruptcy; Wolfowicz in Brussels, eve of resignation; Tony Blair gets new job; America's Cup races of Spain, NZ versus Swiss; bird flu; EU Brussels summit plans "new Europe", reviving "constitution"; EU monitors east Timor vote; high speed train record; controlling African "conflict diamonds"; reports on beach pollution, new sunscreen standards for Summer.

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DIGITAL TV POLICIES IN THE UK, US, AUSTRALIA AND ITALY

CINZIA COLAPINTO⁺ & FRANCO PAPANDREA* (Refereed)

Introduction

Many countries are in the process of converting their terrestrial television services from analog to digital transmission. Several different approaches have been adopted for the switch-over with different apparent results. Spectrum is a scarce resource and delays in the switch-off can have major effects on economic welfare as the spectrum tied up in analog transmission cannot be released for other uses.

In this paper we examine the digital TV conversion policies and progress in the UK, USA, Australia and Italy, which have adopted different processes to achieve the desired switch-off. Each of the four countries decided to mandate the conversion of terrestrial television services from analog to digital transmission late in the last decade adopting policies with similar planned periods of transition and similar targets to complete the process. We look at the policies of each and the progress achieved to date to see what features appear to be enhancing or slowing down the achievement of the switch-over target.

Digital broadcasting

Digital broadcasting has several significant advantages over traditional analog transmission making its adoption a desirable policy choice by governments. For consumers, the technology allows improved audiovisual reception free of many quality defects common to analog transmission such as picture ghosting and interference between different signals. Digital transmission is also a much more efficient user of spectrum. Picture compression means that a single analog channel can accommodate at least 3-4 different television services. Furthermore, because the properties of digital transmission compensate for distortion between channels, greater intensity of reuse of channels is possible. Because of these attributes, after digital conversion is completed, a considerable amount of spectrum will be available for use by additional new television services or for allocation to other uses.

To convert their operations to digital format, broadcasters need to invest in new digital studio and transmission infrastructure as well as face increased operational costs for simulcasting during the conversion period. Initially, because of these costs, broadcasters have a considerable incentive to delay adoption of digital technology. However, once they are equipped to transmit in digital format, broadcasters have an incentive to promote the earliest possible analog switch-off and thus avoid the cost of simulcasting. To counteract cost disincentives for broadcasters, conversion policies are generally backed-up by mandated requirements to introduce digital transmission technology by a specified date together with free allocation of the spectrum required for digital transmission. In some cases, broadcasters

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may also receive additional spectrum to broadcast new 'revenue-earning' services that may help in recouping costs or are given actual financial incentives to defray some of their costs.

For consumers digital reception imposes an additional cost to acquire the equipment needed to access digital signals. For some consumers the additional cost may not be justified by the improved picture quality and other technical attributes of digital television. Consequently, in the absence of significant additional benefits such as desirable 'digital only' programming, those consumers will tend to delay their investment in digital receiving equipment until their existing analog equipment needs updating or replacing.

The four countries under review were among the early movers towards digitisation of terrestrial television and initially set themselves what proved to be over-ambitious targets to complete the digital conversion. The US, which launched digital transmissions in 1998, and Italy with a December 2003 launch had both aimed to achieve analog switch-off by the end of 2006. Australia with a January 2001 launch and the UK with November 1998 launch had aimed to commence their planned progressive switch-off of analog services before the end of 2008. These target dates were all subsequently revised. The new US target for switch-off is February 2009. Both Italy and the UK have now adopted a sequential regional switch-off plan commencing in 2008 (Sardinia and Valle d'Aosta in Italy, and the Border region in the UK) with a target completion date by 2012. Australia's new target is for switch-off in the period 2010-2012. The digital transition timetable for each country is summarised in Table 1.

Table 1

Digital transition time table

	Australia	Italy	UK	US
Launch date	January 2001	December 2003	Nov. 1998-ITV July 2002-Freeview	April 1998
High Definition	1040 hrs per year since August 2003	No	Trial in London Jun-Dec 2006	April 1998, optional
Supply side incentives	Yes	Yes	Yes	Yes
Demand side incentives	No	2004-2005-2006	2008-2012	2008-2009
Regional switch-off	Metropolitan end 2010 (target) Non-metropolitan end 2012 (target)	Sardinia: 1 Mar 2008 Valle d'Aosta: 1 Oct 2008	2008	Full national
Switch-off date	Target end 2012 (previously 2008)	30 Nov 2012 (previously initially 2006 then 2008)	2012	17 Feb 2009 (previously Dec.2006)
Population	20.2 m	58.1m	60.4m	295.7 m
TV households	7.6 m	22.1 m	25.5 m	111.5 m
Digital penetration	28% (Mar. 2007)	44.9% (Apr. 2007)	80.5% (Q1 2007)	38.7% (Q4 2006)

Details of the digital conversion processes and results for each of the four countries follow.

United Kingdom

In 1998, almost two thirds of households in the UK (65 per cent of 24.2 millions TV households) were dependent on terrestrial distribution for television services. Cable TV had a reach of 16.5 per cent of households and satellite 18 per cent (Lange, 1999). The free-to-air television industry was dominated by the BBC, the publicly-funded broadcaster, which operated two main channels (BBC1 and BBC2) in competition with licensed commercial operators (advertiser-financed) including Independent Television (ITV) Channel 4, Channel 5 and S4C (the Welsh language service).

The framework for the digital conversion of terrestrial television services was detailed in the *1996 Broadcasting Act*. The act provided for the establishment of six multiplexes of 6MHz each (same capacity as the existing analog channels). Multiplexes 1, 2 and A, those with the highest population reach (see Table 2) were reserved for the main public service broadcasting channels (BBC1, BBC2, ITV1, Channel 4, S4C, Five and Teletext). The remaining three multiplexes (B, C and D) were allocated to a consortium of two ITV companies, *Granada Media Group* and *Carlton Communications*, together with (initially) *BSkyB* for the establishment of a terrestrially-distributed subscription television service *ITV Digital*¹. Digital terrestrial TV services were launched on 15 November 1998. To encourage operators to promote consumer take-up of digital services, ITV commercial broadcasters were given a rebate of licence fees based on the proportion of households with digital television services.

Table 2

DTT Multiplex Details

Mux	Owner	Initial population coverage	Channels
1	BBC	92%	BBC1, BBC2, BBC News24, BBC Learning, BBC Digital Text, BBC Choice
2	Digital 3& 4	91%	ITV, ITV2, Channel 4, Teletext digital, FilmFour
A	SDN	90%	C5, S4C, SDN
B	OnDgital	88%	Granada Plus, Granada Men & Motors, Sky Premier, Carlton Food Network, UK Horizon, UK Style, Carlton Select, Sky Sports 1
C		77%	UK Gold, Sky One, Sky Movies Max, Granada Breeze, Sky Sports 3, Carlton Cinema
D		69%	Carlton Kids, Carlton World, Shop!, Cartoon Network, Eurosport UK Play, MUTV, First OnDigital

Source: IDATE, 1998 and 1999.

The BBC used its multiplex (as well as some rented space on another multiplex) to introduce several new digital channels including *BBC4* (an up-market cultural channel), *BBC3* (Youth), *CBeebies* and *CBBC* (Children), *BBC Parliament* and *BBC News 24*. ITV started a new digital service *ITV2/You2*, and initially also broadcasted *GMTV2* during early morning periods. Channel 4 used its digital capacity to broadcast *Film4*, a pay-on-demand film service and for the transmission of *S4C Digidol* Welsh-language program in Wales.

ITV Digital (renamed *OnDigital* in 2001), began digital transmissions on 15 November 1998 offering pay-TV services in competition with the services of the incumbent pay-TV satellite

¹ BSKyB subsequently withdrew from the consortium following concerns raised by EC competition authorities.

operator BSkyB, which had launched its new digital satellite service (*Sky Digital*) on 1 October 1998. With an inferior program line-up and significantly higher costs, *OnDigital* was unable to compete effectively with *Sky Digital* and eventually went into receivership and finally off-air in May 2002.

OnDigital's failure was a major setback for the UK's digital policy and led to a shift in focus towards the use of DTT for new free-to-air services. The spectrum relinquished by *OnDigital* was allocated to a BBC-led consortium (including Crown Castle and BSkyB) for the establishment of a multi-channel free-to-air service (*Freeview*). The service was launched in October 2002 with some 30 television channels and some 20 radio stations and proved to be popular with viewers. Its take-up also benefited from the increasing availability in the market of modestly-priced digital set-top boxes (boxes sold for less than £100 began to be available in 2002). Also, to avoid substantial reduction to their licence-fee rebate (based on number of digital households) Granada and Carlton reached a settlement with the *OnDigital's* receivers, which enabled previous *OnDigital* subscribers to retain their set-top boxes².

The initial consumer take-up of digital technology was boosted considerably by the offer of free rental decoders by the pay TV operators. Among non-pay TV subscribers, however, the take-up rate was more moderate. Overall, *Freeview* proved to be a formidable incentive for consumer adoption of digital technology. The popularity of the service encouraged the development of another free-to-air initiative with considerable potential to encourage widespread adoption of digital technology. In late 2004 BSkyB launched its free satellite digital television service with some 140 TV channels, 80 radio stations and 13 interactive services. To access the service, customers incurred a one-off cost of £150 for the necessary satellite antenna, set-top box and installation.

The previously low (less than five per cent) digital penetration rates increased steadily after the introduction of *Freeview* and by the end of 2006 had reached 77.2 per cent of households (Ofcom, 2007a). Many homes have multiple television sets capable of receiving DTT. Also by 2006 DTT's share of television viewing (28 per cent) had surpassed that of analog TV (25.8 per cent) (Ofcom, 2007b).

The high and rising DTT penetration in the UK has led to some optimism that the revised analog switch-off target of 2012 (DCMS, 2004) is likely to be attained. Switch-off was to be conditional upon (Digital Television Access Plan, 2002):

- the availability of digital channels main public service broadcasting channels in digital format to everyone who can receive them in analog format;
- switching to digital being affordable the vast majority of households; and
- digital equipment being adopted by 95 per cent of consumers.

According to a 2004 study commissioned by the Department of Trade and Industry (2004) 70 per cent of households anticipated converting to digital reception by 2010 even without analog switch-off. With switch-off, 95 per cent anticipated they would do so. Some 20 per cent of households, however, indicated they would do so only if they had to. These findings highlighted the importance of setting a definite switch-off date as a way of encouraging earlier adoption of digital television. Subsidies for the purchase of digital reception

² The receivers had asked subscribers to pay £40 or return the set-top boxes they had been supplied rent-free.

equipment were also seen as an encouragement for earlier take-up (Culture, Media and Sport Committee, 2006).

Several important lessons emerge from the UK experience. First, it is clearly evident that consumers respond to attractive digital programming as an incentive to digital take-up. The initial digital FTA offer did not prove sufficiently attractive to many consumers and did not have a major impact on the take-up rate. However, the considerably larger and more appealing offering following the launch of *Freeview* (together with the availability of low-cost decoders) appears to have been a strong incentive for widespread take-up of digital technology and the take-up rate increased rapidly.

Second, the primary means of digital adoption by consumers has been the acquisition of a decoder (set-top box). The offer of free rental decoders by pay TV operators from the time of the launch of digital services and the declining market price of decoders in subsequent years have provided a low-cost entry to digital reception. Sales of digital TV sets have contributed little to digital penetration. TV sets with integrated digital receivers have been a minority proportion of all new TV sales. Prices of digital sets have been substantially higher than for analog sets with consequential impact on their demand. The purchase of a digital set is a major consideration for those purchasing a new TV set, but the relatively long service life of modern sets means that analog equipment will continue in use for many years. Even in digital homes, in most instances there is a mix of technologies operating side by side with second or additional TV likely to be analog. There are no requirements for television reception equipment sold in the UK to be digitally capable. Such a measure would ensure that new television sets and other equipment capable of receiving broadcast television signals were digitally capable thus limiting the stock of analog only equipment to pre-existing stocks.

Third, there is some evidence in the UK that a sizable (20 per cent) proportion of people have no intention of taking up digital television equipment unless they have to (www.digitaltelevision.gov.uk). This has major implications for analog switch-off which is conditional on a 95 per cent penetration rate. There is a recognition that a greater effort is required to inform consumers that conversion is underway and that digital reception equipment is required to receive new television services or continue receiving current 'analog' programs after the switch-off date. Consumers not predisposed to taking up digital equipment unless they have to will be likely to delay their changeover for as long as possible. In such circumstances, the setting of a definite switch-off date may be an important provide some encouragement for earlier take-up.

Fourth, for a small proportion of consumers, take-up may be constrained by economic factors. Inherent in a 95 per cent threshold digital penetration rate for analog switch-off is the concept of universal service. Affordability of digital equipment becomes an important issue for policy consideration. Because forcing a significant proportion of households to incur a digital policy-induced cost or to lose an existing service is unlikely to be politically tenable, consumer subsidies for the purchase of digital decoders become a useful mechanism for the avoidance of delays to switch-off. The introduction of such a scheme (Digital Switchover Help Scheme) for low-income households was announced recently (4 May, 2007) by UK Government (see, http://www.digitaltelevision.gov.uk/publications/pub_dighelpscheme_cm7118.html).

United States

There are some 1750 commercial and non-commercial terrestrial television broadcasting stations serving the US television market of some 111.5 million households. Cable pay-TV services (mixture of analog and digital) reach approximately 70 per cent of TV households. A digital satellite service is also available and has a subscriber base of around 20 per cent of households. Cable operators are required by regulation ('must-carry' rules) to relay the signals of terrestrial broadcasting services operating in their market. Satellite services have no obligation to carry terrestrial signals. Free-to-air broadcast channels have a national audience share of approximately 45 per cent. Up to 20 million households rely solely on free-to-air transmissions (FCC, 2006; NAB, 2005).

The digital conversion framework is governed by the *Telecommunications Act* (1996). Existing terrestrial television stations were each assigned a 6MHz channel for use during the digital transition period. The stations were required to broadcast at least one free digital television program of a quality and geographic coverage equal to that of a standard resolution analog service. High definition transmission was encouraged, but not mandated. At their discretion, stations could use any remaining spectrum capacity to offer additional services. Stations affiliated with the top four networks (ABC, CBS, FOX, and NBC) in the 10 largest markets were required to begin digital transmission May 1, 1999 and those in the next 20 largest markets by 1 November of the same year. All commercial stations were required to begin digital transmission by 1 May, 2002, and all non-commercial educational stations by 1 May, 2003. Initially analog switch-off was to occur by the end of 2006, but the date was subsequently revised to 17 February 2009. Switch-off in individual markets was originally conditional to a minimum digital household penetration of 85 per cent.

According to the FCC (2006a) by October 2005, 'more than 1,537 stations nationwide were on the air with DTV operations, including all 199 stations affiliated with the top-four network affiliates in the top thirty television markets'. There were also indications that the top-four networks were providing 'their most popular programming in high-definition' and that hundreds of local stations 'were using their digital channels for multicast services' including news, weather, sports, children, educational documentaries, drama, and foreign language programs. Digital spectrum was also being used in several cities to provide a subscription service with 30 channels including 12 non-broadcast networks.

There are no official data on consumer take-up of digital services. Various estimates of sales of digital television sets reported to the FCC (2006a) suggest that up to 17 million digital TV sets were sold between 1998 and 2006. Based on shipments of digital receiving equipment to dealers, the Consumer Electronics Association (CEA) estimated that 38.7 per cent of households were 'tuning in' digital broadcasts at the end of 2006. Penetration rates based on shipments to dealers are likely to overstate the actual rate since they do not usually take account of stock held by dealers and multiple purchases of sets by individual households. Results from a first quarter 2007 survey (Goodstadt, 2007) indicate that there were on average 2.8 TV sets per household. They also indicate that digital TV ownership was some 23 per cent for cable/satellite households and only 7 per cent for over the air households. Furthermore, over-the-air households were significantly less likely to purchase a new TV (12-13 per cent per year, compared with 18 per cent per year for cable/satellite households).

A recent survey by the Association of Public Television Stations (APTS, 2007) found that 61 per cent of US adults were not aware that analog broadcasts are anticipated to end on February 17, 2009. To increase public awareness and thus encourage consumers to adopt

digital reception technology, the FCC has proposed a US\$5M DTV outreach campaign (FCC, 2006b) and has established a dedicated web portal (www.dtv.gov) to provide information to consumers. Various industry organisations including CEA, the Consumer Electronics Retail Coalition, NAB, and NCTA are also active in providing consumer information.

Another initiative of the FCC has been to mandate digital tuners for TV sets retailed in the US. Introduced in 2002 (modified in 2005³), the digital tuner phase-in plan mandates the fitting of digital tuners in TV sets sold to the public starting with wide screen TV sets on 1 July 2005 and extending progressively to smaller sets and other reception equipment by 1 March 2007.

The US Government has announced the introduction of the Digital-To-Analog Converter Box Program that will provide two coupons worth \$40 each toward the purchase of digital converters between 1 January 2008 and 31 March 2009.

The main concern in the US, seems to be to ensure that consumers that are exclusively dependent on over the air transmissions can continue to receive FTA services. They are the only portion of the population for whom digital equipment is critical to the reception of services. Although cable companies are required to carry digital signals of existing services after switch-off, it would not be critical to the switch-off if households connected to cable systems are not digitally equipped. Indeed some small cable companies have sought permission from the FCC to continue operating in analog by reconvertng the FTA digital signals to analog after stations switch-off analog transmissions.

As noted above, some 20 per cent of households in the US receive television signals exclusively over the air and only some 7 per cent of them are estimated as having digital TV. Also as noted these households are less likely than others to purchase a new TV. Information about an imminent analog switch-off may provide them with a strong encouragement to purchase digital equipment. Targeted information will be particularly important to such households to ensure that they are aware of the implications of the switch-off and of their eligibility for assistance to purchase a digital decoder.

Overall, the assistance measures implemented for the purchase of digital converters should go a long way to making the now firm commitment for a final switch-off in February 2009 achievable. CEA projections of digital television reception in US households indicate a likely penetration rate of 75 per cent in 2008 increasing to 87 per cent by the end of 2009 suggesting that it will be reasonably close the previous conditional penetration rate of 85 per cent for switch-off. The decoder purchase assistance program should minimise the potential for political fallout if digital take-up among 'exclusive' free to air households continues to be slow. Increased efforts to promote digital take-up and warn consumers of the imminent switch-off may be desirable.

Australia

Australian television is dominated by FTA terrestrial broadcasting. Most areas are served by five high power services, including two public (government funded) services and three commercial services (funded by advertising)⁴. Pay-TV is not widespread. The current

³ See FCC 05-190.

⁴ Only two commercial services are available in Tasmania.

penetration rate is about 25 per cent of households (www.astra.org.au). Development of pay-TV was not allowed until the mid-1990s. Pay-TV services are distributed primarily by satellite.

The Australian digital television plan mandated the introduction of digital transmission by 1 January 2001 in metropolitan areas and 1 January 2004 elsewhere. The plan was widely criticised as being highly restrictive and highly protective of incumbent broadcasters⁵. The main provisions of the digital television plan were:

- Each station received a 'loan' of an additional 7MHz channel without charge to allow for the mandated digital simulcasting of analog transmissions for at least eight years.
- In addition to simulcasting analog programs in standard digital format stations had to transmit a minimum level of high definition programs (set at 20 hours per week in 2003).
- The use of the digital spectrum for multichannelling or subscription television services was prohibited pending a review by 2005. Public broadcasters were permitted to use spectrum for multichannelling subject to extensive genre restrictions.
- Spectrum not required for digital conversion was to have been allocated competitively to new operators for 'datacasting' services (defined to exclude all traditional TV-like programs). The allocation was subsequently abandoned because of lack of commercial interest.
- Licensing of new commercial television was banned at least until 31 December 2006.
- Regional commercial operators received partial waivers of their annual station licence fees to assist them with funding of their new digital infrastructure.

Digital rollout proceeded on schedule and digital transmissions began as planned in major cities on 1 January 2001. At 30 June 2005, there were 526 digital transmitters covering all metropolitan areas, major regional centres and some remote areas.

Extensive genre restrictions on the use of multichannelling by the national broadcasters and insufficient funding have prevented the development of any new significant programming to consumers. The ABC started, but later discontinued, two digital multichannels one for children and the other for youth. Currently it operates a single multichannel digital service, *ABC2* dedicated to new and time-shifted programs from its main channel, including children's programs. The other national broadcaster, SBS, established a digital *World News* channel repeating foreign language news services on its main channel including updates, and a second channel *SBS Essential*, an electronic information guide for SBS programs.

The combined effect of high prices for digital TV sets, the unique converters needed for the Australian system, and the lack of new programming was a very low take-up rate by consumers. In early 2001, to avoid having virtually no audience for their digital transmissions, commercial broadcasters underwrote the manufacture of a few thousand converters because manufacturers faced with little or no demand were reluctant to produce them. Estimated cumulative sales of digital TV sets and converters in the first two years of digital transmissions were less than 50,000. Subsequent growth in sales benefited from the digitisation of subscription services (cable and satellite) which led to increased uptake in

⁵ See for example, Papandrea (2001) and *The Australian Financial Review* (1998).

Australian homes. By March 2005, 14 per cent of Australian homes were connected to digital pay TV services (ASTRA, 2005).

Estimates of digital TV take-up presented to the House of Representatives, Standing Committee on Communications, Information Technology and the Arts, inquiry into the uptake of digital television in Australia⁶ indicate that at June 2005, 10.8 per cent of Australian homes were able to receive free-to-air DTV and that only five per cent of a total 15.2 million analog TV sets in Australian homes had been converted to digital. Other estimates presented to the Committee suggested that no more than 7 per cent of Australian homes had terrestrial-only digital reception. More recent estimates by Digital Broadcasting Australia (DBA) suggest that digital TV penetration in Australian homes was at around 25 per cent in December 2006 and 28 per cent by the end of March 2007 (<http://www.dba.org.au/newsletter/IB-MayJun07-full.asp#PRODUCT1>). A recent ACMA survey (2007) reported a much higher digital TV penetration rate of 41 per cent of households, with either a digital TV set-top box or access to digital Pay TV. This was surprisingly high particularly when compared to a household penetration rate of 23 per cent (September 2006) estimated by DBA from deliveries to dealers (which tend to overestimate penetration).

The low consumer take-up of digital TV led the Australian Government to abandon the original end of 2008 analog switch-off target. Following a series of reviews of the digital TV conversion plan, the government has now adopted a new target to begin switch-off sometime in the period 2010-2012. Other tentative changes to the original plan include (DCITA, 2006):

- Removal of genre restrictions on the multichannel services by the national broadcasters;
- Removal of the requirement to simulcast analog programs on the high definition channel.
- From 1 January 2007, commercial broadcasters may provide a high definition multichannel.
- From 1 January 2009, commercial broadcasters may provide one standard multichannel each. Full multichannelling would not be allowed before the end of the simulcast period.
- Two additional television channels are to be allocated to for new digital services sometime in 2007: one for up to eight free-to-air datacasting and narrowcasting channels, and the other for television services to mobile devices such as cellular phones. No date has been set for the actual licensing of new services on these channels.
- Proposal to establish *Digital Australia*, to coordinate and oversee the transition to digital;
- Proposals for consumer and information campaigns to increase awareness of digital switch-off to be undertaken by *Digital Australia* working closely with industry bodies; and
- Introduction of a mandatory consumer products labelling scheme for digital television sets and other devices.

⁶ Report available at <http://www.aph.gov.au/house/committee/cita/digitaltv/report/fullreport.pdf>.

Faced with high prices for digital television sets, particularly high definition sets, and very little by way of incentives in terms of digital only programming, consumers have been reluctant to adopt the new technology. This experience contrasts with that of pay TV which underwent a change from analog to digital about the same time. In the pay TV case, an increased program offering played a major role in encouraging a relatively rapid migration of subscribers from the analog services. In more recent times, there has been some increase in consumer interest following a substantial decline in the prices of large flat-screen digital TV sets, particularly among those replacing or upgrading existing TV sets. Better picture quality (36.5 per cent) and upgrading/replacing TV (28.4 per cent) were the most often cited reasons for adoption of digital televisions in an October 2006 survey commissioned by the Australian Communications and Media Authority (ACMA, 2007). Only 15.6 per cent cited extra channels as a reason.

With the vast majority of pay TV households already digital, the prospects for continuing rapid growth in the digital penetration rate do not appear promising. Experience from other countries in our group, suggest that the recent policy changes allowing some increases in digital only programming, including digital only high definition programming, may not be a sufficient incentive for widespread consumer adoption of digital technology.

Italy

Terrestrial free-to-air distribution dominates in the Italian television market with 77 per cent of the 22.5 million households being dependent on it for their television signals; the remainder receive their signal via satellite (DATAxis, 2006). Each of the two dominant FTA operators broadcasts on three national channels: RAI 1, RAI 2 and RAI 3 run by the public service broadcaster RAI, and Canale5, Italia1 and Rete4 run by the commercial operator Mediaset. Since 1997, RAI also operates three FTA satellite channels. A third operator Telecom Italia recently entered the FTA television market and controls two minor national networks, the news-oriented channel La 7 and the music channel MTV Italia. Some 600 local television stations dispersed throughout Italy provide additional local services.

First introduced in the early 1990s, pay television has a small market. Services were initially offered by two independent operators, Telepiù (satellite service) and Stream (cable service in a few of the larger cities). Both pay TV operators converted their distribution to digital transmission in 1996. By the end of 1988 only 1.5 million households (approximately 7.9 per cent) subscribed to pay TV. Both operators were acquired by Sky in 2003 and an upsurge in subscriptions followed the subsequent launch of premium channels, including pay per view premium soccer games. It is estimated that by the end of 2005 some 3.6 million households subscribed to pay TV (DGTVi, 2006).

Italy was the last of the countries in our group to implement digital conversion (starting in December 2003)⁷. Italian policy makers and regulators saw digital conversion as an opportunity to resolve overcrowding problems in broadcasting spectrum as well as increase plurality in a television market dominated by the RAI-Mediaset duopoly. Rapid conversion to digital delivery was seen as a key to the realisation of both of these objectives and a very ambitious end of 2006 analog switch-off target was set (that is, three years after the start). A major constraint faced by Italian regulators was that in many regions the spectrum needed for digital conversion was already in use for other services.

⁷ Italy, however, was ahead of most EU countries (other than the UK, Spain and Finland).

Legislation governing digital conversion (Law n. 66/2001) and the related regulation (431/01/CONS) were introduced in 2001. The Communications Authority was charged with implementing the National Frequency Plan and the allocation of digital frequencies by the end of 2002. Frequency trading, exclusively for digital terrestrial transmissions, was introduced to enable operators to acquire the necessary spectrum to establish digital multiplexes.

To promote pluralism, part of the available spectrum on each multiplex was reserved for new operators and services. However, only incumbent terrestrial analog operators were allowed to acquire spectrum licences for digital transmissions. Each multiplex was required to carry a minimum of three television programs, but could carry up to six depending on the chosen signal modulation method. At least 40 per cent of the transmission capacity on each multiplex acquired by incumbent broadcasters holding more than one analog television licence was to be reserved for use by independent third party operators. In addition, RAI was to be provided with a 'reserved' multiplex for exclusive use in the transmission of its own programs. Additional restrictions designed to promote plurality prevented individual organisations from controlling more than 20 per cent of digital programs broadcast nationally and from using more than one multiplex to transmit programs in any one area (RAI's use of the 'reserved' multiplex was excluded from these restrictions). Another objective of the introduction of digital terrestrial television was the promotion of interactive services including the use of television for accessing government (*T-Government*), health (*T-Health*), education, banking and other public utility and commercial services (*T-Commerce*).

Some of the plurality provisions of the plan were subsequently amended in 2003 by the 'Gasparri law'. The amendments were controversial as they overturned some of the provisions including those requiring Mediaset (owned by the Prime Minister Berlusconi) and RAI to divest themselves of one of their three analog channels. The amendments also attracted scrutiny from the European Commission for likely incompatibility with competition rules.

The government and RAI, which was to lead the conversion to digital, agreed on a rollout plan to reach 50 per cent national population coverage by 1 January 2004 and 70 per cent a year later. After coming to power in 2006, the *Prodi Government* increased the resources provided to RAI to enable it to play a greater role (along the lines of the BBC in the UK) in driving the digital conversion. The 2007 Financial Law (Art. 122) gave RAI an additional €40 million a year for the triennium 2007-2009 to assist its investment effort in digital television.

Digital terrestrial transmissions started in December 2003 when Mediaset began broadcasting its services over a multiplex with five channels. RAI followed soon after on 3 January 2004 with transmission over two multiplex. The combined digital program offer of the two main operators at the beginning of digital transmissions was made up of the simulcasting of 9 existing channels plus 11 additional channels. Two other national multiplexes began operating in 2004 bringing the total number of national multiplexes to five distributing 25 channels carrying national and local programs. In 2005 the number of national multiplexes in use grew to seven (*Elettronica e Telecomunicazioni* 2005) and a substantial number of local multiplexes were also in operation. Digital terrestrial pay TV (pay per view) services began operating in January 2005.

In addition to new programming choices, consumer switch-over to digital was encouraged with subsidies for the purchase of interactive set top boxes (STBs). Initially, the subsidy was

set at €150, and the government allocated €110 million for the purpose in 2004. The same amount was allocated in 2005 but for that year the subsidy was reduced to €70 (partly in recognition of the decline in the market price of interactive STBs). The subsidy was confined to STBs for digital terrestrial technology and, following complaints from satellite operators, the European Commission ruled the subsidies to be incompatible with technological neutrality rules for state aid and uncompetitive.⁸ New neutral incentives were recently approved by the European Commission — the Financial Law 2007 (and Law 296, 27 Dec. 2006) set aside €40 million to provide a personal income tax (IRPEF) deduction (up to 200 euro) for those purchasing a digital television set with an integrated digital tuner/decoder before to 31 Dec. 2007.

Consumers responded positively to the incentives to convert to digital television reception. By the end of 2004 (one year after the start of digital transmission) more than 1.2 million households had switched to digital terrestrial TV. The number of digital households increased to 3.6 million by the end of 2005 and 4 million by the end of July 2006 (18 per cent of total) of which a little less than 2 million had received a subsidy (DGTVi 2006). More recent GfK (2007) estimates commissioned by DGTVi indicate that by the end of April 2007 the number of digital households had increased to more than 5.2 million. Digital take-up was boosted by the introduction of premium pay-per view sports programs (primarily Serie A soccer games) using a pre-paid card in 2005⁹ (subsequently extended to cover other popular events, concerts and movies). Although impressive, take-up rates were well-short of those needed for analog switch-off by the target date of 31 December 2006 and switch-off was postponed, initially to 31 December 2008 and subsequently to 2012.

Italy has adopted a regional switch-off plan. The first two regions, Sardinia and Valle d'Aosta are due to switch-off analog transmissions respectively by 1 March and 1 October 2008. Switch-off has already occurred (end of February 2007) in Cagliari (Sardinia) where 93.6 per cent of households were equipped for digital TV reception¹⁰ and could access a digital free-to-air line-up currently of 37 channels and a variety of interactive services. In Valle d'Aosta partial switch-off (Rai 2, Rete 4 and QOOB) commenced on 16 April 2007. Other regions designated for early switch-offs include Trento and Bolzano followed by Veneto, Tuscany and Sicily.

Notwithstanding these significant steps in the transition to digital television, further changes are thought to be necessary to complete the transition within the designated timetable. The legacy of overcrowding and chaotic use of the television spectrum is still awaiting an effective resolution. A census of frequency use is underway as a precursor to an orderly distribution of frequencies. This is not an easy task and will necessarily take some considerable time to complete with consequential potential delays to digital conversion.

Adoption of digital technology is anticipated to slow down without additional incentives to consumers. Consumer subsidies alone are thought to be insufficient to encourage a high take-

⁸ The Commission ruled new subsidies (€50) for the purchase of open interface interactive STBs by consumers in Sardinia and Valle d'Aosta (where analog switch-off was set to occur in 2008) to be consistent with State-aid rules.

⁹ Approval of the Telepiù-Stream merger following their acquisition by Sky was conditional on relinquishing exclusivity of rights over football games thus making some games accessible to terrestrial distributors.

¹⁰ See

http://www.dgtvi.it/stat/News_e_Eventi/Notizie_DTT/NELL_AREA_DI_CAGLIARI_93_6_COLLEGATI_A_TV_DIGITALE.html.

up rate. More channels and more appealing programs available only in digital format are considered essential to increased demand. In part this is seen as a consequence of the relatively large number of channels on offer in free to air analog format (nine national channels plus a multitude of local channels). To attract consumers, therefore, digital only content needs to be significantly more attractive than what is already on offer in analog format. The positive response of consumers to the pay-per-view initiatives has demonstrated a readiness to adopt digital technology when appealing programs are on offer. But the pay-TV/pay-per-view model has only limited appeal, particularly in a country such as Italy where pay TV has always had minority appeal. At the time of the Second National Conference on Digital Television¹¹ in July 2006, there seemed to be a consensus among policy makers (Gentiloni, Minister of Communications) and industry stakeholders that a new initiative styled on the UK *Freeview* model was required to keep up with progress on transition to digital TV elsewhere in Europe (De Chiara, 2006; Key4biz, 2006).

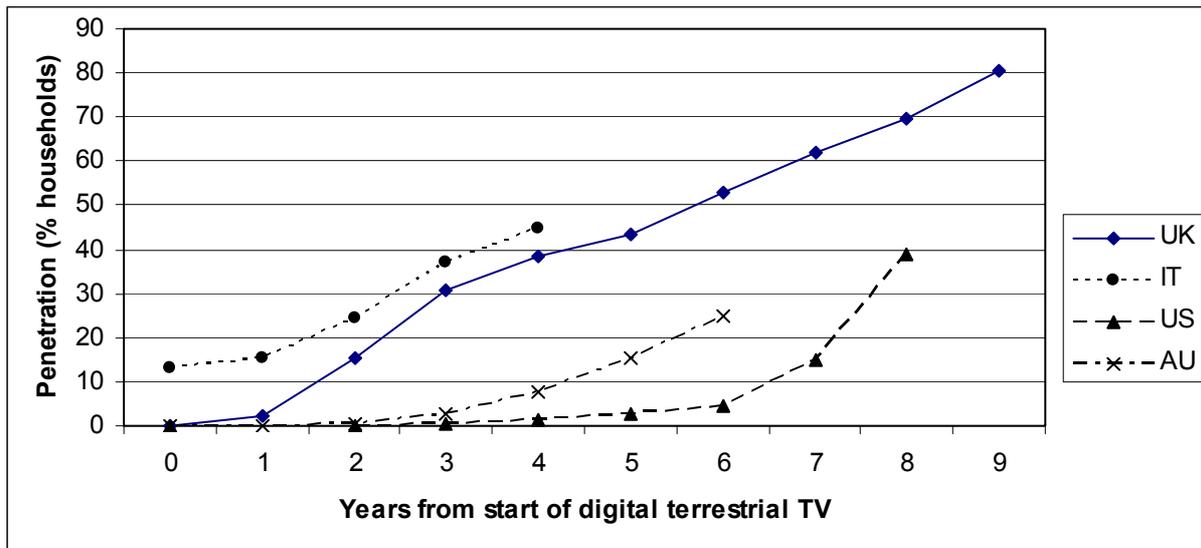
The popularity of innovative use of a pre-paid card system for access to premium pay-per-view sports and major event programs, without ongoing rental contract obligations, underscored the critical role of popular programming as an incentive to digital take-up. The availability of popular programming was particularly important in the Italian context because consumers had access to an extensive range of FTA analog programming before the start of conversion, thus limiting the incentive factor of an increased digital only programming offer. As highlighted by Padovani (2007) and Richeri (2000), the migration of quality TV content from free-to-air to subscription and pay-per-view platforms, is likely to reduce the incentive to switch to digital television.

The government's continued commitment to provide subsidies for the purchase of digital decoders and emphasis on further expansion of the digital programming offer along the lines of the UK *Freeview* model should continue to provide significant incentives for consumer take-up.

Clearing of the spectrum needed for digital conversion remains a potential obstacle to the achievement of the revised switch-off date. The regional switch-off program is very much predicated by the availability of spectrum. Although the problem of spectrum availability poses major difficulties in the early phases of the program, it should become increasingly less critical in later phases with the release of analog spectrum no longer needed for simulcasting in the regions where switch-off has occurred.

¹¹ 'Digitale Terrestre: La Televisione di Tutti', Second National Conference, Castel dell'Ovo, Naples, 14-15 July 2006.

Figure 1: Digital Television Penetration



Note: Satellite digital television was introduced in Italy in 1996. Thus at the start of DTTV in 2003 approximately 13 per cent of homes were already digital.

Source: Ofcom, Idate, CEA, DBA.

Conclusion

Faced with lower than anticipated digital take up rates, policy makers in the four countries in our sample have postponed their analog switch-off dates. The US has set a firm date of 17 February 2009 for analog switch-off, while the other three countries are aiming for switch-off by 2012. The UK and Italy plan to achieve national switch-off via a series of sequential regional switch-offs — already underway in the regions of Sardinia and Valle d'Aosta in Italy and due to start in the UK 'Border Region' in 2008.

On the supply side, in all four countries, the roll-out of digital transmission infrastructure has been roughly consistent with expectations. The main delays to the original switch-off target dates have been due to much slower consumer take-up than had been anticipated.

The different experiences of the countries in our group highlight several important lessons for digital conversion policy makers:

- Most consumers need a stronger incentive than improved reception quality to invest in digital reception technology. This is highlighted by the contrast between the experience in Australia, where improved reception is the main benefit of adoption, and the UK and Italy, where improved reception is augmented by a substantial digital-only program offering.
- The high cost digital television sets in the late 1990s and early 2000s was a major barrier to consumer purchases. Similarly, high early decoder prices discouraged consumers from switching to digital reception. Declining prices of decoders and digital TVs have since combined with expanded programming to attract increasing interest from consumers. Subsidies for the purchase of decoders have been popular in Italy. In the longer term, financial assistance to those who cannot afford the expenditure for digital equipment is likely to prove necessary to avoid extensive delays to analog

switch-off. Both the US and UK have recently introduced subsidy programs — only Australia has no plans for a financial help scheme.

- FTA television is a highly valued service in most households and the setting of definite analog switch-off dates should encourage many of those resisting transition to digital TV to invest in the new technology. In places where analog switch-off has already occurred, the setting of a definitive date appears to have had the desired effect on consumer inertia towards purchasing digital reception equipment.
- Poor consumer understanding of the implications of digital conversion is a common factor in all four countries in our sample. Surveys have consistently found that consumers are largely unaware or vaguely aware that conversion is underway and that even many of those indicating awareness had little comprehension of the implications to them. Without better and more effective information programs on the need to have digital tuners to access new television services or continue receiving existing programs after the switch-off date, many consumers may not have a sufficient incentive to convert to digital reception. A comprehensive information campaign becomes increasingly critical as the switch-off date nears.
- A substantial proportion of TV set sales in all the countries in our sample relates to the replacement (or upgrading) of existing sets. Indications are that up to 15 per cent of the stock of household TV sets is being replaced each year. It is also apparent that many of the TV sets on the market do not incorporate digital tuners. A mandatory scheme requiring new TV sets offered for retail sale to incorporate a digital tuner, such as that introduced in the US, would ensure households replacing existing TV sets do so with sets with digital reception capabilities.
- Delays in the analog switch-off date have significant cost implications for broadcasters because of the need to simulcast analog and digital signals. It also retards the release of analog spectrum for more efficient use. When weighed against these costs, schemes for the provision of free or highly subsidised digital decoders to residual unconnected minorities may prove a cost-effective policy option.

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THE BENEFITS OF CLOSING ANALOGUE TV BROADCAST

And its potential effect on other Communications policies

ALEX ENCEL

The Premise

That there is around \$3 billion¹ in cost savings the government could make on digital TV between now and a realistic closedown date for analogue broadcasting. The savings could be channeled into assisting the funding of a high speed broadband solution for Australia. This is before we consider the potential community benefit from the uses and or sale of the analogue spectrum once it is surplus to the needs of the current TV networks. This spectrum was once valued at \$12 billion dollars in the heady early days of the digital TV debate. It would be worth a lot less than that now but this largely depends on what the buyers are allowed to do with it.

The estimate of billions of dollars lost maintaining analogue is based on a combination of official figures and realistic estimates. I have been trying to get the unreported actual cost figures from DCITA for over a year, first via FOI, then the ombudsman who said he did not have the jurisdiction, and after that the AAT. The hearing at the AAT indicated how much DCITA and the government do not want to reveal the figures, with government people flying from Canberra to attend and engaging lawyers to explain there is no public interest in the subject. In one part of their documentation It stated that I would have to pay to get the figures, in another part that the figures weren't available and in yet another part that the figures were accessible on the public record. Just minutes before the hearing was due to commence I was duly presented with 380 pages of material [previously unreceived] relevant to the proceedings. The hearing decision has been reserved

Part of DCITA statement of facts issued on the 13th April 2006 can quoted in full as saying "the government expects to spend over \$1250 million over the next 10 years on conversion of national broadcasters and providing funding to assist regional broadcasters in converting to digital transmission". Since analog must continue while such conversion is taking place This means that analog is planned to continue by government until 2016.

The Proposal

The proposal is very simple. The government provides a generic no-frills but reliable set top box (STB) along with a good set of instructions for every working TV in Australia so that each TV can continue to operate once analogue is switched off. It doesn't have to be an expensive set top box, and could cost the government around \$7 per unit² if its manufacture

¹ Anyone who wishes for more details on my costings and projected savings is welcome to contact me on, (03) 9429 0822 during business hours.

² In case this figure seems low, I would point out that currently some DVD players having a variety of internal moving components, many buttons and much more overall complexity along with nicely presented cartons are exported at well under \$20. Such exports are in minute quantities in comparison with the many millions that would be required for Australia.

was commissioned in the quantities that would be entailed. The cost to pursue such a solution would be quickly compensated for by the immediate savings that would result from no longer having to broadcast in both analogue and digital until further notice. Any short-term expenditure necessary would be paid for from the potentially \$3 billion or more in cost savings to the government that a more rapid closedown of analogue would make possible. Then there is the potential sale of the analogue spectrum that could subsequently take place, a possible further source of government revenue.

The background to the proposal

Developing a workable strategy for a communication infrastructure appropriate for Australia is not as difficult as it might first appear. In the first instance establish where we are, in the next we decide where we would want to be, and in the third we identify the most sensible steps to take in order to get there.

There is general agreement that Australia's communication infrastructure lags behind where it should be and the sooner something is done about it the better situated we will be in terms of international business. Many countries are currently well ahead of us technologically and therefore better placed in the new global on-line economy. The general consensus is that the longer we leave it, the more difficult it will become to succeed.

We also know that even with the infrastructure largely in place, digital television in Australia has had a slow take up rate, much slower than the government's original forecast and in practical terms a long way from where the analogue network could be shut down. The true cost of this delay is not widely understood. For a start it means the cost of maintaining two systems of broadcast must be met, possibly for closer to a decade or even longer without decisive steps being taken. It also means two valuable communication spectrums are tied up largely delivering the same service. New uses for the freed analogue spectrum would mean the nation obtains improved services from the same resources.

So in terms of where we are now, we can see we have inadequate broadband infrastructure for the new global economy on the one hand, and on the other a new communication technology in DTV that is currently not well utilised by the public at large. At present have a contrast between Australia's computer users and their understandable desire for speed and Australia's television viewers in no hurry to make the complete transition to digital. In many cases we are talking about the very same citizens. High speed internet they value, but many of them don't see Digital TV as a worthwhile priority.

Where would we like to be? The exact description may vary but broadly speaking most would agree that is more desirable to be at the higher standard of the rest of the developed world with our global communication capacity, even if this meant lagging behind with our domestic TV system. Yet the two aspirations are not mutually exclusive. Quite the contrary, one can have a substantial contribution to make to the other. To understand why and how, a little history is in order.

My involvement with digital TV policy began in 1997. Many of the pronouncements being made at the time in relation to the introduction of the technology were at odds with my decades of experience with the industry. Key assumptions were being made on behalf the Australian people that bore little resemblance to reality. I challenged these at Senate and Productivity Commission hearings. Time has long seen the take up predictions I made validated, but back in the late nineties and early 2000s my views were often derided. It seemed the government and their advisors had worked out a plan to the general satisfaction of

all the major media players, and any criticisms were an unwelcome distraction from the good news story being put forward.

Central to their misunderstanding of market forces was an assumption that still holds them back today, namely that quality in itself would drive mass change. As someone who had first begun in business through identifying a market for quality in audio, I could agree there was a market for quality at a premium price but unlike the government I understood that it was by nature a minority market. This position also put me at loggerheads with certain technophile consumers who could not understand how they could possibly be a minority.

There was little cause for optimism in the Government's plan succeeding. Yes Australians had been among the quickest in the world to adopt VCRs and mobile phones, but both these technologies had allowed people to do things they had never been able to do before. Prior to their introduction you could not have a phone in your pocket or watch your choice of movie uninterrupted by advertisements. Quality in itself was not the major factor with the success of these product categories. In fact the picture quality of the VCR was inferior to broadcast TV at the time but people in general didn't really care. They wanted to tape their favourite programs and watch their own choice of movie. The transition from LP to CD also had a strong utilitarian element, offering consumers no more crackles and pops, instant track selection and a longer playing time. As a more recent example Apple's iPod killed the Discman through sheer convenience not through sound quality. It put a thousand songs in your pocket versus the twenty tracks that might squeeze on a CD.

Prior to the commencement of digital broadcast there were strong assertions that the Australian public will take to this new technology like "ducks to water". That they would immediately rush out and buy televisions built to a specification that had in fact not yet reached the mass manufacturing stage and would not do so for some years. To match the specifications necessary for the government's initial specification of the only kind of DTV broadcast intended for Australia (1920 x 1080 i) would have meant spending around \$20,000 at the time. Such televisions did not become a viable reality in mass-market terms until years later, when the first flatscreens to offer 1920 x 1080i arrived in commercial terms for consumers. This was several years after the introduction of DTV to Australia and not so long before the government's optimistic original cut-off forecast for analogue broadcast. Prior to digital broadcast commencing the government eventually bowed to reality and introduced SDTV broadcast as part of the mix. (I had hundreds of sometimes hate emails from technophiles at the time blaming me for the changes, but the decision was inescapable.) The government also had to relax the rules on what products could be called HDTV, so that HDTV sales would not appear to be zero.

What we have today, however, is no viable analogue cut off date as yet in firm view and for much the same reasons as 2008 approaches without the government's original expectation being even remotely met. To understand why you need to first understand the key challenges of the problem. First and foremost of these is the scale of what you are trying to achieve. There will be around 20 million televisions in Australia depending on the closedown date. Many households have more than one set and many such households have several.

To illustrate the point, let's look at radio. When FM was first introduced, people may have bought one new radio to access the technology but this did not mean they threw out every AM only radio in the house. Yes they were reasonably quick to equip themselves, but when they did so they received a number of new radio stations. Would take-up have been as urgent if all that they got for their money was the same content as what they obtained from AM? Hardly. Once again it was utility more so than quality that provided the necessary incentive for change.

Someone today may go out and buy a new flatscreen TV with inbuilt digital tuner, but they instead might go out and replace the broken TV in their bedroom with a cheap analogue set of the same size they can buy at the supermarket or discount store. It is a fallacy to think that it has been digital broadcasting that has driven the sales of flatscreen TV in Australia to this point. The numbers of plasma screens sold in Australia without DTV set top boxes bear testimony to that. The inclusion of a DTV tuner in the panel itself has only been a comparatively recent phenomenon, and many consumers have been buying plasma panels only to look at analogue images stretched to widescreen. It has been the size and thinness of the panel that has captured the public imagination far more so than the differences in picture quality. I recall many early customers saying that plasma did not offer picture quality as good as a cathode ray tube TV but buying the plasma anyway.

Even if someone does buy a set top box, it is usually only for the main TV, all the others in the home remain analogue. (Think of how the VCR usually was in one room only) So while the household penetration level is most frequently the figure quoted, the really telling statistic is the percentage of televisions digitally equipped. Free to air DTV Household penetration may be around 30%³ these days, but in terms of the percentage of televisions digitally equipped the figures would be more in the above 10%⁴ level. It is not as if cost is the issue. The starting price for Digital Set Boxes has been well below \$50 for some months now.

This entrenched and continuing dependence on analogue is what makes its cut off date so persistently elusive. After all, what government is going to flick a few switches that make the majority of televisions instantly inoperable? Yet by the same token, how long can it wait for people to do what comes unnaturally, spending time and effort (apart from money) on something they don't particularly value and therefore don't recognise as a priority.

The point is that completion of new communication infrastructure is too far important to be left purely to market forces. Although in some instances market forces may be sufficient to guarantee change, in the case of a broadly democratic communication technology such as television, market forces alone are simply not the right drivers if you want migration to be swift. And in the case of digital TV in Australia slow migration comes at a cost.

While developing the suggested solution to the digital TV take up problem it soon became clear that should the government not adopt the plan, it was destined to spend billions of dollars unnecessarily. These billions could be put to far better use in communication terms by assisting to deliver the kind of broadband infrastructure we so desperately need to be a viable player in the global wired economy.

It is a strange sensation to come to a realization that is so clear and logical as to be blindingly obvious and yet still have the good news fall on deaf ears. The proposal has been presented in many technical and academic forums. So far no one refuted the reasoning yet still no action is taken. This is despite billions of dollars being involved and the country's ability to compete globally in a growth market being compromised by the lack of expenditure in another policy area.

Imagine if the government had taken the same attitude with the introduction of push button phones decades ago.

³ Note the percentages, numbers of TV's etc are not precise as based on surveys and estimates from various authorities. Any variation will not be large enough to effect the situation.

⁴ As above.

Telecom at the time did not leave the last step necessary for the change from decadic to tone dialling in the hands of consumers. They simply equipped them with the kind of telephone necessary to work in conjunction with the new technology and made the old technology redundant. The choice was “use the new phones we gave you or no phone”. Universal implementation was thus complete. This meant transition was orderly, swift and economical, the latter especially when measured as it should be over time. The crazy thing with DTV is that it would appear the necessary dollars to complete the task at the consumer end are so small compared to the cost of going digital overall. So far the broadcasters have spent much more, and the government has spent much more each year and will continue to do so with no real end in sight.

Right now we have adequate digital broadcast coverage across the vast majority of the population, recently estimated as approaching 90%. Yet we will continue to expensively fund a parallel analogue system until further notice in these areas because the last link in the chain is left to millions of individual decision makers rather than a government department with a clear plan.

It is interesting to note the South African approach to digital TV. It has been able to sit back and learn from the mistakes from others. South Africa recognizes the high cost of dual coverage as well as the cost entailed in delaying the sale of the analogue spectrum for other purposes. So even though a sizeable percentage of their population is poor, South Africa aims to close down analogue three years after digital’s introduction to their country. It can be done.

Yet so far we have taken near seven years with still no end in sight. Will it be 10 or more additional years? However it is not too late to change. By adopting the free set top box model as proposed, we could realistically close down analogue for most of Australia’s population within a year if it were given the necessary effort.

The South African DTV approach, unlike that of Australia, clearly understands that voluntary migration will not be appropriate for television. A lack of migration will simply cost them too much. Having done their sums they know they cannot recklessly afford to maintain two broadcast systems long term. By contrast, however, they are happy to leave consumer adoption of their new digital radio service as an entirely voluntary decision because the new form of radio does not make AM/FM redundant. South Africa also understands the symbiotic relationship between spectrum value and set top boxes. The sale of the former will finance the government expenditure on the latter.

South Africa aims for 90 percent of South African households being DTV equipped within three years. This has been named as the penetration target from the outset. Mandating a low cost entry level Set Top Box is fundamental to the South African strategy, this means a retail price of under \$50 being available from the beginning.

South Africa has clearly done its homework. It is also rather telling that in their listing of the factors affecting the success of digital migration, picture quality is not mentioned once. Yes they mention it in describing digital TV itself, but it is notably absent as an identified success factor in terms of digital migration. A wider choice of programs, portability and mobility, ease of reception, ease of content navigation were all considered as factors. As were affordability and accessibility of set top boxes, and in the rapid transition to digital, market certainty for new digital broadcasters so that a potential audience of sufficient size to attract advertisers would be forthcoming quickly enough.

As part of their planning South Africa has identified that 4.5 million households in their country are unable to afford a digital set top box at any price. The South African government will therefore make up the difference via subsidy. (In discussions with their representative, I

pointed out free STBs would actually be much lower in cost, but it would seem they have their political issues in South Africa too.) Among the other differences with Australia to be found in the plan the following are worthy of note. South African HDTV services have been restricted to satellite delivery until digital migration is complete, and the supply of analogue sets to the consumer market will be curtailed once DTV broadcasts commences, meaning existing sets can be replaced with DTV models only. Two years after their introduction of DTV the South African government aim to have 70% of households connected (multiple TV's per household are not a factor approaching the Australian level). Two years after our DTV introduction we could not manage 5%. South Africa could be over optimistic with their forecasts, but at least they have set some concrete goals with which to check their progress. They also know that if all else fails, providing basic set top boxes, free of charge, wherever needed is another option and one guaranteed to succeed.

Yes there are problems that will need to be overcome before analogue in Australia can be switched off, but these are problems that will need to be addressed eventually regardless of when shut down is feasible. They are problems South Africa is prepared to face within a three-year time frame, and arguably in a country that faces far greater difficulties.

Certainly people will need to be educated about what is necessary. Communities will need to look after people unsure of what to do. The needs of poor reception areas will need to be addressed. But it is not as if the technology itself is likely to be the problem. It is more far likely that the speed of implementation is what is holding us back.

Under the current scenario, we are destined to spend billions of dollars on old technology unnecessarily. Why not avoid the cost and enjoy better technology at the same time?

Put simply the best outcomes in communication policy depend less on government raising funds, but more on the application of common sense to the use of existing and forecast expenditure. Funding genuinely high-speed broadband could be expedited through the savings possible in the delivery of Australia's digital television services if the free STB plan was to be adopted.

A P P E N D I X 1

Regarding recent government proposals in general

Some proposals the government has been considering can be worked out as impractical in the time it takes to travel between two traffic lights. Take subsidising STBs for the disadvantaged for example. Forget the outcry from the people not included, and the complex assistance difficulties inherent with scores of models of STBs on the market, just think of the cost. To provide a \$50 voucher for 20% of televisions, for example, will actually cost more than providing a set top box for all televisions at \$7 each.

Re: Mandating that only digital TVs can be sold in Australia?

Forget the outcry when the prices go up, especially at the lower end and how many models will disappear from shelves. Just think of the cost. It would take years to implement based on experience and with a replacement rate of somewhat over two million per year it would still take many more years to clear the analogue TVs in existence, a high proportion of which have been purchased since digital broadcast began.

Re: The Government's Recent Digital Action Plan & Digital Australia

I have done a lot of impromptu surveying of clients and people I know. I have yet to find anyone in the general community who has read the media policy changes announced or of the Digital Action Plan or of Digital Australia that are supposed to drive the change to digital.

RE Getting retailers and others to promote DTV

What sensible retailer is going to promote and spend money on products with a dollar profit that may be in the single digit category as compared to big ticket items.

A P P E N D I X 2

Regarding government objections to the free set top box proposal specifically

After months of communications in person and by email with Senator Coonan's department, I received the government's answer in writing as to why they did not consider the free set top box proposal as viable. For privacy reasons I will not table their letter, but my replies as shown below will indicate their comments.

Re Govt Concern 100% Digital conversion is impractical

I have been talking about a basic closedown of analogue, especially in the major population centres. There is no technical requirement to close down analogue everywhere Australia-wide at the same point of time. Some time ago, 85% of Australian households were said to be within digital coverage. I assume it would have improved since then if any real efforts had been made. 2008 was the originally mentioned figure with closedown in mind so I also assume the rollout plans should have been organised with that in mind. The real problem appears to be lack of interest in completing more comprehensive coverage. One indisputable point is that where analogue is switched off digital coverage will improve due to the increase in signal strength that will result once interference with analogue is no longer an issue and full power can be utilised.

It would be interesting to see the detailed figures of the extra cost of doing a more rapid rollout as compared to the total costs of keeping analogue under the present policies. Closing analogue in basic terms rapidly will be by far the most economic option, even if some areas have to wait.

Re Govt Concern with Aerials

It is true that some aerials will need to be upgraded but this will happen irrespective of closedown time. Aerials have been upgraded from time to time since television started in Australia. UHF antennas are an example.

Re Govt Concern with Blackspots

Finding these in major metro areas is very straightforward and can be quick and low-cost to rectify compared to the national continuance of analogue (if the will is there).

Re Govt concerns with existing blackspot/self-help sites and remote broadcasters

I repeat there is no requirement to have 100% national digital coverage before closedown can commence. It can be done as prompt effective planing allows.

Re Govt Concern about Direct to home delivery.

I do not see what the problem is here apart from inappropriate decision-making. I would also point out that Direct to Home delivery refers to less than 1% of Australian households.

Re Govt support for its Digital Action Plan

“This plan will fall to achieve a general closedown by 2012. Australian consumers have had plenty of time to get set for digital television and have shown insufficient interest. I have detailed the figures many times to show that 2012 is not possible under present policies irrespective of your digital action plans. Even your department carefully refers to “commencement in 2012” rather than give a definite completion date.”

“My point about the change in telephones was not concerning the detail of the ownership/leasing arrangements. It was simply that no cost phones were provided universally and the process was relatively innocuous and not remembered by many as everything went relatively smoothly.”

A tongue in cheek comment made at the end.

“I have made an estimate many times in the media that the additional costs of maintaining analogue deal and realistic real closedown will be in the order of \$3 billion. I have been trying to get more accurate figures so I can refine my estimates accordingly.”

“I suspect if we provided \$500 million for people with aerial problems and \$10,000 for each of the direct to home people we would still be in front.”

A P P E N D I X 3

General Objections (Some of which may overlap from previous pages)

Q1. Reception is bad in many areas.

A. There are various estimates in the area of 90% of the population being now covered. When analogue is closed down and the power of Digital transmission (currently kept lower to avoid interfering with analogue) is turned up, reception quality will improve. Digital TV is being used on indoor antennas and portable TVs in different countries. There will be some problem pockets to be dealt with on an individual basis all with solutions possible. There are problem areas for analogue as well. If we don't want to put in the effort to sort out the few problem pockets quickly we can leave analogue running in them for a period.

Q2. Some people don't know how to hook up set-top boxes. Grandmothers won't be able to be operate them (yes this really was raised in public comments)

A. Our experience after selling thousands of set-top boxes is that with current STBs most problems are due to not reading the instructions which sometimes leave a lot to be

desired. Solution. Good instructions and reading them. Even elderly and disadvantaged people seem to operate their TVs, drive cars etc. Neighbours, friends or voluntary agencies like the one I belong to could help the very few who will really need special assistance.

- B. Most grandmothers I know seem to operate digital cameras and computers that are far more complicated than a TV. Even if grandmothers are a problem of great magnitude the longer we wait the more grandmothers we will have.

Q3. What about people with defective antennae poor connections etc?

- A. Digital reception problems due to these factors will lessen with more digital transmission power but in the end such problems simply need to be fixed which must happen whatever is the particular close down date ultimately chosen.

Q4. A philosophical point brought up by some. Why don't we let the market do it?

Due to government restrictive policies the market has not been allowed to do it up to now and will not be allowed to do it in the future.

Q5. We should wait till better set-top boxes with more facilities are available.

Nothing would stop people buying equipment with more facilities in the future. Technology will keep improving. If we always wait for improvements we would never buy a digital camera phone or computer. What we need most urgently is the ability to stop paying for two forms of broadcast.

Q6. Why doesn't the government do it if it's so simple and saves so much money?

My experience there is that the people making decisions don't know or want to know even the simple inescapable facts and therefore come up with impossible scenarios designed to suit their position. The political side is complex and I don't consider myself an experienced political analyst.

The overarching point. If we think the above points have any validity why did we spend the time, money and effort to go digital so early in the first place?

Under the present policies analogue will not be closed until 2015 or later.

Q7 Won't supplying free set top boxes destroy the market for set top boxes?

On the contrary this will increase the market for set top boxes once people see the differences on offer. If you gave everyone in Australia a cheap digital camera, for example, it would not mean that cameras offering better facilities would cease to be purchased.

A P P E N D I X 4

CRIKEY.COM.AU Coverage

Earlier this year Crikey.com.au took up the DTV issue where Margaret Simons wrote an informative article on the subject. Among her observations were the following:

“Industry figures I have spoken to think Encel is basically correct, although they point out there would be other costs - such as helping the elderly and non-tech-savvy to install their set top boxes. Such problems, Encel argues, could be overcome and will exist in any case.”

“Perhaps there are good arguments against his scheme, but if so it's very hard to get the Department of Communications or the Minister, Helen Coonan, to cough them up. The Department will neither confirm nor deny his calculations on the cost of simulcasting, nor provide its own figures.”

“Crikey put questions to the Minister's office last week about Encel and his figuring. After two days there was a four paragraph response, which did not address his calculations nor his arguments. The statement said:

"The Government is confident that Digital Australia is best placed to drive the conversion from analogue to digital."

The government's record in predicting the future of digital entertainment is not something to put money on. Government media releases once told us that digital radio was expected to coincide with the start of digital TV in 2001. The date they now suggest is 2009. When it comes to analogue closedown, the government mentioning a date is tantamount to a guarantee it will not eventuate.

Interestingly the switching off of analogue is now being raised as a negative federal election issue for 2010. What government of either persuasion could possibly entertain it? Under the current situation, neither could. But with the immediate adoption of the free set top box solution, either of them could comfortably with more than a year to spare.

DIASPORIC MEDIA AND IDENTITY CONSTRUCTION IN THE TURKISH COMMUNITY IN AUSTRALIA

LIZA HOPKINS

Introduction

I'm going to talk about a project which I'm working on exploring the use of old and new media by the Turkish community in Melbourne. As most of you would know, Australia is a nation of immigrants, and the Turkish migrants who began arriving in Australia in the late 1960s, were the first major wave of Muslim immigrants. The next major Islamic group to arrive were the Lebanese in the later part of the 1970's. Lebanese migrants and their descendants now make up the biggest Muslim ethnic group in Australia.

The Turkish community mainly settled in Melbourne (Fontaine and Kaymakci, 1996: 3, Abidi, 1996), the Lebanese in Sydney, and while other Muslim immigrants who have arrived more recently come from Bosnia, Somalia, Indonesia and Malaysia, much of what passes for discussion of Islam in Australia really only refers to the experiences of the Muslim Lebanese. Turks and other groups are frequently conflated with the Arabic Lebanese in an undifferentiated mass known as Muslim-Australians.

Islam in the media

If we look at mainstream Australian media over the last five years we see that much of Australia's rich heritage of ethnic diversity is being subsumed into the single, simple term: Muslim-Australians. But what does this mean for those citizens and residents who are being ascribed this identity label whether they choose it or not? To find out how the mainstream 'othering' (Dunn, 2004: 336) discourse around Islam in the west has impacted on some young Australians, I recently conducted some research with young people of Turkish descent living and studying in Melbourne. Their perceptive and often unexpected comments about the mainstream and diasporic media available to them, as well as their efforts to locate themselves in a multicultural society as Australians, Turks and Muslims reveal much about the processes of identity formation taking place in a media saturated world.

Diasporic media

The development of globally distributed diasporic media cultures is enormously enlarged and expanded since the advent of satellite television and radio and the ubiquity of the internet and world wide web, which have rendered international communications cheap, convenient and virtually instantaneous. The implications of this increasing transnationalism include the possibilities of dual or multiple identifications amongst immigrants and their descendents, creating tension between the 'old' hard loyalties (singular, exclusive, mainstream) and the flexible attachments of transnational people (Aksoy, 2006: 944).

It may be useful to view the kinds of interpersonal relationships and affiliations which are emerging in transnational context as networks. Thus they are not dense, interconnected, strong

ties between bounded groups of individuals, but rather looser, ego-centred personal networks of both strong and weak ties, each constituting an individual's personal network, unique and unmappable to any one else's network.

Such are the hallmarks of modern relationships (Boase and Wellman, 2006: 16) and not coincidentally they are also the hallmarks of modern networked technologies, which allow for the production, transmission and consumption of information in peer based networks which subvert the dominance of traditional large and centralised organisations. Such networks seem peculiarly suited to flourish in the global expansion of diasporic communities, where individuals are tied by kinship, language, religion and interest to widely separated geographical communities and nations.

Cheap options such as email, online chat and plummeting international telephone call costs can increase the frequency of keeping in touch with distant kin and friends. Media use and appropriation of technologies may then be seen as part of the practice of individuals and groups in negotiating roles, memberships and affiliations within and between complex multicultural societies.

The research project

I'm going to turn now to my research with a particular group of Muslims of Turkish background. This research is part of a larger project examining media use amongst the Turkish community in Melbourne. For the purposes of this paper, I will examine some of the findings from a series of group interviews conducted with University students of Turkish descent studying in Melbourne, along with the results of one on one interviews with key producers of Turkish language media in Melbourne. The groups included a mix of Turkish born and Australian born respondents, as well as some who identified as Kurdish ethnicity and Alevi religion besides the Sunni Turkish majority. All were fluent in both Turkish and English and while some had a third language (either Kurdish or an Asian language learnt at an Australian school), only one had made any study of Arabic.

The generation gap

Discussion in the group interviews covered topics such as generational differences, religious and cultural identity, patterns of associationalism within the Turkish community, links to family overseas, media use and making a place in Australian society. Much other research has noted the importance of differences between the generations within immigrant communities as a cause of friction or of social and community breakdown. What is interesting coming out of this current research, is that there is almost no difference between the second generation young people (that is young people born in Australia to parents who migrated from Turkey) and young people born in Turkey who have arrived here as teenagers, compared with their parental generation. First and second generation Turkish-Australians have more in common with each other in terms of their sense of identity, belonging and place in the world, than they do with their elders of the parental generation. As one Turkish born Kurdish youth said 'I feel more Australian.'

This is illustrated in the connectedness of Turkish youth with peers in Australia, Turkey and Germany, through SMS, email, online chat and webcams. All the respondents in these interviews reported that the internet was their first resource both for gathering news and current affairs information and for communicating with friends and family. Online chatting through sites such as MSN and text messaging are their preferred means of keeping in touch

with peers both locally and internationally. In many cases the communication is with cousins, through ‘chatting and phones and texting’, illustrating that generational change is a world-wide phenomenon. Young people also function as intermediaries for their parents, showing them how to chat online, checking the email for their parents and setting up webcams and the like.

- Overseas [communication is] definitely email for me. Here probably mobiles, even though over the net as well. MSN has become increasingly popular these days.
- I think the easiest way is through the Internet. I use Skype or MSN to speak with our families almost every night
- I mean yeah the only [Turkish] thing I would look up is stuff for football, like my dad might want to know what time the game is on or something like that.

Changing media practice

The rapid recent fall in the cost of international telephony has also had an impact on communications patterns between the migrant community and home land, with much more frequent telephone contact now occurring. The recent introduction of satellite television services into Australia from Turkey has also had an effect on the media consumption habits of Australian Turks, and again a generational pattern is apparent in the change. The following comments are reflections on the older generation:

- with the satellite dish, our community has completely stopped watching English TV.
- They’ve stopped improving their English now.
- Its nice, it relieves their homesickness that they may have for the general community, but its terrible in terms of integration

While for the younger generation:

My sister refuses to get it. She says my brother in law is just gonna be watching that and she’s gonna be switched off from the Australian news.

While the older generation are hooked on subscriptions to Turkish TV, and read Turkish newspapers, even though they are some days out of date by the time they arrive, the younger generation unanimously state that their first resource for getting information is the internet.

The presenters on a Melbourne based Turkish language radio program have definitely noticed a change in the media consumption habits of Turkish speakers since the introduction of satellite television and internet. The following comments relate to the changing patterns of media use:

[Young people] haven’t made it [radio consumption] a habit either. I mean you’ve got the older people who’ve got habits, its habit to them every day, three o’clock, they put their radios on [for the Turkish language program]. If you’re brought up in that sort of atmosphere, you sort of gain that habit as well, but if you’re not, people just don’t really care.

People doesn’t read much newspapers. Not even in Turkish, they say there are 70,000 Turkish [people] in Melbourne. But the amount of newspapers that they publish in Melbourne [is] not more than 2,000 [copies].

Of course, since 2000 we’ve got six or seven channels from Turkey, ... and 24 hours radio and ..., some of our listeners actually don’t listen to [local]... radio, because they can easily ... get the information from Turkey But still I can say that almost ten years ago, ..., the Turkish program was the first. Our rating was the top [for foreign

language broadcasts in Australia]. For example ninety percent of the Turkish community used to listen to Turkish radio at least once a week. And eighty five every day. And five years ago, ... the latest research, ... we were second top language group.. ...Because of the TV channels, the radios and the internets, of course we lost some of our listeners.... But its still popular. And then we got another, at least ten years actually. But after ten years, after the first generation, who knows?

And even with the availability of satellite broadcasting, videos remain an alternative media source:

There is also video shops. They record the program in Turkey, they bring it here and you can rent for one dollar or two for one dollar for most popular program and some movies. People who haven't got satellite TV, they use that to watch TV. ...and because of the time difference most popular programs in Turkey comes on night time [here], 3 o'clock, 3.00am. So people still buy the video, watch it in [their] own time.

Representations of Islam

In terms of Australian produced media, the construction of identities ascribed to minority groups may be as actively resisted as they are passively accepted. Although the mainstream media look to the imam of one of the Lebanese run mosques in Sydney, for comment, describing him as the "Mufti of Australia", Mehmet, a respondent in this research project, reveals a different reading:

he's not a big man, you know, as a Turkish we don't accept him as our mufti. He's nothing to do with the Turkish Muslim. But ... they talk about him: 'mufti say this, mufti say that.' We totally feel bad about it. He doesn't represent [Turkish people]. The media, the prime minister shouldn't ... take him as a person to talk about these things. They are looking for something, as we believe, to show that the Muslim are bad, to show these people [in a bad light]. When Australians talk about Muslim, if I say, I'm Muslim, they will straight away think about that mufti, or the terrorist, you know, because all these things are made by Australian media, I believe.

There has also been a very clear attempt in mainstream media at the construction of a link between a reified Islamic homogeneity and a cultural tendency to violence and criminal behaviour (Akbarzadeh and Smith, 2005: 4; Poynting et al., 2004: 46). Again Mehmet reads this very clearly:

especially ... after the September 11, they are looking [at] the Muslim, the Turkish, very different. Its hard to explain but we do believe the Australian media is not independent to look after the Muslim. If any Muslim do anything wrong, they call him a Muslim, he's named as a Muslim, but if any Christian does the same thing, they never call him a Christian. They do have bias on that, we strongly believe that.

Religious and cultural identities

For the Turkish young people that I spoke to, their Turkish identity was much stronger than their Muslim identity. In fact, although some (but not all) of the young people identified their religion as being Islam, they were at pains to separate the Turkish community from other Islamic communities and to identify with cultural practice rather than religious tradition.

But still actually the Australian media should know that Turkey is secular country and Turkey is not a typical Muslim country. ..., the culture may affect ... individual's beliefs as well. For example, the practice of Islam is sometimes different from other Muslim

countries. Because the culture affects the individuals life, behaviour and everything. Even if they are Muslim.

As one respondent nicely summed it up: “I don’t know what religious values are. I just think that everything we do is cultural, rather than religious.” It was clear from discussion of actual practice, however, that Islamic rituals and behaviours still play a part in these young, secular Muslims’ lives. Nor is untangling cultural practice from religious belief actually necessary in order to understand what it is that people value in their lives. Another respondent noted that: “that’s still continued, the henna night, the night before ... the girl gets married. The traditions are kept but not necessarily in a religious way. Just for the sake of doing it.”

It is also clear from these discussions that these Turks believed that Australian Arab Muslims, unlike themselves, may well be more devout, practicing Muslims and that constructions of “Muslim-Australians” which appear in the media may well be applicable to those ‘other’ Muslims.

Conclusion

So using Islam as a category to describe social groups in multicultural societies seems to me to be problematic. Especially when the view of mainstream media is that Muslim Australians are Arabic speaking and are united by religious practice. As research in London found “Turkish interviewees come from an Islamic country, but for few of them is being a Muslim central to their self-image.” (Aksoy, 2006: 933). My research conducted with Turkish-Australians found they were similarly disinclined to put their religious identity ahead of cultural, national and linguistic identifiers.

For young Turkish people of the first and second generation, their sense of belonging and identity is formed through a complex mix of widely dispersed family and friends, locally based dense social groups of ethnically diverse peers, and an Australian community of Turkish migrants who keep in close touch with the older generation and who stand in for the extended family left behind in Turkey. It is clear that for these young people, cultural or ethnic identity is much stronger than religious identity. Although they spoke articulately about preserving their heritage and language and the traditions which they would follow when getting married, these were seen to be firmly Turkish traditions, with cultural rather than religious significance.

Their use of internet, mobile phones and satellite TV links them to a globally dispersed network of family, friends and strangers united by Turkish culture, history and language. But they are surrounded by mainstream Australian media production practices which continue to simplify complexity. Individual reading and viewing activities, however, are able to negotiate and deconstruct such practices to produce more meaningful social identities amongst those whose lived experience continues to fail to be reflected in the mainstream media.

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TRANSNATIONAL MEDIA AND CITIZENSHIP: ARABIC LANGUAGE TELEVISION IN EUROPE

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Globalization is transforming the political landscape and public discourse in both international legal terms and in terms of transnational media. Satellite, digital and cable delivery have challenged national boundaries. This paper deals with one aspect of the European transnational public sphere: the Arabic language media. An astonishing range, both national and transnational, is available: more than thirty Arabic television and radio channels, of which *Al Jazeera* is the transnational ‘representative’. Over the last decade, some such transnational public spheres have been researched (eg Matar, 2007) but there has been little attention to their critical role in advancing and promoting civic values. This paper inserts the issue of transnational media, in Arabic language in particular, into the vexed debate about citizenship in the European context.

Globalization is transforming the political landscape and public discourse in both international legal terms and in terms of transnational media. Whereas only decades ago, the ‘public’ was conceived as a sphere of national sovereignty, today’s flows of political communication are reshaping both the conception of the nation state and the understanding of the role of transnational media. As the EU expands to take in new member states, a new form of political entity, a transnational polity, has come into place. The ‘ideal public sphere’ of Habermasian theory, essentially a nation state within which democratic processes are theorised as a process of deliberation has a multi-national transformation – a transnational public sphere. In this new European transnational public sphere the European media environment has been utterly transformed: no longer monolingual it has become a fragmented set of sub national publics in self referential spheres. For instance, while the French elections of May 2007 have dominated French media, many French citizens will interpret and understand events in terms of the English, Spanish or Arabic media they share with citizens of other nations.

New media technologies not only challenge the concept of a national ‘public’ as a core terrain of European national identity formation but also question the conventional framework of ‘sovereignty’ itself. John Dewey argued that “in no two ages or places is there the same public,” (Dewey, 1927:33). Nevertheless a model of ‘the public sphere’ of democratic nation-states in Europe assumed a single type of public and in a univocal style of public discourse. Such public discourse represents a sphere of communication which is structured, organized and enforced within the state. A traditional model of national sovereignty of ‘public’ spaces of debate is still in place as the democratic ideal across the European members of the Union. This notion of sovereignty has shaped the public service broadcasting system (with different

traditions in each European country), regulates foreign investments in national media, and drives restrictions on foreign in-flow of programs.

The globalization of media is undermining the control of media and of the public spaces by the nation state. Volkmer (2007:59) argues that the “global public space” of political communication constitutes a new layer to the still nebulous domain of a ‘European public sphere’. Yet the altered boundaries of the national public sphere remain undertheorized. Reviewing recent academic debates about a European public sphere, trans-cultural public spheres across nation-states are rarely included. Supra- and subnational discourse spheres are not part of conceptual debates of the European public sphere. Integrating trans-cultural public discourses into a broad model of European ‘sovereignty’ has not yet been addressed, leading to a “democratic deficit” in Downey & Koenig’s (2006) terms. Downey & Koenig argue that while “the European Union is regularly presented as the leading example of cosmopolitan citizenship, it is also commonly asserted that it contains a “democratic deficit”, because system integration has greatly outpaced social integration.” They conclude that “the development of a European identity may prove to be just as exclusionary and uncivil as national identities have been historically” (Downey & Koenig, 2006:166). Others note: “If one looks for a genuinely transnational European public sphere, there is not much to be found” (Koopman & Erbe, 2004:99).

We suggest a reformulation of ‘European public sphere,’ replacing the image of a monolithic single sphere. We provide a model of “communicative flows” between “different political spaces” *within* a nation and across nations, with ‘global,’ ‘national’ or ‘local’ interacting with the transnational. Transnational public spheres come to the fore in the context of world crises and conflicts, in particular the war in Iraq (for example, Demesmay, 2006). However, we argue that they are ubiquitous. A globalized media infrastructure, with network structures of communication delivered via Internet, satellite and individualized digital television platforms, provides a new structure of a public communication space, which shapes new supra- and subnational public spheres.

Let us consider the example of foreign news. Just over two decades ago, ‘foreign’ news was selected by national broadcasters, who served as ‘gatekeepers’ for a national audience. The launch of cable systems and early period Direct-to-Home (DTH) satellite delivery (ASTRA, EUTELSAT) was a first phase of a transnational media space. The *BBC* and the German channel, *ARD*, became available across Europe, in Belgium and the Netherlands, for instance, while the Italian national channel, *RAI I*, was distributed in Germany. Already media and national boundaries were discontinuous. In the second phase of ‘transnationalization’ of news in the early nineties, non-European news channels, such as *CNN* inaugurated a new approach: targeting specifically transnational audiences with particular news programs and journalistic formats. In a third phase, the strategy of ‘connecting’ transnational audiences with ‘authentic’ programs was adopted by new emerging news outlets, creating an “extraterritoriality of state sovereignty” (Hassanpour, 1998:53). For instance *Med-TV* targeted Kurdish communities *across* Europe while *Al Jazeera* targeted an international audience of Arabic speakers.

Rai & Cottle (2007) survey the ownership and reach of the over one hundred global, regional, national and subnational 24 hour satellite news channels, and map their footprints. The world is hatched out with overlapping linguistic news worlds. Rai and Cottle that it would be a mistake to privilege the English language channels and describe multidirectional news flows. Viewed from a European perspective, these multidirectional news flows create diverse political viewpoints across Europe, no longer dominated by the national news agenda. They

shape new 'fragmented' communities, secluded from national public spheres yet connected to other communities in other nation states (Slade, 2006). For instance, Indian diaspora living in London, in Hamburg and in Madrid have access to numerous local, national and transnational South Asian media while the Nigerian communities living in London, Berlin and Athens develop their own transnational media online. Whereas the satellite provider EUTELSAT used to carry only around ten television programs targeting Russian, Polish, Rumanian, Turkish and other communities across Europe, today, around fifty-five television channels aim at Thai, Farsi, and Tamil audiences in Europe.

The Arabic speaking news space

The Arabic speaking news space within Europe is one of the most developed and most interesting of such spaces. The Arabic speaking news space has been transnational in nature since the invention of Modern Standard Arabic in Egypt in the early twentieth century. It was explicitly developed as a *lingua franca* for promulgating pan-Arabism and was designed specifically to be used in pan Arabic press (Holes, 2004). Thus, while the diasporic Arabic speakers living in Europe have a range of nationalities and of dialects, they do share a sense of identity as Arabic speakers. The street Arabic of Cairo, Baghdad and Marrakesh may be mutually incomprehensible dialects, but the language of the newspapers is a common tongue; as is the classical Arabic of the Koran. The diasporic Arabic speaking cultures share that transnational culture, in part through religion, but even more strikingly as a political outcome of pan-Arabism. The rise of transnational Arabic language television, and in particular of *Al Jazeera* (Miles, 2005), is witness to a pan-Arabic identity. The development of that transnational pan Arabic media space has spawned an extensive literature (eg. Ayish, 2003; Kepel 2005; Rugh, 2004; Sakr, 2002).

Arabic speakers in Europe access media in languages different from those of the host country. Some watch media from their homeland, others transnational stations, yet others national EU based programs in Arabic. Arabic media is received through a range of technologies, press, radio, television and internet are present in each different category above. The impact of these very different modes themselves differ. Our focus is on Arabic language satellite delivered content. Satellite delivered content is different from earlier technologies, most notably in its regulation. Within the EU, satellite feed is only regulated in the country in which it is uploaded. The complex process of understanding leading to participation in the society is thus no longer even in principle within national (or transnational EU) control. Arabic speakers in the EU share this transnational mediated public space, or a supra-national media world with other Arabic speakers in Europe and beyond. For instance, at the time of the murder of Theo van Gogh in Amsterdam, 31 Arabic language television channels were available in provincial Tilburg to Arabic speakers living in the Netherlands, including the Hisbollah *Al Manar* and a range of national Moroccan channels. Other channels included *Dubai TV*, 'transnational channels' for Arab communities, such as *MBC*, *Al Arabya*, 'spillover' channels, which serve sub-national communities *within* Arab nations and are just by coincidence available on the EUTELSAT footprint in Europe, such as *Berbère TV* and radio. Arabic speakers discussing the murder drew very much on the Arabic language media as in their interpretation of the murder, in a study done less than a month after the event (Slade, forthcoming).

Given the ubiquity of the Arabic speaking news sphere in Europe, it is surprising that sub-national public spheres are rarely debated within communication and media studies or journalism. Over the last decade, a small number of studies involve these new phenomena have, for instance, researched the role of Vietnamese media on Vietnamese communities

living in Australia, or Cypriots in London, Turkish in The Netherlands, Turkish in London and Berlin (e.g. Aksoy and Robins, 2001; Georgiou, 2006; Ogan, 2001). Others debate the fragmentation of national audiences and in fact of national public spheres into “public sphericules” as a consequence of the “centrifugal” power of the global information society (Gitlin, 1998:170). Still others argue that the use of ethnic programming contributes to ethnic and social isolation. Thomas Tufte (2003: 183, 192) denies this claim, asserting that the use of media from “territories of origin” does not “reflect a cultural isolation or regression towards the country of origin, but reflects the same sort of cultural ambivalence and ongoing identity negotiation generally taking place in each individual”.

National identities, citizenship and media

The impact of these new media ecologies, what we call sub and supra national news spaces, is of critical importance in debates about national identity. In the past, national media had a predominant – and often unchallenged role – in influencing public debate; in the globalised media world that is no longer possible. The ideal of a national public sphere in which debates of national import occur has passed. In a transnational space such as the European Union, this should not be a surprise; what is startling is the lack of recognition of the importance of media in the debate about immigration and integration of migrants.

The Hague Programme (2004) calls for integration as a key route for the solution of security issues in Europe. The document acknowledges the importance of education and knowledge about the host country in the process of integration, talking of access for immigrants to institutions as a mode of gathering knowledge. But the document is silent on the institutions which are among the primary sources of knowledge in modern societies: namely the media.

Over the last five years, a number of EU nations have reformed and tightened procedures for immigration and granting citizenship, including the Netherlands, UK, Germany and Italy, testing not merely for language capacities in prospective migrants, but also for cultural knowledge. These regimes are implicitly aimed to exclude security risks, and hence are particularly targeted at Islamic groups. In the French elections of 2007, immigration laws have played a controversial part. The initiative has now gained a transnational EU perspective. On March 23, 2007, following a meeting in northern Germany of the Interior Ministers of the then 25 member states, all immigrants to Europe could be required to sit a test demonstrating their knowledge of the host country. The explicit aim of broadening the test had been explained in a report on an earlier meeting by Charles Clarke, the UK Home Secretary:

What we agreed very strongly was that the values of our societies – democracy, respect for other faiths, free speech, the rule of law, free media and so on - are values which we would expect everyone wanting to settle in these countries to respect. (Watson, 2006)

Citizenship testing regimes, with their emphasis on values, assume cultural understandings which, in some cases, could only be drawn from media. The Netherlands for instance has introduced a pre-immigration test asking prospective immigrants outside Europe about their knowledge of the Netherland. The assumption of prior learning is predicated on a globalised and mediatised world.

There is extensive literature on citizenship and cultural identity, ranging from Anderson’s (1983) notions of imagined communities, Miller’s (1993) through Kylimicka *et al* (2000) and Stevenson (2002). We draw a contrast between ‘bare citizenship’: citizenship conceived as the

legal relationship between a nation state and its citizens, circumscribed by international law; and broader notions of cultural citizenship is central. Weiner (1998:11) contrasts the European ideal of citizenship as ‘identity generating and community building’ with a set of minimal political rights. Habermas, in his discussion of the question of a European constitution (2001), distinguishes between citizens held together by ethnic identity, and nations held together in the juristically neutral sense of “state-constituting peoples”. He argues that modern democracy requires a more abstract neutral form of political participation suggests that “the multicultural self-understanding of the nations of citizens formed in classical countries of immigration ... is more instructive ... than that derived from the culturally assimilationist French model” (2001:159-160). In fact new forms of citizenship testing are moving in the opposite direction.

In drawing a distinction between bare citizenship, and stronger variants of cultural citizenship, we locate the role of the media not merely as an actor in the development of cultural citizenship, but as a player in the formal notions of citizenship itself. Much of the debate surrounding citizenship testing appears to assume that citizenship is a one-to-one relationship between a state and an individual, in the sense of a bare formal relationship, but slides to a stronger claim that a citizen should have a unique cultural relationship to the nation state. In the conclusion of a project on the nexus between integration, immigration and citizenship Carrera remarks on the tension between formal notions of citizenship and cultural belonging, pointing out that the EU has not addressed that tension.

In the evolving EU framework on the integration of immigrants, a fierce struggle is taking place between the overall approach presented under the EU framework for the integration of immigrants, and the actual legally binding acts produced by a common immigration policy. (Carrera, 2006: 4)

Our contention is that media have a critical role not only in ‘mediating’ the nation (Madianou, 2005) but in perceptions of citizenship and civic values. The influence of education, of religion, of values, in the development of cultural citizenship have been much discussed. However European debates about transnational and national citizenship rarely focus on media and communications. Media policy in the European Union lags behind technological development and still focuses on regulation at the national and EU level. It is indicative that the policy framework of *Television without Frontiers* (TWF1989) is still essentially in place. Even when in 2003 the Commission launched a wide public consultation on the TWF Directive it was concluded that:

The Television without Frontiers Directive is the cornerstone of the EU's audiovisual policy.....In the light of the results of the consultation procedure, the Commission concludes that the current situation of the market does not require a re-examination of the Directive in the short term. However, in the medium term, a thorough revision of the Directive might be necessary to take account of the technological developments and changes in the structure of the audiovisual market (European Commission, 2003).

Yet technology has outpaced the possibility of ruling on the issues at the heart of *Television without frontiers*: advertising and content, for instance. Satellite delivered material is no longer susceptible to the older regulatory frameworks. We highlight the policy issues which are at the heart of a new television policy – the transnational media spheres and their impact on the information available to minorities in EU states, and the intractability of these issues to national legislative regimes.

In developing an understanding of the role of media in the process of integration, we draw new connections across the conceptual space of citizenship studies, and recast our understanding of the mediated worlds of EU citizens. The reconceptualisation has multilevel impacts, at the level of analysis and reframing of the issues of integration and citizenship in the EU, at the level of policy, and in particular media and citizenship policy in the EU, and at the level of data and commercial practice in the television industry. It draws on the Arabic speaking community itself for input at every level of the process, thus creating a new space of public debate in the European Union.

And not just of the European Union. New spaces of debate have opened across the world, even in Australia where, as Rai and Cottle (2007) note, satellite access is less pervasive than in Europe. In Australia, as we consider introducing a citizenship testing regime, we are replicating much of the European debate. Discussion about citizenship has been in the context of theorizing and legal structures which are essentially national in framework. Even more than in the European Union, Australia has insisted on its national boundaries. By reminding legislators and policy makers of the importance of mediated communication in the creation of culture, we remind policy makers that citizenship, both in the bare legal sense, and in a broader sense of cultural citizenship, is no longer a purely national matter.

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PUBLIC SERVICE MEDIA

KIM DALTON

Director of ABC TV

Good Morning. I'm very glad to be here and to speak to you as part of this wide ranging conference. I think it's indicative and highly symbolic that a line can be drawn between just about every other topic being addressed over these two days, and a link and connection made with all the issues that I will cover in my speech. It's indicative of the nature of the digital media environment in which we're all operating, and symbolic of the changes that have been, and are occurring right now. No more one way straight lines and directions; in its place, convoluted snaking criss-crossing connections that go back and forth, and are never still.

We are all in the midst of the massive changes occurring in the digital media environment in Australia. Old certainties about how content is made, stored, delivered and exploited are being swept away. The old alliances and competitors are in a state of flux.

Alongside the digital and analogue free-to-air services both commercial and public we have digital subscription and pay per view services; we have interactive functionality; there are burgeoning choices for online video downloads and video streaming; user created content is being uploaded and shared constantly; social networking is blossoming on the internet; virtual worlds are created and populated at speed; the print media is expanding into online content and video delivery, and citizen journalism. The hot concepts right now include IPTV, Internet Television, Web TV, digital broadcasting and video-on-demand – but this will change soon. Viewers are evolving from just sitting back and channel surfing to taking for granted what has been called the C-words of the digital realm: control, convenience, customisation and choice.

What I'm going to talk about today is a new, invigorated role for public service media in this digital space. Not just in terms of the nature, range and extent of its services and content offering, but its role in delivering against a broad government policy framework. In the analogue world the ABC has been an important part of the broadcasting system and its policy outcomes. In the digital era, in the increasingly complex digital arena, the public broadcaster has an extended and a more central and critical role to play in ensuring that government can achieve its broadcasting and media policy objectives.

If we look back over more than five decades, Australian governments have created and sustained an audio-visual public policy framework to regulate the broadcasting environment. They've done this for a number of reasons, not least because they've always recognised the importance, the potency and the significance of broadcasting in the public arena. Governments, in acknowledging the power and persuasiveness of all forms of media, have continued to intervene in this space. The traditional rationale for public service broadcasting arises both from the perceived and the real social importance of the broadcasting media and the potential influence that broadcasting can have on values, attitudes, and beliefs.

And over these five decades, not much changed in the way business was done and the way viewers watched programs: public broadcasting legislation provided for firstly the ABC, and subsequently SBS, broadcasting legislation has regulated commercial free-to-view, subscription, and community television services, media ownership laws have had their

influence, content regulation has provided for minimum levels, at least, of local content for both children and adults, and legislation has provided for classification, captioning, and copyright and intellectual property protection.

Apart from the regulatory, commercial and technical issues governed by the policy framework, a critically important goal of the policy over the years has been to achieve certain cultural outcomes. By and large, these cultural outcomes are manifested in the production and delivery to Australian audiences of diverse, quality, engaging Australian content.

On this point, let us not forget that the history of Australian content on Australian television is in fact the history of regulation. Where and when government intervention through regulation has been absent, so too has been an extensive and diverse offering of Australian content. This applies to the ABC which when confronted with revenue pressures, both the volume and diversity of its Australian content has been the first to suffer. It certainly applies to subscription television and it will apply to any free-to-air multi channel offering, developments in the area of IPTV, and other developments coming to us from the digital future.

Of course, our existing policy framework was established under very different social, technological and economic conditions. It evolved in response to the particular conditions here in Australia: a small population and a large country, a combination of public and commercial interests, a dominance of overseas content and little or no local production industry in the early years of television. Since 1961, it has involved a combination of regulation of commercial free-to-view television, Federal and State government subsidies, and, importantly, funding to the ABC.

Public broadcasting has always been one of the key planks of government policy intervention in the broadcasting environment. The characteristics traditionally associated with public broadcasting include universality of service, universality of appeal (programming that appeals to wide sections of the community), providing for a range of interests, a relationship to identity and community, independence, universality of funding and ideas of quality and innovation.

Central to the concept has been the goal of serving community needs and the interests of the public. This is reflected in ownership, funding and programming that deliver a public sphere, a public space, for both serious discussion and entertainment, and for the dissemination of information and ideas essential for the functioning of a democratic society.

Of course our existing policy framework was designed for a broadcasting environment which has already undergone dramatic changes and will continue to change. The revolution that we've been hearing about since the mid 90's is finally upon us; with Web 2.0, better broadband speeds and more household computers and broadband connections than ever before, we are now **really** coming to understand the meaning of convergence, of user choice, and of being connected. We are rapidly reaching a tipping point: a point where network television won't be such a dominant and driving force, where time and place shifting devices will tip the balance to truly fragmented and self-pleasing audiences, where a significant portion of network content will be delivered online.

Notwithstanding all this change, the broad concepts, developed in an analogue broadcasting environment, remain relevant for a digital media world. However, I am proposing that in this

rapidly evolving digital environment, it is time to reassess and where necessary reshape the Australian broadcasting policy framework. And while the environment has changed, all the reasons for the original policy framework remain just as vital, especially the cultural reasons.

The policy ambition of the analogue era provided for Australian communities to have access to commercial and non-commercial services, for greater content choices than the market would otherwise deliver, as well as for enhanced content innovation on the supply side. The ABC has played a central role to all this throughout its existence. And this role remains just as necessary in the digital world, where the big fish keep swallowing the minnows, where audiences are fragmenting and the fight for them is more ruthless than ever, and where the drive for fragmenting revenues will inevitably interfere with expanded choice and innovation in content.

It is in this context that I maintain that what hasn't changed is the underlying cultural rationale for a new policy framework to ensure Australian content is available to Australians in the digital era. If it is true that the history of Australian content on Australian television is in fact the history of regulation, it is equally true that the policy debate around broadcasting in Australia is largely driven and dominated by issues around developments in technology, infrastructure development, spectrum management, commercial outcomes and structures, ownership and control. At the moment, on the eve of an election, we have spirited public debate about broadband rollout with little or no consideration given to what content will be going down the pipes. We hear about broadband and education, broadband and home entertainment systems, broadband and download speeds, broadband and child safety even, but rarely if ever about broadband and locally produced content.

In fact the only time the issue of content, and in particular local content, in the digital era took centre stage was during the US free trade agreement discussions a few years ago. The importance of ensuring a space for Australian culture, a space for Australian content in the digital space was recognised by everybody from the Prime Minister down, perhaps with the exception of The Australian newspaper. And ultimately, in February 2004, after concluding the agreed text for the Australia US Free Trade Agreement, the Trade Minister Mark Vaile stated that a critical element of the agreement was that Australia still had the right to ensure local content was retained in broadcasting and audiovisual services, including new and emerging media formats. It was critical then, in 2004, and remains just as critical the deeper we move into the digital environment where audiences are behaving very differently to the mass prime time audiences of the past.

Audiences are now increasingly consuming and engaging with content in fundamentally different ways to the must-watch primetime viewing. Although network TV is still the way most people view TV content, audiences are moving to new platforms and dedicated services, as well as accessing content online and via a range of devices. And they don't just sit and watch quietly; they also want to share the content with each other, and they want to participate in the creation of programs. Audiences have a whole range of new expectations around their content – they expect to choose specific content, they expect to timeshift and placeshift to suit themselves, and they want rich media extensions to programs, the ability to interact, the ability to engage in communities of interest around their programs and areas of interest. Now they even want to build, program and share their own channels. And the content that they view, the content they share and the content with which they want to participate, increasingly is not Australian.

So why is Australian content as important in the digital environment, as in the analog environment?

Whatever else has changed, the thing that remains true is that audiences come together around content. Individuals are drawn to a collective experience around the desire for information, for entertainment and sometimes education. Content is the defining characteristic of the experience and it is the nature, the quality, the relevance of that content, to which an audience relates.

Australian television audiences have access to Australian content by and large as a result of Government policy. If the effectiveness of the policy is diluted by changes in the environment, if the policy framework developed for an analogue world is increasingly no longer fit-for-purpose, then increasingly the Australian community will not be able to find and enjoy quality, engaging Australian programs and content.

Apart from recognising the relationship, and its importance, between Australian culture and Australian audiovisual content, the Howard Government over the last two years has shown its commitment to providing for the availability of Australian content in other ways; through the \$30m funding provided to the ABC last year for additional Australian content in the areas of drama and documentary, and earlier this year with the new \$280 million screen media package, which is aimed at assisting the development of a more sustainable production industry as well as increasing the level of Australian television and feature film production.

However, if we acknowledge the changing environment, as we must, and if we acknowledge the ongoing rationale for a policy framework, which we do, then we need to think about what form a renovated and fit-for-purpose in the digital era policy framework should take. As I said, the Government's interventions over the last two years have been welcomed, and now, to meet the challenges of the technological, social, and economic changes occurring in the digital media world, we need to formulate a new policy paradigm that addresses the tectonic shifts in production, distribution and consumption of content.

Governments will always have the policy tools of regulation and the provision of direct and indirect subsidies available to use. However, as the effectiveness of these interventions is increasingly challenged by the complexity and pace of change, I would argue that the role of the ABC as the public broadcaster correspondingly becomes more important as the vehicle by which cultural policy outcomes can be achieved.

Do we believe new media markets will deliver Australian content to Australian audiences any more effectively than the existing television markets? I think we need to acknowledge that a significant level of Australian content being available to Australian audiences in the digital space will not happen of and by itself. A renovated public policy framework around the regulation and funding of content, and particularly around public broadcasting, will be required – and it will need to be fit for purpose in the digital era. As I noted earlier, I see a new invigorated role for the ABC in the new policy paradigm. It has played a fundamental role in the past, and can continue to play a vital role in a framework that underpins the creation, distribution and availability of Australian content in the digital era.

The ABC has traditionally sought out and cultivated talent and contributed to the development of the Australian screen content creation sector, demonstrating and encouraging creative excellence, innovation and integrity in its programming, and nurturing the Australian production sector. The ABC has played an important role in the development of the

independent production community; I see this role as naturally encompassing the new media and digital content services industries into the future, increasingly important as stakeholders and as production partners with the ABC. Our common interests lie in delivering diverse, quality, Australian content to audiences.

So I think the time is right for the ABC to take on a rejuvenated role within a renewed public policy framework. The ABC can lead the way in the digital environment in creativity, innovation and in content creation, setting competitive benchmarks in the volume, quality and range of Australian programs for our broadcasting and content creation industries.

As I said earlier, in my view there is not enough attention being given to this, in the noise, and bustle, and excitement, and, dare I say, confusion, of the digital environment. Up to now the media policy debate has pretty well been dominated by commercial interests, and by and large the deliberations around the digital future has focused on technology and infrastructure – there has been very little attention given to the cultural policy issues of Australian content and its place in that digital future. For example, the impact of spectrum re-allocation without consideration of Australian content has the potential to limit the breadth and range of its availability, as well as limit Australian people's ability to access Australian content.

The need for a rejuvenated policy framework for the digital environment is nowhere more clearly illustrated than in the current arena of children's content in Australia. As the ABC has outlined in its submission to the Australian Communications and Media Authority for its review of the Children's Television Standards, in the new digital environment Australian children and parents are not being well served by existing regulatory arrangements. As children increasingly seek out content on new platforms, including subscription television and online, the current policy structure, based around traditional commercial free-to-view television, looks increasingly outdated. The key issue, if the cultural objectives of the policy framework are to be achieved, is to ensure that audiences and quality Australian content connect. If Australian children and parents are to have access to Australian programs in the developing digital environment, new and additional mechanisms must be considered.

The ABC can lead the way in this area which is why we are advocating a dedicated, commercial-free Australian children's channel as an integral part of the policy solution. A dedicated children's digital channel, in conjunction with innovative content across multiple platforms, has the capacity to meet the demands of the children's audience by way of multi-platform delivery, interactivity, on-demand services and user-generated content.

The example of the changing children's content market is the canary in the digital coalmine. The migration of children's audiences to subscription and online services, seeking new and richer content, is an indicator of what is happening slightly less rapidly across all audiences.

So where do we go from here?...

I'm arguing for a revised and contemporary policy framework which will reassert the importance of cultural objectives in the digital environment. This new framework should encompass appropriate regulation and direct and indirect public subsidy as it has in the past; and a re-energised role for the national public broadcaster as a leading player in the implementation of the new policy framework. It must place content at the centre of communications policy, with public media as a core element of the content framework

The policy renovation must be broadly based in its conception of regulation, funding and support. However, most especially it must recognise and ensure a place for the ABC - a place for a generally available and free, independent national media organisation; providing diverse, quality and innovative Australian content; across multiple channels and platforms to a multiplicity of devices; a place to connect and speak directly to audiences.

In the digital realm the ABC has an ongoing role as a source of independent, trusted, high quality programs, particularly Australian programs, and as a place for developing a sense of community and social cohesion.

In this environment, in maintaining a public media presence, independence must be guaranteed, funding must be adequate to meet the needs and interests of the community and to promote the flow of information and ideas. There must be appropriate accountability in terms of the discharge of its mission and the use of public resources.

The ABC holds a remarkable and unique unifying position in the hearts and minds of the Australian public. In the on-demand world, where audiences graze across platforms, and consume content from a multiplicity of devices, the new framework must ensure that the ABC remains a part of the nation's cultural, social and political life.

COMMUNICATIONS AND MEDIA

FUTURES STUDIES: LOOKING BACK AT LOOKING FORWARD

PAUL ROBERTS

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Background

Most people readily accept there is a need to keep pace with change. Driven by digitalisation, convergence and the rapid increases in take-up and use of the Internet in Australia and internationally, changes in communications, ICT and the media pose challenges for the consumers, governments and service providers. One way to meet that challenge is through futures research. Futures research examines the possible social and economic consequences of change so as to anticipate and be responsive to the emerging environment. Futures research helps to push out the margins of current thinking by challenging old habits and well-established assumptions.

Research of a similar nature is underway internationally. The focal question of the OECD's *Future of the Internet Economy* project (FOTI) is about what we want the network to look like in 10-15 years time with the aim being to 'influence the Internet as a positive agent of change'¹.

The Australian Communication and Media Authority (ACMA) aims to be known as an integrated, forward-looking, proactive and flexible organisation. A core element to building this reputation is to research and analyse local and international trends in the development of emerging technologies, services and uses of communications, ICT and the media. This research provides ACMA with a robust and credible knowledge base upon which to meet its statutory responsibilities as a regulator – an evidence-based regulator².

ACMA applies a range of strategies in its evidenced-based approach, including collecting and analysing data on industry performance, research into consumer, user and audience issues, and keeping informed about emerging technologies and services. Futures research has also been applied to examine the regulatory consequences of change.

One of the hurdles in thinking about the value of futures research is that there are no facts about the future – there is no evidence. The task is abstract and conceptual. Because the issues are non-linear and emergent, a tolerance for ambiguity helps. Thinking about the future is all the more uncertain in periods of constant flux and change – where things might go this way or that. The inherent uncertainty in many ways means that the future cannot be predicted.

What futures research does do is to develop an understanding of what could plausibly happen and to use that insight to identify risks and to exploit opportunities to be proactive. In ACMA's case, to use futures research to build a resilient approach to regulation.

¹ www.oecd.org/FutureInternet

² *Regulating a dynamic mobile telecommunications industry*, Speech by Chris Chapman to the Mobile Telecommunications Conference 06, 20 September 2006, www.acma.gov.au

Objective

The objective of this paper is to illustrate how futures research - together with evidence of actual developments that supports a view of the future identified in prior futures research - aides in being proactive, responsive and evidenced-based.

To keep the process to a manageable size a case study approach has been taken drawing on the 'distributed collaboration' theme anticipated in past futures research and to compare that with actual developments up to mid 2007.

Two past Australian futures projects are evaluated: Vision 20/20 (ACMA) and Smart Internet 2010 (Smart Internet CRC). Research for both projects commenced in 2004. The final reports respectively were published within four months of each other in 2005. Both projects looked further out than 2007 to inform planning in the medium term.

Past futures studies

Vision 20/20

In April 2005 ACMA published the *Vision 20/20: Future scenarios for the communications industry – implications for regulation* report. Out of a range of critical uncertainties Vision 20/20 participants selected those that they considered posed the most challenges for communications regulation in the future. Five scenarios were then developed that examined what the communications environment might be in 2020. Possible tensions in the emerging environment were subsequently identified from the scenario narratives. The main themes derived from the five scenarios were assessed with the emerging tensions into an integrated strategic landscape with two key uncertainties: high or low levels of collaboration, and centralised or distributed control.

Out of the five scenarios, *Sensitive new age future* assumed distributed collaboration (high levels of collaboration with distributed control). The narrative summary described a future communications environment 'with global networks, open standards and full interoperability – individual self-reliance and social responsibility result in trust and cooperation. There is good consumer choice and satisfaction' (page 5). Possible developments that the Vision 20/20 report identified as being consistent with distributed collaboration included the emergence of:

- a regulatory environment –multi-layered and dynamic – that would require more responsiveness and flexibility through cooperation locally and nationally, between governments and among governments, non-governmental organisations and private interests;
- decentralised and distributed networks, where intelligence lies at the edge and is independent of the network operator; and
- globalised communications where new relationships can be formed and perspectives shared, forming new points of reference in shaping behaviour and values.

Smart Internet 2010

The *Smart Internet 2010* report was published by the Smart Internet CRC in August 2005. The primary research question was what the Internet might be like from an end-user perspective. As with the Vision 20/20 project the objective was not to predict the future. The project applied a 'Schools of Thought' approach offering insights and differing visions of possible futures from domain experts.

In terms of distributed collaboration, the Smart Internet 2010 report contained a number of possibilities distilled from expert opinion:

- the emergence of a mobile Internet that ‘will create new forms of social interaction as fluid, networked-enabled swarms of users exploit technology to coordinate group action, collaborate, create and exchange content at an unprecedented scale and speed (page 16);
- open source software (eg. XML, RSS), peer-to-peer networking and social networking providing the infrastructure for virtual communities of like-minded or inter-connected individuals to collaborate;
- taken together, ‘social networking, open source and peer-to-peer (P2P) will disrupt more areas of social life as users self-organise to form “communities of practice” with other like-minded individuals’ (page 20); and where
- the Internet’s imperfections are more than compensated for by the webs of human relationships that keep it functioning.

Of the four schools of thought outlined in the 2010 report, the ‘Not the Smart Internet’ view came closest to articulating a ‘distributed collaboration’ viewpoint. Proponents of this view maintain that ‘a distributed network requires an open model of cooperation in order to foster innovation, improve fault tolerance, and provide scalable solutions’ (page 33). Social network ‘evangelist’ Howard Rheingold pointed to a new ‘culture of collaboration’ (page 38).

Indicators

Introduction

This section outlines evidence of distributed collaboration in the public and private spheres, nationally and internationally.

Distributed collaboration takes on many forms including social networking, online communities, intranets, virtual private networks as well as communication by email, instant messaging, video-conferencing and the like.

The enabling technology providing distributed collaboration is the Internet. Developed by networks of individual researchers, the Internet has been described as a ‘triumph of the research community’ – ‘The most collaborative technology ever created, itself, resulted from collaboration’³.

Social networking

The rapid increase in the use of social networking platforms is one of the most observed and telling examples of distributed collaboration that has occurred since 2005. ACMA’s *Telecommunications Industry Performance Report 2004-05* noted that, in July 2005, Technorati (a blog tracking service) was tracking 14.2 million blogs globally. By April 2007, Technorati was tracking over 70 million blogs, an increase of 55.8 million or 493 per cent⁴.

The content on social networking sites is largely created or reproduced by users. In a recent blog posting, Mark Pesce observed that: ‘We now have an expectation that when we encounter some media we find highly salient, we should be able to forward it along within our social networks, sharing it with our communities of salience’⁵.

³ Learning through participation and connecting intelligence, The Knowledge Tree, 2007

<http://kt.flexiblelearning.net.au>

⁴ <http://technorati.com/weblog/2007/04/328.html>

⁵ <http://blog.futurestreetconsulting.com/?p=30>

People not only have more access to information, they also have the ability to participate in new media. The transmission of information and images via new media is giving individuals more power to influence debate, share information and take collective action⁶.

Social networking is shaping up to be a significant factor in the 2008 US presidential election. *Tech President* is a website that tracks the number of Facebook ‘supporters,’ MySpace ‘friends,’ and YouTube views per candidate⁷.

Web 2.0 phenomenon

Web 2.0 is short-hand for describing a number of developments that have the following elements:

- the Web and all its connected devices is one global platform of reusable services and data;
- data consumption and remixing from all sources, particularly user created content;
- continuous and seamless updating of software and data, often very rapidly;
- rich and interactive user interfaces; and
- architecture that facilitates participation and interactivity.

Web 2.0 applications enable web users to interact with the Internet and create new forms of social interaction that are fluid, real-time and networked.

Online communities

Wikipedia is one of the best known online communities. Wikipedia is multilingual, free-content online encyclopedia run by a non-profit organisation. Wikipedia articles are written collaboratively by volunteers around the world. With fifteen times as many words as the largest edition of Encyclopedia Britannica, Wikipedia currently ranks among the top ten most-visited websites worldwide (Wikipedia, September 2007).

Whirlpool is an independent community website created in 1998 to foster information about the state of broadband development in Australia. A web-based forum on the website was created in 2001. The discussion forum on the site facilitates information exchanges between ISPs, consumers and members of the public.

Organisational collaboration

In *Mobilising Minds* McKinsey consultants Lowell Bryon and Claudia Joyce concluded that collaboration is the new strategic advantage in the 21st century⁸. Collaboration can mine collective intelligence and apply this learning capacity to adapt to complexity in the digital age.

An initiative by the United States intelligence community to improve information sharing and provide a collaborative work space has been described by the media as ‘MySpace for spies’⁹. According to the Director of National Intelligence, the intent is to enable ‘improved interoperability and seamless information sharing between the Department of Defence and the Intelligence Community’¹⁰.

⁶ *Communications in crisis – new media and real-time tensions*, presented by Nik Gowing, Main Presenter BBC TV. Futures Summit, Australian Davos Connection, May 2007.

⁷ <http://www.techpresident.com/>

⁸ The Knowledge Tree, 2007 *ibid*

⁹ US launches ‘MySpace for spies’, FT.com, August 21 2007, www.ft.com

¹⁰ Office of the Director of National Intelligence news release no. 17-07, www.doi.gov

In June 2007 ACMA agreed to participate in an international ‘convergent’ communications regulators group collaborative research project. The project is designed to provide a snapshot of the organisational structures and regulatory strategy of convergent regulators as well as insights into forecasts of future convergence scenarios. The aim is to offer insights into the range of opportunities and challenges currently facing convergent communications regulators.

The FOTI project was initiated in recognition of the need for international collaboration to develop and implement enforceable solutions to the recurrent Internet security and privacy issues being experienced in multiple jurisdictions.

In itself the project methodology is an interesting example of collaboration. Apart from OECD member countries, non-member countries, representatives from the research community, business and from civil society have been invited to participate. As the project web site states: ‘A high level perspective is needed to identify inter-relations, broad implications and for all stake-holders to rise to the challenges of adapting to this new environment.’

The issues – creativity, confidence and convergence- are interconnected. Consequently, policies that address them need to be formulated across a range of areas such as communications, economic, consumer protection and information security policy, needing cooperation between governments, the private sector, organised labour, the technical community and civil society. They are multi-disciplinary issues with strong societal implications that require the attention of Ministers¹¹.

One of the main points from a FOTI workshop held in January 2007 was ‘the openness of the Internet has been a clear factor in fostering competition and innovation, and is increasingly enabling users to develop, collaborate and distribute content and customise applications. This openness is driving a range of new social and economic opportunities and deepening the role of the Internet as a key part of our economic infrastructure’¹².

Analysis

Distributed collaboration is changing the way individuals, businesses and governments communicate and access information. Thomas Friedman (a columnist with the New York Times) describes it this way, ‘The world is flat – it has been flattened. We are going from a world of vertical silos of command and control to a world where value is created horizontally by who you connect and collaborate with’¹³.

Improving connectivity between people and communities has significant social consequences. The more connections there are between people and within communities the more likely they are to collaborate. Content innovation has become decentralised. The Internet has a democratising impact on media production through increased user participation. The availability and diversity of content is on the increase. User-created content tends to be collaborative.

¹¹ http://www.oecd.org/document/19/0,2340,en_2649_201185_38051667_1_1_1_1,00.html

¹² *Social and Economic Factors Shaping the Future of the Internet*, OECD, July 2007, www.oecd.org

¹³ Thomas Friedman, *In a flat world imagination is the key*, Sydney Morning Herald, 4 May 2007, www.smh.com.au

As long as the drivers of ‘connectedness’ remain (open standards, interoperability and ‘creative commons’ content) distributed collaboration will continue to develop. A critical uncertainty is whether the open nature of the Internet is sustained.

In his *The Wealth of Networks: How Social Production Transforms Markets and Freedom* (2006) Yale Law Professor Yochai Benkler concluded that the feasibility of producing information, knowledge and culture through cooperation, rather than market or proprietary relations, creates the opportunities for a better informed and engaged society (page 92).

The indicators outlined in this paper suggest that distributed collaboration is becoming a meta-trend – a force of massive change economically, socially & politically. Change of this scale is expected to force people and organisations to adjust

their world-views, their behaviour and business models. These adjustments will have consequential effects on social, institutional, legal and business frameworks.

Conclusion

Although futures research is not able to predict the future, schools of thought and scenario planning methodologies provide a range of possible futures that can enable a ‘readiness’ for – and to possibly shape – the future. The benefits of foresight are potentially at the most powerful in identifying early signs of meta-trends that drive massive social and economic change. Having advance knowledge and understanding of change of this nature has the potential to drive strategic advantage where the foresight is translated into effective anticipation and resilience.

Post-futures research tracking and analysis of indicators or sign-posts can provide evidence that supports – and to strengthen readiness for - a particular future foreshadowed in prior futures research actually emerging. The benefits of this evidence-based support for foresight further strengthens organisational capacity and confidence in being able to anticipate and be responsive to change.

TELECOMS & INTERNET

THREE BILLION

KEYNOTE ADDRESS BY MARK PESCE

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Introduction

Good morning. I'd like to thank Mark Armstrong for inviting me to speak with you today. This is a rare opportunity to approach some of my favorite research topics within the context of a comprehensive intellectual framework.

That said, talk this morning is going to be all about accident – about the accidental nature of everything that's going on right now, these subjects that we study so assiduously. Everything, despite our best intentions, is accidental. I don't mean this in the sense that a car smash is accidental; rather, it is that we have entered a world where everything has become essentially unpredictable. In the context of this conference, the concept of accident is highly relevant: what can “policy” mean, if everything is accidental?

Part One: Give the Poor a Helping Hand(set)

For at least the past two thousand years, the traders of Arabia have built small, sturdy sailing ships – known as *dhow*s – and set out across the Red Sea, the Persian Gulf, and the Indian Ocean, in search of spices, jewels, and precious metals. The great trading city-states of the Arabian peninsula – such as Bahrain – gained their prominence as the nexus of the routes for these traders. Throughout all of Western Asia, these cities were famed for their *souks* – the marketplaces where buyers and sellers from across the known world came together in profitable exchange.

Traders were humanity's earliest version of a network; the trader carried material – atoms – from one point to another, but, far more significantly, they transmitted information – bits – in their news, rumour, craft techniques and technologies, which were as much their stock-in-trade as any pearls or cinnamon. The earliest packet-switched network was, quite literally, composed of packet ships. Each of the cultures which fronted on these seas and oceans learned something from the traders who came to visit; each of these cultures were influenced, in a “spooky action at a distance”, by each other. The traders took the best of each culture, editing it down to something compact and transportable, and spread that widely. Even the dhow evolved, as traders encountered other seafaring cultures, adapting the best improvements into their own design until the dhow itself became a potent bit of information, something that, due to their ubiquity in the seas of West and South Asia, was widely copied.

Dhows are still in widespread use today, around Arabia, and all of the coastlines touched by those traders so many years ago. It's a time-tested design that can be hand-built using local materials. As such, dhows well suit the materially disadvantaged cultures of South Asia, and, in particular, the southern Indian state of Kerala. There, fishermen have taken their dhows to sea for countless hundreds of years, dropped their nets, hauled their catch, then set their sails back to shore. The Kerala coastline is dotted with fishing villages, each with its own fish market. On any given day, any number of fishing dhows might dock at a particular village. Should too many pick the same port, the market has too many fish, and, while the buyers get a

bargain, the fisherman won't even earn enough to cover the cost of taking the dhow to sea. Meanwhile, just a few kilometers down the coast, another village has been overlooked by the dhows, and there's no fish available at any price. This is the way it ever was in Kerala; a chaotic market which never quite meets the needs of buyers and sellers.

Just a decade ago, as India began its meteoric rise into industrialization, several of its wireless telecoms firms strung the Kerala coast with GSM transceivers. Radio signals travel by line-of-sight; this means they reach out over the Indian Ocean to a distance bounded by the curvature of the Earth – around 25 kilometers. While handsets are, in a relative sense, quite expensive for Indians – they cost about a month's earnings for a fisherman (or the earned equivalent of nearly AUD \$3000) – one relatively wealthy fisherman bought a handset and took it to sea. At some point, during one of those trips to sea, he got a call or text from the shore – probably something family related. In the course of that interaction, the fisherman learned that there was a fishing village completely without fish, and ready to pay almost any price for it. That day, the fisherman headed for that port, and made a tidy profit. Perhaps, on the next day, he made a few calls, while still out to sea, to find out which village was wanting for fish. And so on.

This would not have gone unnoticed by the other fishermen in Kerala; they are a community, and while they compete, they also freely share information amongst themselves – that's what communities do. The news of this innovation would have spread among them very quickly. And, despite the staggering cost, each of the fishermen – even the poorest among them – were soon sporting GSM handsets. Each day, as the fishermen assess their catch, there's a flurry of communication between these fishermen and the fish markets dotting the coast, as the fishermen learn where their catch will get the best price.

Kerala in 2007 is a different place. The markets always have enough fish; no market goes wanting. But there's always just enough fish to guarantee a good price – there are only rarely gluts in the market. The fishermen are getting a good price for their fish; buyers and sellers are both satisfied. And the fishermen are earning more money; so much more that a handset – as expensive as it is – will be paid for in just two month's time.

How did this happen? Using wireless communications, the fishermen and fish sellers created their own market, practicing the time-honored principles of supply & demand – just like any electronic bourse in the industrialized world. But this developed on its own, by itself. It simply emerged, naturally, through the interaction of people and mobiles.

This was not predicted. Nor was it predicted that farmers in Kenya would use mobiles to phone ahead to the various village and regional markets to learn the going prices for their maize and sorghum, so they too could make markets and maximize their profits. Or that the spice traders of India and Arabia would use SMS to create far-flung auction networks, their own emergent eBay. Yet all of these – and much, much more – are now happening. When you add mobile communications to any culture, a now-recognizable pattern comes into play: some person, through their interaction with the handset, improves their economic fitness; this behavior is then widely copied through the culture. It happened a thousand years ago, via the great trading cultures of Araby; it's happening again today.

Mimesis is the essential human condition; we have recently learned that the one thing that separates us from the chimpanzees is not our ability to use tools, but rather, our ability, from our very youngest years, to imitate behavior. Behaviors which increase our economic fitness are strongly selected for; we adopt them quickly and pass them along to our peers and children.

We now know, beyond any argument, that mobile communications *inherently* increase our economic fitness. A paper published last month in the *Quarterly Journal of Economics*, titled *The Digital Provide: Information (Technology), Market Performance and Welfare in the South Indian Fisheries Sector* takes a look at the Kerala phenomenon in detail, and determines, through an elegant analysis:

The adoption of mobile phones by fishermen and wholesalers was associated with a dramatic reduction in price dispersion, the complete elimination of waste, and near-perfect adherence to the Law of One Price. Both consumer and producer welfare increased.

The lesson of Kerala is not specific; there is a general economic principle at work. It is known that the lifeblood of any market is information; when you improve the ability of participants in a market to communicate, you remove many of the inequities which plague markets everywhere. It has now been demonstrated that such inequities are a major part of the reason why poor populations remain poor. Simply by improving their ability to communicate, you can improve a person's economic fitness. This assertion doesn't strain credulity: imagine trying to trade at a market in a foreign land; without access to the common language, you'd fail to trade, or, worse, be taken advantage of. The development of 'pigins' – simplified languages – go hand-in-hand with the spread of trading cultures. Savvy?

The phenomenon officially recognized in Kerala had already been de facto recognized by organizations which participate in microfinance. Microfinance allows the poorest of the poor access to the minimal amounts of investment funds needed to dramatically improve their economic fitness. These loans – which can be for as little as the equivalent of ten or twenty dollars – allow the applicant to purchase something which dramatically improves their ability to earn a living – a sewing machine, a milk cow, or – more and more – a mobile handset. The oldest of these microfinance institutions, Bangladesh's Grameen Bank, found itself lending out so much of its funds for mobiles that it recently started its own telecoms firm, Grameen Phone. In the first days of microfinance, a loan for a mobile handset would allow that individual to rent time on the handset to the other villages within that community, creating a pervasive, low-cost mobile phone service. But, as we now know, interaction with the mobile handset produces a rapidly-reinforcing series of feedbacks which end, inevitably, with individuals owning their own handset. Today, Grameen and other microfinance lenders make loans to individuals who sell new and used mobile handsets, repair broken handsets, and vend prepaid phone cards.

Sometime within the next few days, there will be *three billion* mobile phone subscribers. Perhaps 10% of those are subscribers who have multiple accounts, so there are roughly 2.7 billion *individual* mobile subscribers at present. It took about ten years to get to the first billion mobile subscribers; about 3 ½ half years to get to the second billion, and about *eighteen months* to get to the third billion. This process is accelerating along the all-too-familiar curve popularized in *Crossing the Chasm*. We're in the midst of an accelerating adoption of mobile communication, and soon – sometime around the middle of next year – half of humanity will own a mobile handset. **In a decade's time we'll have gone from half the world never having made a telephone call to half the world owning their own phone.**

This is shocking on two grounds: first, there is a deeply-held belief that mobile handsets are the extraneous accessories of a consumption-oriented Western lifestyle, that they are, in short, "bling." The hyperbole surrounding the June launch of Apple's iPhone makes this case convincingly. For us, here in the West, mobiles are status symbols. How could the expensive and unnecessary status symbols of the West be of any utility to the two thirds of the world who are, by OECD standards, poor? Yet, against this, consider the Nokia 1100, introduced in

2003, and designed to be both very inexpensive and – with its entirely sealed case – durable: dirt, dust, and water-resistant. Last year Nokia had sold its *two hundred millionth* 1100. To put that in context, compare it to the iPod – Nokia has sold twice as many 1100s as Apple has sold iPods – in half the time. It is, by far, the most successful consumer electronics gadget in human history. Yet, because it is not sexy, because it doesn't have bling, because it is aimed precisely at those emerging markets in the poor corners of the world, Nokia's unprecedented milestone went mostly unnoticed. In the West we are guilty of a willful ignorance; we've made our mind up about the value of pervasive wireless communication – that it is a toy to the rich, but worthless to the poor. In fact, quite the opposite is true. **Pervasive wireless communication is of far, far more value to the poor than the rich.**

Second, and what I will focus on through the rest of this paper, this rapid deployment of pervasive wireless communication will have unprecedented and largely unpredictable effects on human culture. We already have some sense of how little we know: we have the example of Kerala – absolutely unpredicted, though, in retrospect, it seems perfectly obvious. It is not that we are blind to the human capacity for self-organization and emergent behavior – indeed, we practice these behaviors every day – rather, it is that we have never made a study of them, and we certainly don't understand what happens when this capacity is amplified nearly infinitely by pervasive wireless communication. We're going to have to learn all of this, and learn it quickly, because along with the improvement in human economic fitness, another part of the same package, comes a new capacity for chaos, as innate human capacities for both good and bad are amplified almost beyond recognition.

Part Two: The Triumph of Netocracy

In the wake of the May 1968 riots in France, two philosophers stepped back to do a meta-analysis of the cultural processes which led to such a crisis. France was not under threat; the previous twenty years had seen the longest and strongest sustained growth French history. Yet the well-educated university-attending children of the bourgeoisie and petit bourgeoisie were out on the streets, fighting the police, burning cars, striking and shutting down these same universities which freely offered them an education. Why? How had this happened?

Over the next decade, these philosophers, Gilles Deleuze and Félix Guattari published a two-volume work, *Capitalism and Schizophrenia*, which argued that the riots and youthful revolt were a reaction to a model of authority and hierarchy which the *soixante-huitards* rejected as inimical to their humanity. In the first volume, *Anti-Oedipus*, Deleuze and Guattari looked at how all structures of authority descend from ancient forms of patriarchy, and that the natural reaction to this authority is the Oedipal desire to kill the father – the archetypal authority figure. *Anti-Oedipus* presented a diagnosis of the cultural illness, but it was the second volume, *A Thousand Plateaus*, which attempted to be prescriptive, outlining a methodology which might cure the patient. In opposition to hierarchy and authority, which *Anti-Oedipus* asserted produced a “schizomogenesis”, a rift in the fabric of human being, *A Thousand Plateaus* asserted the value of the rhizome, the horizontal stem which sends its shoots out laterally. The rhizome is the antithesis of hierarchy, not because it contradicts it (which is in itself an authoritative position), but rather, because the rhizome presents an alternative to it. In a collection of rhizomes – that is, a network – there is no top, and no bottom, no master and no slave. Everything and everyone exists within what Deleuze and Guattari identified as the *milieu*, the middle:

The middle is by no means an average; on the contrary, it is where things pick up speed. Between things does not designate a localizable relation going from one thing to another and back again, but a perpendicular direction, a

transversal movement that sweeps one *and* the other away, a stream without beginning or end that undermines its banks and picks up speed in the middle.

When *A Thousand Plateaus* was published, a quarter-century ago, it shook the foundations of philosophy. Much of the “postmodernism” which cultural conservatives sneer at comes from the pages of the that text. (This reaction is perfectly in keeping with the recognized conservative tendency to bow to authority, and demonize anything that represents a threat to that authority.) Yet, although the text presented a sort of “map” of a territory free from the schizimogenic qualities of authority and hierarchy, Deleuze and Guattari were philosophers, not revolutionaries: they did not present a battle plan to manage the transition from hierarchy to *milieu*. As it turns out, that roadmap proved unnecessary. It’s not that the ideas within *A Thousand Plateaus* were fruitless, but rather, at just the time both philosophers passed from the world, the rhizome rose and subsumed us all into its *milieu*. Where is this rhizome? All around us, now: pervasively, wirelessly, instantly accessible to nearly half the planet. The rhizome is the network.

This is not an original idea; it has been explored by many philosophers, though, in the earliest flourish of the network era, fifteen years ago, it received more attention than it does today. At that time, when the frontiers of network culture were first glimpsed, anything seemed possible, including something as profound the end of authority. But as the network was colonized by hierarchical forces – which had, in themselves, absorbed some of the lessons of the network – it seemed that, for all of its power, the network would simply recapitulate the forms of authority on an even more pervasive basis. This assessment was premature.

Although the network provides instantaneous connectivity, network effects are not in themselves instantaneous. These network effects are non-deterministic, and depend on the evolving interactive relationships between the individuals connected through the networks. It takes time for people, as the loci of agency within the network, to understand the strengths and weaknesses of the network, and translate those experiential lessons into ontological frameworks which guide behavior. Furthermore, the network is not one thing; it is a collection of things, and it is a growing collection of things. The network of 2007 is not the same thing as the network of 1993. This is in some small part due to the evolution of the technology of the network. It is, more significantly, due to the development of new human behaviors and techniques for using the network. These techniques, where proven successful, are then rapidly disseminated by the network, and which act as the catalyst for the development of other behaviors and techniques, which, when proven successful, are disseminated by the network. This is a self-reinforcing process, which had led, in fairly short order, to an enormous and entirely real sense of acceleration around both the network and the idea of the network.

This acceleration, like the acceleration of bodies in space, produces its own inertial effects – “gravity,” if you will. As acceleration increases, gravity increases, weighing down the objects which possess mass. In this case, and in this context, the massive objects are hierarchies. Hierarchies are being dragged down by this pseudo-gravitational force, and the life is slowly being crushed out of them. This is not a political statement: it is a diagnosis of the present.

Institutions, as the embodiment of hierarchies within human culture, are at this moment facing the growing threat of the network while, at the same time, their ability to move, to adapt, to maintain their self-integrity, is increasingly constrained by a force which makes them slower, heavier, and weaker. They are more focused on breathing than doing. This will not change. There is no magic cure which will revivify hierarchy. The network is too pervasive, too important, too laden with ever-increasing utility to be overcome, or forgotten. **The cultural**

incorporation of network ontology was the fatal crisis for hierarchy. And that point has already passed.

Although I may have overstretched a my metaphors in the preceding paragraphs, it is easy enough to give a few of examples which illustrate my argument:

- **Wikepeida vs *Britannica*:** the “crowdsourced” encyclopedia is now, on average, at least as accurate as the hierarchically produced, peer-reviewed production, and covers a far greater breadth of subject material than *Britannica*.
- **Television and film distribution:** since the advent of Napster in 1999, all attempts to control the distribution of media have met with increasing resistance. The audience now moves to circumvent any copy-restrictions as soon as they are introduced by copyright holders.
- **Politics:** The Attorney General of the United States of America resigned last week, because of the efforts of a few, very dedicated bloggers.

There has *never* been an interaction between the network and the hierarchy which the hierarchy has won. Not a single example. Even the “Great Firewall of China”, which, until last month, was the sterling example for the fans of authority, has now been revealed as a failed technical and cultural project. Wang Guoqing, the Chinese Vice-Minister for Information was quoted by Reuters, saying: “It has been repeatedly proved that information blocking is like walking into a dead end.”

All of this flows from Gilmore’s Law, which states, “The net interprets censorship as damage and routes around it.” In light of what we now understand about the network’s relationship to hierarchy, it should now be reframed as, “**The net interprets hierarchy as damage and routes around it.**”

Though it long dominated the organization of human affairs, hierarchy has had its day in the sun, and is passing from the scene. The pervasive presence of the network killed it. We now need to focus on the forms which are rising to replace it.

Part Three: The Dictatorship of the Wikitariat

Wikipedia is the poster child for the age of Netocracy. Its peer-produced, user-generated, freely-editable, open-source collective intelligence hits so many of the tick boxes of the network era that it seems very nearly a miracle suddenly appeared in our midst. In its first years, Wikipedia was more an act of faith than a useful reference tool. The continuous efforts of a dedicated community of believers translated a vision for a commonweal of knowledge into reality. Once it acquired sufficient content – again, best conceptualized as gravity – it began to attract readers, who, in turn, became editors and creators, adding more weight, which in turn attracted more readers, more editors and creators, more content, in a virtuous cycle of positive feedback which seemed to have no where to go but up, up, up.

I have some shocking news to report: it hasn’t turned out that way. Yes, Wikipedia is still growing, but – for at least the last year – the rate of growth has dramatically slowed down. The acceleration is actually *negative*. Wikipedia’s growth is slowing down. Why did this happen? Just a few weeks ago Wikipedia passed two million articles in English (all these figures concern the English-language version of Wikipedia), and yes, it will grow for some time into the future. But the growth of articles in Wikipedia should be steadily accelerating; it should be growing faster as it grows bigger. It was certainly doing that for several years. What’s changed? Is it possible that there are only two million topics of interest to the English-language users of Wikipedia? That seems unlikely, if only because Wikipedia is *the*

outstanding example of the power and beauty of the miscellaneous. Yes, all the major topics have been covered, but there's absolutely no way that two million entries can begin to explore the depth of human experience. It's inconceivable that this is all there is to say about Life, Culture, the Universe and Everything. Nor do I believe it likely that we have "crossed the chasm" into the downward slope – which would imply that four million article entries would pretty much represent the sum total of the English-language experience.

The true answer is far simpler, and, in its own way, far more dire: it is getting harder to create a new article in Wikipedia. One can still type in a topic, and be presented with an opportunity to create a page if nothing exists under that heading. It is *technically* as easy as ever to create a new article in Wikipedia. It's what happens after that article is created that has become the sticking point, the sclerotic plaque which is afflicting Wikipedia. Wikipedia, newly powerful, has engendered the production of its own elites, its own hierarchies – individuals and networks of individuals who have proven, through time, dedication and contribution, that their opinion matters. These individuals – the Wikipedians – have taken on the task of keeping Wikipedia concise, correct and *pure*. While each of these definitions is highly provisional and contestable, it is the last of these, *purity*, which is causing Wikipedia the greatest problems. The Wikipedians themselves don't use that term – in fact, they would object to its usage – but their increasingly dogmatic application of self-derived guidelines for the determination of the "value" or "worth" of knowledge has a nearly religious dimension. Wikipedians, in this context, are fighting a battle between the forces of chaos, on one hand, who seek to drown the meaningful information in a sea of miscellany and meaninglessness; while on another front, Wikipedians wage a constant war against special interests who seek to shape meaning to their own ideological ends. This continuing and ever-increasing stress has made the Wikipedians increasingly conservative. Wikipedians are coming to rely upon themselves more and more; the networked *milieu* which gave them vitality is rapidly fossilizing into a hierarchy, where certain individuals and groups of individuals assert control over specific topics and articles. These are the gatekeepers who must be appeased before an article can be approved, or an edit retained.

In the space of just six years, Wikipedia has managed to recapitulate the entire hierarchical structure which frames *Britannica*, albeit on a much broader basis, but to the same ends, and, in the long term, with the same results. Individuals and organizations are already forking Wikipedia and MediaWiki to produce their own works: Conservapedia, though laughable in some respects, is at least an honest attempt to right the perceived wrongs of the Wikipedians. Citizendium has taken as its basic premise that hierarchy must be embraced; Citizendium won't need to grow its own hierarchy, as Wikipedia did – it will have it from the very beginning.

The drive to keep Wikipedia pure is interesting and indicative of a certain vitality, but in the long run it is also entirely pointless. **You can not censor Wikipedia**; or rather, if do attempt to do so, the net will simply route around you. The chaos and miscellany that Wikipedians reject are, in fact, the lifeblood of a universal encyclopedia. They will find a home, somewhere: if not in Wikipedia, then in something else, which will begin to grow in ways that Wikipedia refuses to, until it becomes a gravitational center in its own right, and this thing-that-follows-Wikipedia will perform a dance on Wikipedia's desiccated corpse, much as the Wikipedians have done with respect to *Britannica*. The human desire to create order from chaos – this noble desire which is strangling Wikipedia – seems perfectly natural to us; we believe order is a prerequisite to utility. But we longer have the luxury of thinking in those terms. Our present and our future are all about the newly empowered netocratic forces loosed in the world.

Conclusion: The War of All Against All

An SMS forwarded through a Chinese city can result in an anti-government demonstration – even when the government censors the messages passed through the state-owned telecoms firm. Another SMS can send a crowd of white supremacists out to foment a riot in Cronulla. A ringtone sampled from an illegally taped telephone conversation can bring down a head of state. A meticulously photographed copy of every page of a purloined copy of the last *Harry Potter* can be distributed around the world in minutes, days before its publication. There is no control anywhere in this, no center, no authority. Things just happen. In all of this, like-minded individuals come together, across the networks, and, through this “spooky action at a distance,” act in a coordinated fashion even while scattered to the four corners of the Earth. It might look like Wikipedia – or it could look like al Qaeda. It matters not: the same forces are at work.

As we bring individuals into the network, we grant them the perfect tool to resist authority, to hack hierarchy, to make their own way as fully empowered individuals within a globally networked body politic. For this reason, the 21st century will look a lot like a continuous, low-level civil war. Imagine the “flame wars” of USENET or even Wikipedia’s discussion pages, amplified and shared, globally and instantaneously. We *already* live in this world: a student journalist’s encounter with a taser makes its way onto YouTube minutes after the event; a politician’s racist epithet ruins his career – even without any TV cameras to broadcast the slur; a shadowy, fragmentary, Sharia-inspired resistance cell in Iraq films its latest IED attack, and shares the results with its unknown yet equally-well-connected co-conspirators. This is the shape of the 21st century. It *is* chaotic, and no amount of hand-wringing or wishing for a *strong* “daddy” of an authority figure will grant any of us any safety whatsoever. All authority has been hacked. The Net killed Daddy.

Finally, the net itself represents the last authority, the last hierarchy. The telecoms firms themselves, and the networks they control, are the last, best hope for hierarchy. The physical implementation of a telecoms network – where all the end nodes flow through a series of concentrators to a central hub – is the word of hierarchy made flesh. Although networks have engendered the collapse of hierarchy, the agents of that collapse – these telecoms firms – have been strangely resistant to these same qualities of those networks. But not for very much longer. With the recent advent of mesh networking, the networks themselves are now becoming as radically restructured, radically decentralized, and will, in themselves, be as chaotic as the culture they engender.

Just as the audience seized control over both the creation and distribution of media, this planetary mob is asserting control over the bandwidth and spectrum which have, until now, been the sole province of telcos and governments. We are gearing up to another fight, hierarchy against network (even now in its opening rounds, in the disguise of “net neutrality”), and once again, if history is any guide, the hierarchy will draw back from the field bloodied and defeated. At that point, networks will be the physical embodiment of the process they engender. The network is already pervasive; soon it will also be entirely rhizomic. The triumph of the network will be complete.

USER-LED INNOVATION: A NEW FRAMEWORK FOR CO-CREATING KNOWLEDGE AND CULTURE

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(Refereed)

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Preface

This paper presents insights to emerge from recent Smart Internet Technology CRC research on user-led innovation. That research attempted to construct a synthesis of current user-led thinking and was informed by interviews with thought leaders and insights from the secondary literature. After a detailed exposition of the user-led domain this paper will discuss how these ideas and practices have shaped the development of innovation policy frameworks in Denmark, Finland and the UK. It will also briefly canvass a number of pathways being taken by public sector organisations to leverage the participation of their citizens in the interest of co-creating new services.

Introduction

User-led innovation is transforming the way organisations develop new products, services and knowledge. Service-based organisations can particularly benefit from leveraging the participation of their audiences, customers and citizens. Today's consumers have much greater input into the creation and dissemination of the products and services they consume. User-generated content in the form of blogs, wikis and social networks pose a challenge to mainstream media's monopoly role in the production, packaging and distribution of cultural content. Open Source software, virtual worlds and media-sharing communities are at the forefront of new modes of user-led innovation that unsettle established boundaries between producers and consumers. Such communities provide valuable insights into new forms of innovation and knowledge discovery.

As the case with earlier media epochs the present new media environment is often characterised as a struggle between contending forces of top-down control and bottom-up anarchy. Henry Jenkins, Director of Comparative Media at MIT has discussed this in terms of two contradictory trends shaping the current media landscape: the rise of "participatory culture" and the concentration of media ownership.¹ While the idealism for authentic user empowerment holds genuine potential, in many cases it is tempered by the corporate pragmatism of limited licensing agreements, terms of service obligations and IP arrangements that keep a firm leash on user-created material.

¹ Jenkins, Henry (2006). *Convergence Culture: where old and new media collide*. New York University Press: New York.

The media and entertainment sectors have begun to embrace the “participatory culture” movement on their own terms through initiatives aimed at appealing to the public’s seemingly insatiable hunger for user-generated content. Established news providers have responded to trends in citizen journalism by encouraging members of the public to upload pictures and video to sites like ‘You Witness News’, developed through a strategic partnership between Reuters and Yahoo!. In 2005 the BBC launched the ‘Backstage BBC’ website to provide tools that enable amateur developers to openly ‘mashup’ new services using BBC content.² Penguin Books boldly invited budding writers to contribute to ‘A Million Penguins’, a collectively authored wikinovel experiment that tested the power of peer collaboration to create a work of creative fiction.³

Hollywood is often slow to respond to user demand and technological change, but New Line Cinema, makers of cult horror film *Snakes on a Plane* did a quick about-face when the studio reinstated the film’s popular B-grade title in response to immense backlash from fan communities across the Web.⁴ The advertising industry has recently welcomed user-led media with four consumer-created advertisements shown during the 2007 Super Bowl, the first time such amateur ads were broadcast during the nationally televised event. User-generated content is big business and giants of the social media world like YouTube, MySpace and Wikipedia consistently round out the top-10 most visited sites on the Web.⁵ Research analysts with the US investment banking firm Piper Jaffray have labeled this a “User Revolution” and predict that half of all Web content will be user-generated over the next 10 years, with global online advertising spending estimated to increase from \$32 billion in 2006 to over \$80 billion in 2011.⁶

New Sources of Value

User-generated content represents just the tip-of-the-iceberg of deeper structural changes wrought by the advent of “participatory culture” which have the potential to reshape our economy and society. Beyond the fervent production and diffusion of videos, blog posts and photos through social networks, user-led developments encompass a much wider field of collaborative practices and production processes. While the creation and sharing of digital media is the most visible of user-led activities, other forms of “citizen product design” are catering to people’s desire for personalised consumer goods.

Notable examples include Threadless, a Chicago-based company that solicits t-shirt graphics from its customers and then produces the most popular designs which it sells through its website.⁷ Boutique shoemaker John Fluevog provides customers with similar forms of creative empowerment through its ‘Open Source Footwear’ initiative. Customers submit new shoe designs which are then chosen through peer voting and are vetted for manufacturing

² Seybold, Patricia B. (2006). *Outside Innovation: How Your Customers Will Co-design Your Company’s Future*. Collins: New York, P.194.

³ See: http://www.amillionpenguins.com/wiki/index.php/Main_Page

⁴ Schupak, Amanda (2006). ‘Slithery Slope’. *Forbes*. 17 August. http://www.forbes.com/2006/08/17/snakes-plane-marketing_cz_as_0817snakes.html?partner=media_newsletter

⁵ See: http://www.alexa.com/site/ds/top_500

⁶ Rashtchy, Safa and Kessler, Aaron M. (2007). *The User Revolution: The New Advertising Ecosystem and the Rise of the Internet as a Mass Medium*. Piper Jaffray: East Palo Alto.

⁷ Sipress, Alan (2007). ‘T-Shirt Maker’s Style, Drawn From Web Users’. *The Washington Post*, 18 June. <http://www.washingtonpost.com/wp-dyn/content/article/2007/06/17/AR2007061701350.html>

feasibility.⁸ American computer-hardware company Dell found success early on by selling custom-built PCs direct to the public. In February 2007 the company launched IdeaStorm, a website that encourages users to post new product ideas which are voted on by the rest of the online community.⁹

Lower barriers to entry and higher levels of media literacy enable more people to use the Internet as a platform for a range of everyday practices, leading to the emergence of new participatory systems of production, distribution and consumption. This new model has facilitated an upsurge of creativity by amateur producers who are in turn developing an ever expanding range of business and social applications. The blurring of producer and consumer roles is changing the way companies innovate and gives users a much greater say in product and service development. This problematises previously established categories of distinction between production/consumption and professional/amateur.

Throughout most of human history people relied on small scale production of the goods necessary for housing, farming and survival. Pre-industrial towns and villages were home to both professional artisan guilds and lay craftspeople that specialised in creating all manner of items including tools, furniture and clothing. The advent of the Industrial Revolution saw the rise of a globally integrated market and a mass production system led by transnational firms that relied on mass consumption in order to maintain profitability. This producer-centric approach became the dominant model of economic organisation and was based on the assumption that innovation was something that was performed exclusively inside large companies, advanced R&D labs and elite universities.

For much of the 20th century business has operated on this enterprise logic of “managerial capitalism” which maintains that value is created by organisational producers and is stored inside the products and services they sell.¹⁰ According to Zuboff and Maxmin (2002) this conventional model of innovation is being re-written as people construct new forms of identity based on self-determination aided by advanced information and communication technologies. The desire for individual empowerment and personal expression is creating a new form of “distributed capitalism” which necessitates distributed production, ownership and control. This new capitalism is based on relationships of trust and support that are reorganizing business processes and in turn subsuming the old “command-and control” managerial system.

⁸ See: http://www.fluevog.com/files_2/os-1.html

⁹ Tapscott, Don and Williams, Anthony D. (2007). ‘Hack This Product, Please’. BusinessWeek. 23 February. http://www.businessweek.com/innovate/content/feb2007/id20070223_399988.htm?chan=innovation_innovation+%2B+design_innovation+and+design+lead

¹⁰ Zuboff, Shoshana and Maxmin, James (2002) *The Support Economy: Why Corporations are Failing Individuals and the Next Episode of Capitalism*. Penguin: New York.

Managerial Capitalism	Distributed Capitalism	
Mass Consumption	Support Networks	Enterprise Logic
Transactions	Relationships	Economic Model
Hierarchical	Collaborative	Coordination
Products and Services	Individuals	Source of Value
Material Acquisition	Self-determination	Individual Objective

One of the most important and successful forms of distributed capitalism in action is the Open Source Software movement. Brainchild of Finnish university student Linus Torvalds, Open Source emerged out of his pioneering efforts to develop a sophisticated feedback system of network-enabled collaboration culminating in the Linux operating system. Torvalds wrote the Linux code in conjunction with thousands of other keen co-developers, laying the groundwork for future Open Source projects. Torvalds created an ingenious process for software development which utilised the “collective intelligence” of other users, and harnessed the power of distributed knowledge production, transfer and exchange.

This has become a powerful lesson in how innovation can arise when users are given the building blocks of a system and encouraged to collaborate with their peers. Eric S. Raymond employs the metaphor of *The Cathedral and the Bazaar* to illustrate the contrasting software development models of proprietary software to that of Open Source.¹¹ The former typically involves a privileged group of developers working in isolation and never releasing the source code to the public, while the latter engenders open cooperation between unknown groups of peers to get the job done.

Open Source software is now responsible for running the Web through the LAMP solution stack comprising Linux, Apache Web server, MySQL and PHP. Open source has also been embraced by the consumer market with Mozilla’s popular Firefox Web browser holding nearly 30% of market share across Europe in mid-2007.¹² The Open Source software model, its related philosophy and licensing agreements have been the single most important catalyst for the user-led movement and provided inspiration for numerous other modes of collective production.

Users can now collaborate with peers through globally distributed platforms to “co-create” all manner of products, services, and knowledge via the Internet. The evolution of the wiki provides an excellent case study of user-led innovation in action. The technology itself was invented by Ward Cunningham in 1995 as an Open Source collaborative markup which could be directly edited by anyone with access.¹³ The wiki went from virtual obscurity to become a key building block of the participatory media movement.

¹¹ Raymond, Eric S. (1999). *The Cathedral and the Bazaar*. O’Reilly & Associates: Sebastopol, CA.

¹² Beer, Stan (2007). ‘Firefox now a serious threat to IE in Europe: report’. *iTWire*. 15 July. <http://itwire.com.au/content/view/13517/53/>

¹³ See: <http://en.wikipedia.org/wiki/Wiki>

It remained relatively unknown until Jimmy Wales had the insight to apply technology to his struggling Nupedia project to create the open-edit encyclopedia project Wikipedia. This socially innovative use of existing technology leverages the combined collective intelligence of the global Web community. Containing approximately 7.9 million articles in 253 languages, 1.91 million of which are in English, Wikipedia is now the largest and most extensive encyclopedia in human history.¹⁴

The Open Source development model has spread far and wide to encompass a plethora of applications in a range of disparate fields. A group of students at the IT-University in Copenhagen have created an “Open Source Beer” allowing anyone to use the recipe as long as they agree to publish it on the bottle so that other budding brewers have the freedom to improve it.¹⁵ More scholarly endeavours like the “Open Source Biotechnology” project are attempting to extend the principles of the Open Source software movement to the practice of biotechnology R&D.¹⁶

Many of these projects have benefited enormously from the Creative Commons (CC) project, a new licensing framework that broadens creative boundaries for numerous forms of cultural production. Established by Stanford professor Lawrence Lessig and his supporters, Creative Commons provides protection within the framework of domestic copyright legislation but adds new provisions to meet the demands of today’s user-generated industries. CC licenses facilitate relatively friction-free sharing of non-copyrighted material on popular user-generated sites like Flickr and YouTube. It has also spawned a raft of related ventures including ‘Science Commons’, an initiative to provide easier access to scholarly literature and ‘ccLearn’ which minimizes barriers to the sharing and re-use of educational resources.¹⁷

Eliciting Knowledge from Users

The current reorganisation of managerial capitalism and related changes to its industrial production system was foreseen in the 1970s. Futurist Alvin Toffler was one of the first to identify this transformation and coined the term “prosumer” to denote the coming shift from passive to active consumption as mass production made way for an era of mass customisation.¹⁸ These concepts have garnered a great deal of recent media attention through a raft of related umbrella terms including “Web 2.0”, “Generation C” and “crowdsourcing”. Each of these neologisms incorporates a new category of social practice by which consumers participate in the production of the products or services they consume, often but not always in collaboration with their peers.

Eric von Hippel, Professor of Management and Innovation at MIT has explored these practices through his notion of “user-centred innovation”. His research findings reveal that “lead users”, both firms and individual consumers, are at the leading edge of the market and develop novel products with wider customer appeal.¹⁹ Information Technology has certainly made these processes easier to facilitate but Hippel’s work predates the Web to reveal that user innovation has been applied to many activities over decades in a variety of specialist fields including scientific instrumentation, engineering and semiconductor equipment

¹⁴ See: <http://en.wikipedia.org/wiki/Wikipedia>

¹⁵ See: <http://www.voresoel.dk/main.php?id=70>

¹⁶ See: <http://rssh.anu.edu.au/~janeth/home.html>

¹⁷ See: <http://creativecommons.org/>

¹⁸ Toffler, Alvin (1980). *The Third Wave*. Collins: London.

¹⁹ Hippel, Eric von (2005). *Democratizing Innovation*. MIT Press: Cambridge, MA.

assembly.²⁰ These user-centred innovation processes bring benefits in terms of commercialisation opportunities and new forms of community engagement.

Eric von Hippel: users at the leading edge of innovation

Historically the assumption has been that manufacturers are the innovators, they go and they look at users, understand what they need and then develop something in response. We then went and looked at the histories of innovation and found out that very often, very commercially successful products actually had been developed by users at the leading edge of a market-based trend first. So it appeared that in fact innovation was user-led, which means that the users actually develop prototype products and show their value and use of what they really want.²¹

Hippel developed the lead user method as a means of finding cutting-edge uses for industrial and consumer products and his techniques include the development of toolkits that aid tacit knowledge elicitation from lead users. User toolkits are a heuristic (learning-by-doing) device that enable manufacturers to outsource design tasks to users. Effective toolkits should allow users to learn through trial-and-error and provide user-designed products that are reproducible by the manufacturer.²² Hippel's lead user studies have been applied in a variety of industrial settings, notably the adhesives company 3M, to surface unidentified product innovations with future market potential.

During interview Hippel was asked why users are motivated to develop and modify products and services for their own use: "Because they can't get from the manufacturers exactly what they want. And since its getting cheaper with user toolkits to develop things for themselves, they don't have to make the compromises they used to make."²³ User modification has been commonplace for decades as evidenced by generations of car enthusiasts and computer hobbyists. The Web has made it much easier for lead users to swap insights and gain faster feedback in order to make improvements.

People are also drawn to participate in user innovation communities for the personal learning that it brings along with the enjoyment of problem solving.²⁴ Innovation by users can also increase the social welfare of a community by adding to the common pool of knowledge resources. As Hippel explains: "If users will develop something for their own purposes and then reveal it for free, what you get is the cost of the innovation of the user doing it for himself. And then society has free innovations that they otherwise wouldn't have which lowers everybody's cost."²⁵

²⁰ Hippel, Eric von (1988). *The Sources of Innovation*. Oxford University Press: New York.

²¹ Sharp, Darren (2006). 'Interview with Eric von Hippel.' 23 April.

²² Hippel, Eric von (2001). 'Perspective: User Toolkits for Innovation'. *The Journal of Product Innovation Management*. Vol. 18, pp. 247-257.

²³ Sharp, Darren (2006). 'Interview with Eric von Hippel.' 23 April.

²⁴ Hippel, Eric von (2005). op cit.

²⁵ Sharp, Darren (2006). op cit.

This “free revealing” provides benefits to both manufacturers and user communities through a combination of social rewards and economic cost reductions. Free revealing is defined by Hippel as the process by which an innovator voluntarily releases proprietary information thus turning it into a public good.²⁶ Free revealing by individuals wanting to share insights with their peers is commonplace. Yet the same behaviour from profit-seeking firms appears anti-intuitive given the investment required to develop commercial products and services.

Yet Hippel points to many industrial innovations that benefit from free revealing through reputation pay-offs, wider adoption and network effects.²⁷ Companies can profit from giving away knowledge resources by creating new market segments, industry standards or service opportunities as demonstrated by Open Source success stories like Red Hat, IBM and Sun Microsystems. The Web 2.0 movement has been driven by the sharing of data, content and platforms between service providers and users. Many leading Web companies release the source code of their Application Programming Interfaces (APIs) to help drive user innovation of Web application hybrids known as “mashups” and the development of virtual tools for the desktop called “widgets”.

Other thinkers like C.K. Prahalad and Venkat Ramaswamy have examined the “co-creation” of value through business-customer partnerships in the retail, resources and entertainment sectors.²⁸ Media theorist Axel Bruns developed the term “produser” to capture these dynamics in information intensive environments. Bruns work reveals a dramatic reconfiguration of the industrial production model brought on by the rise of user-generated content.²⁹ Research conducted by the author for the Smart Internet CRC provides a detailed exposition of the shifting value networks of media production, distribution and consumption. The resulting participatory innovation model presented emphasises the “produser” as the key actor through which media choices are made and value is created.³⁰

These user-centred innovation processes bring benefits in terms of commercialisation opportunities and new forms of community engagement. World-leading companies like Procter & Gamble, the BBC and Lego have pioneered the co-creation of products, services and content through participatory innovation models. Trends in user-generated content, collaborative peer production and social networks also provide new frameworks for thinking strategically about service innovation in the 21st century. Forward thinking policy makers and government agencies have begun to explore pathways for engaging user communities in the formulation of new public sector programs.

Prospects for User-led Policy Frameworks

A number of national governments in Europe have adopted user-led innovation as a policy platform or utilise its methods in a range of public sector settings. A 2003 report produced by the Danish Authority for Enterprise and Construction's Division for Research and Analysis

²⁶ Hippel, Eric von (2005). op cit., p. 77.

²⁷ Hippel, Eric von (2005). ibid., p. 86.

²⁸ Prahalad, C. K., and Ramaswamy, Venkat (2004). *The Future of Competition: Co-creating Unique Value With Customers*. Harvard Business School Press: Boston, MA.

²⁹ Bruns, Axel (2007). ‘Produsage: Towards a Broader Framework for User-Led Content Creation.’ Creativity & Cognition conference, Washington D.C., USA, 13-15 June.

[http://snurb.info/files/Produsage%20\(Creativity%20and%20Cognition%202007\).pdf](http://snurb.info/files/Produsage%20(Creativity%20and%20Cognition%202007).pdf)

³⁰ Sharp, Darren (2006). ‘Digital Lifestyles Monitor.’ Smart Internet Technology CRC: Eveleigh, NSW. http://smartinternet.com.au/ArticleDocuments/121/P07_038_paper.pdf.aspx

(FORA) explored ways to expand the scope of business innovation processes beyond technology solutions. The Danish Ministry of Economic and Business Affairs subsequently launched a series of reports investigating the deployment and impact of user-led innovation practices on the local electronics, fashion and medical device industries.³¹

In 2005 the Danish government committed to developing a national program for user-led innovation in a bold move to increase economic and social advantage. The three main action areas identified were: research in the field of user-led innovation; development of tools to support user-led methods in SMEs; and closer cooperation between industry and the university sector.³² In a related venture, the Copenhagen Business School (CBS) formed a strategic partnership with Eric von Hippel's Massachusetts Institute of Technology (MIT) to establish a Danish User-centered Innovation Lab (DUCI) for the purpose of developing world's "best practice" in user-led innovation.

The Danish government announced in the middle of 2007 that it was setting aside 50 million EURO to encourage user-led innovation in Danish companies and the public sector over the next four years. Funding support will be available four times annually and is designed to give Danish organisations the best chance at being internationally competitive. The government's decision to prioritise user-led innovation as a policy action item stems from its recognition that smaller countries cannot compete successfully on technology alone especially against low-cost juggernauts like China.³³

Finland is another Nordic country that decided to shift its innovation policy away from pure technology development and focus on the demand-side of emerging consumer needs. Finland's efforts have revolved around strengthening its design policy and developing a range of initiatives including the New Centre of Innovation in Design, along with a proposed 'Design 2010' program.³⁴ In November 2007 Finland will play host to the Nordic Council of Ministers conference on 'New trends in Nordic innovation' with user-led innovation and regional innovation as the two strategic themes.³⁵

The British government has been ambivalent about the 'participatory turn' in innovation but is being encouraged to sit up and take notice through a raft of policy proposals that call for much greater levels of citizen engagement for the purpose of improving public service provision. A report for DEMOS called 'Unlocking Innovation' is very critical of Whitehall's outdated assumptions about innovation. The government is accused of adhering to an elitist model of innovation better suited to a bygone era. The authors recognise the distributed nature of innovation in the post-industrial environment and point to the potential for grass-roots service renewal across the health, education and urban planning sectors.

³¹ Rosted, Jørgen (2005). 'User-driven Innovation: Results and Recommendations.' FORA: Copenhagen. http://www.foranet.dk/upload/hovedrapport_engelsk.pdf

³² Hansson, Emily Wise (2006). 'Understanding User-Driven Innovation.' Nordic Council of Ministers: Copenhagen. <http://norden.siteseecker.se/click/?ua=242973a2b515cbc5ecc174b271e36b37&num=8&url=http%3A%2F%2Fwww.norden.org%2Fpub%2Fvelfaerd%2Fnaering%2Fsk%2FTN2006522.pdf>

³³ Frelle-Petersen, Claus (2007). 'EUR 50 million for Danish user driven innovation.' Copenhagen Capacity: Denmark. 28 June. <http://www.copcap.com/composite-10443.htm>

³⁴ Hansson, Emily Wise (2006). op cit.

³⁵ See: <http://www.nordicinnovation.net/article.cfm?id=1-853-542>

In healthcare the paternalism of the doctor-patient relationship and professional culture is being called into question by more participatory approaches. Expert patient and opinion forums have been set up to leverage the knowledge and experience of health service users. In education circles there is increasing recognition that students bring new life skills from the use of digitally networked technologies into the classroom that could be used to inform pedagogy and curriculum development. Urban planning for innovation has been dominated by an institutional view of creative industries and technology parks. The community consultation associated with collaborative technologies is starting to be applied to urban design initiatives that tap into the collective imagination of the public.³⁶

Organisations considering strategies to engage the participation of their users must tread carefully in balancing institutional interests with the social needs of the communities involved. Unlike various forms of market-based transactions, user-led practices comprise their own distinctive value systems and rules governing cooperative forms of social exchange. Local policy makers have the opportunity to learn from the approaches being trialed by their European counterparts and begin to apply these insights to the Australian setting. There is great potential for user-led services to increase Australia's economic competitiveness and provide pathways for successful community engagement.

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³⁶ Parker, Sophia and Parker, Simon, Eds (2007). 'Unlocking Innovation: Why Citizens Hold the Key to Public Service Reform.' DEMOS: London. <http://www.demos.co.uk/files/Unlocking%20innovation-web.pdf>

AN EXPLORATION OF THE RELATIONSHIPS BETWEEN BLOGGING PRACTICES, BLOGGING MOTIVES AND IDENTITY EXPLORATION

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Abstract

This study explored psychological aspects of the Internet practice of blogging, including blogging practices, blogging motives and engagement in identity exploration in emerging adulthood. Emerging adulthood is a theory of human development that proposes a new life stage between adolescence and adulthood stemming from recent societal changes (Arnett, 2000). Specifically, the study predicted that a relationship would exist between blogging motives, identity exploration, identification with themes of emerging adulthood and age. Participants were 182 bloggers aged between 18 and 57 years who maintain an English language lifestyle blog. They completed an online questionnaire comprising measures of identification with the themes of emerging adulthood, blogging practices, motives for blogging, and identity exploration through blogging. Results highlighted the personal nature of blogging and the strong link between the blog and “real life”. The most popular motives for blogging were Self-Expression and Social Interaction, and results indicated that many bloggers do not believe they are engaging in identity exploration. There was a weak relationship between developmental life stage and blogging motives and identity exploration. Implications for future research are discussed.

Introduction

The rapid emergence and widespread use of the Internet has prompted numerous studies investigating topics such as the effect of the Internet on individual well-being (e.g., Kraut, Patterson, Lundmark, Kiesler & Scherlis, 1998); online relationship formation (e.g., Parks & Roberts, 1998); and the exploration or creation of the self or identity online (e.g., Turkle, 1995). Hermans (2004) stated: “the effect of electronic media on the mind of the person is an issue that concerns the evolution of mankind” (p. 315).

The current study focused on the Internet practice of blogging. Blogs, or Weblogs, are typically maintained by an individual, or a small group of individuals. Walker (2003) defined a blog as a: “frequently updated website consisting of dated entries arranged in reverse chronological order.” It is estimated that in America alone around 8% of Internet users, or 12 million people, maintain a blog (Lenhart & Fox, 2006). A survey of 7,012 American bloggers

found that 54% of bloggers were men; 46% were women and that 54% of the sample were aged 18 to 29 years (Lenhart & Fox).

While blogging has received considerable attention from media / communications researchers, there have been few studies of the psychological characteristics of bloggers. The current study explored relationships between blogging practices, motives for blogging and identity exploration by bloggers. Of particular interest was the meaning of blogging for bloggers in the *emerging adulthood* period - from 18 to around 25 years. Arnett (2000) proposed that the significant societal changes in industrialised countries of the late 20th Century have led to the development of a distinct developmental period between adolescence and adulthood: *emerging adulthood*. The Internet has emerged simultaneously with this theory, and it is a major aspect of emerging adult's environment. The current study proposed that blogging may be a forum through which emerging adults undertake some of the "tasks" of this life stage, particularly in relation to the themes of self-focus and identity exploration.

Identity Exploration on the Internet

While there are few studies specifically looking at blogging and identity, the impact of the Internet generally on identity exploration and self-presentation has attracted considerable research attention. Early research was conducted by Turkle (1995) who investigated the "avatars" people playing multiuser computer games, or MUDs, constructed. Avatars can be as close or as far from the "real life" self as the player chooses, thus they provide opportunities for identity exploration. Turkle noted that the anonymity afforded by the Internet enabled experimentation with self-construction and she found that feedback received through interaction with other avatars shaped and strengthened people's online identity.

Hevern (2004) utilised dialogical theory to describe the multiple self "positions" evident in personal blogs, as well as changes observed over time. Dialogical theory (Hermans, 2001) emphasises the impact on the self of interaction with others and with culture, arguing that the self consists of "multiple 'I' positions in constant dialogue with each other within a decentralised cultural universe of other selves (Hevern, 2004. p.322). In a qualitative study Hevern examined 20 personal blogs and used the metaphor of *threading* to describe the identities presented in the blogs. He described the blogged identity as *threaded* in that the blog represents the author's journey through time, and the postings allow overlap between multiple aspects or *positions* of the blogger's self. The blog provides a picture of its author as he or she has chosen to construct it, which is not static, but is shaped over time as a result of the dialogical process between the multiple positions of the person and the positions of others who comment on the blog postings.

Motives for blogging

McKenna and Bargh (1999) delineated two categories of motives for social interaction on the Internet: self-concerns, such as the need to express a secret aspect of the self, and social motivations, such as the desire to connect with and be liked by others. Nardi, Schiano, Gumbrecht and Swartz (2004) interviewed 23 bloggers and analysed their blogs. They identified five major motivations for blogging: documenting the author's life, providing commentary and opinions, expressing deeply felt emotions, working out ideas through writing, and forming and maintaining communities and forums. They noted that bloggers may be motivated by several of these motivations simultaneously, and that motivation can shift over time.

Trammell, Tarkowski, Hofmohl and Sapp (2006) investigated Polish bloggers' motives using *uses and gratifications* theory which assumes that individuals' media-related behaviours

reflect their psychological characteristics (Trammell et al., 2006). They coded the blogs for six motives identified in previous studies (Papacharissi, 2002): social interaction, entertainment, passing time, information, self-expression and professional advancement. Their results suggested that self-expression was the most common motivation, followed closely by social interaction and entertainment. Trammell et al. also observed that blogging was strongly linked with the blogger's offline world, with posts regularly containing: "highly specific and contextual information that becomes meaningless to an outsider" (p. 13). In this study blogger's motives were inferred rather than nominated by the bloggers themselves.

Themes of emerging adulthood

Arnett (2000) argued that societal changes such as delayed marriage and parenthood, and an increase in people undertaking tertiary study, have altered the developmental path to adulthood. The central theme of emerging adulthood is *identity exploration*. While historically identity exploration has been associated with adolescence (e.g., Erikson, 1950) Arnett argues that nowadays more identity exploration occurs in early adulthood. Emerging adulthood is also typified by the themes of: self-focus, which is linked to increased personal freedom; instability, which reflects changes in areas such as occupation, residence or relationships; possibilities which highlight the optimism felt by many in this life stage; and feeling in-between, which is the sense of being inbetween adolescence and adulthood (Arnett, 2004).

Reifman developed a scale to explore these themes: the Inventory of Dimensions of Emerging Adulthood (IDEA; Reifman, Arnett & Colwell, 2003). They found support for the existence of the five themes of emerging adulthood in a series of factor analytic studies (Reifman et al., 2003). The IDEA scale was used in the current study to investigate whether younger bloggers identify more strongly with the emerging adulthood themes than older bloggers, and whether younger bloggers are more likely to explore these themes through blogging.

Research aims for the current study

As this is a new research area, the aims for the current study were largely exploratory and focussed on the positive impact of blogging on individuals rather than any possible negative effects. The study aimed to investigate blogging practices, particularly the use of personal "rules" when blogging, motives for blogging, and bloggers' level of engagement in identity exploration, as well as gaining an understanding of the type of identity that bloggers present. The study also investigated the possible relationship between motives for blogging and engagement in identity exploration and the themes of emerging adulthood, with a prediction that bloggers in the emerging adulthood stage of life (i.e., younger bloggers) would be more likely to have self-focused motives and engage in identity exploration than bloggers who had reached adulthood. The online questionnaire developed for the study is described in the method section.

Method

Participants

The sample consisted of 182 adult bloggers: 116 females and 66 males with an age range from 18 to 57 years ($M = 30.45$; $SD = 10.65$). They all completed an on-line questionnaire. Participants all had an English language blog that they updated at least monthly. Forty three per cent of participants resided in the United States of America, 33% in Australia or New Zealand, 9% in Canada and 8% in the United Kingdom. The remaining 4% resided in "other" countries and 6 participants (3%) did not indicate their place of residence. The sample was highly educated: 42% had completed a tertiary qualification and 47% were undertaking a post

secondary school qualification. Most participants were employed, with 42% in full time work and 36% employed part time or casually.

The amount of time spent on the Internet per week for personal use (not work or study) varied greatly among participants, ranging from 1 to 150 hours ($M = 19.98$ hours, $SD = 19.44$). There was also considerable diversity in how long participants had maintained a blog, with responses ranging from 2 to 98 months ($M = 26.34$ months, $SD = 20.57$). Nineteen participants did not indicate the length of time they had been blogging. Half the sample (91 participants) had more than one blog, with 8 being the maximum number of blogs. A small proportion of the sample (14%) maintained their blog with others. Participants with multiple blogs were requested to respond to the questionnaire according to the blog they felt most personally invested in.

Most participants updated their blog at least weekly, with 23% updating weekly, 41% updating daily or every second day and 9% updating more than daily. Six per cent of the sample updated their blog fortnightly and 13% updated monthly. The remaining 8% responded in the “other” category. A sizeable majority, 86%, expected to still be blogging in six months time.

Materials

Participants completed an online questionnaire divided into six sections: demographic information, personality characteristics, identification with the themes of emerging adulthood, blogging practices, blogging motives and engagement in identity exploration. The measures used for each of the sections used in the current study analysis are described below.

Inventory of the Dimensions of Emerging Adulthood (IDEA). The IDEA scale measures identification with the five themes of emerging adulthood. It comprised seven subscales: Identity Exploration, Self-Focus, Instability, Feeling In-Between, Possibilities and Other-Focus, a counterpart measure (Reifman et al., 2003) The Feeling In-Between subscale was omitted in the current study as Reifman et al. argue that it is not applicable for samples containing participants with a wide range of ages.

Example items for the subscales are: For Identity Exploration: “time of finding out who you are”; for Self-Focus: “time of personal freedom”; for Instability: “time of unpredictability” for Possibilities: “time of trying out new things” and for Other-Focus: “time of commitments to others”. Items were ranked on a 4-point scale ranging from: 1 = strongly disagree to 4 = strongly agree. For the total IDEA score, items were summed and divided by the number of items. A higher total score on the IDEA corresponds with a greater overall identification with emerging adulthood. The reported reliability of the IDEA is acceptable ($\alpha = .70$ to $.85$) (Reifman et al., 2003) and the current study demonstrated equivalent reliability ($\alpha = .73$ to $.86$).

Personal Blogging Rules Scale (PBRS). This scale aimed to determine what people *do* with their blogs and measured the degree to which participants utilised personal rules when deciding what to write in their blog. An example item is: “There are some topics or events in my life I don’t blog about because they are too personal.” Participants ranked each item on a 5-point scale: 1 = disagree, 5 = agree. Item scores were summed and divided by the total number of items to provide an overall personal blogging rules score. A higher score represented an increased use of personal rules when blogging. Internal reliability for this scale was reasonable ($\alpha = .78$) after the deletion of two items.

Blogging Topics Scale. This scale measured the topics participants wrote about in their blogs. It consisted of 12 topics: personal issues; family; friends; spouse, partner or relationships;

social activities; work, study or professional interests; personal interests or hobbies; travel; technical information; news, current affairs or politics; religion; and entertainment or celebrities, including movies, music and live performances. Participants rated how often they blog about each topic on a scale of 1 to 5, from 1 = “never” to 5 = “every time”. Due to their similarity, it was decided to collapse the “family” and “spouse, partner and relationships” items into one topic.

Other blogging practices items. The questionnaire also contained a number of single items asking about blogging practices such as: the use of pseudonyms, the importance of remaining anonymous, the number of comments received in a week and the importance of comments. The item relating to pseudonym use required the participant to indicate “yes” or “no”. The importance of anonymity and of comments required a response on a 5-point scale, with 1 = not important and 5 = very important. The item asking about the number of comments allowed for a free response, with participants requested to estimate the comments received in the last week.

Blogging Motives Scale (BMS). The BMS measured seven personal motives for blogging: Self-Exploration, Professional Advancement, Entertainment, Catharsis, Self-Expression, Record-Keeping and Social Interaction. For the Self-Exploration subscale an example item is “My blog allows me to learn more about who I am”; for the Professional Advancement subscale an example item is: “Blogging enhances my professional reputation.” For the Entertainment subscale an example item is: “Blogging is a way to entertain myself”; for the Self-Expression subscale an example item is “My blog allows me to express my creativity”. For the Catharsis subscale an example item is “My blog helps me understand and move on from distressing events.” The Record-Keeping item is: “I blog to record events and activities in my life” and for the Social Interaction subscale an example item is: “My blog allows me to interact with others who share similar interests.” Participants ranked each item on a 5-point scale: 1 = disagree and 5 = agree. A higher score represents stronger identification with the blogging motive. A score on each subscale was calculated by summing all subscale items and dividing by the number of items. For correlational analysis, the Self-Expression, Catharsis and Self-Exploration scales were summed to produce a Self-Focused Motives score. The reliability of the Self-Focused Motives score was good ($\alpha = .86$) with the removal of one item. Following the BMS, participants were asked to write in their own words about their motives for blogging and how they have changed (if at all).

Blogging Identity Exploration Scale (BIES). This scale measured identity exploration through blogging. Identity exploration was defined as the degree to which the “blogged self” was different to the “real life self”. A greater difference indicated more identity exploration. An example item from the BIES is: “The self presented in my blog is closer to who I would like to be than my real life self.” Items were ranked on a 5-point scale: 1 = disagree, 5 = agree. Item scores were summed and divided by the total number of items to provide an overall BIES score. A higher BIES score represents greater engagement in identity exploration through blogging. Internal reliability was reasonable, ($\alpha = .80$) with the removal of one item. Following the BIES participants completed a free response item, which asked how the self presented in the blog was similar or different to the self in real life.

Procedure

Data were collected using an online questionnaire, hosted by the *Opinio* software program. Participants were recruited in various ways. Firstly, around 500 bloggers were invited to participate through the email address provided on their blog. Blogs were located using the “next blog” function of the www.blogger.com blog hosting site, through blogrolls, and

through blog directories. Secondly, the study was posted on several online psychology research sites, such as <http://www.onlinepsychresearch.co.uk>. Participants were also recruited from first year psychology students who could count participation as part of their course requirements and via the researchers’ friends and family. In addition, participants were asked to distribute the questionnaire to other bloggers. Confidentiality of responses was assured and participants could withdraw from the study at any time. The submission of the questionnaire was taken as informed consent to participate.

Results

Blogging practices

Figure 1 gives the proportion of participants who indicated that they blog about the topic “sometimes” or more (e.g., a score between 3 and 5).

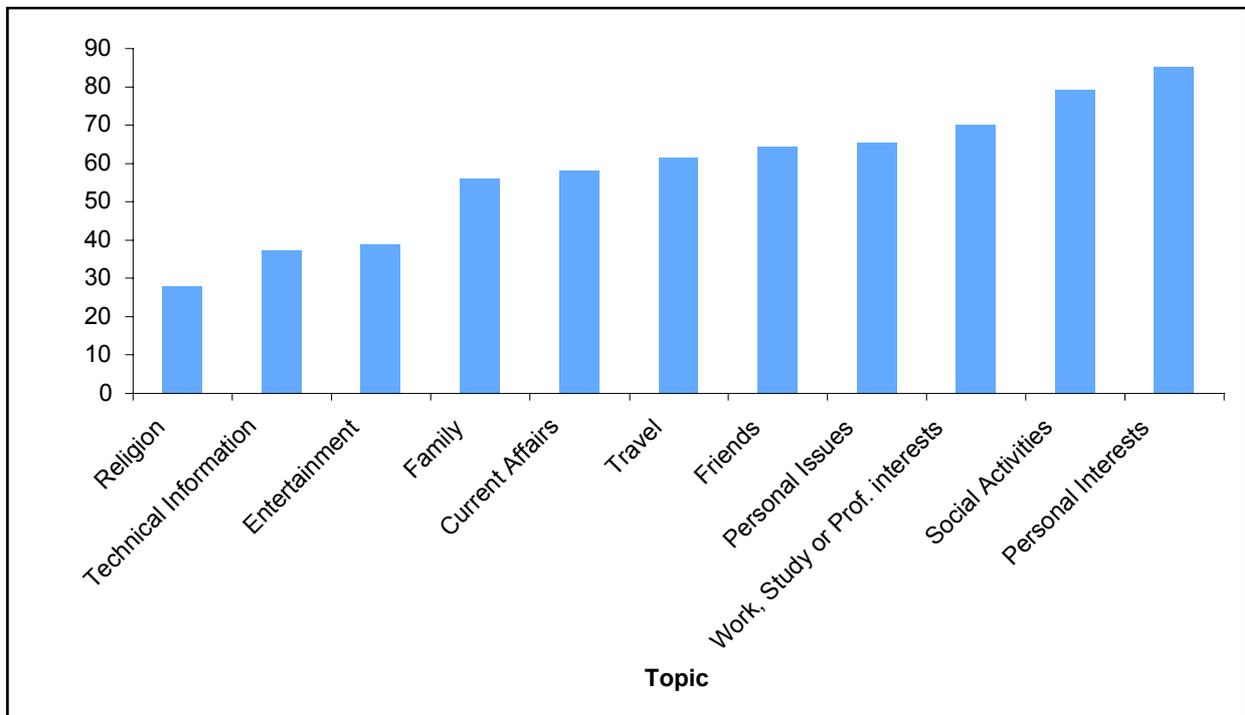


Figure 1. Percentage of participants responding “sometimes” or more to blogging topics (N = 182).

The popularity of topics such as personal interests (85%), social activities (74%), personal issues (65%) and friends (64%) confirmed the personal nature of participant’s blogs, suggesting a close relationship between the blog and “real life”. This contrasted with the lower proportion of participants who blog about less personal topics such as religion (28%), technical information (37%) and entertainment (39%).

Support for the argument that participants employed personal rules when blogging was evidenced by a total PBRs mean score of 3.72 (SD = .86), which indicated agreement with the items. The item with the highest mean (4.22, SD = 1.22) was: “There are some topics I don’t blog about because they are too personal”. Taken together with the blogging topic

findings, this implied that while blogs have a personal focus, limits are imposed on the personal information revealed.

Most participants (60%) said that they do not use a pseudonym on their blog suggesting anonymity was not particularly important to them. Almost all participants (97%) allow people to leave comments on their blog, with the median number of comments received in the last week eight. Participants viewed comments as important, with only 20% responding that receiving comments was not important.

Blogging motives

Means and standard deviations for the motives measured by the Blogging Motives Scale (BMS) are provided in Table 1.

Table 1
Descriptive Statistics for the BMS Subscales

Motive	Mean	SD
Self-Expression	3.95	.80
Social Interaction	3.63	.92
Record-Keeping	3.55	1.39
Entertainment	3.34	.98
Self-Exploration	3.14	1.06
Catharsis	3.11	1.21
Professional Advancement	2.61	1.20

Note. N = 182

Table 1 shows that the most prevalent motives for blogging are Self-Expression, Social Interaction and Record-Keeping. Professional Advancement attracted considerably lower levels of support, as did Catharsis and Self-Exploration. Forty five per cent of participants said their motives for blogging had changed over time.

Participant's free responses offer further insight into blogging motives. Consistent with strong support for the Record-Keeping motive, a number of participants likened their blog to an online diary: "My blog is like a diary where I write my personal thoughts and experiences that I hope to learn and grow from" (Female, 19 years old). Interaction with others was a prominent theme. For some, social interaction was linked to keeping "up to date with friends and family" (Female, 20 years), whereas for others it was tied to forming new relationships: "I blog as a way to 'meet' other people. I may never see them face-to-face, but they are still dear friends!" (Female, 25 years). Social interaction was also linked to Self-Expression motives: "Being able to express my opinion to an audience is the number one reason I blog. It's great fun to argue!" (Female, 53 years).

Alternatively, there were respondents who emphasised more individualised motives. One participant likened blogging to "self therapy", claiming it allowed her to "stand outside of it [the personal issue] and look it [sic] from a third person perspective" (Female, 35 years). Another underlined the cathartic nature of blogging: "I blog to get issues that plague me off

my mind. It's the only way I can stop focusing on them" (Female, 18 years). Linked to Self-Expression, blogging was also used as a creative outlet and a means to improve writing skills: "I love writing. I appreciate an audience, but my first audience is myself, and I blog primarily for myself, to keep a record of my writing" (Male, 35 years).

Identity Exploration

Means and standard deviations for each of the Blogging Identity Exploration scale (BIES) items are presented in Table 2. The mean for the total BIES score was 2.79 ($SD = .76$).

Table 2
Descriptive Statistics for the BIES Items

Item	<i>M</i>	<i>SD</i>
Through my blog I can be honest about aspects of myself that I feel are positive.	3.73	1.05
My blog presents a number of different aspects of my identity.	3.66	1.18
Through my blog I can be honest about aspects of myself that I feel are negative.	3.17	1.25
Through my blog I feel less pressure to conform to the expectations of others.	2.74	1.33
The self presented in my blog is closer to who I would like to be than my real life self.	2.66	1.20
Through my blog I express aspects of my identity that I don't feel able to express in real life.	2.45	1.33
The self presented in my blog is closer to who I feel I should be than my real life self.	2.39	1.22
Through my blog I explore aspects of my self that I am afraid of becoming.	2.19	1.23
People who know me in real life would be surprised if they read my blog.	2.17	1.22

Note: N = 182

These results show a low level of support for many of the items. The item with the lowest score, "People who know me in real life would be surprised if they read my blog", corroborates the previous finding that blogs are strongly tied to "real life". Only three items had mean scores above three, which denoted "neither agree or disagree". The use of blogs to present positive aspects of the self was the most strongly supported item, although interestingly, there was reasonable support for the item relating to honestly presenting negative aspects of self. The item referring to the presentation of multiple aspects of self was also supported.

To investigate this finding further, the free response answers were examined and coded (Figure 2).

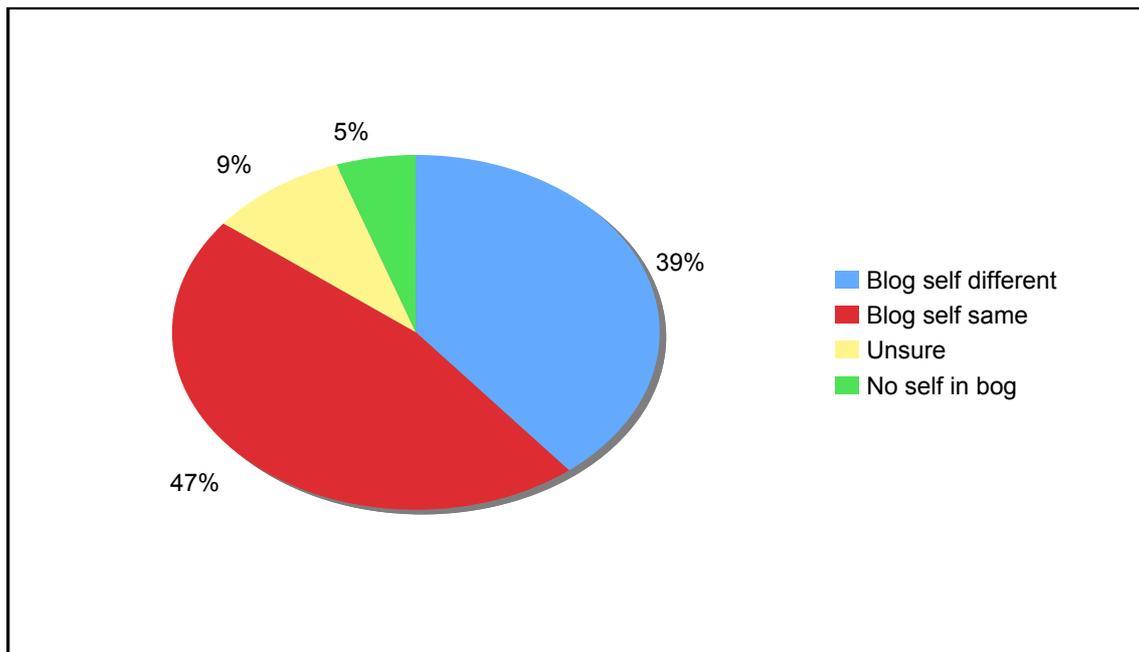


Figure 2. Identity exploration through blogging based on coded free response data ($N = 153$).

The free response question asked participants to describe how their blogged self is similar or different to their real life self. The coding system had four classifications: 1 = Blog self is different in some way to real life self (identity exploration through blogging); 2 = Blog self is the same as real life self (no identity exploration); 3 = unsure or ambivalent about whether blog self and real life self are different; and 4 = Do not feel a self is presented in the blog. An example of a response that was coded 1 was: “More outgoing and outrageous”. An example of a response coded 2 was: “Not at all different. I am very honest about myself in my blog.” An example of an unsure or ambivalent response (coded as 3) was: “I am who I am. I sometimes share feelings in the anonymity that I would feel vulnerable to share in real life.” An example of a response coded 4 was: “It’s hard to say my blog presents much of a self.” Twenty nine participants did not provide a comment that could be coded.

The findings from the free response data largely supported those from the BIES. Firstly, almost all respondents (95%) feel a self is presented through their blog but only about half report engaging in identity exploration. However, it is worth noting that within the “blog self different” group there is considerable variability as to *how different* the blog self is. For some participants this difference was relatively small, for example “[blog self is] similar to how I normally am, slightly more open and expressive.” For others this difference was more pronounced, for example “I am able to present my true feelings about current events and issues that are presented in everyday life.”

Relationships between variables

To explore the relationships between variables, Pearson’s correlations were calculated (Table 3). The variables included were age, gender, Self-Focused Motives (SFM) score and overall scores from the IDEA, PBRs and BIES. Table 3

Relationships Between Age, Gender, SFM Score and Overall IDEA, PBRS and BIES Scores

	Age	Gender	IDEA	PBRS	SFM
Gender	-.07				
IDEA	-.46**	.10			
PBRS	.23**	.04	-.04		
SFM	-.12	.23**	.35**	-.01	
BIES	-.22**	.02	.24**	-.06	.63**

* = $p < .05$

** = $p < .01$

The negative correlation between age and the overall IDEA score showed that, as expected, younger participants had a significantly stronger identification with the themes of emerging adulthood than older participants. Although weak, there is a significant negative correlation between age and BIES score and a positive correlation between the BIES and IDEA scores, showing that identity exploration through blogging is related to both variables. Self-focused motives were also weakly correlated with the IDEA and gender, although not with age. The strongest observed correlation is between Self-Focused Motives and BIES scores, indicating that motives play an important role in determining whether a person will engage in identity exploration through blogging.

Discussion

On the whole, the results suggested that blogs are personal and defined by the amount of information bloggers choose to provide. Blogs appear to be carefully edited rather than “tell-all” accounts of the blogger’s world. A strong link between blogging and real life was evidenced by the relative unimportance of anonymity and the popularity of blogging topics such as personal interests and social activities and motives such as Record-Keeping. This blogging-real life connection is consistent with the conclusions of Trammell et al. (2006), as was the finding that Self-Expression and Social Interaction were the most commonly held motives for blogging.

Unlike findings from other studies of Internet behaviour (Bargh, McKenna, & Fitzsimons, 2002; McKenna, Green, & Gleason, 2002; Yurchisin, Watchravesringkan, & McCabe, 2005), the low overall BIES score suggested that many bloggers do not believe they are exploring their identities when blogging. This finding was backed up by the free response data and the relatively low agreement with the Self-Exploration motive. A possible explanation is that identity exploration takes place through other avenues, with the “finished product” presented on the blog. Blogging could be conceptualised as a forum for self-conformation or self-affirmation, particularly given its public and interactive nature.

With regard to the type of self presented through the blog, there was strong agreement with items relating to being honest about aspects of self that are positive *and* aspects of self that are negative. Taken together, this would suggest frankness in blogger’s self-presentation. The reasonable level of support for the idea that blogging presents multiple aspects of self ties into

Hevern's conception of the blogged self, which emphasises interaction between the numerous positions of self and of others.

The results provided weak support for the prediction that a relationship would exist between age, identification with the themes of emerging adulthood and identity exploration. Results suggested that this was not due to younger blogger's lack of identification with the themes of emerging adulthood. Rather, the finding seems linked to the observation that many participants did not associate identity exploration with their blog. The prediction that age and identification with the themes of emerging adulthood would be related to Self-Focused Motives (SFM) was also weakly supported, with no relationship between age and SFM and a weak positive correlation between IDEA score and SFM. This may be related to the comparatively lower level of support for Self-Exploration and Catharsis motives on the BMS. In addition, it may reflect that the personal nature of blogging can encourage bloggers of all ages to focus on the self, more so than in other facets of life. The reasonable positive correlation between the SFM and BIES scores suggested a link between motives and engagement in identity exploration, which makes intuitive sense and supports the validity of the measures.

Focus for future research

Building on these findings, and keeping in mind the newness of this area as a focus for psychological research, there are numerous avenues for future research. Firstly, a potential limitation of the current study was the looseness of the definition of blogging and the fact that participants self-identified as bloggers. Researchers such as Boyd (2006) have argued that the term "blogging" encompasses a diverse range of activities, so that studies into blogging may need to be more specific in defining the "type" of blog or blogger under examination. For future research involving blogging and identity, it may be necessary to create more strict eligibility criteria for participants, or more clearly establish the blog type, to ensure that like-bloggers are being compared with like.

A second possibility for future research stems from the definition and measurement of identity exploration. The identity exploration measure (the BIES) was developed for the current study, based on the idea that identity exploration was taking place if the blogged self was different to the real life self. This scale would fail to capture bloggers who felt they were exploring identity both in real life and through blogging, but that these identities were the *same*. Future research could perhaps use a general measure of identity exploration, such as the Identity Exploration subscale of the IDEA, to establish the degree to which the person believes they engage in identity exploration more broadly, followed by questions measuring the extent to which this identity exploration extends to blogging activities.

Finally, if the finding that people do not explore identity through blogging is accepted, it may be appropriate to explore the possible connection between developmental life stage and Internet behaviour through looking at an alternative Internet medium, where identity exploration is more common. Drawing from previous research, such as that conducted by Turkle (1995) on MUD participants, it may be more suitable to study an online activity that necessitates the creation of an avatar. An example could be Second Life players, who inhabit a virtual world that has grown significantly since its inception in 2003. Future research could investigate the connection between developmental life stage and the creation of Second Life avatars, their relationship to the "real life" identity of the player, and how they change or stay the same over time. Alternatively, future studies could compare Second Life players in the emerging adulthood developmental stage with emerging adults that do not participate in Second Life, examining differences in identity exploration and the construction of the self.

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VIRTUAL WORLDS AND THE 3D WEB: AUSTRALIAN POLICY DEBATES IN SECOND LIFE

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Abstract

Research indicators point to a 3D Web encompassing online virtual worlds in which users form communities, do business and create and sell virtual products. The current number of participants in such environments is estimated in the tens of millions. This new web environment brings with it an array of complex policy issues in the area of digital rights management, taxation, civil codes and real world jurisdiction.

This paper addresses such issues in respect to Second Life, an open social on-line world with a user base consistently growing at one million per month.

In Second Life, users access in-world tools which they use to create virtual goods, construct environments, stream multi-media events and innovate new services. Content creation extends to the adaptation and improvement of the platform itself. Underscoring these features is an IP arrangement where Second Life residents own their work and have the right to exploit and monetise them in both the real and virtual world. As a result, a thriving market economy has emerged, sparking new social and business contracts.

Along with its positive attributes, Second Life has hosted an array of uncivil practices, including unauthorised use of content, hacking, cyber-stalking and harassment and 'age-play' involving virtual paedophilia. The anonymity afforded by avatars raises concerns about a range of illicit practices including money laundering, theft and black market enterprises.

Real world institutions in industry, media, education and government show great interest in Second Life and increasingly are establishing a presence there. Big name corporations include IBM, ING, Sony and AOL. In 2007, Australia's ABC and Telstra joined them. All are keen to explore and experiment with the new platform, but the grey areas surrounding regularity frameworks, accountability and misappropriation may well stymie progress.

The paper offers a preliminary investigation into the extent to which uncivil and unregulated practices threaten the sustainability and growth and of what is widely described as the next generation of the Web.

1. Where Second Life sits in the spectrum of virtual worlds.

Speak to computer boffins of the early 80's and they will tell you about the early generation MUD's, MUCK's and MOO's, text based role playing games such as Dungeons and Dragons in which multiple users were able to connect via the Internet to a shared database and interact with each other in synchronous time. The technology evolved to MMOGS, massively multiplayer online games; these included first person shooters and car rallying and since the

late 90's, MMORPG's, Massively Multiplayer Online Role-Playing Games such as Ultima Online, and World of Warcraft.

The latest incarnation are known as MUVE's - multi-user virtual environments, so named because they are not games, but worlds which users inhabit. Thanks to greater computer processing power, sophisticated graphics cards and broadband, virtual worlds have immersive 3D properties, with avatars - on line personas - interacting with other users in a shared space and in real time. MUVE's are open ended social worlds and are not informed by an overarching gaming narrative. Nor are experiences prescriptive. Within the parameters of each world, users decide on the nature of their engagement.

A quick survey of the virtual world landscape indicates that MUVE's are a significant development in the way people wish to use the Internet. Whilst the graphics capability, functionality and in-world activities vary, all virtual worlds share two key features: community participation and the acquisition of virtual items which help define users' online identity. The Metaverse Roadmap, a blueprint for how virtual worlds might evolve, estimates the global market for asset trading, object creation, and services rendered in virtual worlds is estimated to range from \$700 million to \$2 billion per year. Much of these earnings are undocumented and untaxed and may be bought and sold in a secondary, unregulated market¹.

But while the goods are virtual, the communities are real. Users invariably remark on the deep engagement they experience with one another in such shared spaces. Not surprisingly, Irving Wladawsky-Berger, IBM's recently retired Chief Strategist of Innovation, believes that "meeting and learning and training may very well be the killer apps of the virtual world".²

Virtual world platforms are mushrooming and enormous growth is underway with hundreds of millions now inhabiting such spaces. Many developers are targeting users aged in their mid teens or younger, banking on an early engagement in digital role playing and virtual social networks continuing on into adulthood. *Club Penguin*, aimed at the under 14 age group was acquired in August, 2007 by Disney for \$700,000US. Launched less than 2 years ago in October of 2005, *Club Penguin* has not only become profitable but expects to make \$35 million in profit off revenues of \$65 million in 2007³. Hitwise reports that usage grew by an astounding 329%, from June '06 to June '07.⁴

Gaia Online, designed for the teens market started as a bulletin board system in 2003. Overtime, 2D anima-style graphical layering was introduced, with Gaia evolving into a virtual hangout where users can participate in blogs and forums, play games, watch industry or user-generated videos and spend recreational time with their friends. July '07 figures indicate 6.6 million users, 2.5 million unique users per month and 1 billion (and counting) total posts. Users average one hour on line per day. Virtual goods are given away as a reward for the amount of hours spent in Gaia.⁵ Users can then go to its e-Bay style auction site to trade. CEO Chris Sherman reports that 50,000 such auctions for virtual items take place per day.⁶

¹ <http://metaverseroadmap.org/>

² Wladawsky-Berger, I. (2007) 'How Real is the Virtual Web?' Berger Always -On Stanford Innovation Summit, (Webcast) 1st August <http://alwayson.goingon.com/page/display/15568>

³ <http://www.crunchbase.com/company/clubpenguin>

⁴ The Alpha Marketeer (blog) 6 August 2007

http://www.thealphamarketer.com/2007/08/club_penguin_has_grown_329_fro.html

⁵ Always On Magazine, Summer 2007, Always on Network, CA 35

⁶ Sherman C, (2007) 'Why Virtual Goods Matter: What's Driving User Adoption?' Virtual Goods Summit Webcast , Stanford University June 22, 2007 <http://www.vgsummit.com/videos.php#matter>

Habbo, emanating from Finland, has almost 80 million registered users and 7 million unique users per month across 18 countries. Aimed at 13 to 18 year olds, *Habbo Hotel* offers monitored rooms and filtered chat. Although registration is free, users can make purchases by sending an SMS message to their phone carrier. The cost is added to their phone bill.⁷ The Coles Myer retail chain Target, now sells the gold coins required for in-world purchases. *Habbo* recently acquired the most popular social networking site in Northern Europe, IRC-Galleria, and plans to incorporate it into *Habbo Home*, a complete miniverse, accessible on mobile phones⁸.

But whilst the number of *Habbo* and others constituents soar, it is Second Life which has captured the imagination of technology and media commentators. Sceptics put this down to an aggressive public relations campaign which translated into explosive growth throughout 2006. In the year August 2006 – 2007, Second Life's registered users grew from 300,000 to almost 9 million⁹. But the hundreds of blogs, forums and digital and print media column inches devoted to Second Life went beyond mere hype. Analysts were responding - and continue to respond - to Second Life's unique attributes which make it not just a 3D environment for users, but a complex social system embracing property, finance, trade, education, governance and civil codes. Moreover, more than any other virtual world currently on offer, Second Life best reflects the liberal democratic values prized by the developed real world; values which informed the development of the Web itself and which have been built into Second Life by the company which created it, Linden Lab. Self-regulation, an open system, giving users the tools to create, ownership of creations, and the means with which to conduct trade and make a profit are hallmarks of this virtual society.

When Philip Rosedale and his team started up Linden Lab in San Francisco 1999, his vision was to create a metaverse, in the spirit of the world described by Neal Stevenson, in his 1992 novel 'Snow Crash'. Stephenson's 'Metaverse' is interpreted by Rosedale as an "immersive world which simulates an alternate universe, which thousands of people inhabit simultaneously for communication, play, and work, at various levels and variations of role-playing with their avatars"¹⁰. By the time the platform went beta in 2003, Linden had determined that the only way such a world could grow was if it was an open environment in which users were given both the tools to create and owned the rights to anything they created. Instead of taking the IP, Linden's revenue would be raised through virtual land sales (land equates servers) and users' monthly maintenance fees. It was then a matter of structuring an economic system by which such users could buy and sell each other's goods and services. This is done through a floating in-world currency known as the Linden. (\$275L equates \$1US). Residents trade in and out of the world using PayPal or credit card, with moves afoot to have in-world ATM's linked to real world bank accounts¹¹. Linden sees its role as being that of a service provider, not a publisher as the owners of massively multiplayer online role playing games (MMORPGS) such as *Entropia Universe* tag themselves.

⁷ <http://www.crunchbase.com/company/habbohotel>

⁸ http://www.sulake.com/habbo/brand_vision

⁹ http://s3.amazonaws.com/static-secondlife-com/economy/stats_200707.xls

¹⁰ Van Winkle, William (2006) 'Q & A with Philip Rosedale' Computer Power User magazine. February Vol.6 Issue 2

¹¹ Mind Ark's 'Entropia Universe' introduced such a system in May 2006. <http://www.marketwire.com/mw/release.do?id=686615&sourceType=1> Mind ark claims 'The Entropia Universe is a direct continuation of Project Entropia, which had a 2005 turnover of 1.6 Billion PED (160M\$).' http://www.project-entropia.com/index_var

According to Linden, Second Life now represents 712.60 square kilometres of land, about five times the size of San Francisco. About 10 percent of its registered users are considered to be active participants.¹² In a rundown of SL's key statistics in March 2007, Linden's Vice President, Platform & Technology Development Joe Miller estimated there were over 35 terabytes of user-created content, many more events than can be tracked in a day, 520,000 unique items sold or traded per month and 15 million concurrent scripts running at any given time.¹³ Around 1.3 million US dollars are spent over a 24 hour period.

The average age of users is also distinctive. At 33, they are somewhat older than participants of other 3D platforms. The male to female split is 57:43 with male to female use roughly even in terms of hours of use.¹⁴ In the early days of Second Life, nearly all users came from the US. Today 60% of Second Life's active user base comes from outside North America with the EU alone exceeding the US in numbers. The number of Australians actively involved in Second Life as of June 2007 are around 13,000, meaning that Australia has moved from 11th to 10th place in the world with 2.61% of the active SL population¹⁵.

2. Governance, self-regulation and community in Second Life

In its early iterations, Linden attempted to police the world, acting on resident-filed abuse reports. Linden's Director of Community Affairs, Daniel Huebner, has admitted that the original four page book of community standards was 'unenforceable'.¹⁶ None-the-less, miscreants could have their subscription suspended or annulled. Troublesome residents could be detained in 'The Cornfield', a dark, surreal paddock of high planted maize, where the excommunicated avatar would be consigned to riding a tractor around and around. But post 2004, when Linden got serious about the business side of the platform, such unconventional tactics were supplanted by a more rigorous attempt to construct public policy. Second Life's 'Terms of Service', sought users' agreement to licensing and indemnification regulations along with six 'Rules Of Conduct' pertaining to intolerance, assault, harassment, disclosure, indecency and disturbing the peace.

In the period July 06 – 07, when Second Life was much hyped and growing at 20% per month, Linden Lab stipulated its wish to absolve itself of the role of policeman and overseer of civil codes in favour of resident self regulation. Linden recognised that with Second Life's growing internationalism it did not wish to impose a "California-centric set of rules on the virtual world". CEO Rosedale anticipated the rise of mini-nations and saw the need to implement policies that would "facilitate residents banding together and creating their own civic centres around their unique ideals and ambitions".¹⁷

¹² Economic Statistics as of July 30, 2007 http://secondlife.com/whatis/economy_stats.php

¹³ <http://www.3pointd.com/20070328/platforms-and-technologies-panel-at-vw07/#more-1414>
According to Virtual Worlds marketing strategists Kzero, There.com has 46 Percent female users.
<http://www.kzero.co.uk/blog/?p=961#more-961>

¹⁴ According to Virtual Worlds marketing strategists Kzero, There.com has 46 Percent female users.
<http://www.kzero.co.uk/blog/?p=961#more-961>

¹⁵ <http://blog.secondlife.com/2007/07/10/june-2007-metrics-published/>

¹⁶ <http://slcreativity.org/blog/?p=32> (video)

¹⁷ Town Hall Meeting, Nov 16, 2006
<http://blog.secondlife.com/2006/11/16/todays-town-hall-with-philip-now-available/#more-519>
Civic Centre, see http://secondlife.com/newsletter/2006_12/html/civiccenter.html
Terms of Service, see <http://secondlife.com/corporate/tos.php>;
<http://blog.secondlife.com/2006/11/16/todays-town-hall-with-philip-now-available/#more-519>

Emphasizing the shift, he spoke of “low-level rules to make Second Life stable, not high-level governance”. The best way to foster communication and expression, he asserted, was “to put power into the hands of the people by giving (them) better tools for local control”.¹⁸ This, he argued, would be feature driven, with groups given the ability to fine tune the rights and responsibilities of their members. Users could establish ban lists, make their land parcels invisible, estate owners could assign a covenant to their land that explains the rules they wished visitors and residents to abide by.

In short, Linden wanted its users to set their own values, rules and goals, and indeed, many Lifers are deeply engaged in the wider debate as to how their virtual world runs. For example, Second Life identity Prokofy Neva campaigned against what she termed the ‘feted inner core’, a favoured group who because of their scripting expertise or financial investment were, she claimed, given special privileges¹⁹. Another voice of dissent, The Second Life Liberation Army (SLLA), is dedicated to the self determination of avatars in Second Life (‘one resident, one vote’). It has staged a number of high profile attacks to draw attention to its cause, including infiltrating the Second Life coverage of the 2006 Davos World Economic Forum.²⁰ Numerous public posts and forums are held for residents with real time feedback from ‘Lindens’, (as Linden Labs 200 employees are known in-world).

But as Second Life has gained gravitas, particularly in light of attracting real world business and institutional interest, Linden is responding to calls for greater responsibility in regard to its laws and codes of conduct. New iterations of the Terms of Service included the 2007 decree that “the basic tenet of Second Life (is) that all Residents are legally responsible for their own activities and for complying with the laws of the local jurisdiction in which they reside”.²¹

Copyright was sorely challenged by the October 2006 ‘copybot’ saga in which a group of programmers reverse engineered avatars’ code, allowing them to be endlessly replicated. Protection is covered by the real world Digital Millennium Copyright Act (DMCA).²² But whilst this may serve as a deterrent, it is unlikely that small-scale operators dealing in micro-payments for their virtual creations, would gain much traction by invoking the Act. Linden Lab’s promise for higher levels of protection by building in ‘first use metadata’ is a more compelling solution.²³

Further top-down regulation came in May 2007, when sexual activity that plays with age and identity, so-called ‘age play’ was banned. This followed action taken by German authorities to use real world laws against virtual paedophilia.²⁴ In Second Life’s Community Affairs blog, Daniel Huebner stated,

¹⁸ <http://blog.secondlife.com/2006/11/16/todays-town-hall-with-philip-now-available/#more-519>

for more Second Life Governance directives, see:

http://secondlife.com/newsletter/2006_12/html/civiccenter.html and Terms of Service Terms of Service

<http://secondlife.com/corporate/tos.php>; From Town Hall meeting Nov 16th 2006-11-18

¹⁹ [http://en.wikipedia.org/wiki/Resident_\(Second_Life\)](http://en.wikipedia.org/wiki/Resident_(Second_Life))

²⁰ Au W J ‘You and What Army?’ (2007) New World Notes. 28 February (blog)

http://nwn.blogs.com/nwn/2007/02/you_and_what_ar.html

²¹ <http://blog.secondlife.com/2007/07/25/wagering-in-second-life-new-policy/>

²² <http://secondlife.com/corporate/dmca.php>

²³ <http://blog.secondlife.com/2006/11/13/copyrights-and-content-creation-in-second-life/>

²⁴ Johnson C ‘Brave New World or virtual paedophile paradise?’ The Age, May 10 2007

<http://www.theage.com.au/news/technology/can-an-avatar-commit-a-crime/2007/05/09/1178390390098.html>

*Real-life images, avatar portrayals, and other depiction of sexual or lewd acts involving or appearing to involve children or minors; real-life images, avatar portrayals, and other depictions of sexual violence including rape; real-life images, avatar portrayals, and other depictions of extreme or graphic violence, and other broadly offensive content are never allowed or tolerated within Second Life.*²⁵

Residents reacted to the term ‘broadly offensive’, re-badging Linden’s initiatives as ‘policies of intolerance’. ‘We don’t need to bring "Salem Witch Trials" to the internet’ wrote Alexandra Rucker of the SL action group United Protest ‘What is the age consent of a weasel?’ asked another.²⁶

In July 2007, Linden Lab intervened in residential activities yet again. This time unregulated gambling activity was the target. Some observers claim that along with sex, this is the most prolific activity in Second Life. Reuters’ Second Life bureau reported that the U.S. Federal Bureau of Investigation had visited in-world casinos at the request of Linden Lab to assess the legality of Second Life gambling.²⁷ Subsequently, a blanket ban was put into place, aligning Second Life with US regulators.

Dozens of Second Life casinos which had been operating in legally ambiguous circumstances were estimated to be pulling in millions of Linden dollars per month or more, although the extent of the profits are not verifiable. Lucrative secondary businesses servicing the needs of the gambling industry in the form of slot machines, roulette wheels and poker tables were also affected. As news of the prohibition reverberated around the Grid, residents worried about cash withdrawals, falling real estate prices and business closures.

*‘The gambling ban may signal the start of some economic effects’, wrote Jessica Holyoke of the Second Life Herald. Gamblers won’t be spending on machines and bringing money in through the Lindex (SL’s currency exchange). Their winnings won’t be redistributed through out the economy. Casino owners won’t be paying tier (land management fees) and bringing money out. The land the casinos are on will go up for sale, possibly depressing land prices - which may touch the community at large.*²⁸

Residents speculated about “what’s next”. Some users argued that tying up real world money in a virtual platform is a gamble in itself, when would Linden address that? Underlining the importance of user confidence, particularly in terms of the virtual world’s economy, one blogger wrote *‘If there’s any question in your mind about the business you’re in, and whether LL will even “think” about re-writing the terms of service to get rid of any aspect of it, right now might be the time to start thinking about it, yourself. They may announce, tomorrow, that you must comply, or you’re gone’.*²⁹

Ten days later, on August 9th, Second Life’s biggest private bank Ginko closed down. Some analysts doubted Ginko’s fluidity regardless, suggesting it was a Ponzi scheme. Ginko, however, blamed the crisis squarely on a surge of withdrawals linked to the ban on gambling

²⁵ <http://blog.secondlife.com/2007/05/31/keeping-second-life-safe-together/>

²⁶ Massiel M 2007 ‘Robin Linden’s Broadly Offensive Behavior Office Hour’ (blog) 6 June. Second Life Herald http://www.secondlifeherald.com/slh/2007/06/robin_lindens_b.html

²⁷ <http://secondlife.reuters.com/stories/2007/07/26/linden-lab-outlaws-second-life-gambling/>

²⁸ Holyoke J (2007) ‘If it’s Gambling - It’s Gone Resident Reaction to LL Gambling Ban’

<http://www.secondlifeherald.com/slh/2007/07/if-its-gambling.html>

²⁹ <http://webfeedcentral.com/2007/07/28/im-quitting-second-life-heres-why/> (Blog)

“which evolved into a full blown panic.”³⁰ On August 14th, the Linden Dollar was running at \$L269/US Dollar, a drop of 6 cents from its usually stable rate and overnight trading was down some \$US400,000 from the previous week.³¹

Policy-on-the-run may be an inevitable outcome of a rapidly developing metaverse – in Linden’s favour, users’ predilections are hard to predict and response *should* be agile. But policies which significantly change users’ expectations are bound to impact on their confidence in the platform. Official metrics released by Linden Lab in August support this, with premium accounts having dropped 6 %. Population density also fell, resulting in a reduction in September’s new land releases. With 22% of Second Life sessions ending “abnormally” in July, reliability is as much a hindrance to SL’s stickiness as policy shifts³². The sum of these elements support Clay Shirky and Gartner’s Steve Prentice observation, that SL’s growth cannot be sustained, and that we are seeing the inevitable end of the hype cycle.



³⁰ Reuters Second Life 2007 ‘Unable to pay depositors, Ginko ceases banking operations’ . (Blog) 9th Aug. <http://secondlife.reuters.com/stories/2007/08/09/unable-to-pay-depositors-ginko-ceases-banking-operations/>

³¹ ‘Premium Accounts decline in July’ 31 August 2007 <http://secondlife.reuters.com>

³² <http://secondlife.reuters.com/stories/2007/08/31/premium-accounts-decline-in-july/>

3. Issues for Australian organisations and individuals wishing to explore Second Life

Australia's entry into virtual worlds relies on high broadband speed and access. The Second Life platform will simply not work with dial-up. Users also need powerful computers with state-of-the-art graphics capabilities, but these requirements are not unique.

Although a number of SL's early adopters came from Australia, notably in the tertiary education sector, engagement was initially slow. Interest accelerated in late 2006 with the launch of the Australian Film Radio and Television's (AFTRS) 'Esperance Island'. Then in the first quarter of 2007, two of Australia's biggest corporations, the ABC and Telstra launched their Second Life presences, cementing local participation with the platform.

There was a synergistic element at play. Gary Hayes a British digital media producer spear headed AFTRS' efforts through their Laboratory of Advanced Media Production (LAMP). Not only was Hayes driving AFTRS students into the space, encouraging them to see Second Life as a new place to experiment with narrative, role playing and animation of their film ideas, but he was increasing their skills base - as well as his own.

Hayes' skill-set established him as Australia's pre-eminent builder and he was pivotal in the realisation of Telstra Big Pond's 'The Pond' and 'ABC Island'. His other major commission, still in development, is the construction of Tourism Victoria and Multimedia Victoria's shared Second Life space 'The Laneway', so named because of Melbourne's affection for its lively inner city lanes.

Telstra's commitment to exploring the virtual space, spear headed by BigPond's General Manager of Innovation Jason Romney, has paid handsome dividends in terms of its innovation strategy. In August 2007, CEO Sol Tujillo described Telstra's foray into Second Life as not only enhancing 'BigPond's formidable customer value proposition', but also representing 'further steps in our integration strategy and our evolution into a media- comms company'.³³

In the rush to be grab part of the virtual action, many big name brands such as Dell, Cisco, Nissan, Sony and Toyota constructed impressive headquarters only to find their centres empty. Yet Telstra's eleven islands are amongst the most visited in Second Life and the ABC's numbers are not far behind.³⁴ Both sites feature sandboxes, public spaces where users can construct and build without the cost of having their own land. Lisa Romano from the ABC project has observed that users come to the sight because it is free of the commercial objectives of many other locations, and that users from all over the real world seem to appreciate this³⁵.

Telstra Big Pond have staff working 24 hours a day to assist and welcome visitors. It has welcome areas, boutiques and seasonal activities for avatars such as scuba diving and ski-ing. Users can congregate around a cracking bonfire, the Billabong Bar plays which features music from a juke box or attend dance parties. As an added incentive, BigPond subscribers are not metered for time spent in Second Life.

The ABC stages events allied to its networked programs such as the public construction of the 'Eco House', an idea which was linked to Radio National's 'By Design'. In August it hosted

³³ www.sloz.info/2007/08/11/the-pond-gets-brief-mention-in-telstra-financial-results/ (Blog)

³⁴ http://nwn.blogs.com/nwn/mixed_reality_headcount/index.html

³⁵ Interview with author, 25 July 2007

an in-world panel discussion for the dance film 'Thursday's Stories' which screened in its Sunday Arts TV slot. Along with Telstra, it has conducted public 'how to' sessions. Refreshingly, these take place in the early evening, where as many events emanating from the US happen very late at night or early hours of the morning. (Second Life time is modelled on Pacific Standard Time, local California Time).

Both corporations are committed to continuing their exploration of Second Life even though at any time, the platform can become unstable and disrupt planned events.³⁶ Griefing, the vandalising of Second Life property or events, is not uncommon, and when the ABC Island was suddenly reduced to unformed terrain in May 2007, the SL ABC community feared the worst. In fact the problem was not errant residents but a glitch with Linden's servers. The Island and all its infrastructure was reconfigured within 24 hours. Similarly, in July 07, the Australian Information Industry Association (AIIA) scheduled an in-world conference on business practice in virtual worlds. It never got off the ground when the Second Life client failed to open. The presumption was that this was a Second Life Issue, but it was later established that a power surge at San Francisco's PG&E power station caused a widespread blackout.

Whilst not strictly governance issue, these two examples demonstrate the instability of the virtual environment – and Linden assumes no responsibility for any loss of productivity in such circumstances. Clause 1.6 in Second Life's Terms of Service stipulates:

'Linden Lab reserves the right to interrupt the Service with or without prior notice for any reason or no reason. You agree that Linden Lab will not be liable for any interruption of the Service, delay or failure to perform'

Clause 5.4 stipulates

*'Linden Lab does not ensure continuous, error-free, secure or virus-free operation of the Service, the Linden Software or your Account, and you understand that you shall not be entitled to refunds for fees based on Linden Lab's failure to provide any of the foregoing'*³⁷

Therefore any individual or organisation venturing into Second Life bears the risk of loss of goods or services. This is particularly significant for Telstra, which recently subdivided some of its virtual holdings and parcels. The offer was snapped up by consumers who entered into rental agreements at a monthly cost of \$A10 to \$A80 depending on the size. In what is regarded as a first, virtual land sales were advertised in a real world publication, Sensis' *Trading Post*, a Telstra subsidiary. Users have the opportunity to develop businesses on their properties and can erect houses or offices, stream video and audio, in effect create media channels within their own land. A full list of conditions can be accessed in-world in the form of note cards, which can then be stored in the Avatar's inventory. Whilst these conditions are in line with Second Life's Term of Service, no loss or indemnity claim has yet arisen that challenges Telstra's role as a provider or intermediary. However as recreational use is replaced by hard core business interests, this may change. In the meantime, Telstra runs the following caveat on its Big Pond website:

³⁶ <http://my.bigpond.com/pond/secondlife/> ; <http://www.abc.net.au/services/secondlife/>

³⁷ <http://secondlife.com/corporate/tos.php>

*BigPond is hosting Second Life on an experimental basis. There'll be problems that we never even anticipated, and we may not be able to fix them straight away. It's a brave new world for us too. So please be patient, positive and optimistic - and enjoy yourself no matter what.*³⁸

Similarly, the ABC must be careful not to transgress its considerable charter. In its 2007 updated editorial policy, section 9.2 deals with 'Interactivity involving audience contributions'. Section 9.2.1 states '*While audience members are responsible for the contribution they submit to ABC Online, the ABC is responsible for what is published online.*'³⁹

On the virtual frontier, where civil codes are not prescribed, jurisdiction is not yet understood nor clearly enacted when anti-social or uncivil activities occur, the ABC must exercise extreme caution. According to Lisa Romano, project manager at ABC Innovation, this has curtailed the ABC's activities in Second Life.⁴⁰

4. Challenges in Virtual World Governance ahead: who will rule the metaverse?

Second Life's motto 'is your world, your imagination'.⁴¹ As noted scholar on social production, Yochai Benkler describes it, Linden Labs is the 'commercial provider' with the users "writing the story lines, rendering the set, and performing the entire play"⁴². The dilemma for Linden Lab, is how to allow its users to build and define the metaverse whilst complying with real world regulations.

The recent community standards issues highlight the question: who controls the metaverse, Linden or the inhabitants? As users become more acquainted with the idea of leaving the surface world in order to establish themselves in a virtual community, and as they assume greater ownership of their virtual domain, measured in property and identity, they may be less comfortable with idea of a God like presence pulling the strings, even if it is a relatively benign one; how would the billion internet users feel if Google dictated what we can and can't search?

CEO Rosedale denies he is the capital 'C' creator. He says the code is the god – yet asserts Linden's right to play with that, adding that there is 'a biblical or mythical analogy' in it all.⁴³ New York Law School's technology law specialist James Grimmelman prefers a more temporal interpretation. "Every decision made by designers of a virtual world is a political decision. Every debate over the rules and every change to the software is political. When players talk about the rules, they are practising politics."⁴⁴

As the platform evolves, so too does discontent over the inequity of control. In the battle 'users versus service provider', the End User License Agreement (EULA) is pivotal. Second

³⁸ <http://my.bigpond.com/pond/secondlife/moreabouts/default.jsp>

³⁹ <http://www.abc.net.au/corp/pubs/documents/edpol07.pdf>

⁴⁰ Salomon, M (2007) 'Interview with Lisa Romano' 12 August

⁴¹ <http://secondlife.com>

⁴² Benkler, Yochai (2006) *The Wealth of networks: how social production transforms markets and freedom* Yale Univ Press also under CC License at www.benkler.org/Benkler_Wealth_Of_Networks.pdf

⁴³ 'Second Life 3D Digital World Grows' 9th Oct 2006 USA Today

⁴⁴ http://www.usatoday.com/tech/gaming/2006-10-08-second-life_x.htm

⁴⁴ Grimmelman J (2006) in 'Virtual Power Politics' in *State of Play : Law Games and Virtual Worlds*, Balkin J M and Noveck B S (ed) New York Univ Press , 146

Life's EULA, which Virtual World's commentator Julian Dibbell terms "that egregious tool of corporate tyranny over the defenseless voiceless customer"⁴⁵ gives Linden Lab the power to repossess virtual goods if it contends that a user has not abided by its terms. This is being contested in the infamous Bragg Case (2006-7), in which Marc Bragg, a Pennsylvanian attorney, is suing Linden. Bragg argues that the \$13,900 of real money he invested in virtual land, (from which he profited thus exposing a loophole in Lindens' real estate system), should have been returned to him⁴⁶. He also seeks reimbursal of legal fees in excess of \$100,000. The case, without doubt the first of many, tests not only the binding nature of the Agreement but also whether Linden's self-proclaimed Jeffersonian ideals are more than rhetoric.

Then there is the question of Linden selling up. Would residents feel more - or less - comfortable if Google or Microsoft bought out Linden; there has been much twittering that a sale is on the cards. Were it to happen, the religiosity in Google's 'do no evil' motto, would be put to the test. Microsoft's monopolistic practices would likely generate discontent from Second Life's considerable developer community – but would they have a say on such matters?

As other social worlds emerge, users will have the chance to jump ship, and go to a provider with whom they feel more aligned. Market forces would come into play, with Second Life needing to be responsive to its resident's wishes in order to keep them. Not to do so could mean mass migration and withdrawal of user's funds. This would diminish the confidence of existing users and the Second Life bubble could burst. Corey Ondrejka, Linden's Chief Technical Officer puts it, "A free market requires creators to have ownership and rights, thereby generating both wealth and capital in order to fuel growth"⁴⁷.

The really big question is to what degree real world jurisdiction can lay claim to a synthetic environment? Governments around the world are now scrutinizing the four-year-old site as a possible haven for tax-free commerce. The US Government is of the view that only monies traded out of the virtual environment can be taxed, however the Australian Tax office are of the view that in-world trading might constitute a taxable event.⁴⁸

There is concern that Second Life could easily enable the distribution of child-pornography and other illegal and uncivil activity. Searches of the SL website show there are three Jihadi terrorists registered and two elite Jihadist terrorist groups. Rohan Gunaratna, author of *Inside al-Qa'ida*, believes Second Life is an environment for rehearsing operations and spreading Jihadist philosophies⁴⁹.

In an effort to address hidden identities and activities, Linden is looking to increase the transparency of an avatar's real world identity and nationality. It will then be up to the user/avatar's country of origin to determine the rules and regulations pertaining to its metaverse citizens. Increasingly regulatory and legal matters will also be tied to specific

⁴⁵ Ibid, 4

⁴⁶ 'Bragg Vs Linden: discovery heats up'. August 31st 2007.

<http://virtuallyblind.com/2007/08/31/bragg-update-discovery/>

⁴⁷ Ondrejka C (2004) '*Escaping the Gilded cage: User created content and building the metaverse*'. available on line <http://www.nyls.edu/pdfs/v49n1p81-101.pdf>

⁴⁸ Joint Economic Committee. Press Release Oct 17th 2006 Congress of the United States.

Also, Miller, Nick 'Virtual World: Taxman Cometh' Sydney Morning Herald 30th Oct 2006

<http://www.smh.com.au/news/biztech/virtual-world-tax-man-cometh/2006/10/30/1162056925483.html>

⁴⁹ O'Brien, N 2007 'Virtual Terrorists' 31 July, The Australian

<http://www.theaustralian.news.com.au/story/0,25197,22161037-28737,00.html>

locations rather than to the entire grid. This way, Linden argues, cultural diversity and a range of moral and legal standards can be maintained⁵⁰.

In conclusion...

The enormity of these challenges put pay to the idea the idea that a private company can dictate terms of use. It may have worked up until now but looking ahead, Linden's approach is unsustainable. As the virtual world becomes more sophisticated, one virtual platform will mesh with another with avatars moving from one to another. Innovators in the 3D-web space talk about 'mixed' worlds and realities, where digitalised earth such as Google Earth and Microsoft's Virtual Earth will integrate with synthetic worlds. We may use our chosen virtual platform to control many aspect of our real world. IBM's *Deep Computing Visualization* initiative making head way here.⁵¹

Another complicating factor is Second life's path towards becoming a fully open platform. As that occurs, it will become nigh on impossible to keep people out of the system. Linden's mantra of 'local control' - a strategy where residents will isolate the people or events with which they are uncomfortable and in which Linden Lab will try not to regulate unless legally obliged to – may not work in the OS environment.

Significant infrastructure, in-world programs and strategies are being built by NGO's, educational institutions, businesses and services providers around the globe. An increasing number of residents run small businesses in Second Life and are making not insignificant profits. Too much now depends on Second Life's stability and structures for it to cave in due to uncivil or disruptive user behaviours. The reality is that the Second Life Grid is fast reaching a point at which, like the Internet itself, it must keep operating and Linden's 'all care no responsibility' caveat will ultimately not be good enough.

Working out who is accountable for what, is the challenge ahead. Legislators, educators, policy makers, technologists and the business sector need to collaborate now to address this.

⁵⁰ Second Life Community Conference (2007(Reuters Aug 25
<http://secondlife.reuters.com/stories/2007/08/25/exclusive-philip-rosedale-interview-from-slcc/>

⁵¹ <http://www-03.ibm.com/servers/deepcomputing/visualization/downloads/dcvflyer.pdf>

CYBERBULLYING: AN EMERGING ISSUE

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Abstract

Bullying is a common form of youth violence which historically affected young people whilst they were at school, travelling to and from school or in other public places. However, the actual physical presence between a bully and victim is no longer necessary for bullying to occur as it has penetrated into the digital age through what has been termed *cyberbullying* (Patchin & Hinduja, 2006). Cyberbullying involves the use of information and communication technologies such as the internet or mobile phones, to harass or harm a victim. As Cyberbullying is only beginning to emerge as an issue, there is an apparent gap in academic literature, particularly in an Australian context. This paper will therefore examine cyberbullying, using traditional bullying as a comparative point of reference, in relation to its effects, prevalence and implications for young people and the Australian community as a whole.

When Katie had a fight with her childhood friend last year, she never thought that it would extend beyond the schoolyard into cyberspace. What initially began as an argument at a birthday party rapidly escalated into a six-month harangue of threatening text-messages, humiliating website posts and abusive emails.

When Anna tried to sign-in to her instant message account she was unable to because an unknown person had accessed her account and was pretending to be her, calling a number of her close friends nasty names and initiating an argument with Anna's boyfriend. To this day Anna is still unaware of the identity of the cyberbully, but as a result of his/her actions she has suffered significantly at school and lost some of her close friends.

Introduction

Imagine a world where there are limited rules, and of these rules few, if any, are actually enforceable. Furthermore, imagine a world where you have the freedom to do or say whatever you like, where you can constantly make up stories, spread rumours and tell lies, most of which are harmful to others and there is no-one there to do anything about it. Welcome to the cyberworld and the new form of bullying known as *cyberbullying*.

Bullying in all its forms is widely accepted as being the most pervasive form of violence among youth and without intervention can inevitably escalate into serious forms of antisocial behaviour (Patchin and Hinduja, 2006). Bullying historically affected young people whilst

they were at school, travelling to and from school, or in other public places. However, modern technology has allowed bullies to access their victims and transmit bullying behaviours further than the physical world through what has been termed *cyberbullying* (Patchin and Hinduja, 2006). Cyberbullying is a form of bullying where the perpetrator utilises a form of digital communication, such as the internet or a mobile phone to intimidate, harass and/or harm their victim (Belsey, 2005; Patchin and Hinduja, 2006). Current media reports have provided a number of anecdotes and insight into this new form of bullying and suggests that the problem, although in its initial stages, is having a huge impact on those associated with it. For example, in Australia a Year 11 girl made death threats towards one of her peers on a popular social networking website where she stated that she would bring weapons to school and get revenge on the people who had hurt her. On another website set up by year 7 students, derogatory comments were posted about a number of students and teachers. The website also had a link to a polling page which asked for suggestions on how to hurt a fellow student (McDougall, 2007).

As cyberbullying is a relatively new phenomenon, there is a definite lack of published scholarly research on the issues specifically pertinent to cyberbullying. There is, however, an array of differences which suggests that cyberbullying may in fact be more serious than traditional forms of bullying (Belsey, 2005; Campbell, 2005; Smokowski and Kopasz, 2005). Therefore this paper will provide initial background information on the seriousness of cyberbullying, as well as a preliminary look at its prevalence both nationally and internationally. The central aim of the paper is to firstly make visible this new form of cyberbullying and its implications for individuals and Australian society at large. An array of issues which are specific to cyberbullying, such as common characteristics of cyberbullies, the effects of cyberbullying, and possible intervention strategies will be examined using traditional bullying as a comparative point of reference.

The main conclusion drawn from this analysis is that cyberbullying is a major issue of concern affecting a number of young Australians, particularly as technology continues to transform the lives of young people. Further, cyberbullying is an issue that warrants further analysis and consideration, particularly in a public policy context, as cyberbullying has emerged as a significant public health and social problem (Brown, Jackson and Cassidy, 2006).

Defining traditional bullying and cyberbullying

In a sense cyberbullying¹ is an extension of traditional bullying whereby different mediums are utilised to ultimately achieve the same outcome; that being intentionally inflicting some sort of harm, injury or discomfort on an individual (Bamford, 2004). Cyberbullying takes on such forms as harassment, discrimination, outing, flaming, trickery, spreading lies, disclosing personal information, gossiping, spreading rumours or anything else with the intention to destroy the character of the person (Beckerman and Nocero, 2006; Brown *et al.*, 2006; Sparling, 2004). This behaviour is always unwanted, deliberate, unremitting and repetitive and is often used as a form of social exclusion (Patchin and Hinduja, 2006; School Libraries in Canada, 2006).

The major difference between traditional bullying and cyberbullying is that traditional bullying requires the physical presence of the bully and victim for the bullying to occur

¹ Given that cyberbullying involves a number of emerging concepts a glossary of terms is found at the end of this paper

(Patchin and Hinduja, 2006). On the other hand, cyberbullying is more pervasive and diverse as it can be written or based on images and utilises various different technological mediums such as telephones, mobile phones and cameras, email, internet chatrooms, personal websites, polling sites, weblogs, online journals and Xangas (personal profiles where young people post hate lists), (Brown, Jackson and Cassidy 2006; NCH, 2005; School Libraries in Canada, 2006; Smith, Mahdavi, Carvalho and Tippet, 2005).

Three studies have looked at the most common strategy used by cyberbullies. Lenhart (2007) suggests that the most common form is the forwarding or the public post of a private conversation that an individual had with another person. Patchin and Hinduja's (2006) study of 400 young people indicates that cyberbullying occurs most frequently in chatrooms followed by computer text messages and then email. The actual behaviours which appear to most commonly constitute cyberbullying among participants in their study were being ignored online (60%), being disrespected (50%), being called names (30%) and been threatened online (21%). A study by Raskauskas and Stoltz (2007) among 84 young people, aged between 13-18 years, indicates that the most common form of cyberbullying is via text messaging (32% of victims) followed by bullying via internet-websites (15.5% of victims) and bullying using picture mobile-phones (9.5% of victims). Traditional schoolyard bullying, although sharing some similarities, is not the same as cyberbullying. Importantly, traditional bullying usually involves either one-on-one or small group to one, whereas the ease of cyber-communication means that the bullying can involve large numbers and be very widespread.

Currently there is little research on cyberbullying. By examining research on the correlates of traditional schoolyard bullying it is expected that an understanding of the reality, growth and magnitude of this new form of bullying can be developed (Patchin and Hinduja, 2006).

Although it is being predicted that there is a causal link between cyberbullying and traditional bullying, research on this is very much in its preliminary stage (Patchin and Hinduja, 2006). Brown and colleagues (2006), whilst examining characteristics of cyberbullies in comparison to traditional bullies, found that those who are bullied through traditional mediums often become bullies online. Ybarra and Mitchell (2004) also examined the link between electronic and traditional bullying among 1500, 9-17 year olds in the US and found that being physically hit or teased by another child in the past year significantly resulted in their potential to become bullies online. Furthermore, Raskauskas and Stoltz (2007) found that 85% of cyberbully-victims were also classified as traditional bully-victims, and 94% of cyberbullies were also traditional bullies. This suggests a possible causal relationship between the two types of bullying and that bullying often, but not always, starts offline and then continues online (Raskauskas and Stoltz, 2007; Li, 2005). As the above studies have indicated that cyberbullying, although having a number of differences in the way it is conducted is often linked with traditional bullying, it is critical that we acknowledge this relationship and develop interventions accordingly. In doing so, it is also crucial that we develop a comprehensive understanding of the types of people who are most commonly involved in cyberbullying, both as a bully and a victim.

Who cyberbullies?

Two separate studies suggest that the most common age when cyberbullying occurs is between 15 and 17 years (Lenhart, 2007; Beckerman and Nocero, 2003). The cyberbully is often known to the victim, as studies also indicate that over 70% of victims are aware of the identity of their cyberbully (Beckerman and Nocero, 2003; NCH, 2005), who is usually

someone in their class, or someone in the same year but a different class. Bullying is usually carried out by a small group of students (Beckerman and Nocero, 2003; Smith *et al.*, 2005).

Cyberbullying seems to involve girls more frequently than boys with the typical female to male ratio to be about 3:2 (Finkler, Mitchell, and Wolack, 2001; Li, 2005). This may be explained by the fact that girls are more likely to communicate using text messages and email (Campbell, 2005; Chu, 2005; Keith and Martin, 2005; School Libraries in Canada, 2006). Moreover, the concept of cyberbullying, where the young person does not confront their victim face-to-face is more aligned with the way in which girls communicate their anger (Picker, 2006).

Characteristics of the traditional bully and victim

Characteristically, bullies tend to be aggressive, psychologically extroverted, self-confident (Rigby, Cox and Black, 1997) and have negative attitudes towards their victim (Yoneyama and Rigby, 2006). A common misconception that bullies also suffer from low self-esteem and are unpopular is not substantiated as current research suggests that bullies often view themselves in a positive light and often have many friends (Juvonen, 2005). Males are more likely than females to bully and bullies are more likely to engage in substance abuse, cigarette smoking and have poor academic achievement (Ybarra and Mitchell, 2004).

On the other hand, the victim tends to be quiet, introverted, sensitive, lack confidence and may not have many friends (Yoneyama and Rigby, 2006). Victims also tend to be poor academic achievers, prone to alcohol and drug use and experience loneliness, depression and neuroticism (Ybarra and Mitchell, 2004).

Characteristics of the cyberbully and cyberbully-victim

Ybarra and Mitchell (2004) found that overall those who cyberbully were more likely to have poor relationships with their parents, and like traditional bullies, many of them tend to be drug users. This research suggests that a poor relationship/attachment with the primary caregiver was a significant predictor of an individual engaging in online harassment. This may be explained by the individual externalizing his/her behaviours in the form of bullying. Ybarra and Mitchell (2004) found three psychosocial factors which are common to those who cyberbully: delinquent behaviour, where 37% of frequent internet users who identified as internet-harassers reported engaging in delinquent behaviour compared to 13% of non-internet harassers; a victim of traditional bullying themselves, where 51% reported this, compared to 30% of non-internet harassers; and, substance abuse, where 32% of internet harassers reported frequent substance abuse compared to 10% of non-internet harassers.

Just as there is very limited research on the characteristics of cyberbullies, there is even less on the characteristics of cyberbully-victims. Anecdotal evidence suggests that cyberbully-victims are more likely to be social outcasts and may use the internet to post aggressive condemnations of the students who defame them at school. Such cyberbully targets have also been described as the 'wannabes' who are most involved in interacting with their peers online (Willard, 2006).

Why young people cyberbully

Focus groups were conducted by Lenhart in 2006 to determine the motivation behind young people engaging in cyberbullying. These focus groups revealed that bullying someone over

the internet or mobile phones is very easy, particularly because they can harass their victim anonymously. The focus groups also revealed that often cyberbullying is just an extension of what is already happening in the schoolyard, and provides a relatively easy, hassle free way for bullies to continue their harassment outside of school hours.

Further, Beckerman and Nocero (2003) found that the reasons for engaging in cyberbullying ranged from the bully believing it was harmless and funny to the fact that they were more likely to cyberbully because they were confident that they would not be caught or punished. In many ways cyberbullying appears to be an extension of traditional bullying, however, more research is needed to further explore the characteristics and motivations of cyberbullies and their victims.

The prevalence of cyberbullying

In order to contextualise the prevalence of cyberbullying it is first important to understand the uptake of technology by young people and its place in their social development. Young Australians may be particularly susceptible to cyberbullying via mobile phones, as text messages have been identified as the most common form of communication between young people aged 14-17 years and around 80% of 15-17 year old mobile-phone owners send instant messages on a daily basis (Brown *et al.*, 2006). The Australian Psychological Society (2004) conducted a study on mobile phone usage among adolescents in grades 7-12 found that 83% currently had a mobile phone. Of the participants who owned a mobile phone, 10% of these people reported receiving threatening messages. The most common ages to first receive a mobile phone seems to be between 13 and 14 years (57%).

A report by the Organisation for Economic Co-operation and Development (OECD) (2005) on internet usage and access among 15-16 year old students in a number of countries, found that young Australians are 'among the world's leading users of computers in education...' (Australian Council for Education Research Limited, 2006, p 1), with 94% of the Australian students surveyed having internet access to a home computer for school work and 100% of students reporting access to the internet at school. Activities which young people were most likely to be involved online were also examined. Sixty-nine percent of respondents reported frequent use of electronic communication which includes email and chat rooms (OECD, 2005). Similarly, a study conducted at Flinders University in 2005, with students aged 13-17, years found that over 25% of participants said that they used the internet daily and considered it 'an important part of their lives'. Given young people's uptake of this communication technology, including their apparent reliance on it, and the huge role it plays in their social development, it is not surprising that the experience and prevalence of cyberbullying is at such alarming rates.

Cyberbullying, just like traditional bullying has the potential to inflict serious psychological harm and as with traditional bullying the bullies entire foundation lies in their ability to exhibit power and control over their victim (Beckerman and Nocero, 2003; Sparling, 2004) whether it be actual or perceived power (Patchin and Hinduja, 2006). The very nature of Western culture only contributes to this form of bullying whereby young people are virtually inseparable from their mobile phones and are heavily reliant on their computers (Keith and Martin, 2005). Of course the argument for this would be for the young person to simply turn off their computer or their mobile phone. However, as social acceptance is crucial for a young person's development and the fact that the computer and mobile phone act as a lifeline to their peers, shutting oneself off from their social network is not a desirable option (Belsey, 2005; Keith and Martin, 2005; Patchin and Hinduja, 2006). Most young people endeavor to protect

themselves from compromising their social development, even if it means putting up with being bullied through these mediums (Belsey, 2005; Patchin and Hinduja, 2006). Moreover, life in cyberspace is often not distinguishable from life in the real world and it has been found that “there is no clean separation between the two realms and so specific instances of cyberbullying against a person make their way around the intersected social circles like wildfire” (Patchin and Hinduja, 2006, p 155).

Given the high rates of the use of communications technology among young people, the following findings regarding the prevalence of cyberbullying is concerning. In order to comprehend this high prevalence it is necessary to first examine the current rates of traditional bullying. Traditional bullying is a common experience for young people with current Australian statistics indicating that 20% of children have reported being bullied at least once a week (Rigby *et al.*, 1997). The prevalence of bullying in American schools indicates similar rates of bullying where around 30% of young people report being continually bullied (Nansel *et al.*, 2001; Whitted and Duper, 2005). Olweus, one of the most prominent writers on bullying, estimates that overall about 15% of children are affected by bullying in one way or another (Ivarsson, Broberg, Arvidsson, and Gillberg, 2005; Olweus, 1993).

While there is limited research on the prevalence of cyberbullying, one study by Campbell and Gardner (2005) found that over 25% of young Australians whom they surveyed said that they knew someone who had been bullied using technology, 14% had experienced bullying online and 10% had experienced bullying over mobile phone text messages.

Similarly US studies have suggested that approximately 30% of young people have experienced some form of bullying online (Chu, 2005; Patchin and Hinduja, 2006; Lenhart, 2007; Li, 2005). With 11% of the young people admitting to having bullied someone else online (Chu, 2005; Patchin and Hinduja, 2006). Patchin and Hinduja, (2006) also found that of their sample, 47% were witnesses to online bullying and overall 74% of the young people in this study said that they were aware that cyberbullying occurs. Prevalence rates of cyberbullying in the UK are slightly below this rate with the NCH (2005) reporting that 20% of young people having experienced some form of cyberbullying.

Several other American studies have suggested that the prevalence of cyberbullying may be even higher, with over 40% of individuals experiencing it at some time. For example, the National Crime Prevention Council in partnership with Harris Interactive Inc. commissioned a study in 2006 to investigate cyberbullying among 824 middle-upper high school students in the US. This study, and it is perhaps more recent than the others, found that just over 40% of young people in this age range have experienced cyberbullying in the past year. Raskauskas and Stoltz (2007) examined the relationship between electronic bullying and traditional bullying and found that just under 50% of the participants were victims of cyberbullying and around 72% were victims of traditional bullying. These figures are particularly high and therefore of concern, especially given the high level of technology use and the importance of this technology as a social networking tool amongst young people.

The impact of cyberbullying

Even though a great deal less is known about cyberbullying compared to traditional bullying, there appears to be an array of differences which suggests that cyberbullying is just as, if not more, serious than traditional forms of bullying (Belsey, 2005; Campbell, 2005; Smokowski and Kopasz, 2005). First and foremost, unlike traditional bullying, victims are unable to escape or retreat from the torment of cyberbullying as it knows no boundaries, borders or

limits and has the ability to transcend the schoolyard (Beckerman and Nocero, 2003; Keith and Martin, 2005; Raskauskas and Stoltz, 2007). Another disturbing component of this type of bullying is that information can be transmitted to a global audience in a relatively short period of time resulting in increased public humiliation (Belsey, 2005; School Libraries in Canada, 2006; Smokowski and Kopasz, 2005). For example, videos were posted on public, social-networking websites such as *YouTube*, showing Victorian private school students being bullied and beaten up at school (Rout, 2007). Just as with traditional bullying, while the motives behind the actual bullying are the same, with cyberbullying the effects are often magnified (Lenhart, 2007).

The concept of *disinhibition*, a new term coined by Joinson 1998, (cited in Brown *et al.*, 2006), may explain why it is easier for cyberbullies to engage in such extreme behaviours. Firstly, this form of bullying does not enable the bully to be provided with feedback from their victim in the form of visual or other cues so they are less likely to feel empathy for their victim (Brown *et al.*, 2006; School Libraries in Canada, 2006). Secondly, the nature of cyberbullying means that in most instances the perpetrator can remain anonymous by either not disclosing their identity at all, or through the use of fake identities and different online personas (Brown *et al.*, 2006). Thirdly, the nature of cyberbullying enables the bully access to previously private areas. For example, mobile phone cameras can be taken into change rooms and photographs can be taken and then be posted anonymously over social networking or other websites (Berkowitz and Beir, 2005).

Finally, the written or visual impact of cyberbullying can be extremely damaging, as with traditional bullying the memory eventually fades, but having it written down means that the act of bullying itself can potentially last forever (Australian Flexible Learning Framework, 2005; Brown *et al.*, 2006).

Bullying in general is about power and control, however when it comes to cyberbullying this power and control paradigm is somewhat different. Students who would normally be considered weak and who would not normally bully, or would not say such hurtful things to another are more likely to do so online (Beckerman and Nocero, 2003; Chu, 2005). By sitting behind a computer or mobile phone the bully may feel more protected and a heightened sense of power and control than would be the case with traditional bullying (Beckerman and Nocero, 2003). This physical distance not only makes it less likely for a bully to get caught, but also removes the bully from the victim and the impact that their actions are having on them (Raskauskas and Stoltz, 2007; Keith and Martin, 2005).

What we know from the effects of traditional bullying

The effect of traditional bullying behaviour on the victim can be immense and poses serious threats to childhood and adolescent development through psychological distress, depression and low self-esteem as well as poor psychological adjustment (Smokowski and Kopasz, 2005; Yoon and Kerber, 2003). When young people feel that they have been rejected and socially excluded by their peers a range of maladaptive behaviours can result. Bully-victims often experience social isolation and alienation as a result of being bullied (Lawrence and Adams, 2006; Juvonen, 2005; Smokowski and Kopasz, 2005; Yoon and Kerber, 2003).

The reason that bullying and social exclusion can be so damaging to the individual is because as an adolescent, our identities are heavily influenced by our social relationships and how others close to us perceive and evaluate us. Bullying is a way in which an individual can be driven out of a social group making them feel socially rejected (Berkowitz and Beir, 2005).

Cranham and Carroll (2003) examined this concept in a recent study and found that the social structure which is present among students in school dictates the behaviours of those students in that environment. They have suggested that if a student does not comply with such structures, which is often the case with bully-victims, then the consequence of this non-compliance will be social isolation and exclusion which brings on an array of different problems. For example, bully-victims are four times more likely to suffer from anxiety and depression than their peers (Dake, Price and Telljohann, 2003). Increased victimisation from peers can also lead to a loss of self-esteem and the development of a poor self concept which often negatively impacts on the victim's school performance (Dake *et al.*, 2003; Meadows *et al.*, 2005). It has also been found that bully-victims will lose their motivation to cooperate with peers and thus their social isolation will be further extended (Rigby, *et al.*, 1997).

It is important to note that the bullies themselves are also likely to experience difficulties in their development and often suffer from such conditions as depression, anxiety, attention deficit-disorder and engage in substance abuse. Bullies are also prone to suicidal ideation and later criminality (Johnson *et al.*, 2002; Juvonen, 2005; Lawrence and Adams, 2006; Patchin and Hinduja 2006; Yoon and Kerber, 2003). In fact a study by Olweus (1993) found that 60% of those identified as bullies in adolescence were convicted for at least one crime by the age of 24, compared to 23% of those who were not associated with bullying in any sense.

The effects of cyberbullying

As it has been suggested that cyberbullying is occurring at alarming rates, and is on the increase, it is important to understand the impact that these behaviours are having on young people and the possible consequences of not addressing this issue. Preliminary research suggests that many of the same outcomes for the traditional bully and victim may occur with those involved with cyberbullying; issues such as anxiety, low self-esteem and greater rates of future school drop-out (Patchin and Hinduja 2006). Whilst some people may play-down the effects of cyberbullying on the individual, in that it is not as 'real', continuing evidence suggests that the effects of cyberbullying may be more intense. This may be due to the fact that bullies are more likely to be extreme in their bullying behaviours for reasons discussed previously, such as lack of feedback from the victim and the anonymity cyberbullying enables (Ybarra and Mitchell, 2004; Gillespie 2006). As cyberbullying relies on words and images this can, in many ways, be more disturbing and harmful to the victim as there is the opportunity to continually dwell on the hurtful words or images (Australian Flexible Learning; Berkowitz and Beir, 2005). In extreme cases cyberbullying has also been linked to suicide (CBS News, 2004).

There are a few studies which have examined the effects of online victimisation, Finkler, Mitchell and Wolack (2000) surveyed 1500 young people between the ages of 10-17 about their experiences online and found that 32% had experienced some form of stress after being cyberbullied and 31% said that they felt extremely afraid. Furthermore 18% had five or more depressive symptoms at the time of the study. Patchin and Hinduja (2006) found that 60% of cyberbully-victims were affected by behaviours which occurred online when they were at school, 40% felt angry and 27% felt sad about their experiences of cyberbullying. Therefore cyberbullying, as with traditional bullying, may result in further maladaptive behaviours without appropriate social support (Patchin and Hinduja, 2006). The effects of cyberbullying are concerning and warrant further investigation. As there is a lack of empirical studies on the effects of cyberbullying for the bullies and victims, more research is needed to determine whether the threats made online are actually carried out in person and whether resulting conditions, such as depression and low self-esteem, are manifested in adulthood.

The economic and societal effects of bullying and cyberbullying

Hu (2004) examined the economic and societal impact of depression and associated disorders in a number of Asia-Pacific countries and reported that the total impact of depression in Australia between 1997-1998, was estimated to be around US\$1.8 billion. Overall it appears that the direct cost of depression in Australia, such as physician services and hospitalisation is US\$400. A further US\$1.4 billion in Australia is spent on the indirect costs associated with depression, such as a loss of productivity.

Self-esteem, the evaluation of ones self-worth, which is also affected by bullying, has been linked to a number of academic, behavioural and psychological outcomes. Some of negative outcomes include teenage pregnancy, antisocial behaviour, substance abuse, juvenile delinquency, depression and suicide (Haney and Durlak, 1998; Trzesniewski *et al.*, 2006). Trzesniewski and colleagues (2006) conducted a longitudinal study of 1000 adolescents to examine the future consequences of those who experienced low-self esteem in adolescence, and found that they were more likely to develop major depression or an anxiety disorder in adulthood. They were also more likely to experience poor physical health in adulthood.

Furthermore, young people with low self-esteem were 1.5 times more likely to be involved with criminal behaviour in adulthood and have fewer economic prospects, such as being twice as likely to leave school early.

The above research indicates that overall the impact of such conditions as depression, anxiety and low-self esteem have negative economic and societal consequences for those individuals and Australia as a whole. As these conditions have been shown to be partly, if not entirely caused by bullying, then investing in prevention and intervention programs would therefore be in the best interest of individuals and the Australian community as a whole (Patchin and Hinduja, 2006; Smokowski and Kopasz, 2005; Yoon and Kerber, 2003).

Addressing the issue of cyberbullying

There have been a number of lessons learnt from traditional bullying such as the fact that bullying is based on an imbalance of power between the bully and the victim (Smith *et al.*, 2005; Smokowski and Kopasz, 2005) and if left unchecked can escalate into more serious forms of violence (Whitted and Duper, 2005). Also, in addressing bullying it is most effective to adopt multilevel strategies where interventions are targeted at the bystander, individual, family and policy and legal levels (Whitted and Duper, 2005). This can be done by developing appropriate anti-cyberbullying policies and through awareness raising and cyber-safety education. All of these lessons must be acknowledged, and in the case of interventions they should be continued, however, there are also issues that are specific to cyberbullying. The digital world is a world in which there are limited rules, few of which are actually enforceable which implies a lack of accountability and responsibility on behalf of many users. It makes sense that the reason cyberbullying has arisen so quickly is partly due to the fact that until just recently there has been virtually no adult supervision or monitoring of the content of websites or text messages in the cyberworld (Belsey, 2005; Patchin and Hinduja 2006; Smokowski and Kopasz, 2005). This lack of monitoring and supervision is largely related to the fact that parents and children relate to technology quite differently (Chu, 2005; Fleming and Rickwood, 2006; Keith and Martin, 2004). Parents in general see computers and mobile phones as practical tools, whereas young people see them more as a social medium that they can utilise to communicate with their friends (Keith and Martin, 2004). Young people have grown up with technology and can often navigate around the digital world much better than

their parents. This has created a distinct gap between adults and young people's online skills—a gap which the young person is often well aware of (Keith and Martin, 2004; Patchin and Hinduja 2006). Berson (2000), surveyed a 10,000 girls between 12 and 18 years in regards to online safety and found that there is a lack of supervision in the cyber-world where 38% rarely discusses, and 31% never discusses their online activity with an adult.

Despite a lack of adult involvement, the degree to which technology impacts on young people, and whether or not their adventures in the cyberworld are educational, enjoyable and beneficial or are actually destructive and problematic, depends largely on the influence of parents and teachers and their ability to deter young people from engaging in such anti-social behaviours (Berson, 2000; Fleming and Rickwood, 2006).

Another major problem in holding the cyberbully accountable is that it is often extremely difficult to determine the source of this negative behaviour as in most cases the perpetrator is anonymous. Furthermore, it is common for young people to share their screen names and passwords with each other (Beckerman and Nocero, 2003; Belsey, 2005; Sparling, 2004). Even if the source of the bullying is known the negative behaviours are not necessarily transferred to the schoolyard which makes it difficult to determine the role the school can play in alleviating this behaviour. In many cases this may mean that the school has no authorisation to actually hold a cyberbully accountable for their behaviour (Beckerman and Nocero, 2003; Chu, 2005; Meadows *et al.*, 2005). Furthermore, with the right to free-speech it is also difficult to remove a website or material posted on a website (Li, 2005). At present there are no restrictions on what can be posted online and internet service providers are not liable for the content which their users post (Beckerman and Nocero, 2003; Chu, 2005; Sparling, 2004).

Although there have been reported cases where police and internet/ mobile phone providers have intervened in a cyberbullying incident, this is rarely the case (Bamford, 2004). Legally cyberbullying would most likely be considered a *Communications Offence* which is “to send an obscene, indecent or menacing communication or one that is grossly offensive” (Gillespie, 2006, p 126). However, to be considered as this type of offence it needs to be threatening, or have the intention of creating some type of fear in the victim that pre-empts an uncomfortable situation (Gillespie, 2006).

Interventions

The realistic goal of any intervention should be a reduction in bullying, not eradication and this will require a substantial amount of resources. This can be done by adopting a holistic approach to prevention and intervention by involving parents, teachers, youth workers and other community members who are in direct contact with young people (Beckerman and Nocero, 2003; Berkowitz and Beir, 2005; Li, 2005).

Cyberbullying by its very nature is extremely difficult to control. Therefore adopting a disciplinary approach will not be particularly effective, because there is less likelihood that the perpetrator will be identified (Bamford, 2004). A behavioural approach to prevention would be much more effective, where measures are focused on building ‘internal reliance’ and character education (Bamford, 2004; Berkowitz and Beir, 2005).

Education, supervision and monitoring are all key aspects in cyberbullying prevention (Bamford, 2004). Education programs need to ensure that they provide young people with the right information for them to understand the dangers of cyberbullying and how to minimise its occurrence and also to educate those who think that cyberbullying is harmless (Gillespie

2006). School policies need to be established which clearly outline which technological mediums are actually permitted on campus and have stringent guidelines for their use. Schools should be able to access a device on their premises if there is an indication it has been used to cyberbully (Beckerman and Nocero, 2003; Willard 2006; Wolfsberg, 2006).

Effective policies and resulting strategies which have been shown to alleviate bullying in its traditional sense, (eg. Olweus, 1993), need to be expanded so they include cyberbullying and the various forms that it takes (Brown *et al.*, 2006). This would of course include education about the dangers of new technologies (Berkowitz and Beir, 2005; Willard 2006).

Parents and teachers must develop an understanding of new technologies as well and ensure that they are aware of the extent to which cyberbullying is occurring in their children's school environment. It is also important for parents to familiarise themselves with the most common methods used to cyberbully so that they can intervene appropriately (Li, 2005; Patchin and Hinduja 2006).

Implications for public policy

Public policy issues are centred around conflicts between freedom of speech of the child, the best interest of the child and the parents' protective authority and control over the child (Brown *et al.*, 2006). For any policy to be effective it must take into consideration the child in relation to their environment, particularly the influence of the child's family, school and community as a whole (Wolfsberg, 2006). Furthermore, policy interventions need to be flexible, continuous and may need to be extended beyond the physical boundaries of the schoolyard (Campbell, 2005).

An additional stage in policy analysis is to examine the local sites where the policy is to be implemented and thus adopt a 'grass-roots'² approach. This approach enables those who will be directly affected by the policy to contribute to its development (Brown *et al.*, 2006). When drafting policy initiatives on cyberbullying, policymakers must become familiar with the extent and severity of cyberbullying in Australia and the resulting mental, physical and academic effects which typically arise from the act of cyberbullying (Brown *et al.*, 2006). At the governmental level, higher administrative policy will need to be established which defines the problem and also takes into consideration the impact of the policy in different arenas (Brown *et al.*, 2006). Furthermore, public policy will need to be adaptable to changing social contexts and must be developed in a manner that ensures it alleviates, not exacerbates the problem. Finally, in order for informed public policy to be created, policymakers must establish a thorough understanding of the reality and uniqueness of cyberbullying (Brown *et al.*, 2006).

Conclusion

Initial research has indicated that this new form of bullying, known as cyberbullying, has the potential to become as problematic, if not worse than traditional bullying (Patchin and Hinduja, 2006; Campbell, 2005). The large percentage of young people, who are currently experiencing cyberbullying, and the similarities between the findings of a number of studies examined in this paper, suggests that the issue of cyberbullying is becoming a major concern

² Grass-roots' approach is an approach that is driven by the community itself rather than traditional power-structures.

and further analysis is required. Both policymakers and the public must commit to investing in public health prevention and other intervention programs to address cyberbullying.

Future research should focus on examining the extent to which cyberbullying is occurring in Australia and the general characteristics of cyberbullies, including the development of appropriate intervention strategies to address this issue. By conducting additional research a better understanding of the uniqueness of cyberbullying will be established, which will ultimately enable recommendations to be made to government. The severe economical and social consequences that may result from government and other policymakers in responding inadequately to the issue of cyberbullying have been outlined above. It is therefore critically important to act now.

Overall this paper concludes that cyberbullying is an issue facing young Australians and its incidence is occurring at an alarming rate as we move into the wired world. It is hoped that this paper has highlighted the issue of cyberbullying, generated discussion about what can be done and has inspired other researchers to take an interest in this new phenomenon.

G L O S S A R Y

Bullying: “An act of aggression against another person who is either physically and/or psychologically weaker than the perpetrator” (Olweus, 1993, p 9). These acts of aggression include harassment, teasing, taunting, physical violence or social exclusion.

Bully-victims: An individual who is a victim of a bully.

Cell phone: (See mobile phone).

Chatroom: Real-time communication between two users via a computer. Once a chat is initiated, either user can enter text by typing on the keyboard and the entered text will appear on the other user's monitor (Belsey, 2005).

Cyberbullying: Using a personal computer to send harassing emails or instant messages, post obscene, insulting and slanderous messages to online bulletin boards, or develop web sites to promote and disseminate defamatory content. Also, harassing text messages can be sent to the victim via mobile phones (Patchin & Hinduja, 2006).

Cyberworld: Refers to the world of computers and other forms of communications. It implies the fast-moving, high-technology world of today.

Cyberspace: Refers to the ‘space’ of computer systems and networks and where electronic data is stored and online communication occurs.

Cyberstalking: Repeated, intense harassment and denigration that includes threats or creates significant fear.

Denigration: Sending or posting gossip or rumours about a person to damage his or her reputation or friendships.

E-mail: The abbreviation term for ‘electronic mail’. It acts as both a storehouse and a means to which an individual can compose, send and receive information through electronic communication.

Exclusion: Intentionally and cruelly excluding someone from an online group.

Flaming: Online fights using electronic messages with angry and vulgar language.

Harassment: Repeatedly sending nasty, mean, and insulting messages.

Impersonation: Pretending to be someone else and sending or posting material to get that person in trouble or danger or to damage that person's reputation or friendships.

Instant messaging: A type of internet communication service which enables an individual to establish a private conversation with another person which allows them to talk in real time. It is usually coordinated through a personal contact list where an individual will be alerted if someone on their list is online and they can then start a conversation (Jupitermedia, 2007).

Mobile phone: A handheld portable phone which operates via a central station which makes connections through standard telephone lines.

Outing: Sharing someone's secrets, embarrassing information or images online.

Personal polling/voting websites: A type of website which is set up by an individual that requests other internet users to vote or rate a particular issue or subject, for example www.freevote.com.

Personal websites: A type of website which is set up by an individual as opposed to a business or organisation. The individual can post and update information on the website freely.

Public post: To include something on a website, such as text or graphics, that anyone who goes to that website can see.

Screen names: Often referred to as a nickname, which allows an individual to keep their identity private online.

Social development: A process an individual goes through to develop their thinking and relationships with other people. Social development theories focus on the relationship between the mind and social behaviours (Rodkin, Farmer, Pearl & Van Acker, 2006).

Social networking websites: Websites that enable anyone to establish a virtual community of people who share the same interests and activities. There are a number of ways in which users can interact on such sites which include through email, instant messaging or discussion groups

Technology: The technical means people use to improve their surroundings. It is also the knowledge of using tools and machines to do tasks efficiently (Bergen County Technical Skills, 2007).

Text messages or SMS: The process whereby an individual can send a short, often abbreviated message to another person's personal device such as a mobile phone or pager.

Trickery: Talking someone into revealing secrets or embarrassing information, then sharing it online.

Weblog: A website that has a number of entries, usually organised in reverse chronological order, which is frequently updated with new information on specific topics. A weblog can be authored by the website-owner or other users of that website.

Website: A location on the World Wide Web. Each website contains a home page and often has links to other documents and/or files. A website can be controlled by an organisation, business or an individual (see personal website).

Xangas: Personal profiles where young people post hate lists.

Youtube: A popular website that allows anyone to post short videos for public viewing

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ISSUES FOR CORPORATES AND REGULATORS IN SECOND LIFE AND VIRTUAL WORLDS

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Introduction

The Federal Government has recently relaxed regulations governing the more mature media/information distribution platforms, however rapid advances in distribution technologies may require regulation by the Government. This regulation of media distribution may move into areas previously unknown to traditional media law such as taxation, money laundering, and the regulation of crimes such as sexual assault.

This paper considers:

- (a) the challenges to regulators of the dramatic rise in popularity of Virtual Worlds like *Second Life* as an alternative to traditional entertainment and information services like TV, radio and newspapers;
- (b) the risk issues for corporate entities when setting up presences in Virtual Worlds like *Second Life*; and
- (c) relevant caselaw from around the world involving Virtual Worlds.

Why should we be interested in Virtual Worlds?

When we speak of Virtual Worlds, it conjures up images of spotty youths playing computer games involving mythic creatures and duels with magic swords. However such easy dismissal of this phenomenon is unwise. Virtual Worlds or Massively Multiplayer Online Games are a multi-billion dollar industry and are the fastest growing sector of the entertainment economy.¹ Far from being “just a video game”, they represent the leading edge of the movement of the Internet from the standard 2-Dimensional web interface to a fully immersive 3-Dimensional web experience.

Take for example *Second Life*, a Virtual World much discussed in mainstream press of late. The average age of *Second Life*'s over seven million inhabitants is 32 years,² with 45% of the inhabitants being women.³

Over 50 universities have established presences (so called “Islands”) in *Second Life*, including Harvard, Duke, INSEAD, MIT and Vassar. These universities are running courses solely “in-world” for students all over the world.

¹ On Virtual Worlds: Copyright and Contract Law at the Dawn of the Virtual Age, Erez Reuveni, Indiana Law Journal Spring 2007, 82 Ind. L.J. 261.

² Media Tunes in Second Life, Hollywood Reporter, 13 February 2007.

³ Media Tunes in Second Life, Hollywood Reporter, 13 February 2007.

Most of the world's leading consumer brands have Islands, including ABN Amro, Accenture, Adidas, BMW, Calvin Klein, Coca-Cola, General Motors, H&R Block, ING, Kraft, Lacoste, Mazda, Mercedes-Benz, MTV, NBA, Nissan, PA Consulting, Philips, Samsung, Sears, Sony, Starwood Hotels, TMP Worldwide, Toyota, Vodafone, Wells Fargo Bank and Xerox.⁴ The prestigious news agency Reuters has even set up a news bureau in-world covering events in *Second Life*. In Australia, the ABC has an Island and Telstra has built 11 highly interactive Islands. Telstra are also supporting customers to explore *Second Life* by making bandwidth used by BigPond customers on *Second Life* not count towards that customer's data cap.

Islands in *Second Life* today are like websites were back in the late Nineties, corporates have Islands but they are, generally, viewed more as experiments with a new form of interaction with and between their brand, their people and their customers. For example, Coca-Cola has given *Second Life* residents permission to use the "Coke" trade mark in *Second Life* in an almost unrestricted manner.⁵

All the major technology companies have significant presences in *Second Life*. CISCO use its Islands to display its equipment and even sets up virtual prototypes. For example, CISCO recently set up a working prototype of a virtual hospital, where potential customers could move around and use CISCO's wireless communication within the virtual hospital environment.⁶ A technology company that is betting big on Virtual Worlds is IBM. IBM have committed to spending US\$100 million on its Virtual World developments over the next few years.⁷ One of IBM's main use of its 24 Islands in *Second Life* is to have virtual meetings of its people (on closed IBM-only Islands). IBM sees Virtual Worlds as a potential video conference replacement.

Governments too are getting involved, for example, there is a Swedish Embassy in *Second Life*. The politicians, eager for any edge, are also engaged, with the likes of Barack Obama and Hilary Clinton both having Islands.

One of the major reasons for the success of *Second Life* is that the Participant (which for the purposes of this paper includes individuals using the Virtual World and corporates with businesses/presences set up in Virtual Worlds) earns currency in-world (so called "Lindens") and can exchange these Lindens for US dollars. The GDP (i.e. the amount of money that changed hands between Participants) for *Second Life* in 2006 was US\$220 million and is estimated to rise to US\$700 million in 2007.⁸

Second Life is not a quest/contest game, i.e. there is no specific goal in *Second Life*. It is just an environment where people can go to meet each other and/or create things. In relation to quest-based Virtual Worlds, it is worth noting that one of the most popular, *World of Warcraft*, has over 8 million subscribers (more than the populations of New Zealand and Ireland together), each paying a monthly subscription fee to participate.

What is a Virtual World?

Wikipedia defines a Virtual World as:

"A computer-based simulated environment intended for its users to inhabit and interact via avatars. This habitation usually is represented in the form of two or three-

⁴ Second Life Business Communicators Wiki, 28 June 2007.

⁵ *Coca-Cola Gives Away its Trade Mark in SL*, Reuters SL News Centre, 28 June 2007.

⁶ *Global Trends: Virtual B2B*, Brand Strategy, 16 April 2007.

⁷ CnetNews.Com, 13 November 2006.

⁸ *Deloitte Media Predictions TMT Trends 2007*.

dimensional graphical representations of humanoids (or other graphical or text-based avatars).

The world being computer-simulated typically appears similar to the real world, with real world rules such as gravity, topography, locomotion, real-time actions, and communication. Communication has, until recently, been in the form of text, but now real-time voice communication using VOIP is available. This type of virtual world is now most common in massively multiplayer online games (Active Worlds, Second Life, Entropia Universe, The Sims Online, There, Red Light Center, Kaneva, Weblo), particularly massively multiplayer online role-playing games such as EverQuest, Ultima Online, Lineage, World of Warcraft, or Guild Wars.”

Second Life, one of the most well-known of the Virtual Worlds, was developed by Linden Labs in California and is served from Linden Labs’ servers located in the USA. A Participant is able to move an avatar (of their own design) through the world, creating things, buying things (with their Lindens) or trading things and generally interacting with other avatars. In this regard *Second Life* sees itself as a natural extension of popular 2-Dimensional social networking websites such as MySpace.

Linden Labs’ goal for *Second Life* is “to create a user-defined world of general use in which people can interact, play, do business and otherwise communicate”.

While there are other Virtual Worlds, the critical factors of *Second Life* that distinguish it from other Virtual Worlds are:

- a) Participants own the creations that they make in-world; and
- b) Participants can exchange their Lindens for US dollars at the Linden Labs-operated currency exchange. The exchange rate moves but hovers around the 270 Lindens to US\$1 mark.

Whether *Second Life* is the future of the 3D web or whether another platform will become dominant is the subject of conjecture. The competition between Virtual World platforms has been likened to the “Browser Wars” with respect to the 2D web between Netscape Navigator and Internet Explorer in the late Nineties.

What are the regulatory implications?

Sexual assault and pornography

Police in Britain, Belgium and Holland are considering whether users of *Second Life* are committing a crime if their avatar sexually assaults or stalks another avatar.⁹

While that may seem a highly unusual suggestion, it needs to be borne in mind that the Participants in these Virtual Worlds spend so much time with these characters that they become emotionally connected to them and an assault on their avatar has a traumatic effect (in the Participant’s mind) similar to the effect that would occur if the assault occurred in real life.

In Australia, the criminal laws related to sexual assault would not extend to virtual sexual assault and it is likely that law enforcement would have to rely on the provisions of the

⁹ www.timesonline.com, 13 May 2007.

relevant criminal statutes related to use of a carriage service to menace or harass¹⁰ or stalking via electronic communications.¹¹

Further, police in Germany are investigating the practice of “Ageplay” in *Second Life*.¹² Ageplay is where one Participant takes on the avatar of a child and engages in sexual acts with an adult avatar. Virtual depiction of sex with a minor is dealt with differently around the world. In Germany and Australia, such depictions would likely be considered unlawful publication of child pornography.¹³ While in the USA, such depictions may not be unlawful.

It is also possible for Virtual Worlds to be used for the sale of age-restricted goods and services to minors. This area has received a lot of regulatory attention in relation to mobile phone and Internet content and the potential issues in Virtual Worlds will need to be considered.

Money laundering

Virtual Worlds are especially popular and advanced in South Korea. In fact more South Koreans participate in Virtual Worlds than watch television.¹⁴ However, because of the ease of creating false identities, Virtual Worlds have been used to launder money in South Korea.¹⁵ More dramatic commentators have suggested that Virtual Worlds could be the 21st century’s equivalent to hiding funds offshore.

The United Kingdom’s independent watchdog, the Fraud Advisory Panel, has released a report of its study into financial services regulation and Virtual Worlds and it has recommended that the UK Government must act to ensure that funds exchanged in Virtual Worlds “count as genuine financial instruments covered by existing laws and regulations”.¹⁶

Tax

Even in the Virtual World, the taxman is a certainty. Generally speaking, tax authorities are able to tax earnings made in Virtual Worlds when these earnings are taken out of the world. However, what is less clear is whether income and capital gains can be taxed if they do not leave the Virtual World. This topic is the subject of a report due soon from the Joint Economic Committee of the US Congress.¹⁷

The Australian Tax Office has cautioned Australian corporates involved in *Second Life* to be aware of the GST implications of their in-world activities.¹⁸

Gambling

Australia has strict restrictions on online gambling. Arguably the types of gambling opportunities which can be found in Virtual Worlds breach these laws (though it should be noted that *Second Life* has recently forbidden gambling). The major issue is how to effectively police these transgressions. Does Australia have the ability to enforce criminal sanctions

¹⁰ s.474.17 Commonwealth Criminal Code Act.

¹¹ s.21A Crimes Act (Vic), s.359B Criminal Code Act (QLD), s.35 Crimes Act (ACT), s.189 Criminal Code (NT), sections s.45AB and 562D Crimes Act (NSW), s.338D Criminal Code (WA).

¹² Brave New World on Virtual Pedophile Paradise, The Age, 10 May 2007.

¹³ s.67A Crimes Act (Vic), s.91H(1) Crimes Act (NSW).

¹⁴ *Virtual Property*, Joshua A.T. Fairfield, Boston University Law Review, October 2005 85 B.U.L. Rev.

¹⁵ *Identity Theft in a Virtual World*, Cnet News.Com 7 July 2006.

¹⁶ www.fraudadvisorypanel.org.

¹⁷ Financial Times, 29 May 2007 and www.house.gov/jec.

¹⁸ *Virtual World: Tax Man Cometh*, Sydney Morning Herald, 31 October 2006.

against residents of foreign countries? The answer is likely to be yes given that the Internet has, in effect, created a global jurisdiction where an individual could face criminal proceedings in another country regardless of the fact that he/she did not ever set foot in that other country.

A case in point is the recent sentencing of Australian, Hew Griffiths, to 51 months jail in the USA.¹⁹ Griffiths never went to the USA, but rather ran an Internet site from his home on the NSW central coast. This site contained material and information that enabled users to circumvent the copy protection protocols on commercial software. Because there was mutual criminality (i.e. circumventing copy protection is a crime in the US and in Australia), the Australian Government ultimately allowed Griffiths to be extradited to the USA.

Promotions and lotteries

Many corporates are running promotions or competitions in *Second Life*. For example Lacoste held a promotion with a prize in Lindens for the best design of a virtual Lacoste shirt. Australia has a patchwork of state-based legislation governing promotions, competitions and lotteries. It is likely that such promotions/ competitions, where accessible to Australian residents, technically need to comply with Australia's promotions, competitions and lotteries legislation.

Market manipulation

Virtual Worlds are economies and with *Second Life* having a GDP of US\$700 million, quite significant ones at that. Like all economies there are capital inflows and outflows and Participants investing in these Virtual Worlds need to have transparency and certainty about the way these economies are run. In the real world, there are layers of financial regulation which ensure the markets operate in an appropriate manner and minimise market manipulation. In Virtual Worlds, there are stock markets, complex financial transactions and multi-layered derivative structures. Therefore, it is possible to manipulate these markets and cause financial damage to the other Participants and, indeed, crash the economy. The Virtual World, *EVE Online* has complex financial structures and has been hit by several frauds on the markets which has had significant impact on Participants.²⁰

What are the issues for corporates setting up a presence in a Virtual World?

There are significant risks, legal and otherwise, for corporates when they create their Virtual World presences or sites (**VW Sites**). These corporates (**VW Site Operators**) should be aware that, while there are many similarities between operating a standard 2D website and a VW Site, the risks and costs of operating a VW Site are greater.

Location releases

Corporates need to be careful to ensure they have relevant location releases for buildings and locations depicted in their VW Sites. It is settled law that a film of a building is not a breach of the copyright in the building.²¹ However recently arguments have been put forward that this exception may not apply to renderings of buildings in VW Sites.²² For example, it was

¹⁹ US District Court 1:03-cr-00105-CMH.

²⁰ *Biggest Scam in EVE Online History*, www.mmorpg.qj.net,

²¹ s.66 *Copyright Act*.

²² *Telstra Hit Over Virtual Uluru*, *The Australian*, 24 May 2007.

suggested in a recent newspaper article that the depiction of the Sydney Opera House on Telstra's Island in *Second Life* may have been a breach of copyright in the building. If a drawing of a building does not breach the copyright in a building, then arguably a graphic depiction of a building should also not breach copyright, however this is yet to be judicially considered.

Another potential claim which may be available to iconic structures like the Sydney Opera House is to allege that the use of images of the structure on a VW Site could be regarded as an endorsement by the relevant structure and constitute passing off. This is likely to be a very difficult argument to make out, however care should be exercised by VW Site owners in the choice of structure as the adverse PR from a claim (even if unfounded) can be damaging. For example, Telstra also came in for adverse publicity as a result of the depiction of Uluru on one of the Telstra Islands. The use of this icon raises some very sensitive issues as Uluru does have its own specific legislation which prohibits members of the public gaining access to, flying over or seeing certain sacred areas on and around Uluru. It was suggested that representatives of Uluru's traditional owners, the Anangu people, were concerned that it may be possible for Participants to view these sacred sites on the depiction of Uluru in *Second Life*. After review, this apparently is not the case. So while this issue and the Sydney Opera House issue appear to have been completely unfounded, these claims did create several days of difficult PR for Telstra.

EULAw

Every Virtual World is governed by an end user licence agreement (**EULA**) which sets out the terms upon which a Participant may use the Virtual World. If corporates are investing significantly in their VW Sites then that investment is completely subject to the terms of the EULA. These terms set out the rights and obligations of the Participants and are, generally, drafted very much in favour of the owner of the Virtual World (**VW Owner**). Similar to the way software companies are able to impose their EULAs on users without any opportunity for negotiation, a VW Site Operator trying to set up a VW Site is unlikely to have an opportunity to separately negotiate the EULA terms which apply to it. Therefore VW Site Operators need to understand the risks inherent in the EULAw construct.

These EULAs, generally in a "click-wrap" format (which of itself discourages review by Participants), create a system of private laws (so called "EULAw"²³) which often are at odds with the legal system in the physical world. Potentially this means that the 3-D Internet risks becoming ghetto-ized into "walled" Internet communities governed by private laws.

Some of the significant issues arising from EULAw are:

- A. Power of licensor: The EULA gives the VW Owner supreme power, including the ability to remove a Participant (including a VW Site Operator) and confiscate all their property.
- B. Jurisdiction: EULAs are often governed by US law (mostly Californian law because many of the game owners are resident in California) and require that any dispute go to arbitration in the US.
- C. Changes are binding: EULAs will generally allow the VW Owner to change the EULA at any time and such change becomes effectively immediately.

²³ EULAw: The Complex Web of Corporate Rules Making in Virtual Worlds, Andrew Jankowich, 8 TUL. J. TECH & INTELL. PROP. 1.

- D. Complexity of documentation: The EULA is often made up of a complex series of inter-related documents which the Participant will need to comply with. For example, in *EVE Online* the Participant must agree to be bound by the following documents: 1) End User Licence Agreement; 2) Terms of Service; 3) Forum Rules; 4) Chat Rules; 5) Subscription Fees and Payment Options; 6) Website Terms of Use Agreement; 7) Online User and Character Name Policy; 8) Online Reimbursement Policy; and 9) the Suspension and Bar Policy.²⁴

This complexity increases the likelihood of a Participant breaching the EULA.

- E. Virtual Property Ownership: *Second Life* is distinct from other Virtual Worlds because Participants own the IP which they create in-world. However a question is raised over what rights a Participant gets over the IP it creates in a Virtual World where the EULA expressly states that IP created by the Participant is owned by the VW Owner. For example *World of Warcraft* has a provision in its EULA that expressly prohibits the sale outside the world of any property created in-world. *World of Warcraft* players were ignoring this prohibition and selling virtual property created in-world on various internet auction sites. These sales generated millions of dollars for the Participant-sellers and created a business of “game gold” farms in lower wage countries. However such is the potential impact of this provision that eBay has now suspended the selling of any *World of Warcraft*-related virtual property on eBay.²⁵

Whether the prohibition is enforceable is a subject of conjecture though it is worth noting that the South Korean Government has specifically legislated to ensure Participants get some rights in the virtual property they create.²⁶

Publication liability

It is possible that corporates who develop their own VW Sites will be liable for the actions of Participants. For example, the VW Site Operator may face liability under defamation laws for defamatory comments made by a Participant-invitee (i.e. a Participant who comes to the VW Site Operator’s VW Site). Liability for the publication of child pornography is also possible where activities such as Ageplay occurs on the corporate’s VW Site or indeed IP infringement liability is possible where a Participant-invitee misuses a trade mark or uploads third party content to a corporate’s VW Site.

The risk is made greater by the fact that corporates want Participants to come to their VW Sites and the main way to attract Participants is to give the Participants the tools on the VW Site to create things (be it blogs, photos, music, or even 3D objects). It is that same user generated content that can then cause the problems for the VW Site Operator outlined above. This is, however, familiar territory, as the liability of a publisher in relation to chat rooms, etc on 2D websites has been clearly recognised. However, it is significantly more difficult to monitor the activities of avatars across a whole VW Site than it is to moderate a chat room.

The risk to VW Site Operators in relation to the activities of Participant-invitees is not limited to legal risk, there is also a significant risk of brand/reputational damage arising from poor behaviour occurring on a VW Site.

²⁴ EULAw: The Complex Web of Corporate Rules Making in Virtual Worlds, Andrew Jankowich, 8 TUL. J. TECH & INTELL. PROP. 1.

²⁵ Video Gaming Auction Banned, SSB World News Headline Stories, 31 January 2007.

²⁶ Game Industry Promotion Act 2007.

Disputes

Corporates should be aware of the most expeditious way to resolve disputes in relation to activities on the VW Site. Participant-invitees will lodge complaints with VW Site Operators in relation to the actions of other avatars which impacted on them while they were on the VW Site, for example, allegations of lewd conduct or inappropriate language. Corporates and their advisers need to know the most efficient method of resolving these disputes, which may often require expediting a request for action from the VW Owner. Corporates should ensure they have a clear policy (including escalation points) for such disputes.

Griefing

Griefing is where Participants intentionally cause trouble in a Virtual World. Forms of griefing include graffiti, placement of competitors' trade marks and marketing materials on a corporate's VW Site and sex-related harassment or assault.

A corporate with a VW Site needs to continually monitor the Site to ensure griefing does not occur or is remedied quickly if it does occur. However this is a significant ongoing cost.

Adverse publicity

As can be seen from the above risks, there is significant potential for brand damage in Virtual Worlds. Therefore, VW Site Operators require clear guidelines, dispute resolution frameworks and PR response procedures.

Caselaw

Bragg v Linden Labs²⁷

Marc Bragg, a *Second Life* Resident (and lawyer in the physical world) had worked out a way of acquiring land in *Second Life* at an undervalue. Linden Labs claimed Bragg's method of purchasing land broke the terms of the EULA. As a result Linden Labs terminated Bragg's account and confiscated all of his virtual property. Bragg has sued Linden Labs in the District Court in Pennsylvania claiming Linden Labs breached Pennsylvania's Unfair Trade Practices and Consumer Laws by unfairly terminating his account. Linden Labs tried to strike the matter out by relying on its EULA which requires any Resident to arbitrate any dispute with Linden Labs. On 30 May 2007, Judge Eduardo Ralerene refused to enforce the arbitration provision, ruling that Linden Labs' EULA constituted a "contract of adhesion". The suit continues.

Blacksnow Interactive case²⁸

The owner of *Dark Age of Camelot* was sued by Blacksnow Interactive, which was seeking a declaration that the EULA provisions prohibiting the sale of in-world property outside of the world did not infringe the VW Owner's copyright. The case was dismissed on procedural grounds.

²⁷ US District Court No. 06-4925.

²⁸ 02-00112 (C.D. Calif.)

Li Hongchen v Beijing Arctic Ice Technology Development Co²⁹

A Participant in the Mongyue (“Red Moon”) Virtual World, Li Hongshen, brought an action in the Beijing Second Intermediate Court (famous for its intellectual property decisions),³⁰ alleging that the developer of Mongyue had been negligent in protecting Li’s virtual property as Li’s in-world property had been stolen by hackers who had accessed the developer’s database. The Chinese court recognised Li’s rights in the virtual property and upheld the case, awarding Li, the amount he had spent on subscription fees.

Marvel Enterprises, Inc. v NCSoft³¹

City of Heroes is a virtual world where Participants can create their own superheroes and fight crime. Marvel brought an action against the owner of *City of Heroes*, NCSoft, alleging that *City of Heroes* infringed Marvel’s copyrights as it allowed Participants to make avatars that closely resembled Marvel’s own superheroes. The parties eventually settled.

Chaoyang District case³²

In December 2003, a court in Chaoyang District of Beijing recognised a plaintiff’s rights in virtual equipment and ordered the equipment be “returned” and 1560 yuan (US\$188) in compensation be paid.

Qiu Chengwei case³³

This case gives prominence to the potential consequences if the law does not recognise virtual property. In 2005, Qiu Chengwei contacted the Chinese authorities to complain that another player in *Legend of Mir III* had refused to return an enchanted sword (valued at \$870) lent to him by Qiu in-world. When the authorities failed to act, Qiu murdered the other player (in real life).

Conclusion

This paper has sought to address the real legal issues that are arising for regulators and corporates. It does not deal with the legal issues between the Participants themselves. This has been the subject of much research³⁴ and is too complex to deal with here. However, there appears to be an analogy between Virtual Worlds and professional sports in this regard. Players in professional sports have to comply with a given set of rules and face liability (both tortious and criminal) if they act significantly beyond those rules. The same may be said to apply to Participants in Virtual Worlds.

Virtual Worlds are a growing phenomenon and create many challenges for our regulatory structure as the platforms for entertainment / information dissemination become much more immersive and concepts of media law must expand to provide certainty and law and order. The 3D Web is a certainty and corporates are using Virtual Worlds like *Second Life* as a way

²⁹ cnn.com, 20 December 2003.

³⁰ Virtual Property, Joshua A.T. Fairfield, Boston University Law Review, October 2005 85 B.U.L. Rev.

³¹ Marvel Enterprises Inc. v NCSoft Corp. No. 04 CV 9253 RGK (PLAx).

³² *Video Game: Real Murder*, China Economic Review, 26 October 2006.

³³ Finding a Place for Virtual World Property Rights, 2006 MICH. ST. L. REV. 779.

³⁴ A Practical Look at Virtual Property, Summer 2006, Allen Chein, St John’s Law Review, 80 St John’s L. Rev. 1059. Law and Liberty in Virtual Worlds, Jack Balkin, New York Law School Law Review 2004/2005, 49 N.Y.L. Sch. L. Rev. 63.

of learning about the opportunities and risks associated with this new marketing and transactional environment.

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ONLINE SOCIAL SOFTWARES: POLICY AND REGULATION IN A CONVERGED MEDIUM

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Abstract

Online social softwares present many challenges to policy makers and regulators. As convergent media they cross previously well defined territories and policy silos. This paper considers seven different ways of approaching online social softwares such as Massively Multiplayer Online Games and Social Networking Sites (like *MySpace* or *YouTube*) and sketches some of the policy implications of each discourse. Developing coherent policy from these competing discourses presents a huge challenge which requires regulators and policy makers to broaden their outlook beyond traditional silos. The paper suggests consumption and production are no longer distinct areas; cultural policy and industry policy need to take account of each other if the full implications of convergence are to be embraced; and users of online social media need to be drawn into the regulatory schemes of the future.

Introduction

Online social media represent a convergence of media that creates an emergent form requiring a fresh approach to policy and regulation. There are two major changes that have an impact across a range of policy areas. The first is that online interactive media enable and often require user-created content as part of their make-up. This has implications not just for classification but also for many other areas, from ownership of intellectual property to sustaining innovative business models. The second change is that online interactive media enable social, often ephemeral interaction between users, users and publishers, and users and business more generally. This raises new issues pertaining to governance, risk, consumer protection, and privacy. These two areas – the content creation of users and the social interaction and networking between users are not separate and cannot be dealt with separately. They occur in the one environment and represent the convergence of the social and material in both cultural and economic spheres. As such they present a challenge to develop coherent policy that crosses formerly well defined boundaries between consumption and production and between social and cultural, and economic policy.

In an attempt to extract some clarity from the morass of moral-panic-inflected public discussion on online social softwares, and the discipline bound writings of academe, I have

identified seven different discourses which construct different ways of understanding online social environments and which implicate a variety of policy and regulation areas. In identifying these seven areas I don't wish to suggest each can produce its own solution, but rather each needs to pay attention to the other areas that are surfacing and attempt to integrate them into a more coherent outlook. I have used Massively Multiplayer Online Games (MMOGs) as a case to study these discursive constructions through, but six of the seven discourses can in most ways be applied to other social networking softwares (SNSs) such as *MySpace*, *FaceBook*, *YouTube* and *Flickr*. In the limited space of this conference paper, it is difficult to do more than touch on the policy implications in each area. My hope is that the paper will provide a framework through which more complex understandings of the policy terrain can be usefully developed.

The framework I use is based on work done by Lastowka (2007) who identifies three broad approaches to MMOGs that have emerged in academic writing over the past five years. I will start with his initial three areas and add a further four which are also relevant. The first discourse frames the MMOG as a text. In this it adheres to a fairly traditional view of media, and implies policy and regulation areas of intellectual property, classification and free speech. The second discourse, and the one least applicable to the broader area of social networking softwares (SNSs) is to frame the MMOG as a game. The policy implications are found in the idea of separate jurisdiction here, and as Lastowka points out sports law is a salient comparator. The idea of separate jurisdiction does give rise to some issues around private policing and private law that have wider implications in an era of endless contracts which define rights and obligations. The third discourse frames MMOGs and SNSs as communities. Although Lastowka points out there has yet to be a foundational or 'establishment claim' such as one finds in other areas where communities may derive special bodies of law (such as corporations, associations, families, or even nations), there are other implications that arise from understanding an online environment as a community. These include ideas of social and cultural inclusion, access and participation, and may eventually see interventions made either through policy or judicial means to deal with matters such as contractual fairness for consumers in the matter of access, or new forms of local content creation subsidies for cultural ends.

The fourth discourse frames the MMOG and SNS as data and raises issues pertaining to privacy and data protection, surveillance and the aggregation of data. The fifth discourse understands MMOGs and SNSs as Creative Industries – sites of digital content creation, innovative business models, implementing innovative social network markets, and a source of both economic and social value to the broader economy. There are policy implications here for supporting locally-based industry. The sixth discourse, related in some ways to the fifth, considers the networked production model employed by such media, which involves the users as co-creators and sets up an altered form of 'industrial relations' which is still very much in an emergent, unstable and ill-defined state. Policy implications may be more distant here until the form takes on a better defined shape. The final discourse considers the MMOGs and SNSs as global media, operating in transnational environments which present many cross-jurisdictional challenges for regulators and policy makers in many different areas.

Regulatory responses to the issues raised in these areas will happen in a context of 'soft' regulation, where we increasingly see industry self- or co-regulation as the norm (Scott, 2004). Whether users get a seat at the table will become more important as their productive role expands, and as their social and cultural lives become more entwined with the financial well-being of media publishers in this area. Currently neither government nor users have a

seat at the table in many of the identified areas, and whether such non-regulation continues to be acceptable is an issue for debate.

A brief description of MMOGs and SNSs

Massively Multiplayer Online Games are persistent, usually three dimension virtual worlds in which users can engage with game content and other players in a shared social environment. They are increasingly popular, with the most successful to date being *World of Warcraft* which claims somewhere between 8 and 9 million active subscribers worldwide (Blizzard, 2007). Players spend many hours inside the virtual game environments and many establish strong social ties with other players and experience much of their sense of community and social life within the game. MMOGs are very successful media applications in their ability to engage and retain users and to be commercially viable. Social Networking Sites such as *MySpace* and *FaceBook* are not games but are also intensely social spaces and the users generate almost all of the content on the platform. Sites like *YouTube* and *Flickr* are sites for users to upload content and some use these sites merely as repositories. But others use them to develop communities of interest and spend time commenting on others' work and tagging and rating content made by other users. The revenue model for these various applications varies – MMOGs in the west tend to be subscription based. MMOGs in Asian countries run on a variety of models. SNS sites tend to rely on advertising.

Some of the key characteristics which differentiate MMOGs and SNSs from other media reside in their interactive and social capabilities. Users are active participants in the media consumption process in new ways. They not only consume but they produce content through their interaction (as Bruns terms it, they are 'producers' (Bruns, 2007)). Whether that content is ephemeral and social, or more material and persistent, it means that the developers and publishers can no longer be considered the sole creators of content. Thus a player in an MMOG creates some of the gameplay that other players encounter – players interact with not only developer made content, but with other players as well. Strong 'modding' communities often create additional game content and players create gameplay and social engagement for each other (Modding is the fan-based practice of creating new artwork, code and architecture to add on to games). This raises issues for control of content and user behaviour not previously encountered by regulators of media. The conditions under which users engage with these media are laid out in End User Licence Agreements (EULAs) and Terms of Service contracts that often contain many onerous clauses which diminish their access to justice and their rights as citizens.

The degree to which these kinds of applications have become significant sites for symbolic and cultural exchange cannot be ignored and has implications not only for social policy pertaining to regulation and classification but for cultural policy pertaining to local content issues, and for our broader understanding of the public sphere, which seems to be shifting in large part to proprietary venues, to 'mass private spaces'. While this paper retains a focus on MMOGs, many of the insights gained from looking at these particular applications should be read as more broadly applicable to the SNSs discussed above. MMOGs are more highly structured environments, but both MMOGs and SNSs can be considered proprietary platforms with large amounts of user created content of both a material and social nature, and where conditions of use are governed by standard form EULAs and Terms of Service which deal with IP rights, governance issues and exclusion. Such sites are often a source of innovation and development, and operate transnationally.

MMOGs as texts

Viewing an online game as a piece of text is a problematic, if convenient, approach. Whilst there are indeed many aspects of an online game that are textual, it far exceeds the boundaries of other textual media forms, such as books and films or television programs. Thus while it is possible to point to the code in the platform, and to the story world or fantasy construction of the game, and to the rules and constraints/affordances of the game, there are many aspects of the game that exceed this description. While not wishing to minimise the enormous amount of work that goes into the construction of an MMOG platform, it must be understood as only part of the assemblage that makes up the MMOG. Many of the ‘outcomes’ of player engagements are emergent, unpredictable and generative, rather than closed and finished (Juul, 2002, Humphreys, 2005a). It is thus a text only partially finished on publication and it becomes an ongoing networked piece of creative endeavour post-publication as the users populate and play within it. As a textual form it is structured very differently from the standard narrative-form texts which most media policy deals with. Authorial control is dissipated, and textual form varies from persistent to ephemeral. While the audiences of the more conventional ‘non-interactive’ texts have always been active interpreters and make their own meanings from such texts, MMOGs and SNSs actually require input from users that can change the text itself, and in unexpected ways. One user’s experience and input may significantly alter another user’s experience. Even though Australia’s laws pertaining to free speech are only implied and both the legal and cultural/political contexts are different from the US in this area, in these globalised applications, US law often matters. *FaceBook*, *World of Warcraft*, and *MySpace* all operate out of US environments and their developers and owners deploy the discourse of free speech within the political context of a nation dedicated to keeping government regulation of free speech to a minimum.

However as Lastowka points out, in the US at least, understanding an MMOG as a text puts it within the bounds of laws pertaining to copyright and free speech. As copyrighted material it both allows the designers/publishers to control the reproduction and distribution of it, and, as speech, to take haven in the first amendment laws which “prohibit the state (and notably *not* private actors) from imposing restraints on speech activities.” (Lastowka, 2007:10) (original emphasis). Thus, stakeholders who wish to keep the state out of regulating MMOGs as much as possible will often argue that it is text. Designers and publishers in particular have a vested interest in treating the MMOG as text in an effort to retain control of the environment. This elides the role of users and modders in content creation and the mutable character of the text.

For regulators, treating the MMOG as a text also has several other implications. Firstly and most banal, classification regimes exist to regulate texts. These tend to operate on the assumption that the text is a finished and known quantity that can be assessed before release into circulation. Obviously the social nature of online games and the always unfinished nature of the ‘text’ means that such classification will always be inadequate to the job of classifying the content a user may encounter. The initial platform content can be classified, but little else. Different countries are taking different attitudes toward social or ‘ephemeral’ content. While Australian legislators have recently introduced a Bill (Communications Legislation Amendment [content services] Bill 2007) which would see an increased responsibility placed on content service providers to regulate ephemeral and live content, in the UK a recent Ofcom report states:

Users can not only stop watching the content; they can go to other parts of the world, they can stop the software programme and exit that world. There are many points at

which 'virtual worlders' can cease viewing adult or offensive content. Media literacy is a vital element in this. (Marsden et al., 2006:121)

This is an alternative way of approaching ephemeral content: as generated in a quasi-public sphere best left reasonably unregulated, with users managing their own risks with regard to content, and the state working to ensure through education a literate population able to handle confronting material on their own. The current Australian Bill in contrast, risks creating confusion by being unclear in its proposed separations between content and carriage service providers, in its 22 exemptions to its definition of content service, and in making regulation and classification less platform neutral than before, and by introducing further age-based restrictions down to MA15+ for internet based materials, without suggesting a workable age verification system.

Working against the UK policy direction is the tendency of politicians to buy into the moral panic discourses mounted in the more traditional media (who have a vested interest in discrediting new media which are creating direct competition for audience attention and the advertising revenue). Video games as a source of youth violence and the internet as a source of danger, fraud, paedophiles and the general decay of civilisation as we know it, are common portrayals found in broadcast and print media. The moral panic paradigm arises with the arrival of every new media and should be understood as such, rather than given credence by policy makers. Of course politicians in search of the vote often ignore advice from people within government departments who have a stronger understanding of the territory. Such short-term policy creation is a disservice to the nation in the long run if it chills the innovations derived from user content creation business models.

Secondly, understanding the MMOG as a text, rather than, for instance, a social environment, puts it into a category of 'product', which then falls within the regulatory ambit of intellectual property and market exchange. While some aspects of MMOGs are suited to this, those aspects that constitute MMOGs as a service, and as social and an area for the conduct of community relations, make the categorisation of it as 'product' problematic (Herman et al., 2006). (The ownership of IP in persistent content created by users is already an area of contestation.) If one uses an even broader framework of regulation, it reflects the shift in trade agreements that has seen 'culture' reconstituted as product, mostly in the form of Intellectual Property, and subjected to terms of trade agreements in the global economic network. Thus TRIPS and various WTO agreements of the past decade have seen a reframing of culture that discursively constructs something like an MMOG as an object of exchange in the (global) marketplace (Frow, 2000), rather than as an environment of cultural and social engagements. Whether the AUSFTA bilateral trade agreement conditions on local content quotas will prevent the subsidising of local industry to create games and local social software sites should it become necessary for the maintenance of local cultural values in the public sphere remains to be seen. While local content arrangements for more traditional media industries may be somewhat quarantined, the markets of new media are subject to different conditions. In Jock Given's assessment of the implications of the AUSFTA agreement he notes that chapter 16 on electronic commerce "is designed to ensure that local content obligations and customs duties cannot be imposed on physical (e.g. CDs, DVDs, games) or electronically delivered (e.g. broadcast, mobile, online) digital products." (Given, 2004:16).

Online SNSs are implicated in most of the above issues, with massive reliance on user-created content on sites like *YouTube* and *Flickr* proving to be beyond the capacities and resources of classifying bodies, raising IP issues, and implicating local content production as part of cultural participation in new ways.

MMOGs as Games

To approach MMOGs as games implies a mobilisation of different policy directions. Games, according to conventional game theory, are not so much narratives as experiential environments with sets of rules and goals. The function of the rules is to delineate a separate game world where some everyday rules and regulations or codes are suspended and a different set are implemented within the game boundaries. Whether it be to 'level the playing field', or to create a fantasy environment where magical happenings become possible, the everyday rules don't apply. Huizinga (Huizinga, 1950 [1938]) referred to this as the 'magic circle' of the game. It becomes a collective fiction – "let's pretend that ..." – which holds as long as participants accede to it and agree to suspend their disbelief. The approach that argues for a 'magic circle' within which games are played out, in some ways implies a separate jurisdiction. Thus, what happens within a game world should not be subject to the laws that govern the world outside of the game world.

In Lastowka's discussion of this approach he makes an analogy with sport and the ways in which the law deals with sports jurisdiction. Thus some laws apply within sports regardless of their separate rule structure, and some are less applicable. Players consent to a different set of rules in taking to the field and this is taken into account when real world law adjudicates in conflicts from the sporting arena. However the rules they consent to do not absolve the participants or the administrators of the game/sport from a duty of care.

Much as some would like to institute the magic circle principal, in fact there is often a crossover between the 'real' world and the game world and it is difficult to draw a hard and fast boundary between them (Farley, 2000). The 'real' constantly bleeds into the fantasy world and *vice versa*, particularly if one starts to take account of the social relations that criss-cross the boundary in an MMOG, where many players use the MMOG as part of a communication and relationship ecology that extends well beyond the game world. Regulatory intervention from state-based bodies is not unheard of in sport, and it would be difficult to make a strong case for non-intervention in MMOGs based on the 'game as separate jurisdiction' argument. Altered rules and the consent of players to the altered rules would be the issue likely raised. In the world of sports law, what consent is literal and what is implied through game-play norms is a grey area of some contention. The magic circle is a fiction that is convenient for the purpose of implementing a game, but should be understood as only a partial description of the reality of gaming practice. Consent is given by players for some rules, but only implied consent exists for some practices carried out by publishers.

Of key interest here too, is the relationship of real-world money to game money. Virtual worlds such as *Second Life* have in-game currency with a direct exchange rate for US dollars. As such, in-world monetary gains that are then converted to real world cash are subject to taxation law, as are other internet monetary transactions. What to do about 'illegal' secondary economies associated with games like *World of Warcraft*, where the trading of game items and game money is banned by the publishers but where there is nonetheless a thriving market, is a complex area for regulators. Whose responsibility is it, exactly, to monitor, regulate, and possibly tax this secondary market worth millions of dollars? Salyer estimated in 2004 that the secondary market trading in in-game items and money was worth US\$880 million per annum (Salyer, 2004) and the figure can only have grown. Although Blizzard, the publishers of *World of Warcraft* publicly decry the 'gold farmers' who operate in their game and regularly ban gold farmer accounts, the net result for Blizzard of shutting down such accounts is that the farmers go and buy new accounts, thus increasing the profits for Blizzard. In one month in 2006, Blizzard shut down 150 000 accounts. If most of those were gold farmers then

presumably most of the farm managers went out and bought new accounts in order to continue farming. Alternative solutions are available to Blizzard, but not implemented (Suzor, pers. comm. 2007).

What also makes the MMOG-as-game approach interesting from a policy and regulation point of view is that it introduces a rationale for the implementation of private law and private policing. This is taking industry self-regulation to its logical end. Games and sports, in instituting separate rules also institute private referees. MMOG publishers regulate the communities inside the games and sometimes attempt to regulate those communities in their outside-the-game environments such as guild websites, fan fiction sites and machinima sites, to name a few (Taylor, 2002). The publisher's private referees are not subject to the strictures of accountability that keep public 'referees' (such as law enforcement officials and public service workers) from the excesses of power (Joh, 2004, Kozlovski, 2005). Contractual law is the key legal mechanism within this scenario, as players are subject to the End User Licence Agreements (EULAs) that organise their rights and obligations within the game world and in relation to the publisher. EULAs establish a usually diminished set of rights for game citizens (Jankowich, 2006), in which the publisher gains almost total control over the game space and there are very few avenues of redress for players who feel they have been poorly or unjustly treated. There are also many implications for privacy that will be discussed in the section on data below.

The publisher may argue for a separation of the game world from real world law on the basis of its 'magic circle' game status and in order to make better or more innovative games (Bartle, 2004). Players too, will sometimes argue for autonomy from the state, in order to be able to escape from the real and into the world of fantasy, or, more prosaically, in order to escape real world taxation on income generating activities in the secondary markets. However, the relationship between the players and publishers is governed at some level through a contractual mechanism of state-backed regulation. Where conflict arises between player and publisher, it is to the state-backed legal system that each turns for adjudication and enforcement of rights or contracts.

Given the need for games to establish alternative environments that operate under altered rules, some autonomy for publishers and designers is necessary, as is the ability for players to behave in ways not accepted in non-game environments. It is at the limit cases that intervention becomes necessary, just as in sports.

MMOGs as Communities

The intensely social character of MMOGs means that they must be considered, at least in part, as platforms that service a multiplicity of communities. While there are shaping constraints and affordances authored into the game world by developers and designers via rules and graphics and goals and so on, the communities within games are neither peripheral to its functioning, nor always ephemeral. Many players belong to guilds which they join and socialise within for years on end. The relationships they create and maintain within the game are significant – both to them and to the publisher, economically. The same can be said of social networking sites and social softwares more generally.

Lastowka points out that rules which govern communities (in a legal sense) are usually determined through the identification and foundational claim of the community. Thus geographical communities such as nations, or associational communities such as corporations, churches, unions and families all generate particular bodies of law, based on a foundational

claim made as a community. No such claim exists for a virtual game community, and he suggests that relying on a claim of community in order to establish autonomy from various legal strictures is unlikely to succeed.

There are other aspects to regarding MMOGs as communities that may come to matter more broadly, the more connected populations become (to online environments), and the more participation in online social environments escalates. Participation in online social networking and online entertainment environments such as MMOGs and SNSs must be understood as, increasingly, the place where people derive and build social and cultural capital. Much as television or film have served a function of providing common cultural ground for populations, and have become part of how we develop identities (associating ourselves with particular tv shows over others, demonstrating particular taste affinities, developing shared understandings, and so on), so too online environments will become part of a mechanism of social and cultural inclusion. Building social and cultural capital through participation in particular MMOGs or social networking sites such as *MySpace* or *FaceBook* implies a number of access issues.

In terms of cultural capital, as mentioned above, a response relating to domestic quotas or subsidies is likely to run into the AUSFTA terms which may prevent the development of specifically local content through quotas and subsidies. Governments have, in the past, been willing to intervene in media content production, legislating for local content quotas, using anti-siphoning policies to ensure particular culturally important events are widely accessible, and so on. Engineering a particular form of public sphere, where material is accessible to widespread populations through mass media has been a policy option in the past. What is the policy to be in an era of mass private spaces?

In terms of social capital, once the infrastructure is in place universally, which in Australia seems likely with the implementation of policies for broadband access for regional and remote Australia in the near future, there is little problem with access to existing commercial sites. However, participation in many online environments is subject to the rules as laid out by EULAs and Terms of Service contracts. Various ‘walled garden’ approaches to online connectivity are becoming more common. What we see with MMOGs and other online social softwares is a shift whereby people are conducting their social lives within proprietary spaces – indeed where social participation and cultural capital may be built to a large extent, within proprietary spaces. While this need not be overwhelmingly problematic, the terms of access to those spaces should be considered by policy-makers in light of unfair contract law. Is the cost of participation that people must accede to terms and conditions they find objectionable? Is there a role for the state here to intervene to curb the worst excesses of contractual agreements (as it does for other consumer goods and services) on behalf of their citizens?

There exist at both national and state levels, laws against unfair contracts. Whilst there is a tendency for courts to look mainly at procedural unfairness, rather than at the substantive aspects of contracts, this is less so when standard form contracts, in which the user has no option to negotiate terms, and in which there is an uneven level of bargaining power, and in which the user is disadvantaged by the contract, are used (Clapperton and Corones, 2007). Victoria in particular has stronger law (Fair Trading Act) than federal law on this, and NSW is developing similar law.

MMOG EULAs and SNS Terms of Service regularly include terms which allow the publisher to exclude players for “any or no reason”, to change the terms of service without notice or

notification, and various other terms which set the balance firmly in favour of the publisher in what can only be considered a one-sided and unfair arrangement (Humphreys, 2005b). Although it should always be borne in mind the imperative for a game world to establish a set of altered rules to operate under, the terms of EULAs often exceed what is necessary for the smooth functioning of the game world.

MMOGs as Data

Data mining is performed by the publishers of MMOGs and SNSs as a key source of their economic survival. Viewing the MMOG and SNSs as data implies a regulatory response from a privacy perspective. Profiling of players is in some ways a necessary part of understanding and governing the population within a game world or SNS. All governance strategies are to some extent dependant on knowing the population that is to be governed (Rose, 1999, Foucault, 1994 [1978], Dean, 1999). Thus as community managers, publishers need to gather information to understand the communities inside their platforms. But the uses of profiling are much broader than in-game governance or community management; demographic and other personal information is also a key tool in marketing strategies. Marketing can be read as another mechanism of governmentality – a mechanism which seeks to shape the desire of consumers, to suggest ideal forms of ‘citizenship’, to model behaviours that align with the interests of the publishers and so on (Kline et al, 2003, Humphreys forthcoming). It works at the cultural, symbolic and economic levels. At issue here is the practice of taking private information and using it in an attempt to shape behaviour in the interests of capital – interests which may or may not align with the interests of the users. While demographic profiling and marketing are not new practices, the access to unprecedented levels of information about the behaviour of individuals, the ability to target them, and the ability to aggregate data across platforms is new and warrants attention and a consideration of the ethics involved.

Most EULAs specify that the player gives the publisher the right to share their personal information with whomever they please for whatever reason they wish. This includes government agencies as well as other commercial enterprises. In effect this can set up a circumvention of accountability measures intended to ensure ethical behaviour by public agencies. Joh (2004) and Kozlovski (2004) explore the ways in which private agencies can hand public agencies and authorities information ‘on a silver platter’ that they would otherwise not have had access to. Mechanisms set in place to ensure accountability simply do not apply to private arrangements, and many of the checks and balances put in place by government to ensure transparency and accountability are diminished through the shift in policing and information gathering to private commercial companies.

Data about users is collected for use by marketing firms. Google recently patented an as-yet-undeveloped system which will monitor player choices and interactions within games in order to develop psychological profiles of them to be sold to advertisers for more targeted marketing (Adam and Johnson, 2007). Whether such a system would work or not, the accumulation of information about players and the lack of any restriction on how such information may be used or shared raises questions for regulators concerned with protecting privacy. Some people think highly targeted marketing is better than random spam, and are willing for personal information to be aggregated across applications. Others regard the loss of control over access to their personal data as a diminishment of their right to privacy and a threat to their safety. The US government has already shown itself to be interested in information gathered by commercial enterprises and the aforementioned operation of the ‘silver platter’ outlined by Joh may be of concern.

Some of the MMOG publishers use spyware in their games. Players accede to having the spyware installed on their computers when they accede to the EULA. *World of Warcraft* is the most notable game that comes with an attendant spyware program (known as *Warden*). Spywares are used to monitor CPU activity and can access data on a player's web browser usage. Thus publishers have access to information not only from within the game world that they own and run, but also about all the other programs a user is running, and the websites that the user visits. These applications fall well outside any 'magic circle', any boundary that might be drawn around the game environment. The collection of data on players represents a level of surveillance unprecedented in other media. The rationale for spyware is that the publisher wishes to know whether players are trading at 'illegal' sites that sell game items on a black market for real money in a secondary economy that has grown up around MMOGs. They also wish to know whether players are using third party softwares that give them unfair advantages in the game.

While formerly concerns (particularly in the US) were with placing constraints and limits on the powers of the state to intervene in the lives of individuals and that legal fiction, the 'corporation as individual', it may be time to consider whether the shift of so many functions of control and governmentality to the private sphere warrants a closer look at the transparency of processes and the accountability of those wielding power in the private sphere.

MMOGs as Creative Industries

Understanding MMOGs and SNSs as part of the creative industries that are currently driving much of the innovation and growth in global economies (Cunningham, 2006) draws attention to their role in creating more widespread advantage to economies through multiplier effects. One of the reasons it is interesting to look at computer games as an industry is that they are so successful and have driven many aspects of innovation in the digital economy. In a trickle down effect, these innovations are passed on to other, more prosaic and yet essential areas of the economy (Kline et al., 2003:173). This applies both to the technological advances but also to the innovations in social networking markets wrought by games. Games were the first truly successful interactive application of new media – instantly popular and engaging. Online games combined this success with the success of social interaction achieved in online chatrooms, and MMOGs can be seen as exemplary in these terms.

Regulatory environments developed around games need to be cognisant of this value to the broader economy. Concern about content should be tempered with the understanding that games have innovative value. Cutler points out that 'the scale of investment in innovation in and through digital content appears significantly underweight relative to the funding of other industries. Given the growing economic importance of the creative industries, increased investment in innovation through digital content initiatives is key to capturing future national benefits' (Cutler, 2003: 59). He also notes that "the leading edge activities within digital content industries function as the research and development for the content industries at large. The interface of creative industries with the cultural and not-for-profit sectors appears to be an important factor in creating economic multipliers" and that "digital content production appears to thrive where there are strong informal people networks" (Cutler, 2002:69). The 2005 DCITA report (*Unlocking the Potential*) into the digital content industry in Australia notes in part that government policy needs to:

Ensure that digital content is not excluded from available industry support mechanisms.

In order to grow, the digital content industry needs regulatory and investment frameworks that operate under technologically neutral principles and encourage interoperability, innovation, investment and competition. (DCITA, 2005:10)

Thus far government implementation of these kinds of policy initiatives has been decidedly lacking, and the development of strong local games industry support has been mostly State-based and unable to provide some of the investment tax breaks needed to develop more. Recent changes to the film industry funding scheme have provided a break to post-production digital effects companies, but fall short of providing similar rebates for the games industry (*ArtBeat*, 2007). Brand's research for the Interactive Entertainment Association of Australia indicates that gamers don't replace outdoor activities with game playing – they replace other media activities such as reading, movies, and radio. He notes a generational difference – with older consumers less likely to be gamers (Brand, 2007:22). Failing to encourage what is becoming a major source of entertainment and culture for many Australians in order to protect or focus on existent industries will result in Australia missing the out on developing a vibrant and strong industry whose innovations will have many flow-on effects for the broader economy as well as cultural dividends.

Games are being incorporated into many working environments as education and training tools (Prensky, 2001). Games can also be seen as training grounds for future workers - although many would regard this quite cynically.

Like detectives at the scene of a crime, players are regularly called upon to process screen images and scan displays in order to visually monitor the playing field for signs of enemy movement. Regardless of narrative content, game screens always function as fields of data waiting to be mined. Thus, like the modern workplace, video games present users with an extensive series of information processing tasks. ... when we strip away the particulars of content, gaming is essentially an aestheticized mode of information processing, and therefore the digital economy's ideal form of leisure. (Garite, 2003: 9-10)

Whether this is regarded as a cynical and ideological capture of leisure time by capitalism or not, the literacies derived from engagement in online games are advantageous in the employment market. There is also a well recognised pathway from game 'modder' into the games industry, with game developers actively recruiting from modding communities. In fact, the role of the players as innovators and risk takers is no small part of the structure of the industry and should not be overlooked. As the game publishing industry consolidates and the cost of development rises, R&D and testing is increasingly outsourced to the modding communities that spring up around games (Postigo, forthcoming). The increased importance of the players in the production cycle is discussed below in the section on production networks.

Can the interests of industry be aligned with the interests of public policy in such a way as to maximise the benefits to industry and the economy in general from having a robust games industry, without compromising the cultural and social benefits of access for consumers to environments that do not diminish their rights? A stronger consumer protection regime which encourages and facilitates participation will in fact prove beneficial to an industry working on a model where consumers are active producers, part of the production cycle in the networked environments, sources of R&D, innovation and risk-taking.

MMOGs as production networks

MMOGs and SNSs should also be regarded for the interesting ways in which they reconfigure the production process. Although the immediate regulatory implications do not seem great, it is possible that the new production processes will give rise to the most contentious issues for regulators in the future, particularly as ownership of co-created content becomes more important, and the boundary between game and non-game worlds becomes even more permeable. Player created content is also, in part, not textual, but social. This social content should be understood as a key area from which financial gains are made by the publisher. As such, they should not be ignored when considering where value is generated in a converged and online environment. Long-term engagement is the goal of publishers, who rely on the strength of social relations to keep users on their platform. Thus the social relations are intimately caught up in the economic relations.

What MMOGs and SNSs represent here is part of a much broader phenomenon found in the 'new economy'. Immaterial labour (Hardt and Negri, 2000), intellectual, creative and affective 'work' are now entwined with global economics in new and intensified ways. Thus, in a space like an MMOG or SNS, where what is produced is derived from both financial and social economies, a new set of 'labour' relations is emerging. Labour relations in an industrial model of production are subject to a reasonably settled regulatory environment, in terms of rights and obligations, and what some basic minimum standards might be. On the other hand, production economies based in social exchange, behave very differently, with different expectations embodied in different productive behaviours and rules. Thus, in a social production economy (where what is of value is the social relations and networks produced by participants) mechanisms of gift exchange, social status, and social obligation come into play, along with intangible concepts such as the intrinsic rewards of creativity or the pleasures of contributing to community. All of these things are "difficult to standardize, specify, price and then organise as an input cost. Firms and monetised markets, however, rely on such contractual specification" (Banks and Humphreys, under review). In the mixed social and financial economies of online social softwares, the social network carries significant economic value and has become integral to the business model. How do we describe the processes and articulations between social and financial economies within a networked production environment (or 'social network markets' as they are sometimes being named) and what obligations exist for various stakeholders?

Some authors who approach games as production networks, cast the user contributions as exploitation by the publisher of 'free labour' (Kucklich, 2005, Postigo, forthcoming), but this discounts the voluntary, and often knowing engagement of the players themselves. While aware of the financial benefits to the publisher of their contributions, players forego monetary reward in favour of social reward for their productive activities.

It is possible to understand this intertwining of social and financial economies as an emergent set of industrial relations that will require new and different regulatory approaches. Some would argue that these things are best left to the market to sort out, but it is also conceivable that, as peoples' social identity, community and 'productive affect' are subject to the private laws of EULAs (Crawford, 2004), some kinds of obligations might reasonably be expected from the publisher in relation to its labouring constituents, some minimum standards might be set. This might be in terms of accountability or transparency in decisions that relate to access; standards based in the social rather than financial economy. The End User Licence Agreement contract can in some ways be regarded as a new 'labour' contract, the mechanism through which some minimum 'employment' standards are set, either by state or industry self-

regulation or co-regulation. If industry wishes to make a profit from social relationships and networks, the immaterial labour within those networks should not be regarded as a free resource. Rather some duty of care towards it could be mandated.

Although players probably don't regard their participation as labour, and rightly so, the point of framing it in such a way is to bring to the surface the ways in which economic relations of production are played out in new ways in converged online social environments. New mechanisms of regulation may be needed with the shift to mass contractual, private relations. This emergent structure of production is still very fluid, and practices within it unsettled and diverse. As such it would seem regulatory intervention at this point could risk stifling innovative practices. On the other hand, it merits some attention to ensure the rights of consumer/producers.

MMOGs as Global Media

MMOGs raise many issues about how to formulate policy in an environment that spans multiple jurisdictions. Various different regulatory bodies could be involved in regulating an MMOG in Australia. It should be noted that some of these operate nationally, but some also involve variations at the state level. Thus a national body like the OFLC relies on various State-based regulatory bodies for implementation of ratings restrictions, and they vary from State to State. The new amendment to the *Broadcasting Services Act*, before the parliament at the time of writing, seeks to implement a 'platform neutral' code of content classification but in the process makes some content currently available in some media in some states, (for instance X-rated video and Category 1 printed material in the ACT), unavailable on online and mobile platforms. Thus even with a stated aim of consistency at the level of national and State jurisdictions, inconsistencies emerge. The problems facing international cross-jurisdiction are more complex again.

Many EULAs nominate a jurisdiction in which any disputes will be heard. A surprising number of MMOGs are based in Californian jurisdictions. Although the convenience for the publisher of seeking dispute resolution in one, consistent jurisdiction is clear, does this then mean that citizens all over the world become subject to Californian law? When pursuing social goals within the virtual world of an MMOG, is a player in Australia to assume the mantle of a US citizen? Subject to US rather than Australian law? The implications for the concept of citizenship are puzzling.

However, more prosaically, there have recently been challenges to the terms of EULAs with respect to jurisdiction for dispute resolution and arbitration. A US court found that the cost to the gamer (or in this case the user of *Second Life*) to pursue an action in the Californian courts, or to submit to arbitration under Californian law, would be prohibitive and place him at a disadvantage (*Bragg v Linden*, 2007). This was regarded as a procedural unfairness in the contract, and the court was thus prepared to rule against the term of the contract.

Aside from different nations' differing legal cultures with regard to unfair contracts, there are many differing cultural standards that are also at issue in cross-jurisdictional social softwares. Some cultures are prepared to tolerate high levels of violence in their media, but are very intolerant of sexual references. Others are more liberal with respect to sex, but hold more restrictive standards around violence. How to resolve these different standards within social software environments where content is ephemeral and unclassifiable is a thorny issue. The British Board of Film Classification and Ofcom seem disposed to leave it to the user to walk away from offensive interaction – relying on a conception of the interactive environment as a quasi-public where restrictions are (in the main) undesirable. The new Australian regulations

being debated seem to differ in this, wanting to rate and regulate through content service providers, the social interactions of online environments. Thus, upon complaint, content service providers may be obliged to cease a service or monitor and regulate it. This can only apply to services hosted within Australia and thus couldn't apply to MMOGs from outside the country. Such inconsistencies are unlikely to lead to any sort of effective regulatory regime. A more pragmatic approach might be to insist on something like 'sharding', for games – where different servers have different classifications. The same game can be experienced at different age levels or for different countries by ensuring players are directed to age or culture appropriate shards (servers), each of which is held to different standards. If national sharding is implemented though, it would take away one of the most stimulating aspects of online play and interaction – the capacity to interact with people all over the world.

The question regulators and policy makers also face is one that relates to the differences between policy directed at encouraging creative industry development, and hence competitiveness, and policy directed at consumer protection or cultural content. If an onerous system of regulation is introduced, in a global economy, transnational media corporations may choose to exit from the Australian market, rather than shoulder the burden of a system they are not subject to elsewhere. Industry exit power is the issue here. Offshoring services is an option taken up by content providers wishing to avoid ACMA's current regulatory remit. While the games industry in Australia is still reasonably small, and few MMOGs have been developed or run from Australia, requiring standards that are more restrictive here than elsewhere in the world will risk stifling industry development here. As is frequently the case with policy, balancing the competing interests is the key work of legislators here, and compromises are inevitable.

Conclusion

This paper has looked at a variety of angles from which social networking softwares and online multiplayer games can be viewed. There are a number of threads that run through the different discourses that are the source of the challenges to current practices of regulation and policy making. The first and foremost of these is that users produce content. The disruption to the linear production processes removes many of the gate-keeping opportunities afforded by more conventional media. Classification in an environment of ephemeral and user-generated content becomes an impossibility. The underlying tenets of authorship that give intellectual property and copyright laws their rationale for existence are undermined, (and yet the strengthening of these laws has been a key feature of the policy and regulation terrain). How to regulate an environment of almost unlimited producers is not familiar territory. And yet many of the producers are also consumers, who find themselves in new and different relationships to publishers.

The nature of the media text has changed. The problems that the WTO had in determining "whether trade in digital products transmitted electronically is trade in goods or trade in services" (Given, 2004:17) is a problem manifested by these environments. In many ways they are hybrids - goods and services rolled into one. This necessitates looking beyond the 'text' and issues of IP and classification, and assessing the implications of the service provisions as well. In the policy area this raises issues of consumer protection. It puts the regulatory concerns into the domain of contracts and their terms. Are they fair? What is the impact of the exclusionary provisions? Data privacy, accountability and transparency are all areas where regulatory interventions by the state are a possibility. Decisions made in these areas take place in a context of transnational media environments where not only the industry but the consumers are spread across many countries.

Media policy has always had an added layer of concerns, beyond those of trade in ordinary goods and services. The cultural impact of media, and the desire to shape the local cultural terrain have led to interventions in mass media policy. The drift to privatised, niche media breaks down many of the opportunities afforded by mass media to shape the cultural terrain. Mass media such as film and television are still dominant cultural forms, but ignoring the rise of interactive digital media may result eventually in a loss of the cultural dividends that come from investing locally in appropriate industries. The challenge here is to understand the ways in which local content, for instance, is developed by amateurs as well as professionals, in a production network with a currently fluid and emergent form. Here again, policy which fails to understand the significance of user-inputs, by, for instance, supporting overly strong intellectual property regimes that stifle the activities of the broad amateur content creation sector, may result in both economic and cultural deficits in the long term.

We are witnessing a shift to mass private spheres, the increasing participation of populations in proprietary rather than public spaces and aspects of this cultural/social/political citizenship are thus subject to private rather than public law, as determined through contracts. The area of contracts tends to fall in the domain of consumer protection, but we can also see ways in which it falls within the scope of broader media and cultural policy and the area of participation and inclusion.

Given the new role of users – one that exceeds that of a media consumer – and given the current context of ‘soft’ regulation or co-regulation with industry, it is imperative to include users in any new regulatory regimes that emerge. Leaving regulation in the zone of industry self-regulation will ultimately lead to both state and user interests being ignored or minimised. The market may be able to handle some aspects of the issues raised in this paper, but in areas such as data privacy, intellectual property, consumer protection, and unfair contracts, the market cannot be relied upon to work in the best interests of all stakeholders.

The aim of this paper has been to point to some of the less dominant discourses through which online social softwares can be understood. The current dominance of intellectual property, copyright and ‘moral panic’ tend to mask other equally valid aspects of these converged media. The extent to which IP and classification are bound by old models of production and form needs to be given consideration, and approaches modified to cater to the newer, converged, forms that have emerged.

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MAPPING THE 'VERSE: THREE CASES STUDIES IDENTIFYING EMERGING MODELS OF USER-GENERATED CONTENT

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Much has been said about Gen X and Gen Y but perhaps it is User-Gen that is a better measure of the changes in our times. As with a discussion about the particle versus wave models of light, User-Gen is not easily quantified as a demographic or phenomenon. It is not necessarily a subculture or subgroup or readily definable form. It does not fit in market share and target audience suppositions and, increasingly, it is not entirely a matter of give or receive but the reciprocity inherent in both. For many of those shaped by the forces of previous media metrics and norms this is either an exciting opportunity, a threat, a challenge or simply deeply annoying.

A question that arises in discussions about User-Gen is: what motivates people to make this stuff? Often followed by its companion question: where do they find the time to make this stuff? For those still bound by former media structures there is a concern that the time found for making/participating in User-Gen is being taken from the highly marketable viewing time of the couch potato demographic and this is threatening the world as we knew it.

Generally, these discussions move on to whether User-Gen is simply the digital equivalent of the hula hoop and a hope that by biding time this fad will pass. Others, perhaps trying to keep the newly perceived enemy closer, wonder if there might be a way to monetize the whole thing and incorporate it within the foundations of the established structures for media.

These are all interesting considerations but from a content creation point of view 'the why' of User-Gen is a crucial factor as it should be an important determiner of form and approach to content. Two further aspects arise from contemplating 'the why': 1) is it working? and 2) is it working for them (the content makers)? There are distinctions here. Both of these questions try to fasten on to matters of utility either in broad terms in the first instance or in terms of personal return for the participants, in the latter.

Utility is a controversial issue, especially when so much of the discussion of user-generated content is focusing on how to find *the* business model that will make sense of what is happening. While business models are not the principal interest of this paper, certainly the money side of user-generated content is one of the things that presents as an answer to 'the why'.

Of necessity, this paper is only going to look at what might be viewed as the 'open mic night' content that circulates the net rather than the full scope of what is happening across web culture as a whole. Social networking, website embedded material posted by corporate/media/governmental bodies and so on offer boundless opportunities for discussion yet it is the YouTube *et al* content that captures the focus here with its ease of access, option for relative anonymity, invitation-free democracy and free-for-all (in so many senses) qualities that provide such a wealth of samples for scrutiny.

What is 'the why' of piano cat? What is 'the why' of FatRant? What is 'the why' of that guy who performs the *The Simpson vs. Star Trek* theme song? Is it money? Somehow the business model for piano cat escapes me. Is it fame? Certainly much of what rates on YouTube used to be called 'attention-seeking behaviour'. Or is it the love of making stuff that motivates the User-Gen?

In considering motivating factors for User-Gen fame, love and money seem like good places to start in order to come to terms with 'the why'. Accordingly, starting with 'the why' of The Lonely and a confrontation of the fame factor, discussion will then move on to One Man/One Webcam and why love means ze frank is not lonely, ending with consideration of why homestarrunner is rich. This will provide ample material then for a brief discussion of business models and what 'works' on the Internet.

Only The Lonely: lonelygirl15

Fame is often the coin in the information-age economy. Box office ratings, audience share, and polling results are all used to measure the value of products and people who are products and internet fame has claimed its place at the front of the pack. Internet fame can be the fastest ticket to celebrity or global humiliation, (as Ms. South Carolina discovered in recent months), and in the rules-still-being-worked out etiquette of the web-wide world finding definitions for 'community' and 'interaction' vie with issues of factual correctness, credibility, truth and integrity of materials as commentators and regulators try to come to terms with the changes underway and already falling into place.

In his novel *A Long Way Down* one of Nick Hornby's characters asks, "How can you be famous if nobody likes you?" [Hornby, 2005] When lonelygirl15 became a sensation in 2006, the uproar that ensued when it was discovered that 'Bree' was 'really' an actress called Jessica Lee Rose proved that one man's hoax is another man's clever strategy and who says your YouTube video can't be serial narrative drama? There was an outpouring of anger that the filmmakers behind the videos were just trying to use the internet to become famous! How dare they!

The premise of the drama was that 16 year-old Bree (19 year old Jessica Rose) was pouring her heart out to her webcam and posting her story on YouTube in the hope of finding support from kindred spirits. Although many viewers believed Bree was indeed a teenage videoblogger talking about the real circumstances of her life, discrepancies and media interest quickly revealed that the participants were using the format to develop their showreels and demonstrate their talents as content makers.

The success of lonelygirl15 lies in its source: the wellspring of kids with webcams for whom talking to the computer is the 'dear diary' of its generation. This should not be a surprising phenomenon, after all this is a generation that has been on-camera since its infancy and whose formative years have been shaped by toy karaoke machines and reality TV. Ultimately, lonelygirl15 became famous not so much for its soap opera storylines or exciting strategic take on how to make online content but for the controversy over its genuineness.

In today's media the lines that separate hoax, viral marketing campaign, serial online narrative drama, delusional-but-sincere personal content, and real story are not only unclear but in some circumstances, irrelevant. Yet, as the shamed publishers of Norma Khoury's *Forbidden Love* discovered, there is a portion of any audience that will take such fictions very badly unless they are told beforehand that what they are about to see/read is a work of imagination. Further, even then, when a work is labelled as fiction, as the makers of *300* and many other films based in historical times have discovered, there is always someone who will take issue

with how ‘the facts’ have been mishandled. These issues plague art (is it really a Van Gogh?), photography (at what point does a digital re-grade become an altered image?), journalism (such as when an editor is forced to ask of the day’s headline: you mean he just made this up?) and so on and so forth for the *ad infinitum* of human creative output.

There appears to be an unwritten but tightly held view that ‘If I’m going to like you, you had better be who and what you say you are’. Yet the controversies about professional versus amateur works and how they are being privileged and mediated on the Net leads to greatly unresolved confusion about what is right and what is wrong, what is legitimate and what is a lie. For some these issues are trivial but for others a matter of great consequence.

lonelygirl15 still draws viewers who enjoy it as an online serial narrative. Comments on piano cat range from gushing delight to accusations about improper use of catnip. FatRant has inspired a flock of imitators and millions of parents are not waiting for twenty-first parties to post videos of their children undertaking all manner of precocity and potential shame. In the fame that ensues (or not), the matter of genuineness appears to be a factor of influence and, in part, an answer to Hornby’s question.

To some degree, whether content will be liked (or not) depends on whether the content is considered to be intended as a desire to participate in the online global-urban open mic opportunity or whether a posting is perceived as using the community forum to advance commercial or hidden interests. If content is deemed to fall into the latter category, odds are that debate will ensue as to whether this is a transgression or clever use of the medium.

This is an area of great complexity. For example, does using DIY media tools to post content you invent to entertain people mean that you are amateur if you don’t get paid? But what if this content is of an extremely high standard and production value that enjoys wide and critical reception? If that is the case, does that make you ‘professional’? And if it leads to commercial recognition are you finding success, selling out or transgressing an unwritten code? And if something professionally made by traditional media formats obtains currency and popularity is it still ‘good’ if it is posted and hyped as User-Gen with the intention of promoting it for commercial gain?

In *Sock Puppets Keep It Shill on YouTube*, Momus (aka Nick Currie) says, “the more vocational the self-employed person is, the less division they’re going to want to maintain between work and life. What you do is who you truly are.” [Momus, 2007] For those whose vocation lies in making creative content or one that can be advanced by online presence this is a matter of absolute importance. It should also be borne in mind that as online culture, services and engagement grows, there will be fewer and fewer areas of endeavour that do not call for bespoke online presence. As the internet becomes the standard platform for all kinds of content these questions are only going to become more complex with only reception being the ultimate judgement on the merits of the content and in that instance there will be few absolutes or unanimously held views.

Fame takes many forms. As argued in *Children of the e•volution*, “the vast majority of the content being generated by users is not aimed primarily at making money; for these auteurs and artistes the chance to contribute to the conversation, to make themselves heard, to be noticed and acknowledged is the driving motivation.” [McClellan, 2006] For some, posting and being accepted through positive reception for postings is about engagement, a sense of community, participation and belonging – the fame of being known within your community. For others posting is about trying to obtain prominence, to garner wide attention and personal recognition – the fame of celebrity. For others posting is motivated by a desire for validation in order to lay claim to hipness and ‘getting it’ often associated with an intention to trigger a

specific response such as financial reward, market placement, career advancement, voter support and so on – fame for benefit. The most cynical examples of this kind of content are those placed by marketing teams so they can generate news coverage by issuing take-down notices. [New York Times Editorial, 2006].

When it comes to finding examples of fame-seeking user-generated content, there is a smorgasbord of offerings. There are the bootie shakers, the lonely-alikes, the official offerings from the Ministry of I-wanna-be-hip and the You-can-trust-me-I'm-a-lot-like-you political pixel kissing. The jury is not in on much of this content. However, it seems that commercial product and community participation are not mutually exclusive, as the case studies that follow will examine. Even though there is no certain path to fame on the internet, fame and shame can be swift and certain. The only way to find out how your content will fare is to step up to the mic and find out for yourself. This, of course, is exactly what ze frank did in his 288 episodes of *the show*.

One Man/One Webcam: ze frank's *the show*

ze is a performer. He is a comedian, a musician, a public speaker and according to that popular source, Wikipedia, the winner of the 2002 Webby Award for Best personal Website and featured in Time Magazine's 2005 *50 Coolest Websites*. [Wikipedia, 2007] On 17 March, 2006 he commenced *the show* – a videoblog created and posted most weekdays. His commitment was to make something everyday for a year.

ze scripted his content and shot visual elements to support his text. He edited it to maximize its presentation and used *the show* as an opportunity to work up material for professional speaking engagements. Which leads to the fairly obvious question: how then does *the show* differ from lonelygirl15 and the lonely-alikes? Why is ze not subject to the same debates about 'fakeness'?

In part ze has escaped this fate because he is open about who he is and his intentions. Further, his videoblog is a perfectly natural step for a performer whose craft development depends upon practice – especially practice to camera – and feedback to improve performance through interaction with viewers posting comments. Many actors and performers consider practice to camera a necessary discipline and so, in a connected world, finding the courage to post performance online and invite participation is a makes-sense move. To do so in a Net-savvy way though is something else again.

The use of the taglines, “good morning, sportracers” and “thinking so you don't have to” established a style for the show and helped frame the seriousness of its content. Although comedic in approach and stylization, ze's commentaries on political and social issues were presented in a genuine even if sometimes mocking and sarcastic manner. These segments fit with the comedic and reportage conventions of the times. For example, ze's remark, 'global warming, like herpes, will go away if you ignore it' is the kind of clever, well-researched sound-bite commentary that would not be out of place on Jon Stewart's *Daily Show* or similar newsmockumentary media. [episode 15; 06 April 2006] Indeed, some of ze's observational editorial segments such as his commentary on civil liberties [episode 71; 26 June 2006] or his discussion on how terrorists work [episode 102; 10 August 2006] provide excellent arguments and observations on matters of very real import.

However, because he is not trying to fit into a traditional network culture or format, the content of the show is refreshingly unrestricted and innovative. By way of example, throughout *the show* ze makes use of and provides valuable commentary on web culture and its impacts. His ugliest myspace competition is hilarious yet points out how ultimately a

democratized online culture will set and create its own standards or, as he says, ugly is the new cool. [episode 83; 14 July 2006] Not only does he say this, the show embodies this in its conception and realization. In episode 114, ze's discussion of digital compression and reduced information is almost poetically insightful. [episode 114; 28 August 2006] His comparison of childhood playgrounds and privacy issues online is designed to provoke thoughtful consideration of how things are developing in this space. [episode 216; 14 December 2006]

His self-revelatory stories where he talks about his childhood [episode 100; 08 August 2006], or makes gentle mockery of the superbowl in his discussion about how his family doesn't celebrate superbowl [episode 247; 01 February 2007] are humorous yet finely drawn observations on life as are the slightly less personal commentaries on college life [episode 109; 21 August 2006/episode 123; 12 September 2006/episode 125; 14 September 2006], how to piss off art students, [episode 257; 15 February 2007] and the illness communication exaggeration curve [episode 107; 17 August 2006]. Occasionally events coincide with the personal and his 9/11 posting on the shared determination of his community is touchingly sincere. [episode 120; 07 September 2006]. It is this often, (but not always) finely judged balance of newsmockumentary and the personal, of self-driven material and viewer-contributed content that creates something uniquely online, something infinitely more than what ze describes as, 'just like TV, but with pimples'. [episode 2; 20 March 2006]

Throughout *the show* ze opened up his material for participation and worked to establish the community of sportsracers and fabulosos. His use of segments such as: 'something from the comments' and viewer crafted 'good morning sportsracers' intros from around the world promoted a sense of engagement, as did humour segments that were sometimes used to fool new viewers into thinking that *the show* was not quite what the buzz might have suggested. These bland-meets-the-bizarre segments ended with a conspiratorial and intimate whisper to camera, "are the new viewers gone yet?" and played with ideas about 'being in and out in the online' on many levels in addition to cementing viewers' feeling of being part of the show.

In what has moved from *de rigeur* to requisite for online content, ze embraced the interactive opportunities of the medium with tactics such as playing an ongoing chess game with viewers and inviting the submission of *powermove videos* with the creators of those getting playback being rewarded with their own special sportsracer name. New initiatives were introduced as the show progressed. His *let's make an earth sandwich* idea invited teams to put slices of bread on opposite sides of the earth and submit videos of the earth as a sandwich. [episode 43; 16 May 2006] Viewers dressed up their vacuum cleaners, submitted t-shirt designs, logos and animations. They sent in their versions of alternate meanings for public signs and examples of 'worst ever' everythings. They provided a support network for Running Fool and pins for his jacket as he travelled around North America using only the Sportsracer community for accommodation. And then there was the video for Ray which was based on a voice recording that had gained internet prominence and was turned into a special creative project contributed to by several sportsracers and ultimately delivered in person to Ray by ze. [episode 266; 28 February 2007]

It was this underlying generosity of *the show* that mitigated reservations some viewers might have held in general about narcissism and self-promoting vloggers from taking issue with *the show*. Even ze's attempts to monetize *the show* with requests for sponsorship and the sale of t-shirts were incorporated into the content and when advertizers and sponsors did appear, they were handled in an inoffensive manner. Overall, there was an open-handedness about the way these now fairly standard monetizing methods were adopted. At one point, sponsorship was even sought for a commentator from Germany who complained that the t-shirts were too expensive. ze immediately started a 'buy the German kid a t-shirt' fund, design competition

and follow-up snap of the kid wearing the t-shirt. [episode 205; 29 November 2006] As for fame, while the show has undoubtedly helped ze's career, it is a stand alone work of art, a tribute to this time in online culture, and a labour of love.

In real terms *the show* is a prime example of the reciprocity of connected give and take, a subject ze addressed directly in episode 202 with his commentary on the meaning and use of thank you [episode 202; 26 November 2006] and demonstrated in the ongoing video for Ray project and its delivery. the show was not all about ze. As it grew, the show became a visibly shared endeavour. Participants' contributions were crafted in the spirit of loving-to-make that underpinned the project's inception. Clearly it was about doing stuff, making stuff and inspiring each other to participate.

There is more about love below in the business model section of the discussion (believe it or not) but in case study terms, at this point it is sufficient to note that *the show* is presented here as an example of user-generated content that is primarily motivated by the desire to make something. Although fame motivators factor in also, the impetus for *the show* and the contributions by viewers were primarily about making and participating. Certainly, *the show* is not an exemplar of money-making when compared to the model offered by The Brothers Chaps and homestarrunner.com.

MyTalent/MyMoney: homestarrunner.com

For seven years homestarrunner.com has been working its way from finding fans to achieving financial self-sufficiency. According to a report in *Wired*, "Homestar Runner is so popular now that revenues generated by the site's merchandise sales allow its creators to devote their professional lives to the cartoons." [Lewinski, 2007]

Based on an idea developed during college with a friend, the characters became a practice project for Matt and Mike Chapman as they taught themselves flash animation. Posting the short animations about a character called Strong Bad answering various inane emails with punchy responses, (that were often supported by additional cartoon cutaways), the website's audience draw grew through recommendations by word of, well, email.

The 'check this out' factor established a core group of supporters who willingly put their cash behind homestar's creators by buying merchandising that ranged through t.shirts, hoodies, messenger bags, character figurines and soft toys. Eventually, as the content catalogue grew DVDs of the episodes became available for sale also and currently the site offers access to 'toons, games, characters, downloads, and shopping.

Inside the store there are categories for clothing, accessories, CD/DVDs, and 2-dimensional stuff such as posters, patches, static clings and bumper stickers. The merchandise changes so that early and regular adopters are rewarded by having their purchases become collectable. The site's downloads include sounds, icons, graphics and songs. Games include versions for the Wii but there is lots of free fun for visitors too.

The content itself is free, with a new cartoon every week. The humour is fresh, clever and full of insider-making self-references and running gags. Collaboration with other creatives (for example the *They Might Be Giants* music video) has ensured cross-referencing in other media and courting from the networks as well. Both Cartoon Network and Comedy Central have offered the Chapman Brothers the chance to move to that other small screen –TV, but with financial self-sufficiency and complete creative control as cards in hand, the Brothers Chaps have opted to stay online.

For many User-Gen creators, the offer from TV or Hollywood is the end goal of the project. While many fame-seekers believe the model involves building enough audience draw or, if really lucky, just enough hype to get noticed, others live in hope that if they do what they love well enough, the offers and the money to do it full-time for old media will come in. In contrast to this approach, the homestarrunner model follows the fame model only in order to build the audience and the do-what-you-love model absolutely in order to build the content. When it comes to the monetizing model, they are sticking to the principal of keeping ownership of the content in order to keep making the money.

In the recent discussions about their ground-breaking deal to share online ad revenues for *South Park*, Matt Stone is quoted as follows: “Mr. Stone ... added that he and Mr. Parker were particularly glad to be taking an ownership stake in their main life’s work.” [Halbfinger, 2007] Content makers who dream of ‘getting the offer’ often do not think past the point of how good it will feel when they finally get some cash for all the hard work and years of building a name for themselves. The problem is, quite often they are working hard to build a name for someone else. As Matt Stone is quoted saying, ‘People always ask us, “You own it, right? No? Why’d you sign that deal?” And I have to say, “Because I was sleeping on my friend’s couch.”’ [Halbfinger]

Having a business model for a creative endeavour is sometimes considered uncool, a kind of jinxing approach that might possibly undermine the integrity of the creative process. Yet, at the Australian Film Television & Radio School seminar *The Digital Factor*, Didier Elzinga, the CEO of Rising Sun Pictures described his digital visual effects studio’s business model as:

1. We want to do what we love,
2. We want to be known for doing it really well, and
3. We want someone to pay us for doing it. [Elzinga, 2007]

He related this model back to Jim Collins’ Hedgehog Concept as described in *Good To Great: Why Some Companies Make the Leap ... and Others Don’t*. [Collins, 2001] While the Collins model is somewhat more complex, based as it is on five years of in-depth research of Fortune 500 companies and the subject of an entire book, the business sense described in these three steps while deceptively simple is profoundly important.

These three steps can be related to the fame, money and love motivating factors but the difference is that where the lonelies may be hoping that fame will lead to financial success and ze frank has focussed for the most part on doing great work, homestar and the artists at Rising Sun have moved from the impetus of a single motivating factor to a process.

While the fame-seekers are often hoping for money, their primary strategy for achieving this is by first obtaining fame. Ironically, many pursuing the fame model find themselves following something akin to South Park’s famous Underpants Gnomes model: 1. Steal underpants. 3. Profit, a plan that overlooks the important middle stage of ‘how’. Similarly, many pursuing the money-first model find that it is hard to come up with content that other people love enough to part with cash, perhaps proving the truism that if you don’t love it, no one else will either. In some ways, those making content for the love of it are best situated for success because they are always positioned to take it to another level.

The three motivating factors can be looked at as a triangle of qualities that lean somewhere between location at one point or along one axis.

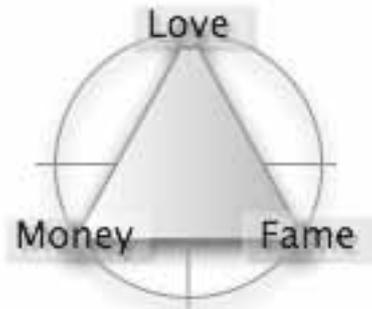


Fig.1

Clearly the lonelygirl15 team were hoping that fame would lead to money and eventually, they would be working at something they love to do. ze frank, working at something he loved, found fame and this has opened doors to paid gigs. Yet only homestarrunner worked the three points to make a full-time living from the content posted, or rather, the merchandising associated with the content posted.

The Elzinga/Collins business plan process can also be framed as a triangle:



Fig.2

If these two triangles are set up as two opposing sides of a pyramid, the alternate sides offer us an insight into another two models that are well-known but not usually held up as exemplars.



Fig.3

This one could be called the ‘arts’ model, where one pursues something well-loved and fulfilling but success is in being famous for one’s art but never remunerated.

The other model –

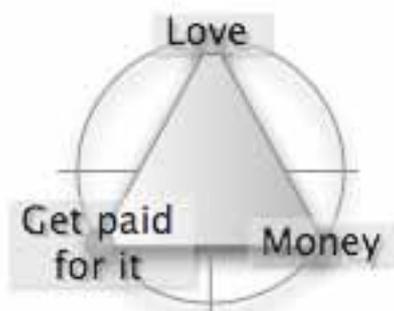


Fig.4

This could be called the in-it-for-the-money model or, in online terms, the Buy Viagra/Nigerian letter/Lose Weight Miraculously model.

As Jim Collins says, “To have a fully developed Hedgehog Concept, you need all three circles [what you are deeply passionate about – love; what you can be best at in the world – fame; and what drives your economic engine –money]. If you make a lot of money doing things at which you could never be the best, you’ll only build a successful company, not a great one. If you become best at something, you’ll never remain on top if you don’t have intrinsic passion for what you are doing. Finally, you can be passionate all you want, but if you can’t be the best at it or it doesn’t make economic sense, then you might have a lot of fun, but you won’t produce great results.” [Collins] By ‘great results’ he is speaking in the context of building a great company as determined in the study described in his text. The fascinating point is that passion for what one does is crucial to success, whatever the model.

There are many who have turned their love for money into financial success. There are many who have turned their love for fame into celebrity. Yet it is those who manage to strike that balance of finding a way to stay true to what they love to do, to become known for their excellence at what they love to do and then finding a way to be remunerated for it that stand as inspirations. This is especially the case if, by the standards of homestarrunner.com, they have the will to hold onto the creative control even if it means sacrificing some financial gain in the short-term perhaps even in the long-term. The concern here, of course, is that by trading creative control for more money, there is a substantial risk that the sacrifice will lead to having to make content that is no longer of a standard that you love.

In language not commonly found in a business text, Collins concludes his study by stating that, “the real question is not, ‘Why greatness?’ but ‘What work makes you feel compelled to try to create greatness?’ If you have to ask the question, ‘Why should we try to make it great? Isn’t success enough?’ then you’re probably engaged in the wrong line of work.” [Collins]

In looking at user-generated content, the most compelling content is made by people who are passionate about what they are making. Passionate about making a political statement (although these are rarely found in politicians’ YouTube offerings). Passionate about their performances or the stories they are telling. Passionate about their hobbies, their projects, the very stuff of their lives. Some content makers become internet people because of the benefits that flow by taking their subject online. For example, a person passionate about dulcimer

making and playing may not be especially engaged by online culture but may happily access it to advance their passion about dulcimers and because of the long-tail qualities of the Net, build the community and commercial model they need to keep going.

Many musicians are finding financially sound business models by exploiting the creative and participative approach of ze frank and melding it with the shopfront model of homestarrunner. In May 2007, Clive Thompson reported on the success of musician Jonathan Coulton who, like ze, had decided to establish himself as a performer by going online. [Thompson, 2007] He committed to writing and recording a song each week and posted it to his website, building a following of fans who bought his music online and gave him metrics that let him plan tours. Ultimately, if his success is sufficient, he might find himself forced to choose between holding onto his creative control or trading it in for a deal with a record company. Between now and that point, the means of production and success are entirely in his own and his audience's hands.

Response by the online community shapes the success of user-generated content as it does in the offline community. That said, there are unique qualities offered by online distribution and culture that factor into the success model for User-Gen.

Qualities for Quality Results

The motivating factors of fame, love and money are not necessarily bound to user-generated content or online delivery and as Collins' book makes clear, the Hedgehog Concept is fundamental to success across many, if not all, forms of enterprise. However, there are qualities that are of particular importance in online culture at this time. Those qualities have been documented by Tim O'Reilly in describing the specific features of Web 2.0. [O'Reilly, 2005]

While O'Reilly's *What is Web 2.0* focuses on the functionality and structure of the Web, the qualities he has identified have resonance with the creation of content also and should be taken into account by those seeking to build content of substance and value for the online communities.

O'Reilly talks about 'the architecture of participation' and how 'the service gets better the more people use it'. As he says, "amazon made a science of user engagement" as did ze in the way he engaged with his viewers and used feedback and iteration to keep developing the quality of *the show*.

O'Reilly also observes that, "the race is on to own certain classes of data". As User-Gen builds its content archives and relationships through links and wikis, the value add of participation becomes one of quality-building. Once again, this is a situation where the reciprocity of give and take does not leave me richer and you poorer or vice versa but all parties are enriched by the exchange.

O'Reilly talks about the benefits of software no longer limited by platform, of being above the level of a single device. This highlights the importance of flexibility in a Web 2.0 environment and in terms of content speaks to the need to create, evolve, design and distribute content with intention for multiple deliverability. By this I mean content deliverable:

- by/buy songs;
- by/buy t.shirt;
- by/buy ringtone;
- by/buy 2D things;
- by/buy toy.

Delivery has to offer open access:

- buy from me;
- buy from iTunes;
- get through RSS;
- buy hard - DVD/CD;
- buy soft - download;
- watch free - stream.

A walled garden, by definition, is a bounded entity.

Creators succeed most when they are open to the idea of ‘you design a toy for me to make for you and I acknowledge you and the role you played in making this happen’. One of O’Reilly’s main points is The Perpetual Beta, or in content terms (as we say it here in Australia) the equivalent might be called The Perpetual Betta (that is: better, for those outside the loop on that accent-oriented reference). As Collins has argued, greatness is achieved by aiming, with unswerving diligence, to be the best at what you love - the perpetual betta.

Content is not static. It is iterative. As O’Reilly says, “design for ‘hackability’ and remixability.” ze would not have been so great without Ray. Ray would not be so greatly known without ze and all the sportsracers. What I write here references a wealth off online and offline time. The papers created for this conference are full of original thoughts and new creativity, much of which is inspired by the footnoted and bibliographed greatness of others. In writing we have agreed conventions, our versions of links and wikis to those who inspire us. Online we are building these tags of reciprocity, too. No idea is immutable – the better is in the Beta-ness of making.

If Rupert Murdoch is bankrolling *Quarterlife* (a professionally crafted emo kid drama to be broadcast online) it is a testament to the passion of the emo kids with their webcams and a sign that the unique qualities of User-Gen are about to come into their own. [Quarterlife, 2007]

The lesson for content makers is that whether you simply are seeking respect or recognition for yourTalent, or are trying to obtain fame for career or commercial gain, or are looking for a sense of participation with others, the online community and the long tail of affinity offers a space where you no longer need to be just like your physical neighbours to obtain a sense of belonging. There is no requirement that you monetize what you are doing, but there are ways to do so if that is part of the ‘greatness’ you are seeking to achieve. Ultimately, what works best is starting from ‘the why’ of what-it-is-you-care-to-do. In answer to those questions: Is it working? Yes, it is. Of particular note, the service gets better the more people use it. Is it working for them (the content makers)? Yes it is, because for the *greater* part, User-Gen is about finding time to do what we love. We’re even getting famous for it.

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TO BROADBAND OR NOT TO BROADBAND

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Cisco Systems¹

1: Introduction

For a question to which the answer is very simple, we seem to be making heavy weather of the broadband debate in Australia.

We can't seem to agree on how much broadband we need or what kinds of speeds it should be capable of delivering. The policy debate is constantly distracted by the furious claims and counter claims of the dominant incumbent and the regulator. Smaller service providers cry foul and struggle for a sustainable place in the sun and consumers fume at comparatively poor price and performance deals. And now the whole discussion has been colonised by a political contest to determine who can more credibly claim to be in command of the future.

At one level, this is all good. For some time, the broadband debate was a largely confined to a few engineers and academics. Countries like Japan and South Korea invested in massive upgrades to their broadband infrastructure, which only served to reinforce their outlier status. For the most part, they were not seen as models that were either relevant or replicable.²

Now, and with something of a rush, broadband has moved from the technology edge to the policy centre. In the process, it is being reframed (correctly) as a debate about services and capabilities, not about the underlying technologies. It has new political currency and is assuming its rightful place as the defining infrastructure of a connected world.

But the risk we face is that, as we define our broadband ambitions, we can forget why we are having the debate in the first place. More importantly, for all the progress that has seen the broadband issue accorded a new political and popular currency, the mainstream policy processes in this country remain ambivalent. This is being fuelled by a strange mismatch between continuing scepticism, and sometimes plain ignorance, about the evidence of broadband's transformative potential and the steadily accumulating evidence of the social and economic impact of new models of service, collaboration and innovation which it is accelerating. I will return to this "policy lag" a little later.

This paper revisits three fundamental propositions:

- The first is that there are **some underlying principles** that should increasingly inform the structural and policy framework for broadband investment that delivers access, quality and innovation

¹ The views in this paper are personal and should not be taken as necessarily the views of Cisco Systems

² We are reduced to watching, with a mixture of envy and feigned disinterest, while these leaders continue to stretch their lead. A recent story on PoliticsOnline noted that while America might have invented the Internet, "the Japanese are running away with it. Broadband service here is eight to 30 times as fast as in the United States -- and considerably cheaper. Japan has the world's fastest Internet connections, delivering more data at a lower cost than anywhere else..."

- The second is that there is a **growing body of credible evidence** that illustrates why broadband is the necessary condition to realise the ambitions for communication and collaboration that increasingly characterise the way individuals, organisations and communities live, work, learn and play
- And the third is that the increasingly robust analysis of the **social and economic benefits** of broadband ought to be making a more significant impact that it appears to be on the policy calculus that drives both public and private investment.

It closes with a few modest predictions about the way in which the Australian broadband debate might unfold in the next period.

2: Setting the context

If we are going to secure the kinds of policy outcomes we have set for ourselves as a nation and as a community – new investment in industries that will deliver jobs and sustainable prosperity, smarter, more efficient and more accessible public services, access to a

Now, and with something of a rush, broadband has moved from the technology edge to the policy centre. In the process, it is being reframed (correctly) as a debate about services and capabilities, not about the underlying technologies. It has new political currency and is assuming its rightful place as the defining infrastructure of a connected world.

proliferating world of entertainment and new levels of social inclusion and engagement in stronger communities – we need to be able to connect, communicate and collaborate like never before. The flow of knowledge, information and ideas is central to that challenge. And that flow is now more and more a function of the robust and secure networks that link us to each other, to our communities and to networks of information and

services anywhere, anytime.

Three features of this remarkable shift in the broadband debate stand out:

- One is that the debate is less concerned with technology – a simplistic focus on building ‘fatter pipes’ – and more concerned with the services it enables.
- The second is that we have well and truly left behind the assumption that the only real value of broadband is faster Internet connections and quicker email. Nothing wrong with those, of course. But we are now confronted with growing evidence that “real broadband” creates the conditions in which to think of completely new ways to connect people, communities and services. We are irrevocably launched on a “tipping point” journey of innovation and invention fuelled by the astonishing possibilities of connectedness that the new broadband capabilities promise and are already delivering.
- And thirdly, this new phase of broadband policy is being driven by a combination of competitive and consumer pressures which themselves demand urgent answers to big policy and investment decisions at the national, regional and local level. The early evidence is that these new broadband capabilities are already delivering new services and new consumer and policy options that are dramatically raising the bar. Broadband is an integral part of the new arena in which the global pressures for innovation and a competitive edge are being played out.

Despite its recent and dramatic arrival at the heart of mainstream political and policy discussions, the debate about broadband in Australia is characterised by a confused and confusing tangle of perceptions, claims and counter-claims. For example:

- People already have access to as much broadband capacity as they need or are prepared to pay for and, in any event, for the most part 1.5 Mbps (or even 8Mbps for some) is perfectly adequate for what most people need to do. Businesses and universities can already access specialist networks that offer faster ‘industrial strength’ broadband.
- Telstra is acting like a rational if intransigent incumbent as it wrestles with the transition from a communication and data transport company to a company based on services. Its investment decisions are being coloured by a complex mix of politics, regulatory complexity and an internal contest between its role as a private profit-maximising company and the role, bestowed by historical accident, as owner of critical national infrastructure.
- The unpredictable and unreasonable actions of the regulator, aided and abetted by inconsistent and unhelpful policy settings, is placing unconscionable burdens on Telstra, expecting it to risk shareholder wealth and potential long term value by investing in new infrastructure from which it won’t be allowed to extract an appropriate return.
- The examples of broadband leadership often held up to shame Australia into faster and more concerted action– Korea, Singapore, Japan, Holland, Sweden – are not relevant because they either represent inappropriate models of public investment or are driven largely by what we like to dismiss as frivolous activities like online entertainment and gaming. As a business commentator put it recently, why should we be investing all this public money in faster broadband just so a few teenagers can swap music files faster?
- Australia should construe public investment in real broadband infrastructure as the digital equivalent of the Snowy Mountains scheme or the rollout of a proper interstate highway system. This is what contemporary nation-building looks like. It will ensure we have the core infrastructure that will nurture wave after productivity-enhancing wave of Internet-enabled applications and services on which our national and individual success in the 21st century networked information economy depends.
- Major public investment in broadband is both risky and unnecessary, in danger of creating a rolled-gold information superhighway that gets too far ahead of the competitive services and applications whose demand for bandwidth would make it worthwhile. When people are ready to pay for the broadband services they feel they can use and create value from – private, commercial or public – the market will find a solution and give it to them. Getting ahead ourselves in that process is bad policy and worse economics.

There are others, but these kinds of assertions and arguments, floating in an impenetrable soup of arcane regulatory contest and inconclusive analysis (just how do you work out how fast is fast enough?) offer a daunting prospect to the ordinary citizen trying to make some sense of it all. It is all sound and fury, signifying if not nothing then certainly not very much that connects with their more practical considerations. Unable to fight through this technical and political thicket, they revert to a much more basic test. Why is it, they wonder, that for the most part they still can’t do the kinds of things online, at a reasonable price, that citizens in other countries are increasingly taking for granted?

3: Some underlying principles

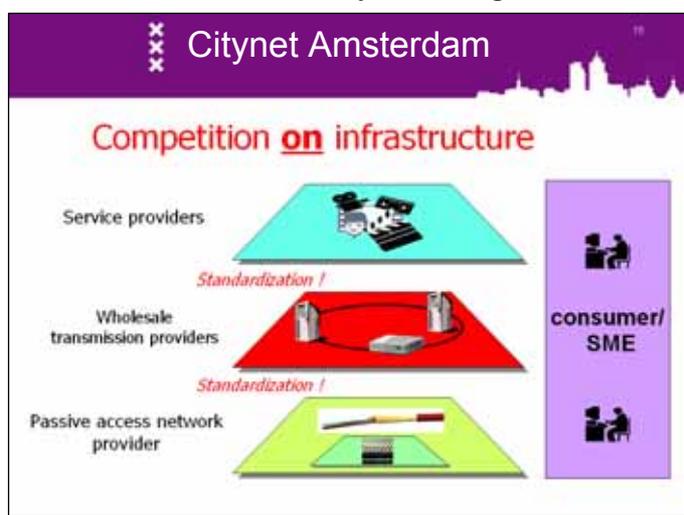
Although there are plenty of variations that account for local nuances of policy, funding and regulation, there is growing agreement about the elements in a basic business model for effective broadband deployment.

At the heart of the model is a **three-layer framework** that clearly distinguishes between:

- The network itself, an essentially passive layer of physical infrastructure (civil infrastructure such as ducts as well as dark fibre, etc) that can be either owned and rolled out by the public sector (local and/or regional governments generally) either directly or through a government-owned utility, or co-owned by public and private investors (in this last case investors are housing corporations, real estate companies or banks).

In recent years, the role of government has moved from being a sole investor in this layer to being an “orchestrator” of private investment stakeholders.³

- The transmission layer which provides the various access networks that will carry the content and services (this is usually called the “active layer” where an operator will “light the fibre”)



- The access, services and content layer, which typically sees a competitive regime of service and content providers bringing a range of content and value-added services to residential, business customers and public administration organizations.

³ The focus increasingly is on providing fibre networks as the core of the new broadband capabilities being rolled out to business, citizens and communities. A recent industry report (Heavy Reading: FTTH Worldwide Market & Technology Forecast, 2006-2011) put the focus on fibre into stark relief: “It’s been almost three decades in the making, but fibre to the home (FTTH) is finally emerging into the mainstream and is set to transform the telecom environment worldwide over the next decade. *FTTH represents the first major upgrade to the access network since the deployment of cellular infrastructure in the 80s and 90s, and like cellular, it is likely to have a deep impact on the entire supply chain, including technology vendors and network operators.* Over the next 15 to 20 years, copper access networks worldwide will be largely replaced by a fibre access network, creating massive opportunities for vendors, network builders, and service providers. The most important catalyst for this change is a growing perception that copper access networks will soon no longer be able to meet the ever-growing consumer demand for bandwidth, driven mainly by the Internet, IP, and the many services running over it. At the same time, competition to move customers onto complex service packages that include video is leading some to conclude that they must be first to deploy fibre, pre-empting or frustrating future competition. This environment has led to the beginnings of a mass migration to fibre in several countries, notably Japan, Sweden, and the U.S. They will be joined in the next year or two by China, France, South Korea, and the Netherlands, among others, and ultimately every city in which consumers are ready to pay for higher performance and richer services.

The point about the three-layer model is that, broadly speaking, the policy objective is to avoid a situation in which a single organisation plays roles at more than one layer.

The best example I know is the Alberta SuperNet project in which network provider Axia took on a self-denying ordinance that meant it could not compete in the services space on top of the network that it was constructing. The policy outcome is obvious – to avoid giving Axia an incentive to restrict access to the network from services that might be competitive with its own offerings. In the Alberta model, Axia's network access and provision role depends on robust competition at the services layer. It does better when more competitors in the services space do well. In that sense, the policy and economic incentives are aligned to the overall policy outcome – cheaper, faster broadband access for more people and businesses, regardless of their location.

Beyond this simple model, experience around the world also suggests that broadband policy ought increasingly to be motivated by some other fundamental considerations. For example:

- 1 **People don't access infrastructure, they access services.** The focus now should be less on technology and more on the services and capabilities that citizens, businesses and communities need to connect, communicate and collaborate.
- 2 Successful broadband projects should **start by understanding people and communities** and the services and capabilities they want to access or invent. Broadband capability should enable and accelerate the ambition for new services that is already developing and rapidly remove the connectivity blocks and barriers to innovation and new service development.
- 3 **The debate is not about provisioning broadband, but about provisioning connectedness.** People want access to technology that helps them save time, have fun, learn something, make money, stay or get healthy, stay in touch or be creative. It's what broadband does that matters, not what it is.
- 4 The broadband debate in Australia is being driven by a **powerful coincidence of policy ambition and technology potential.** It should increasingly be animated by three ideas - a sense of urgency, a boldness of vision and a practical commitment to action.
- 5 To achieve maximum service flexibility, product offerings and minimum service costs for subscribers, it is vital that multiple communications service providers can use the **common access infrastructure** to compete in the provision of telecommunications services.
- 6 The broadband debate only ever makes sense in the context of the lives of people and communities in which it can make a difference. When real broadband capability is in place, secure, accessible and reliable, people and communities will confront the new technologies of networked interaction with a powerful mix of **imagination and pragmatism.**

4: Growing body of evidence

The defining characteristic of the knowledge society is the ability to create, share and use knowledge as a social and economic resource in ever more complex combinations and across wider communities of interest and practice. 'Next generation' broadband is rapidly becoming the core technology which enables and often accelerates the capacity to realise that ambition.

Even though it has become a cliché, it's true that our ability to live and grow in this kind of world is a function of our capacity to connect, to communicate and to collaborate across the street, across town or across the world.

Think about a remote region like regional Western Australia where a new broadband IP network is creating opportunities for doctors and health care providers to connect to each other and with their patients to save time, improve diagnoses and treatments and offer better care and support for people and communities, including remote Aboriginal communities.

The same basic principles of connection and communication, using integrated IP networks, are being applied in the first fully 'medical grade' national health information network in New Zealand.

In Queensland, the technical and further education system is experimenting with the evolution of 'vocational learning zones', connecting together a widely distributed network of places and spaces in which learners and teachers can interact and learn. The intention is to use networked information and communication technologies to slip the constraints of time and place and create an "anywhere, anytime" learning system. Libraries, shopping centres, students' homes and offices, a campus – it ought not to matter where you are when you need to access knowledge, courses, guidance and advice to progress your learning priorities.

More recently, Queensland has nailed its economic development colours firmly to the

People don't access infrastructure, they access services. The focus now should be less on technology and more on the services and capabilities that citizens, businesses and communities need to connect, communicate and collaborate.

broadband mast with the announcement of "the development of an options paper to outline strategies and options to ensure that Queensland maximised the benefits out of the Federal Government

broadband activity to examine the options for delivering the best broadband services and connectivity to Queensland businesses and communities". Announcing the plan, the then Minister for State Development noted that "broadband is critical infrastructure and is essential to Queensland's economic development...broadband [is] one of the most urgent areas needing attention in the Smart State."

In Western Sydney, videoconferencing and networked communities for teachers' professional development is offering curriculum choices for students in schools that wouldn't otherwise have them. The project is fuelling a real buzz of excitement as teachers, including those who lacked the confidence to engage with technology, grasp the chance to teach differently and to offer students new and more effective ways to engage with their learning. In the recent election campaign, the NSW Government took up the results of the Connected Classes pilot and committed \$168 million to roll out the solution across the State.

Cities and regions around the world are taking up the challenge too. Hundreds of leading European cities have come together to pursue a "broadband manifesto", anxious to roll out the next generation of fibre-based broadband services on which they will run an evolving mix of commercial and public services that will fuel a new round of innovation and growth.

Economic resilience, especially for the small and medium enterprise sector that is so often home to innovation and new employment growth, and social inclusion are the twin and interdependent pillars around which these new capabilities are being fashioned.

Political parties, governments, corporations and community organisations are feeling their way into a new world of powerful connection to their citizens, customers and members, with whom new broadband technologies enable them to interact in much richer, more complex ways than ever before. The new technologies of connection and communication create fresh opportunities for 'agency', that sense of empowerment and self-reliance that means people

can do things for themselves – search out information, do business easily, quickly, conveniently and securely and stay in touch with their families and friends using video, pictures, text and the phone, all delivered on faster, more intelligent and more secure networks.

Think too of the daunting challenges of social care into the new century as the proportion of the population that is aged and will need varying levels of care and support keeps rising. The policy objectives are clear – providing choice and quality in service provision, ensuring financial viability for aged care services, helping people to remain independently in their homes and connected to their communities, offering them responsive care and support packages that suit their lives and their circumstances.

And older people, anxious to retain their independence, want to talk with their family and friends and keep in touch with their doctor or their health care worker. They want to access entertainment, they want cheap and flexible phone services, and they want to live in homes that are connected and safe.

They want to be able to connect to their carers and doctors on simple technology that would allow, for example, a community nurse to check they have taken their medication without having to travel to their home twice a day.

Too often, these practical and innovative ideas founder on the rock of inadequate connectivity. The fact is none of this is going to be possible or affordable without pervasive communication and the ability quickly and securely to connect people and the services they rely on.

Once you have very high speeds, I guarantee that people will figure out things to do with it that they haven't done before

Videoconferencing and video phone calls, sending X-rays or other health information easily between members of a care and support team and perhaps other family members, getting automated reminders about medication or check ups – this is a rapidly evolving bundle of services and capabilities that will place heavy demands on the network.

In a small rural community in the Netherlands, a community of about 9,000 people has created a co-operatively-owned broadband network over which predominantly video-based services allow older residents to stay in touch with each other and with their GPs or health providers.

The network also allows them to run a virtual ‘neighbourhood watch’, using video camera surveillance to create a sense of security and confidence in their own communities. Internet access and web surfing are not really the ‘killer application’ in this context, but the same underlying broadband capability is being adapted to suit the needs of this particular community.

There are plenty more stories of this sort that can now be told to illustrate the pace and scope of broadband’s pervasive impact. But the point of these stories in this context is twofold. One is the way in which they reinforce the human dimension. The broadband debate, next generation or otherwise, only ever makes sense in the context of the lives of people and communities in which it can make a difference.

The other point is to at least raise the question about whether or not these stories, and the solid evidence of the practical impact of broadband they offer, are being noticed. Have we arrived at the point where the policy process is both not hearing these stories and, if it does, failing to translate them into new insights that ought to be driving the next phase of broadband investment in Australia?

5: Social and economic benefits

Information technology is shifting from a focus on moving information and data around between people and organisations to a focus on creating new ways for people, knowledge and services to interact.

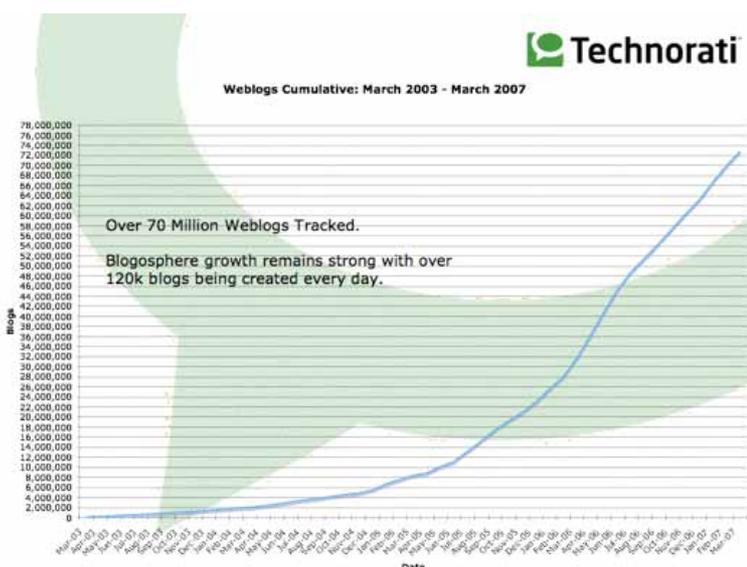
Think about the astonishing rise of social networking and its irresistible intrusion into our lives. In its most recent report (August 2007), Nielsen/NetRatings has released online traffic data for social networking, blogs, and video sites for the past 12 months. The report indicated a 117%, 19 million unique users, traffic growth for Facebook and a lagging, albeit still strong, MySpace growth of a 23% pace of 60 million.

Separately, a report from Ipsos Insight Research in France released a new study that shows that social networking sites like MySpace, Facebook, Mixi and Cyworld have emerged as major factors in the culture of communication for adults around the world. One analyst commented that even in lesser-developed markets, video sharing and on-line capability is affecting consumer's disposable time. No longer are people trying out these sites, but they are driving their behavior.

Reinforcing these new data is another study from search engine marketing firm iProspect which has published the first iProspect Social Networking User Behavior Study.

The study reveals that approximately 1 in 4 adult Internet users regularly visited the most popular social networking sites in the past year, including MySpace, YouTube, and Amazon.com. In addition, the study also revealed that 1 in 3 Internet users report that their purchase decisions are influenced by sites that contain social content, with Amazon.com being the most influential of all⁴.

Finally, the blog analysts at Technorati are now tracking over 70 million blogs, noting that blogs are growing at the rate of about 120,000 new weblogs being created worldwide each day. That's about 1.4 blogs created every second of every day. They now refer to a phenomenon they've christened the "live web" – blogs, photo sharing, podcasting, tagging, posting on other people's blogs - the "seething activity" of people finding new ways to connect and communicate.⁵



They also report an intriguing league table of most popular blogging languages:

- Japanese the #1 blogging language at 37%
- English second at 33%
- Chinese third at 8%
- Italian fourth at 3%
- Farsi a newcomer in the top 10 at 1%

The social network's defining characteristic is collaboration. With the rise of cheap, ubiquitous and increasingly powerful tools like blogs, wikis, YouTube, MySpace, Facebook,

⁴ <http://www.promotionworld.com/news/news/070410iProspect.html>

⁵ <http://technorati.com/weblog/2007/04/328.html>

the social networking model is inviting us to create and share ideas and knowledge differently. Computer networks have given way to the human network. Technology has found a new and much more satisfying purpose, turning new and simpler ways to share and to communicate into an engine of economic value and potent innovation.

One powerful and provocative analysis of the “wealth of networks” describes this change as a shift in the “material conditions of production” which have increased “the relative salience of social sharing and exchange” in driving economic production. It points out that the rise of networked information and communication has made these familiar patterns of social behaviour effective beyond their normal role in building social relations and fulfilling individual psychological needs. They have come to play “a substantial role as modes of motivating, informing and organising productive behaviour at the very core of the information economy.”

The analysis takes the insight much further, arguing that the feasibility of using social, rather than market or proprietary mode of production (ie relying more on cooperative peer production and coordinated individual action) “creates opportunities for greater autonomous action, a more critical culture, a more discursively engaged and better informed republic and perhaps a more equitable community.”⁶ Benkler’s analysis, along with many others, reminds us that in many ways the focus on broadband and the Internet is too narrow. While clearly there are some astonishing technology changes being wrought in and on the web, their real significance lies in the new social and economic models they herald and enable.

This new social networking model, of course, lives and thrives on the network. The point is not just the ability to create and post something cheaply, easily and quickly. The whole point is to get a response, to keep or find friends and, in the process, to spark a community of interest. The whole point IS the network or at least the rich, sustained collaboration that network delivers. Connectedness is the dominant currency of the networked age.

This is a world increasingly defined by three ideas:

- The **network as a platform** for collaboration and creativity
- A new-found ability to **empower the edge**, to drain power and authority away from the centre or the top and out to the edges where people find new freedom to create and interact
- The growing importance of the **“power of us”**, a phrase coined by BusinessWeek to describe a new ethic of distributed, voluntary collaboration in which self-organising communities of interest and practice can harness their collective wisdom, and their undisputed collective power, to lay claim to new levels of authority and influence as citizens, as workers and as consumers and customers.

The early evidence about the economic benefits and social outcomes of this new world of pervasive connectedness is compelling, if not conclusive. There is an accumulating body of evidence that suggests significant benefits are available from the services and connectedness that broadband infrastructure provides.

The Allen Consulting Group in Australia concluded in a 2003 study of the economic impacts of “true” broadband that “...there are substantial net economic gains available to the region in the analysis and probably many other major urban areas in Australia from the development

⁶ Yochai Benkler, *The Wealth of Networks: How Social Production Transforms Markets and Freedom*, Yale, 2006:92

and use of a true broadband network.” The report went on to suggest that “these gains far exceed the initial investment costs required to finance the network.” (*True Broadband: Exploring the Economic Impacts*, September 2003).

More recently, a Carnegie Mellon study of broadband’s economic impact claimed that:

Even after controlling for community-level factors known to influence broadband availability and economic activity, we find that between 1998 and 2002, communities in which mass-market broadband was available by December 1999 experienced more rapid growth in (1) employment, (2) the number of businesses overall, and (3) businesses in IT-intensive sectors. [*Measuring Broadband’s Economic Impact*, MIT and Carnegie Mellon, January 2006]

The study concludes by admitting that its analysis was necessarily preliminary and drew attention to the need for additional data and experience with broadband investments. It finishes though with the observation that “...the early results presented here suggest that the assumed (and oft-touted) economic impacts of broadband are both real and measurable.”

The feasibility of using social, rather than market or proprietary modes of production (ie relying more on cooperative peer production and coordinated individual action) creates opportunities for greater autonomous action, a more critical culture, a more discursively engaged and better informed republic and perhaps a more equitable community

In the United States, a major study of the potential economic benefits of

accelerated broadband deployment to older Americans and Americans with disabilities [*Great Expectations*, Robert E Litan, New Millennium Research Council, December 2005) looked at three types of benefits from broadband deployment and use. They included lower medical costs, lower costs of institutionalized living and the additional output generated by more seniors and individuals with disabilities in the labor force.

Considered together, the study estimates the three benefits to accumulate to at least \$927 billion in cost savings and output gains in 2005 dollars over the 25 year period, 2005 to 2030. This amount is equivalent to half of what the United States currently spends annually for medical care for all its citizens (\$1.8 trillion).

The search for hard and ‘soft’ evidence of the social and economic benefits of broadband investment, and the applications and services that broadband delivers, will continue. At the same time as jurisdictions search for the strongest evidence to justify what are often very large investments of both public and private money in these new technologies, it is also clear that leading governments recognize that these investments are basic “table stakes” to successful engagement in global economic competition and national development. It’s not so much a question of finding the economic and social payback for these investments. It’s more a question of worrying about the economic and social costs of failing to make these investments in the first place.

In the area of economic development, the cities of Amsterdam and Almere (at the heart of The Netherlands’ creative arts, media & gaming district) have recently announced the development of a broadband infrastructure (fibre-to-the-home and to the offices with wireless as future development) covering the entire population and small and medium enterprises. This strategy is aimed at providing SMEs in the software development and creative arts sectors with the necessary telecommunication flexible infrastructure.

A recent report suggested that an increasing number of Dutch towns have opted for municipal fibre networks to create a computer-grid system. The idea is to combine municipal FttH with the combined computing power of business and residential subscribers for research calculations, and taking advantage of the computers’ free hard disk space. The scheme was

touted as developing a supercomputer city. Several distributed computing grids exist worldwide, but the geographic concentration at Almere helps combat latency, while the participating computers are linked to a 100Mb/s network to optimise data sharing. Indeed, Almere is one of 18 projects of the EC's BEinGrid research program to assess the possibilities of grid computing.

The report goes on to suggest that some practical applications have emerged to take advantage of the collective power of multi-computer processing. These range from complex 3D designs, image searching and retrieval, weather predictions, and crunching medical research data. This last area illustrates the booming business in online medical applications and advice, whether from established cottage hospitals and surgeries, or even clairvoyants.

Many councils and hospital trusts are saving money by relying on online medical care, achieved through web cams and interactive units managed by people at home. The grid network is allowing research to be undertaken using the resources of PCs and thus saving the high cost of data storage and specialist computers. Rotterdam's Erasmus Medical Centre is just such an example: a study on bone aging requires scans of up to five gigabytes each. These are done by computers on Almere's grid, and are then uploaded to the hospital.

Transferring data on this scale requires fibre networks, and the fact that it can be done in conjunction with computer grids opens the door for innumerable commercial applications. The report concludes that The Netherlands' experience strengthens the argument that in coming years jobs, prosperity and a range of social benefits in Europe will follow where broadband infrastructure is strongest.

Presumably the point of that story in particular is to illustrate what happens when broadband becomes part of the groundwork for innovation and growth. New ideas emerge for value-adding services, impossible without the connectedness of real broadband, which speak directly to big policy priorities, in this case in health. The policy insight here is the central part broadband plays in a policy mix that creates an environment for innovation. As Internet pioneer Vint Cerf commented in the context of lamenting America's failure to match the experience of Japan especially in driving new levels of broadband performance, "Once you have very high speeds, I guarantee that people will figure out things to do with it that they haven't done before".⁷

The development of broadband programs also allows small and medium businesses to leverage on a number of internet business solutions implemented on top of the network, such as e-commerce, e-supply chain, e-logistics or e-procurement. Tackling social and digital exclusion is another area of focus for governments investing in broadband. The availability of a broadband network is the main prerequisite in the development of social inclusion programs around cities in Europe. Inclusion initiatives aimed at enabling disadvantaged citizens to gain access to ICT and online services, backed up by training and community-based support services, cannot be implemented without the presence of a flexible, low cost access infrastructure.

In the area of efficiency of the public administration, the Italian Province of Brescia has focused in the past 3 years at developing a number of provincial services across its intranet. The launch of an internal communication and collaboration initiative is providing the local government with the opportunity to save about 8,2 Million Euros within the initial 5 years of operation, leveraging on traditional intranet self service tools (employee directory, online expense reporting, shared calendaring, etc) as well as on mobile communication solutions.

⁷ http://www.washingtonpost.com/wp-dyn/content/article/2007/08/28/AR2007082801990_pf.html

Politicians, high level civil servants and field workers use mobile devices to streamline communication.

The Province is now making those internal services available to municipal organizations within its territory, developing a large shared services regional center. This initiative is linked with the launch of the regional broadband access infrastructure.

Traffic and transport management is another important area in which local government is developing broadband solutions. Traffic monitoring and parking management systems, RFID-enabled applications for intelligent transport management are some of the examples available. Cisco's own work with the Clinton Global Initiative, part of our larger Connected Urban Development program, is working with Seoul, Amsterdam and San Francisco to push the practical application of broadband-enabled ICT to sustainability and other urban management challenges. The work in those three cities is generating a solutions inventory, technical architectures and models of value case and impact analysis that we can then take into other cities as the program grows and scales.

These are a few more outcomes from recent studies:

- The Australian Government's own Broadband Advisory Group in 2003 cited a study (Accenture 2001) as estimating that next generation of broadband could produce **economic benefits of AUD\$12 billion to \$30 billion per annum to Australia**
- A 2004 report prepared for Multimedia Victoria by economic consulting firm ACIL Tasman found that the annual contribution of broadband to the Victorian GSP (Gross State Product) was expected to peak in 2008 at just over \$2.5 billion. It estimated aggregate benefits to the Victorian economy from 2004 to 2015 of between \$12.7 billion and \$22.6bn. When scaled up for the Australian economy as a whole, this represents a **boost the GDP of around \$12 billion in the peak year 2008, and benefits between \$55 billion and \$96 billion over 2004 to 2015.**
- A 2003 study by the UK Centre for Economic and Business Research found that that due to the growth in the number of broadband connections, by 2015, **annual UK GDP could be up to £21.9 billion (AUD\$52.1 billion) higher than it would otherwise have been.**
- Similarly a 2005 study by IDC and the Economist Intelligence Unit found that **if broadband diffusion in New Zealand was accelerated**, by whatever means, to a level of 50 broadband subscribers per 100 of population within 10 years, **nominal GDP would increase by NZ\$314 million (AUD\$283 million) by 2010, NZ\$2,740 million (AUD\$2,468 million) by 2020 and NZ\$7,215 million (AUD\$6,500 million) by 2030.**

A broader and more recent study of the deep and increasingly pervasive economic impact of technology came to this conclusion⁸:

The reality is that while the benefits of new technologies are often exaggerated at first, they often turn out to exceed initial expectations in the moderate-to-long term. This is exactly what has happened with the digital revolution.

The digital economy is more than fulfilling its original promise, with digital adoption rates exceeding even the most optimistic forecasts of the late 1990s. The integration of IT into

⁸ *Understanding the economic benefits of the information technology revolution*, Robert D Atkinson and Andrew S McKay, The Information Technology and Innovation Foundation, March 2007

virtually all aspects of the economy and society is creating a digitally-enabled economy that is responsible for generating the lion's share of economic growth and prosperity.

Atkinson's study is a compelling review of the increasingly ubiquitous role that information technology plays in fuelling innovation and economic growth. The analysis is crafted around a model of economic impact which shows the implied linkages – the policy logic, if you like – between investing in technology and the economic benefits that result (measured as higher per capita income and rising GDP). His logic model is included as [Attachment 1](#) to this paper.

Atkinson uses his analysis to argue a very important point which I think plays more deeply than we sometimes allow in the Australian context.

He argues that mainstream economic and public policy makers have got to pay more attention to IT. I think he's right about that. And I would add the need to conceive the significance of broadband as much more pertinent to big contemporary policy debates and decisions.

My experience is that, despite the best efforts of many and the inexorable advance of the technology revolution, mainstream policy makers don't understand its significance and often heavily discount its impact. I think we are all worse off as a consequence and it is certainly impeding faster and more purposeful progress on the broadband front.

I wonder if we aren't in danger in Australia of falling into a "policy lag" trap. This is a function of the gap that opens up between reflexive perceptions about the lack of value delivered by some large investments in IT in the past and the increasingly opposite real-life experience of more and more people as they enjoy the indisputable benefits of effective, reliable and often transformative technology.

In conversations with senior bureaucrats or politicians with little or no direct involvement or interest in technology, you can sometimes be struck by their perception that IT is costly, confusing and too often ends up creating political and financial problems. Large projects make claims about cost reduction and other benefits that don't get delivered either at all or within the expected, and usually politically driven timeframes. Implementation becomes more complicated than was anticipated and proponents come back looking for more money to bail them out.

In that frame, IT investment looms as an unforgiving black hole, a place to be avoided but where, if you do have to go, you end up sacrificing good money on the altar of good intentions and from which you return invariably disappointed.

But these same sceptics will often be surprised by the evidence, whenever you get a chance to bring it to them, of successful IT projects delivering real value to, for example, doctors and patients in the health system or teachers and students in the school system. They can be surprised when you draw the policy implications of the kind of densely networked, multi-channel lives their teenagers live, happily devouring the benefits of broadband-enabled communication without a second thought. The policy ambivalence that often cripples the rational discussion about necessary investment in technology stands in stark contrast to the experience of those who, at the very same time, are busy enjoying the benefits of powerful technologies delivering better service, greater productivity and more convenience.

In Australia at least, we confront an increasingly urgent challenge to close these perception-reality gaps and to take mainstream policy makers beyond their own ignorance (which is unforgivable) and scepticism (which is understandable) to look more closely at the shifting evidence that is often accumulating right under their noses. We still suffer to some extent from a policy debate on broadband and related technology issues in which many of the key

influencers and decision-makers are motivated by experiences and perceptions at least 5 years old.

It remains a critical policy challenge to not only update our collective knowledge and experience about technology but to combine that with a deliberate strategy to mainstream the broadband and wider technology debate.

6: To conclude: some modest predictions

To return to this paper's original question – to broadband or not to broadband?

Let me attempt a few answers and, in the process, offer up a few modest predictions:

- It is, of course, far too late to even be asking the question. Australia is going to broadband, is already broadbanding but will need to significantly up the ante in terms of pace, access and impact.
- The broadband capacity which many people endure in Australia is inadequate. If we are going to make the most of the new capabilities of collaboration and communication, especially using video, to fuel a whole new cycle of innovation and services (both private and public), then the benchmarks set by countries like Japan, Korea and Holland will have to rapidly move from aspirational to foundational. Our continuing dismissal of these examples as culturally, politically and economically inappropriate benchmarks for Australia could appear to be glib and increasingly misconceived.
- The big drivers for broadband demand will be, as in other countries, personal entertainment, the astonishing rise of social networking and the design and delivery of whole new services in critical areas like health and education.

Already, education systems in Australia are straining the current network capacity they can provide to learners and teachers to support massively collaborative approaches to creating content, evolving curriculum and discovering new learning models. In the health care system, we want to use new video based tools to create rich, simple and immediate virtual connectivity between older people able to live longer at home and their families and carers. We know it makes sense and we know it works. We know it will save money and create happier, more confident independent living. But too often the solutions and the motivation to put them into practice are becalmed by the lack of bandwidth.

- Compared to our near neighbours especially, Australia is already beginning to look fairly ordinary when it comes to broadband policy and performance. As countries like Singapore, Japan and Korea, as well as places like China and India grapple the broadband infrastructure challenge right into the heart of their ambitions for national social and economic transformation, we are, at least by comparison, at risk of falling further and further behind.
- And finally, let me predict the bleeding obvious – broadband will simply grow more and more important to Australia's future. And that is because it IS as transformative for individuals, business and communities as the hype suggests. You'd expect someone who works for Cisco to say that, of course and I make the claim with some trepidation given the distractions of the last hype cycle we all lived through about the Internet itself. Mind you, we shouldn't forget that although some aspects of the irrational exuberance with which the first round of Internet hype became infected were unhelpful, many of the core claims on which it grew have turned out to be true, not

perhaps in their original pumped up form but in much deeper and more important ways.

But the reason I think the broadband claims are true is not because I necessarily endorse (or even share) the wilder claims of the technology obsessed but because I see, and increasingly witness in my own life, the human opportunities which are at stake.

The reality is that while the benefits of new technologies are often exaggerated at first, they often turn out to exceed initial expectations in the moderate-to-long term. This is exactly what has happened with the digital revolution.

When I stack up what we've already seen in areas like health and education, and in the wonderful potential of the rise and rise of social networking, and when you consider that what we've seen so far is the merest scratching of the surface, I know that this prediction is neither fanciful nor risky.

The question remains, though, whether we will continue to make heavy weather of it all. I hope not. There's too much at stake.

Consider where we find ourselves, in policy terms. We're looking for ways to spend less and do more, to lift the quality, reach and impact of public services with fewer people to run them and more people demanding them. We want to slow the unsustainable increase in strained public budgets, lower the tax burden on a shrinking working population and still provide a steadily improving level of amenity in communities that are socially inclusive, economically resilient and environmentally sustainable.

How do we expect to pull off that three-card trick without completely rethinking the way people interact with each other, with the information and knowledge they create and use and with the social, economic and environmental conditions they create and on which they rely? None of this is possible without the kind of rich, complex and secure connectedness that real broadband offers.

This is one of those classic insights where you realise that technology is fuelling a set of policy and human challenges to which it is also a central part of the solution. Broadband, and the human network it enables, ought to be right at the heart of our policy process. Because pretty much none of the big, hairy, audacious policy ambitions to which we are now hostage is achievable without it.

If this is right, then the policy debate should be driven by an approach in which three common features stand out:

- One is the way in which **broadband drives choice**. As broadband capacity grows to allow virtually any type of service to be relatively easily and cheaply bundled with other services and delivered to different segments of the market, the ability for people to choose the mix of services that best reflects their changing needs and circumstances is empowering.
- A second feature is the **changing nature of the communication experience** once people have access to the kind of broadband capacity that delivers a much richer and more immersive experience.

Sending people emails is one thing. The experience gets better when you can access traditional phone and video conferencing. But when the technology allows a level of real-time video-based communication, where the quality of the sound and pictures is

much richer and more sophisticated than before, the experience moves to a new level. This argument isn't that technology replaces real human connection. The argument is that there are now other modes of communication which enhance and extend those human networks by adding flexibility, efficiency and convenience into the mix.

- And the third feature of the stories is the absence of any specific focus on the Internet, computers or the technical questions of broadband speeds and capacity. The focus for many people is on **new ways to communicate and create communities of interest and engagement**. It is not a question of how fast you can do email or how quickly you can surf the net. And the real answer to the question "how fast is fast enough?" can only ever be definitely determined by reference to what it is that people and organisations and communities actually want to do. In other words, the answer is not a technical one, but one driven by human aspiration.

Broadband has become the inescapable infrastructure platform for success in the digital, networked society. The growing evidence from around the world is that the real significance of next generation broadband capabilities is the impact on three interrelated outcomes:

- The first is **economic resilience** and the capacity for cities, regions and countries to compete successfully in the global knowledge economy; real broadband is rapidly becoming a core utility for the networked age, providing a platform without which large companies and small and medium enterprises will not be able to create and access the investment, skills and services they need to deliver sustained economic growth and development.
- The second is **strengthening social networks and inclusion**, creating new opportunities for people to become engaged and connected not only with each other in the communities in which they live and work but also with key resources and expertise in the wider world. In that sense, broadband becomes an enabling technology for a human network that invests in both 'bonding' and 'bridging' social capital, dramatically lifting the quality and reach of connection and collaboration on which strong and resilient communities rely.
- And the third outcome is a sense of **personal "agency" or empowerment**, the ability for people to be confident about their ability to manage their own lives and do things for themselves, everything from shopping on line, dealing with government, staying in touch with family and carers so they can stay active and independent into their older years or perhaps managing the effects of a chronic illness.

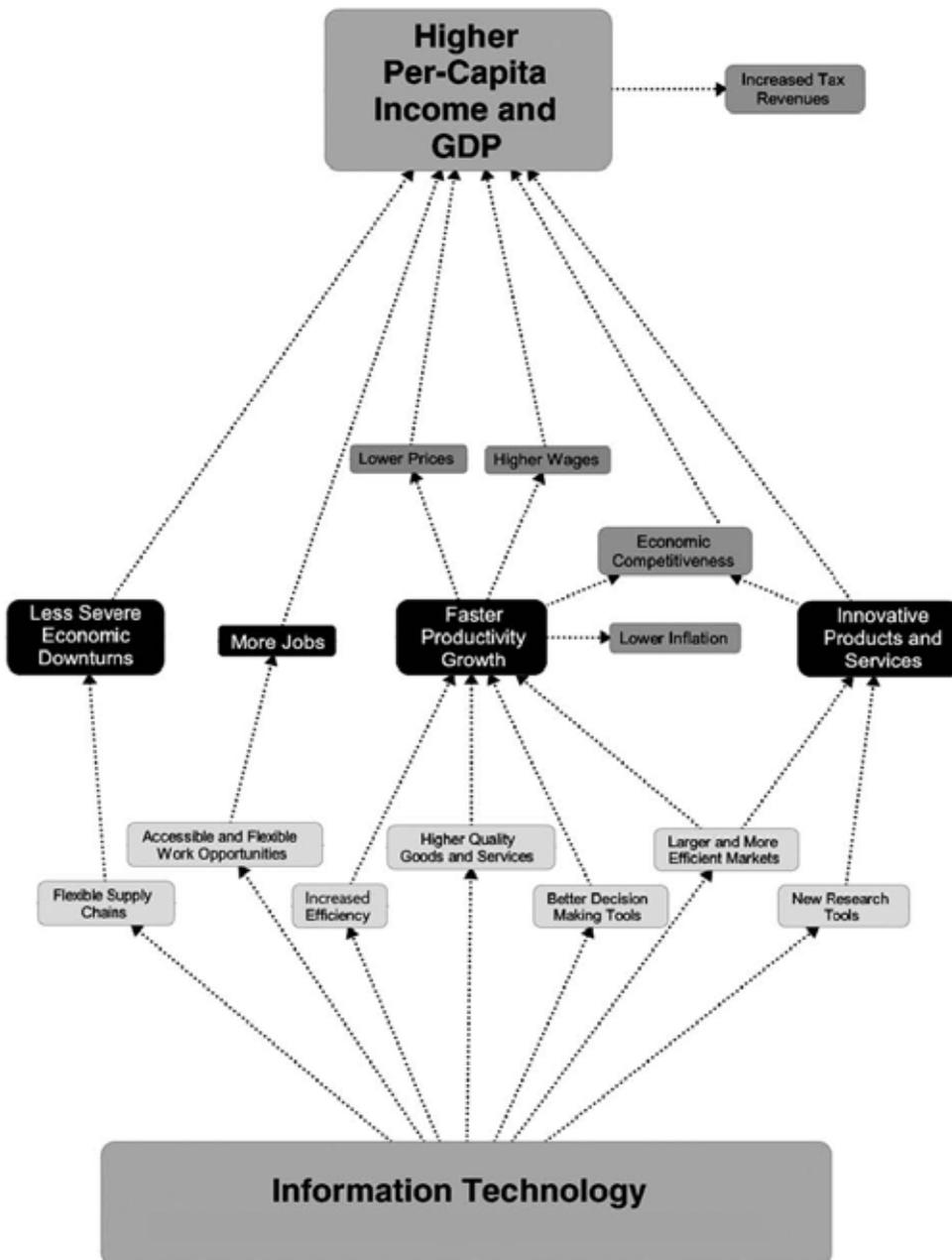
To twist William Gibson's famous aphorism a little, when it comes to broadband, the future has already arrived. It's just that it's not very evenly distributed. Fixing that will be the policy work of the next few years in Australia.

ATTACHMENT 1

Logic model linking investment in ICT to economic outcomes

Taken from *Understanding the economic benefits of the information technology revolution*, Robert D Atkinson and Andrew S McKay, The Information Technology and Innovation Foundation, March 2007

THE PATH FROM INFORMATION TECHNOLOGY TO PROSPERITY



BROADBAND: TOWARDS UNDERSTANDING USERS

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Abstract

This paper suggests that the forgotten domain of the complex and vigorous debates about the future of higher speed broadband in Australia is the experience and expectations of users and consumers with broadband. Research to date about such user experiences, especially in Australia, has essentially concentrated on Internet services and mainly with narrowband users. Yet Internet is not broadband.

We, in Australia, have much to learn from recent European experiences with broadband. The paper examines four factors that are driving user take up of broadband: new convergent consumer models of service provision; user-led innovations facilitated through vehicles such as You Tube and My Space that need faster upload and download speeds; successful models of collective ownership building community services; and burgeoning specialised attractive new institutional services, such as the revolution in broadband services now offered by the British Library.

Factors such as these are part of new forces at work in driving the recent impressive uptake of broadband services in Europe. A 'tipping point' appears to have been reached. A call is made here for new kinds of research investigations, in both international and Australian contexts, to investigate new service options for broadband consumers and related consumer responses.

Introduction

Much of the focus of attention on broadband debates in Australia is about alleged regulatory bottlenecks preventing further major investment, or about appropriate responsibilities for infrastructure investments and choices by government and the private sector, or about the business dynamics of possible network operators, especially Telstra. Generally speaking very little research work has been drawn upon, both from international or our national experience in order to inform and frame these complex public policy debates and decision making. This paper argues that the most glaring absence of attention, by both policy makers and researchers, is about new issues concerning the users and consumers of broadband.

Broadband is not Internet

To date the key research about users and broadband, as distinguished from Internet user studies alone, may be broadly categorised in these ways:

1. Studies which mainly relate to supply factors dealing with different modes of delivery, such as the number of non-dial up household and business subscribers, and their geographical location. The Australian Bureau of Statistics releases regular statistical updates on supply factors related to Australian participants.¹
2. Studies of patterns of usage, including the investigation of issues such as whether broadband users spend more time online, and do more things more often, than narrowband users. {eg., major studies in the U.S.A are by Horrigan and Rainie of Pew (2002) and in the UK the work at University of Essex in the Chimera project, 2005-06.}²
3. Investigations into the factors which affect Internet and broadband take-up by consumers. These include several international studies of the relative significance of factors such as age, income, education level, value in inter-personal communication, and price as key predictors in the U.S.A {e.g., Kridel et al in the USA, Lee in Sth Korea and Adams in Australia}.³

It is argued that new kinds of investigations are now required into the benefits to consumers that come with higher speed broadband. Put simply a hypothesis about take-up suggests substantial numbers of consumers on narrowband systems *do not* consider that the cost of paying more for higher speed broadband is clearly outweighed by substantial service benefits that come with speed. Quicker processing of e-mails yes, but what else, they ask, do we get for an extra \$30-50 a month? And, of course, is this extra expenditure affordable? This paper suggests that based on European experience there are indications now that a substantial increase of consumer take-up appears to be underway within higher speed broadband systems related to changing consumer perceptions of clear benefits. The reasons are complex, and not readily transferable to the Australian scene. Note that this paper does not attempt to provide a critical analysis of the full range of factors driving user take-up of broadband but concentrates on select new drivers, mainly for Europe.

Best practice models for broadband users can be found in Western Europe today. A bird's eye view of new West European broadband systems shows just how far Australia is behind, and just how much we are missing out on. In Europe so much energy, new investment and creative service innovation are driving the introduction of new broadband systems.

This paper focuses on four factors which are driving user take-up of broadband services:

1. New consumer models of broadband service provision based on convergent services, characterised by the industry as 'triple play' services.

¹ See Australian Bureau of Statistics, 8135 Internet Activity, Australia, March 2007

² Horrigan, J.B and Rainie (2002), 'The broadband Difference: How Online America's Behaviour Changes with High Speed Internet Connections at Home', WashingtonDC, Pew Internet and American Life Project. For the UK, 'The Social Impact of Broadband Household Internet Access' Chimera Working Paper Number:2005-06, University of Essex at www.essex.ac.uk/chimera

³ For USA Kridal, D., P. Rappoport, et al.(2002) 'The Demand For High Speed Access to the Internet', Topics in regulatory economics and policy 39:11-22. For Sth Korea, Lee, H., R.M, O'Keefe, et al 'The Growth of Broadband and electronic commerce in Sth Korea; Contributing Factors' The Information Society 19 (1): 81-93. For Australia Adams, P., 'In search of broadband's tipping point – a conceptual model, CR&SK, Sydney, 2005.

2. User-led innovations facilitated, through vehicles such as You Tube and My Space, that need better upload and download speeds.
3. Successful models of collective broadband system ownership building community services.
4. Burgeoning specialised attractive new institutional services, such as the revolution in broadband services now offered by the British Library.

Taking these in turn now:

1. New consumer models of service provision, notably the notion of ‘triple play’ services.

The ‘triple play’ concept involves the re-packaging of many existing services, and the marketing of group packages around offering higher Internet speeds.

Infrastructure decisions about providing communication services have become more experimental in a Europe which now sees old utilities using networks in new ways. In 2002 a Norwegian power company, Lyse Energi, used the power distribution networks of this parent company to create a broadband subsidiary company called Lyse Tele, which laid fibre through its electricity, gas and direct heating ducts to provide connections for communications services to subscribers’ homes. And typical of this frontier country those Norwegian customers who were prepared to do the digging and trenching themselves for the last 25 metres of their front yard were rewarded with good installation discounts! Lyse Tele boasts that it was the first broadband service provider in Europe to build a broadband system that combines good speed Internet from 2Mbps to 10Mbps with digital television and telephone services over a single fibre optic cable to homes. And all of this is offered at a price to its Norwegian customers, for this convergence of services, at 20% below what they were previously paying for comparable services separately.

Dagfinn Wage of Lyse explains (personal interview, November 2006, Stavanger) that ‘Internet access and broadband access are two different things. Internet access carries (open) unmanaged IP services, while broadband access carries managed IP services (chosen by the particular broadband company)’. So once Lyse’s 63,000 contracted consumers in southern Norway bought into good speed IP access on their Lyse broadband system, initially because of the ‘pull’ of what the Internet offered them, Wage said that these customers then found that they ‘use their broadband system for whatever else in communications they liked’. Over 80% of all of the Lyse broadband subscribers, who mainly wanted better speed Internet access, also used both the cheaper IP based voice services on the new system and transferred to the television services offered on the broadband. Consequently the established industry players in Norway, notably the incumbent telecommunications voice carrier Telenor, and several of the established cable television operators, have seen their customer base being progressively eroded by this broadband newcomer.

France is a broadband success story of a different kind. Sam Paltridge, (personal interview, November 2006, Paris) an expatriate Australian who has worked for the OECD in Paris for the past decade providing the much quoted index of comparative broadband success for 30 OECD countries, asked ‘guess what you get for \$A50 a month from a broadband operator in Paris?’ The answer – Internet download speeds of up to 24 megabits a second and unlimited bandwidth, at least 100 television channels in the basic package (and the offer of another 100 channels for those who want to pay extra for more programs), unlimited IP based phone calls

within France, and phone calls to other countries that save heaps – all offered with no maximum contract period for customers.

How has this been possible? Until recently France was often seen as an anachronism of the Western European telecommunications industry allegedly dominated by a state owned telecommunications carrier, France Telecom, which was often accused of hampering the growth of France's broadband markets. However some of the key network competition regulatory bottlenecks between incumbent carrier France Telecom, and the state regulatory body, L'Autotite De Regulation des Communications Electroniques et des Postes, have recently been resolved, enabling new players to emerge. The outcome is that not only does France Telecom itself now have one of the highest number of broadband subscribers among operators in Europe, but vibrant new broadband providers have emerged as a result of gaining access to France Telecom's old copper wires through ADSL technology.

The French broadband newcomers have shown they are prepared to make substantial capital investments in infrastructure and take bold risks. France's big new broadband player called Free, an Iliard Group subsidiary, claims that it was the first European company to offer comprehensive 'triple play' telecommunications services through its Freebox modem. Its 'triple play' services are Internet access, IPTV, and voice services, as VoIP. In September 2006 Free launched its new fibre to the home service offer with high speeds up to 50 Mbits/s – and for only €29.99 a month. Its parent Iliard group, with good profits now coming from broadband, has a €1 billion fibre optic network investment underway that will eventually reach four million households in Paris. Today more than 75% of all French Internet users are 'triple play' subscribers. The French telecommunications transformation of just over the past few years has been remarkable, and Parisians now have access to broadband services that are much faster and cheaper than almost anywhere in the United States of America.

The dynamism of the European broadband market has emerged from new players (such as Free), or new infrastructure providers who are diversifying (such as Lyse, with a parent power company), or deliberately created broadband network and service providers who are structurally separated (such as in the Netherlands – see later).

2. User-led innovations facilitated, through vehicles such as You Tube and My Space, that are creating demand for better upload and download speeds.

Some historical perspective about access is needed. For over forty years , from the 1930s to the 1970s, only two groups in Australian society were granted spectrum access to radio licences – commercial companies and the then Australian Broadcasting Commission. It is often forgotten that it was the Fraser government (1975-83) that opened up a new tier of broadcasting in the mid 1970s – community radio – which brought a raft of new kinds of participants and greater ideological diversity to the radio medium. When radio station 3CR opened in Melbourne in 1975, the author of this paper was employed by Swinburne College of Advanced Education in Hawthorn which boasted a famous Swinburne Film and Television School. The Film School nurtured many talented students some of whom eventually became world class film makers, notably Gillian Armstrong and Richard Lowenstein. In those days all of the Swinburne community was invited annually to watch the films made by students at a cinema house screening, generally the only release for the students' films for the year. Within walking distance of Swinburne was Channel Nine, but as far as is known no Swinburne Film

School student ever approached the Nine Network with a request to screen their film, nor was any student film ever shown on commercial television.

Today, however, on the web site You Tube about 65,000 videos created by ordinary mortals are uploaded daily⁴. Little wonder that Google acquired You Tube for \$1.65 billion in October, 2006. The blog search engine company, Technorati, is currently tracking 70 million blogs in the United States market alone and estimates that over 120,000 new blogs are created daily. The News Corporation owned My Space website, offering interactive user created personal profiles, photos, videos and music, attracted registrations at a rate of 230,00 per day reaching 100 million accounts on August 9, 2006.⁵ And a relative newcomer, Facebook, doubled its market share of visits in eight months between September 2006 and April 2007.⁶

Clearly, the global platform of the Internet has facilitated an extraordinary increase in user access and content diversity as a result of this plethora on new user-centred web sites. However growth of the contemporary social networking phenomena – user led innovation – can hardly be explained just in terms of wider technological access to new web sites. Collectively My Space and You Tube, and their multiple new counterparts, provide not merely new platforms for showing videos and photos, but rather they facilitate a deeper set of processes of social networking. Darren Sharp explains:

‘The Web has become the habitat for a new media ecology that is remarkably complex, adaptive, and self-organising. At the heart of these fundamental changes are the shifting value networks of media production, distribution and consumption... It has never been easier for people to tell their own stories, express their creativity and form communities of passion. A range of Do-It-Yourself (DIY) Internet-based services now give any user with access the ability to become a producer in a variety of social fields. This has spawned an entirely new understanding of authorship and content production in video (You Tube), games (Second Life), journalism (blogs), radio (podcasting), Web services (mashups), and knowledge production (Wikipedia).’⁷

What does this have to do with broadband? Essentially this extraordinary new social networking movement is another force driving demand for higher speed broadband. A personal perspective for instance. Many people missed the original but later much publicised 2006 interview of President Bill Clinton on Sky News in the U.S.A and former Prime Minister, Paul Keating, being interviewed by Tony Jones on *Lateline* in June 2007. Both interviews were subsequently re-screened on You Tube. But try watching them on You Tube with a 1.2 Mbps broadband connection (at \$29.95 a month, courtesy Telstra)! The waiting during ‘buffering’ is not only aesthetically annoying but the time taken to eventually see the whole interview is multiplied six fold compared to the original broadcast time. So what is being suggested here is that research investigations into the multiple forms of social networking and their greater appeal on broadband, both in terms of higher speed and finer quality of resolution of the images, are desirable in the interests of understanding new consumer complexities of broadband demand both internationally and in Australia.

⁴ <http://www.msnbc.msn.com/id/13890520/>

⁵ See www.hitwise/socialnets.php

⁶ See www.hitwise/socialnets.php

⁷ Sharp, D., Digital Lifestyles Monitor, Smart Internet Technology CRC, September 2006, p 9-10

3. Successful models of collective broadband ownership building community services.

An outstanding example of how the forces of social networking can find institutional homes with broadband is well seen with the most imaginative pioneers of broadband service innovation in the Netherlands. OECD data for mid 2006 shows that the Netherlands leads broadband usage in Europe, with a near 60% national take-up per household. In 2002 the Dutch Government, in association with several private corporations, constructed an experimental communications model called Kenniswijk, which translates as somewhere between ‘knowledge domain’ and ‘smart city’ and which was seen as a vehicle for further energising Dutch society and commerce.

Tenders were called from municipalities wishing to participate in a broadband systems trial, and the first successful submission was by the market town of Nuenen, in the southern Netherlands. Approximately 8,000 Nuenen dwellings, housing around 15,000 people, were connected to a fibre-to-the-home network free of charge, which represented a 96% take-up. The Netherlands government subsidised this experiment for a total cost of €6.4 million (each connection cost €800). Use of the network infrastructure was available to a number of service providers: the Kenniswijk directors considered that it was essential to ensure a separation between the party that operated the network from the parties offering services on the network. Unusually for a telecommunications system, the residents of Nuenen themselves, rather than an internet service provider or a carrier company, own the network: their ownership is formalised within a co-operative society called Ons Net (Our Network). The fibre link operated at a standard 10 Mbps in an open network.

Residents were given the opportunity to donate their €800 government subsidy to Ons Net *in return for co-operative membership*. These consumers also were given a flag to put in their front garden to signify that they were participants in this experiment. So parents who originally opted out of joining the experiment were asked by their children how come their neighbours were enjoying rich new services as well as flaunting a lovely flag in their front gardens! The consumer ownership of the system also brought with it remarkable consultation with users about the kinds of services they might expect or want: from over 1,000 invited submissions for project ideas, 300 became detailed proposals, and over 100 submissions for services were eventually approved and subsidised. This is not a common practice in the telecommunications industry!

When the period of free access had ended in this test bed, at the end of 2005, the services became user pays at €60 to €75 per month, depending on bundling discounts. So how did the users respond when they could no longer have access to this system for free? Remarkably at the beginning of 2006, and largely still maintained now, 80% of Nuenen residents chose to continue their broadband subscriptions on a paying basis.

One of the founders of this clever experiment is wily Kees Rovers, who lives in the Nuenen – famous too because it was Vincent Van Gogh’s home for many years – where Rovers named his business ‘Close the Gap’ on the grounds that to be successful broadband operators ‘must close the last gap between providers and buyers’. Rovers offered (personal interview, November, 2006, Nuenen) his own ‘seven pillars of wisdom’ for anyone who wanted to ensure that broadband worked, for both business investors and communities:

- Build a business model that can be funded.
- Ensure an ‘US’ feeling with strong emphasis on local ownership.

- Have the ability to offer three basic services – telephony, TV, and super fast Internet.
- Add value through locally generated services and content (local TV, video contacts with doctors, recreation and clubs, churches and schools).
- Develop an extensive ‘communications protocol’ to drive community engagement with individuals, groups and clubs.
- Focus on customer care with a local emphasis.
- Deliver a high quality network after a rapid build with little disruption to the town.

4. Specialised and substantially upgraded web base services now offered by established institutions such as the British Library.

This fourth factor is represented by a case study to show how some institutions have revolutionised their Internet based services in ways that must enhance their appeal to broadband communities. The British Library is a case in point where a highly reputable public institution, with huge repositories of information, has made its data banks available to a wide public. And the greatest beneficiaries among those users who access these data banks of newly created services are the broadband users. Shared credit must especially go to the talented and creative staff of the British Library, but also to national and local governments who saw themselves as catalysts to broadband benefits in the U.K.

Just as the government of the Netherlands had been a key factor driving broadband innovation so too was the Blair government of the U.K. In 1997 (the year of Blair’s first election victory) the Internet was still in its dial-up days. The Internet was new and exciting, and it held the promise of great possibilities, but the extent to which the post dial up phase would transform broadband had not been properly imagined, let alone explored.

The Blair Government’s determination to generate a radical improvement in Britain’s broadband status saw the emergence of a number of potent strategies. Among these were the establishment of a consultative group, the Broadband Stakeholder Group (BSG), the decision to stimulate development (through Regional Development Agencies or RDAs) at a local level rather than from the top down, and the creation of a fund of around £30 million to encourage innovation and growth.

Since the publication of its initial strategy document in 2001, the government continued to publish further reports at regular intervals, some generated within itself and others commissioned from independent bodies, in order to continue updating and refining its broadband vision for the country. These tactics would appear to have been successful: broadband in the UK is not simply doing well, it is a spectacular success.

Against this background of constructive telecommunications public policy activity, the British Library examined its practices, investigated the opportunities open to it, and developed its own strategies. The British Library’s web page back in 1997 gave only the most basic details – where the library was, what it did, what its departments were. It’s come a remarkably long way since then which its new home page (<http://www.bl.uk/>) captures to some extent. Viv Kelly’s investigations of the British Library web services, and her interviews with staff in London in May 2007, show the extent of change.⁸

⁸ Dr Viv Kelly conducted interviews on behalf of the ARC Centre of Excellence for Creative Industries and Innovation (CCI) and acknowledgement is also due to Colin Wight, Web Master of the British Library, for his generous assistance in the writing of this article.

The likeliest function for any library web page to offer is probably a catalogue search, and the British Library's home page duly offers it, up front. It looks a simple exercise, and indeed it is a simple exercise for the user: type in a keyword, and your answer appears. To discover that answer, the search engine has browsed over 13 million items contained in a number of catalogues: apart from the principal integrated catalogue, there are catalogues for newspapers, manuscripts, maps, and journals. Specialist catalogues are numerous and include photographs, Chinese and Japanese publications, materials from the India Office, microform and microfiche, Asian language newspapers, illuminated manuscripts, and business information. It is interesting to note that when, in around 2004, the web team at the British Library looked to update and improve their online catalogue, they introduced this one-point search after having discovered the federated search of all collections which is a feature of the website of the National Library of Australia.

On visiting the Library's home page, your eye might be drawn by a little feature called 'Turning the Pages'.⁹ Here you can examine a number of especially valuable or spectacular or unusual texts (for instance, the Lindisfarne Gospels, the Luttrell Psalter, Blake's notebooks, Jane Austen's 'History of England', Vesalius's Anatomy) have been scanned and uploaded so that a website visitor can leaf through them, 'turning the page' with a mouse in a way which simulates turning an ordinary page physically.¹⁰ One of these texts is Mozart's musical notebook, a catalogue of work kept by the composer during the last nine years of his life. Through this page you can leaf through the catalogue itself; you can zoom it; you can see translations of it; you can read or hear about it and about the different entries in it; and you can hear excerpts from the musical pieces.¹¹

The introduction of the MS Vista operating system has facilitated the re-creation of books to be exhibited in this program, and the Library plans for the appearance of many more. It has been a spectacularly successful enterprise for them in terms of the numbers of users it has attracted, and is part of a larger digitisation push which also includes newspapers and magazines, although they will not try to implement the labour-intensive and expensive turning-pages software for ordinary items. Part of the thrill of turning the page is generated by the specialness of the text.

'Turning the Pages' allows anyone – let's say a teacher – to make notes on particular pages and also to bookmark those pages: the bookmarked notes can then be accessed and the notes read by the teacher's students, or more generally online – for instance by other scholars viewing the same pages. The capacity to create and share online in this way is one of the great advantages offered by broadband.

The Library has found that teenagers, because of their expertise with electronic games, have a far greater sense than other sectors of the general public of what broadband enables in terms of the display and manipulation of images. They tend to have higher expectations of what the software can deliver, and to be readier to exploit it. The Library hopes that this technologically more sophisticated audience will choose to convert their knowledge and sophistication into using and benefiting from these web pages: in effect, free education is online to anyone who is interested enough to take advantage of it, provided s/he has the wherewithal to access the Internet at broadband speeds. The Library staff – exhibition

⁹ <http://www.bl.uk/onlinegallery/ttp/tpbooks.html>

¹⁰ <http://www.bl.uk/onlinegallery/ttp/tpbooks.html>

¹¹ http://ttp.bl.uk/collections/treasures/mozart/mozart_broadband.htm?top

curators, specialists, experts in various fields – are actively engaged in making their knowledge and expertise available in online exhibitions, so when you visit these pages you are not only accessing attractive or fascinating images but learning from some of the leading scholars in the world at the same time.

In 2001 the UK had 0.6 broadband subscribers per 100 inhabitants. In the following years this rose as follows:

2002	2.3
2003	5.4
2004	10.5
2005	16.4
2006	21.6¹²

By the end of 2005 the UK claimed one of the highest broadband growths (5.9 new subscribers per 100 inhabitants) in Europe. In early 2007 the website of the former Department of Trade and Industry (now the Department of Business, Enterprise and Regulatory Reform) claimed to have 60,000 new connections every week: the Budde Report on the UK says the figure is around 70,000.¹³ More than 30% of British homes are connected to broadband.¹⁴

Collectively the user innovations outlined in this paper, together with other factors of influence beyond the scope of this brief, appear to have contributed to a recent surge in European broadband take-up. The table below indicates substantial increase in broadband take-up during the past five years and factors such as those outlined in this paper are likely to have made substantial contribution to such growth.

Broadband subscribers per 100 inhabitants, 2001-2006 ¹⁵

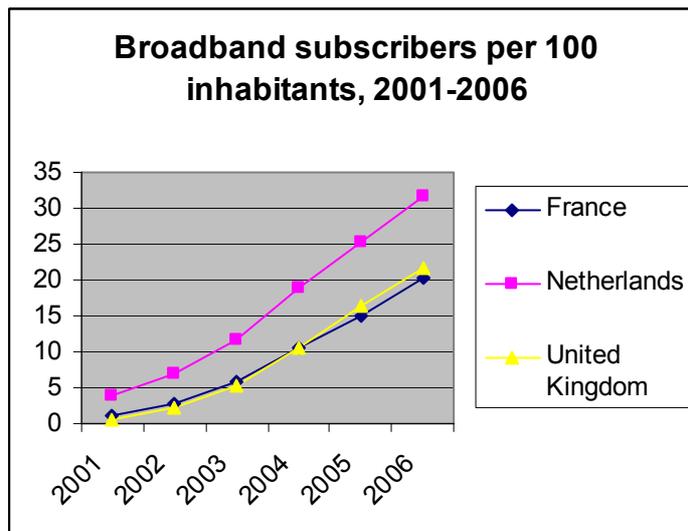
	2001	2002	2003	2004	2005	2006
France	1.0	2.8	5.9	10.5	15.1	20.3
Netherlands	3.8	7.0	11.8	19.0	25.2	31.8
United Kingdom	0.6	2.3	5.4	10.5	16.4	21.6

¹² Ibid

¹³ *United Kingdom – Broadband – Fixed Network Overview, Statistics & Forecasts*, Paul Budde 2006.

¹⁴ Ibid.

¹⁵ Figures from <http://www.oecd.org/sti/ict/broadband>



The graph from this table demonstrates comparative progress:

Significant research findings about the impact of switching to broadband for six countries – UK, Italy, Germany, Norway, Bulgaria, and Israel – concluded that the much touted notion of broadband as being revolutionary, as proposed in the e Europe 2005 Action Plan, was not yet a sustainable proposition.¹⁶ This work, however, was undertaken at the beginning of the decade, and with users of ‘slow’ broadband.

One wonders whether this remains valid now and whether by 2010 a ‘tipping point’ will clearly be reached in Europe due to the attractiveness of broadband services and the value users put on them to manage and enjoy their lives. A call is made here for different forms of research investigations that try to come to terms with some of the possible relevance for Australia of the questions posed above.

Some of the user-centred research questions that need further investigation might be:

1. Does a ‘triple play’ model demonstrate that convergent services are now viable for commercial operators because they are perceived as popular and affordable for most consumers?
2. Might ‘triple play’ service models emerge in Australia, and if so, how?
3. Have Internet-based services offered at below cost to consumers become the loss leader for commercial operators to build strong broadband businesses?
4. What new services might drive the uptake of broadband in Australia, and how might their benefits to consumers be portrayed?
5. Is there a ‘tipping point’ where the attraction of new services offered by high speed broadband services would facilitate substantial take up in Australia?

In a wider context Australia has a long way to go to resolve fundamental public policy questions about broadband systems, players, and the rules of the game. Unlike much of Europe, we have little comparable sense of experimentation with telecommunications

¹⁶ Social Impact of broadband household Access, Chimera working paper, 2005-06, University of Essex.

co-operative ownership, serious network experimentation with fibre, or an approach which involves consumers in the detailed co-construction of services.

Perhaps our most constructive course of action at present is to concentrate on new research investigations about broadband users and feed the findings into the public policy debates and processes.

DEVELOPMENT OF A SURVEY INSTRUMENT TO INVESTIGATE HOUSEHOLD BROADBAND ADOPTION

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Abstract

This paper discusses the initial development of a survey instrument designed to investigate the range of factors affecting broadband adoption in Australia. The development of these constructs builds on existing technology adoption models, innovation diffusion theory and psychology studies related to consumer choice and qualitative research by the author. The survey instrument is designed to capture household consumers' perceptions between the *persuasion* phase and the *decision* phase of the innovation-decision process (Rogers 2003).

Technology adoption studies in the information systems discipline have historically been dominated by models developed to study workplace adoption (e.g. TAM & UTAUT), which do not consider the role of the purchase process in the adoption decision. Recently Venkatesh and Brown have proposed the Model of Adoption of Technology in Households (2005) which looked at PC adoption in US households. Dwivedi, Choudrie and Brinkman (2006) have specifically looked at the development of a survey instrument to study broadband adoption and perceptions of service quality in the UK.

While Adams (2006a) found support for many of the constructs in the TAM, UTAUT and MATH models, key themes emerged which were not described by the existing models. Support was found for the concept of purchase complexity playing an influential role in consumers being confident in making a purchase decision.

This paper describes the development of survey constructs designed to capture consumers' motivations for installing a broadband Internet connection in their homes. Broadband adoption has become a hot political topic in Australia in the last 12 months with the Federal Government, Telstra, the ACCC and the Federal Opposition all taking strong public positions on the issue. The development of a reliable instrument to capture household consumers' motivations for installing a broadband Internet connection is an important building block for gathering baseline data to inform public debate on broadband policy.

Key words: adoption, broadband, diffusion, communications technology, consumer behaviour, model, UTAUT, MATH, TAM, CAIT.

Introduction

Broadband Internet use in Australian households is now a mainstream activity. According to the 2006 Census 39% of Australia's 7.1 million households has a broadband Internet connection¹ (ABS 2007a, ABS 2007b). The mainstream segment of the market for any technological products has different purchase motivations and information needs than the innovators and early adopters in Rogers' diffusion model (Rogers 2003; Moore 2002).

This paper provides an overview of the first stage of development of a survey instrument which will ultimately be used to gather data from a representative sample of the Australian population about their motivations for adopting broadband Internet at home.

Literature overview

Research on technology adoption in the Information Systems (IS) literature has until recently focussed on developing models to investigate adoption in the organisational context. For example the UTAUT (Unified Theory of Acceptance and Use of Technology) (Venkatesh et al. 2003) and TAM (Technology Acceptance Model) (Venkatesh & Davis 2000; Davis 1989). More recently attention has been given to the adoption of technology in the household by building on the well established research models used in organisational studies. Brown & Venkatesh (2005) investigated personal computer (PC) adoption in United States (US) households and developed the Model of Adoption of Technology in Households (MATH).

Dwivedi, Choudrie and Brinkman (2006) developed a survey instrument to investigate the adoption of broadband in British households. While their work has been considered in the development of the survey scales proposed here, their instrument was developed based on work by Venkatesh and Brown (2001), which has since been updated in a 2005 study (Brown & Venkatesh 2005). The time lags associated with academic publishing has meant for this paper the 2005 work by Brown & Venkatesh is more relevant than the Dwivedi et al. work published in 2006, which was based on the original MATH paper (Venkatesh & Brown 2001).

In Australia the issues around broadband adoption have been investigated by Cameron (2003; 2004; 2005) who found some of the key demographic factors related to adoption include location; education level; occupation level and home ownership. Her data was collected in 2003 at which time Australia had around 5% of households connected to broadband. This percentage of adopters is still in the early adopter stage of Rogers' (2003) diffusion curve (see Figure 2), so is not necessarily useful in the context of explaining the drivers for the mainstream adopters.

Rogers, originally from a rural sociology background, has worked on a wide range of diffusion research for over 45 years. His seminal book *Diffusion of Innovations* first published in 1962 is now in its fifth edition (Rogers 2003).

Rogers identifies five attributes used to describe innovations. He argues measuring perceptions of these five attributes can assist in forecasting an innovations' likely adoption. The five attributes Rogers identified are:

- *Relative advantage* defined as the degree to which an innovation is perceived as better than the idea it supersedes;

¹ The Census defined broadband as including ADSL, cable, wireless and satellite connections with no data speed given; while ISDN was defined as a dial-up connection.

- *Compatibility* is the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters;
- *Complexity* is the degree to which an innovation is perceived as relatively difficult to understand and to use;
- *Trialability* is the degree to which an innovation may be experimented with on a limited basis;
- *Observability* is the degree to which the results of an innovation are visible to others. (2003, p.265-266)

When we look at the profiles of mainstream consumers as defined by Rogers' bell curve (Figure 1), they are split into two even groups, the *early majority* and the *late majority*.

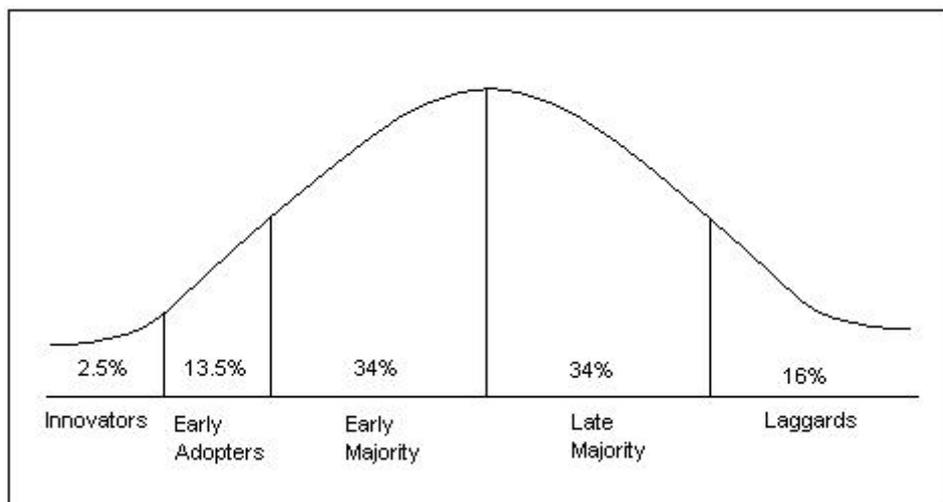


Figure 1 – The non-cumulative adoption of innovations by adopter category over time (Rogers 2003, p.281).

Moore (2002) sees the early majority as the pragmatists who like standards others are using, they are hard to win over, but loyal once a customer. He sees the late majority as conservatives who will not tolerate high price margins and argues they have been ignored by the technology companies historically, although through volume they offer opportunities. The key is the offering cannot be static as the market moves through the diffusion curve and an increasing level of simplicity and service needs to be built in as the market matures (Moore 2002, p.43-51).

Rogers views the *innovation decision process* as having five stages (2003, p. 170) involving: knowledge; persuasion; decision; implementation; & confirmation. The focus of this research is to investigate the key influences at the persuasion stage and how they translate into the decision phase of adoption or rejection for mainstream consumers. From Figure 3, it can be noted the five perceived characteristics of an innovation identified by Rogers (2003) are important at the persuasion stage of the innovation-decision process.

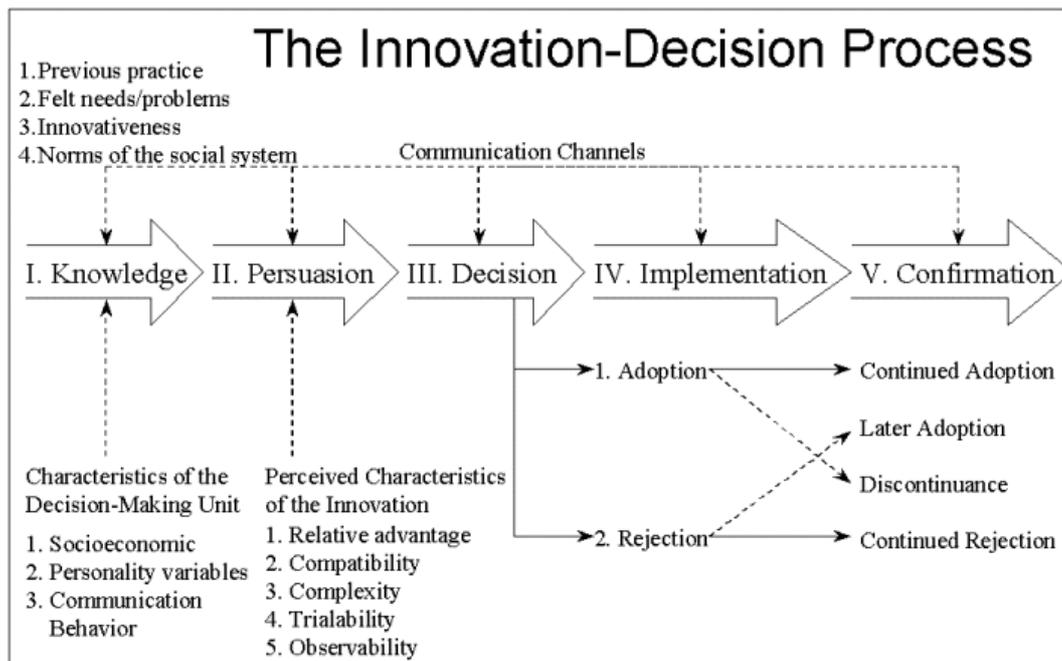


Figure 2 - The Innovation-Decision Process – from Rogers 2003, p.170

The survey scales proposed here build on a previously reported exploratory study by the author of household consumers, where four focus groups were convened to discuss the issues of technology in the home. (Adams 2006a; 2006b). This work found household consumers were frustrated with the complexity of making a purchase decision about installing a broadband Internet connection in their homes.

Looking outside the traditional IS literature relevant research in the area of consumer choice has been undertaken by Schwartz, Ward, Monterosso, Lyubomirsky, White & Lehman (2002), and also Strebel, O'Donnell & Meyers (2004).

Schwartz et al. (2002) suggest that some people can feel worse off as the number of options they face increase. This links to the work by Strebel et al. (2004) who found consumers experience frustration in purchasing high technology products in two dimensions:

Consumers display frustration with the pace of technological change and with processing decision-related information. The results indicate that the probability of committing to a technology is significantly lower the higher consumers' frustration is with their information environment.

(Strebel, O'Donnell & Myers 2004, p.1072)

This work brings a new dimension to the traditional IS view of technology adoption and has been incorporated into the conceptual model outlined below.

Conceptual model

The scales developed in this paper are designed to capture behavioural intention as proposed in the conceptual model below in Figure 3. The revised Consumer Adoption of Interactive Technology (CAIT) conceptual model is built on constructs developed through earlier literature reviews (Adams 2005; 2004) and qualitative research investigating broadband adoption (Adams 2006a; 2006b; 2006c)

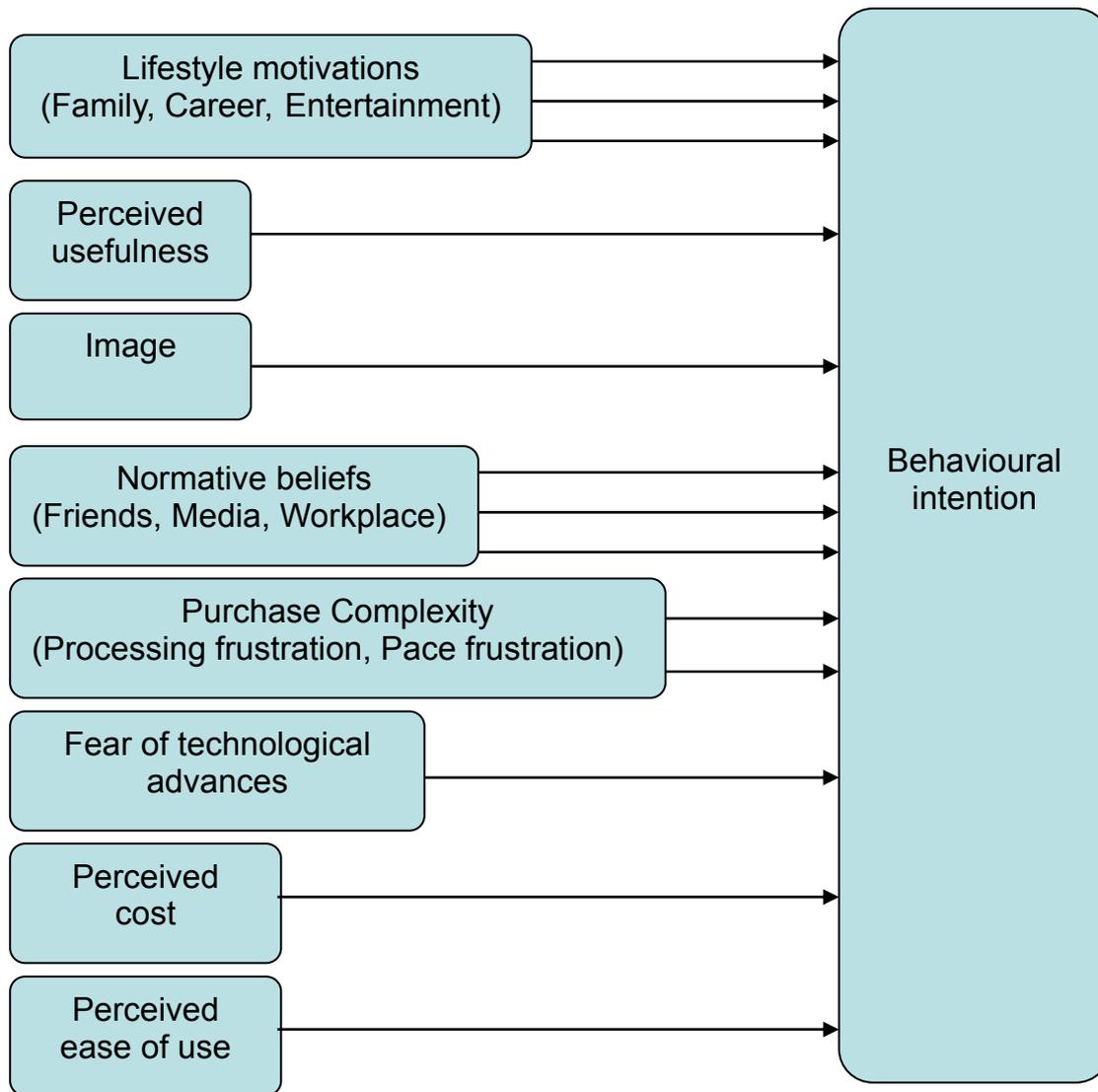


Figure 3 – Consumer Adoption of Interactive Technology (CAIT) conceptual model

The following section summarises the definitions and sources for each of the constructs in the CAIT conceptual model. Due to space considerations only the final source and construct items have been shown, with the other sources reviewed identified by name only. The third column shows the proposed wording of the constructs for use in specifically applying the CAIT model to study broadband adoption.

While the full development of the constructs is outlined in earlier work (Adams 2006a; 2005; 2004), the model is built on a thorough review of the existing IS models and the addition of some relevant work from the psychology area. DeVellis (2003) advises using existing scales where appropriate to improve the validity and reliability of the survey instrument; this of course is contingent on the constructs being drawn from a relevant theoretical basis.

Scale Development

Table 1 summarises the scales developed to operationalise the revised CAIT conceptual model outlined in Figure 2. Explanatory notes have been included to guide the reader for clarity where appropriate.

Table 1 - Survey Constructs – CAIT

CAIT construct definition	Original construct questions from source & other sources considered	Proposed CAIT survey questions (Seven-point Likert with SD(1)...SA(7))
<p>Lifestyle motivations</p> <ul style="list-style-type: none"> - "the degree to which an innovation is perceived as consistent with the existing values, past experiences, and current needs of potential adopters" (Rogers 2003, p.15). <p>Three dimensions based on the Forrester Technographics segments of career, family & entertainment. (Modahl, 2000).</p>	<p>Utility for children (Attitudinal Beliefs – Utilitarian Outcomes)</p> <ul style="list-style-type: none"> • The computer provides applications that my kid(s) can use. • The computer has useful software for my child (or children). • I find the computer to be a useful tool for my child (or children). <p>Utility for work-related use (Attitudinal Beliefs – Utilitarian Outcomes)</p> <ul style="list-style-type: none"> • The computer is useful for me to work-at-home. • The computer provides applications related to my job. • I am able to work at home more effectively because of software on my computer. <p>Applications for fun (Attitudinal Beliefs – Hedonic Outcomes)</p> <ul style="list-style-type: none"> • The computer provides many applications that are enjoyable. • I enjoy playing computer games. • My computer has applications that are fun. • I am able to use my computer to have fun. <p>(Brown & Venkatesh 2005, pp.424-425)</p> <p>Theory and other sources related to developing this construct Rogers 2003 – <i>Compatibility</i> Modahl 2000 – <i>Primary motivation</i> Brown & Venkatesh 2005 – <i>Utilitarian & Hedonic outcomes</i> McDonald, Corkindale & Sharp 2003</p>	<p>Lifestyle motivations</p> <p>Utility for family</p> <ul style="list-style-type: none"> • Broadband would provide access to applications and information that my family can use. • Having broadband would be useful for my family. • We would find broadband to be a useful tool for our family. <p>Utility for career</p> <ul style="list-style-type: none"> • Broadband would be useful for us to work-at-home. • Broadband would provide access to applications and information related to my job. • We would be able to work at home more effectively if we had broadband. <p>Applications for entertainment</p> <ul style="list-style-type: none"> • Broadband would provide access to many applications that are enjoyable. • We would use broadband to access entertainment sites and content. • Broadband provides access to applications that are fun. • Our household would use broadband to do activities which are fun.

<p>CAIT construct definition</p> <p>Perceived usefulness - the degree to which a person believes using the innovation is an improvement over the technology it supersedes (Davis 1989, Rogers 2003).</p>	<p>Original construct questions from source & other sources considered</p> <p>Applications for personal use (Attitudinal Beliefs – Utilitarian Outcomes)</p> <ul style="list-style-type: none"> • I find that the computer has tools for personal productivity. • I find that the computer has tools to support household activities. • The computer has software that helps with activities in the house. <p>(Brown & Venkatesh 2005, pp.424-425)</p> <p>Theory and other sources related to developing this construct Rogers 2003 – <i>Relative advantage</i> Venkatesh & Davis 2000 – <i>Perceived usefulness</i> Lin 2003 – <i>Use factors</i> Venkatesh et al. 2003 – <i>Performance expectancy</i></p>	<p>Proposed CAIT survey questions (Seven-point Likert with SD(1)...SA(7))</p> <p>Perceived usefulness</p> <ul style="list-style-type: none"> • Broadband would improve our household productivity. • Having broadband would support household activities. • Broadband would be useful in our household.
<p>Image - "the degree to which use of an innovation is perceived to enhance one's image or status in one's social system" (Moore & Benbasat 1991, p.195).</p>	<p>Status gains (Attitudinal Beliefs – Social Outcomes)</p> <ul style="list-style-type: none"> • People who use a computer at home have more prestige than those who do not. • People who use a computer at home have a high profile. • Using a computer is a status symbol. <p>(Brown & Venkatesh 2005, pp.424-425)</p> <p>Theory and other sources related to developing this construct Rogers 2003 - <i>Observability</i> Moore & Benbasat - <i>Image</i> Brown & Venkatesh 2005 – <i>Social outcomes</i></p>	<p>Image</p> <ul style="list-style-type: none"> • People who use broadband at home have more prestige than those who do not. • People who use broadband at home have a high profile. • Using broadband at home is a status symbol.

CAIT construct definition	Original construct questions from source & other sources considered	Proposed CAIT survey questions (Seven-point Likert with SD(1)...SA(7))
<p>Normative beliefs - the degree to which social influence and mass media influence the development of an individuals' normative beliefs (Brown & Venkatesh 2005, Rogers 2003)</p>	<p>Friends and family influences (Normative Beliefs)</p> <ul style="list-style-type: none"> • My friends think I should use a computer at home. • Those in my social circle think I should use a PC at home. • My family members think I should use a computer at home. • My relatives think I should use a computer at home. <p>Secondary sources' influences (Normative Beliefs)</p> <ul style="list-style-type: none"> • Information from newspapers suggest that I should use a computer at home. • Information that I gather by watching TV encourages me to use a computer at home. • Based on what I have heard on the radio, I am encouraged to use a computer at home. <p>Workplace referents' influences (Normative Beliefs)</p> <ul style="list-style-type: none"> • My co-workers think I should use a computer at home. • My peers at work think I should use a PC at home. <p>(Brown & Venkatesh 2005, pp.424-425)</p> <p>Theory and other sources related to developing this construct Rogers 2003 - <i>Triability</i> Brown & Venkatesh 2005 – <i>Normative beliefs</i> Mahajan, Muller & Bass 1990 Venkatesh et al. 2003 – <i>Social influence</i></p>	<p>Normative beliefs</p> <p>Friends and family influences</p> <ul style="list-style-type: none"> • Our friends think we should use broadband at home. • Those in our social circle think we should use broadband at home. • Our family members think we should use broadband at home. • Our relatives think we should have broadband at home. <p>Mass media influences</p> <ul style="list-style-type: none"> • Information from newspapers and magazines suggest that we should use broadband at home. • Information that we gather by watching TV encourages us to use broadband at home. • Based on what we have heard on the radio, we are encouraged to use broadband at home. <p>Workplace referents' influences</p> <ul style="list-style-type: none"> • Our co-workers think we should use broadband at home. • Our peers at work think we should use broadband at home.

CAIT construct definition	Original construct questions from source & other sources considered	Proposed CAIT survey questions (Seven-point Likert with SD(1)...SA(7))
<p>Purchase Complexity</p> <p>– Frustration stems from the complexity, ambiguity and unavailability of information. Named as processing and pace frustration in this study. (Strebel, O'Donnell & Myers, 2004, p.1060)</p> <p>Note:</p> <ul style="list-style-type: none"> - Strebel et al. report these questions as loading as two constructs, but do not indicate which questions load to which constructs, so the groupings are by Adams. - The questions were supplied by Strebel via email as they were not included in the referenced paper. 	<p>Processing & Pace Frustration</p> <ul style="list-style-type: none"> • Searching for accurate and relevant information about which type of computer (IBM/Compatible vs. Apple/Macintosh) to purchase is a very frustrating process. • I do not know where to begin looking for information about the pros and cons of each type of computer (IBM/Compatible vs. Apple/Macintosh). • I don't see a big difference between the different types of computers (IBM/Compatible vs. Apple/Macintosh). • Knowing what technology to invest in, such as buying a faster processor or a bigger hard disk, is very difficult. • If I could find more information about the exact limitations with each type of computer, I would feel more comfortable choosing one. • I am so confused with the process of buying a computer, I would like to have someone else make the decision for me. • Just thinking about shopping for a computer and having to decide on a particular technology is very stressful. • I would like to be able to compare the two different types of computers (IBM/Compatible vs. Apple/Macintosh) and be able to tell exactly what the differences are, but there does not seem to be that type of information available. 	<p>Purchase Complexity Processing Frustration</p> <ul style="list-style-type: none"> • Searching for accurate and relevant information about broadband is a very frustrating process. • We do not know where to begin looking for information about the pros and cons of broadband. • We don't see a big difference between the different types of broadband plans offered. • Knowing what broadband plan to select is very difficult. • If we could find more information about the exact limitations with each broadband plan, we would feel more comfortable choosing one. • We are so confused with the process of subscribing to broadband; we would like to have someone else make the decision for us. • Just thinking about shopping for a broadband and having to decide on a particular plan is very stressful. • We would like to be able to compare the different broadband plans available and be able to tell exactly what the differences are, but there does not seem to be that type of information available. <p style="text-align: right;"><i>Continued on next page...</i></p>

<p>CAIT construct definition ...continued from previous page</p>	<p>Original construct questions from source & other sources considered</p> <p>Pace Frustration</p> <ul style="list-style-type: none"> The pace of technological innovation with computers is frustrating to keep up with. I can not decide when to buy a computer because it seems as if there is always a better technology just a few months away. Trying to figure out when is the best time to buy a computer is very frustrating. Even though the price of a car drops significantly when you drive it off the lot, at least you know about how much you could sell it for in six months. With a computer, you just can't tell when the next computer or software will come out making your computer obsolete or worth very little. <p>(Strebel, O'Donnell & Myers, 2004)</p> <p>Theory and other sources related to developing this construct Schwarz, Ward, Monterosso, Lyubomirsky, White & Lehman (2002) – <i>Maximizing versus Satisficing</i></p>	<p>Proposed CAIT survey questions (Seven-point Likert with SD(1)...SA(7))</p> <p>Pace Frustration</p> <ul style="list-style-type: none"> The pace of technological innovation with communications technology is frustrating to keep up with. We can not decide when to subscribe to broadband because it seems as if there is always a better technology just a few months away. Trying to figure out when is the best time to subscribe to broadband is very frustrating. We are worried the broadband plan we select may become obsolete quickly.
<p>Fear of technological advances – an individual's optimistic or pessimistic feeling about technology (Modahl 2000).</p>	<p>Fear of technological advances (Control Beliefs)</p> <ul style="list-style-type: none"> The trends in technological advancement are worrisome to me. I fear that today's best home PC will be obsolete fairly soon. I am worried about the rapid advances in computer technology. <p>(Brown & Venkatesh 2005, pp.424-425)</p> <p>Theory and other sources related to developing this construct Modahl 2000 – <i>Attitude toward technology</i> Brown & Venkatesh 2005 – <i>Control beliefs</i> Lin 2003 - <i>Adoption factors</i> Compeau & Higgins 1995 – <i>Self-efficacy</i></p>	<p>Fear of technological advances</p> <ul style="list-style-type: none"> The trends in technological advancement are worrisome for us. We are worried about committing to a broadband service because we think it is likely a better option will be available fairly soon. We are worried about the rapid advances in communications technology. <p><i>Note: see dialogue in the Discussion section on the similarity of this construct and Pace Frustration</i></p>

CAIT construct definition	Original construct questions from source & other sources considered	Proposed CAIT survey questions (Seven-point Likert with SD(1)...SA(7))
<p>Perceived cost - an individual's perception of cost. This is a secondary attribute as it is how the consumer considers price relative to their disposable income that is important (Moore & Benbasat 1991, p.194).</p>	<p>Facilitating Conditions (Control construct) (to Adoption Behaviour) FCR1. My annual household income level is enough to afford subscribing to broadband FCR2. It is not too costly to purchase a new computer or to upgrade my old computer FCR3. It is not too costly for me to subscribe to broadband at its current subscription fee FCR4. I would be able to subscribe to broadband if I wanted to (Dwivedi, Choudrie & Brinkman, 2006, p.713) Theory and other sources related to developing this construct Moore & Benbasat 1991 Brown & Venkatesh 2005 – Cost, Declining cost</p>	<p>Perceived cost</p> <ul style="list-style-type: none"> • We could fit a broadband subscription into our household budget. • For our household broadband is quite pricey. • Broadband is not a priority in our household budget. • Our household could afford broadband if we decided to subscribe.
<p>Perceived ease of use - "the degree to which an innovation is perceived as difficult to understand and use" (Rogers 2003, p.16)</p>	<p>Perceived ease of use (Control Beliefs)</p> <ul style="list-style-type: none"> • My interaction with a computer is clear and understandable. • Interacting with a computer does not require a lot of my mental effort. • I find a computer to be easy to use. • I find it easy to get a computer to do what I want it to do. <p>(Brown & Venkatesh, 2005, pp.424-425)</p> <p>Theory and other sources related to developing this construct Rogers 2003 - Complexity Venkatesh & Davis 2000 – Perceived ease of use Lin 2003 - Technology factors Brown & Venkatesh 2005 – Control beliefs Venkatesh et al. 2003 – Effort expectancy</p>	<p>Perceived ease of use</p> <ul style="list-style-type: none"> • After it is installed, using broadband would be clear and understandable. • Using broadband would not require a lot of mental effort. • Our household would find broadband easy to use. • We would find it easy to use broadband for what we want it to do. <p>Note: This construct is to clearly delineate between the pre purchase/installation issues and focus on the perceived day-to-day use issues.</p>

CAIT construct definition	Original construct questions from source & other sources considered	Proposed CAIT survey questions (Seven-point Likert with SD(1)...SA(7))
Behavioural Intention	Behavioural intention to use the system BI1: I intend to use the system in the next <n> months. BI2: I predict I would use the system in the next <n> months. BI3: I plan to use the system in the next <n> months. (Venkatesh, Morris, Davis & Davis 2003, p.460) Theory and other sources related to developing this construct Brown & Venkatesh 2005 – Behavioural intention	Behavioural intention <ul style="list-style-type: none"> • We intend to install broadband at home in the next 12 months. • In the next 12 months I predict that we would connect broadband at home. • We expect to subscribe to broadband at home within 12 months.
	Note: the Brown & Venkatesh (2005) MATH paper suggests for future research to use "we", "us" and "our" instead of "I", "my" and "me" for their questions.	

Table 1 – Definitions, sources and proposed survey questions related to CAIT constructs

While the constructs have been presented with the questions grouped for the purpose of clarity here; in the final survey instrument the questions should be randomised to prevent leading the respondents into answering in a consistent manner.

Discussion

These survey scales, although based primarily on established constructs, will need to be tested for validity by following a similar process to that used by Moore & Benbasat (1991). Briefly this includes testing for face, content and construct validity; as well as reliability. Before the main survey is conducted, the instrument will need to have both a pre-test and a pilot test to address any issues with wording, internal consistency and to ensure the scales demonstrate acceptable levels of construct reliability (Bearden, Netemeyer & Mobley 1993, pp.3-6). The final testing phase needs to include a confirmatory study where the scales are analysed to ensure they are capturing the theoretical constructs intended (DeVellis 2003).

The intention is to create a parsimonious instrument which provides reliable data on the theoretical constructs being addressed. Given the *purchase complexity* construct has been drawn from outside the existing Information Systems literature, it is expected during the pilot phase there will be modifications to the instrument needed. Initial informal face validity trials suggest the *pace frustration* and the *fear of technological advances* constructs will cross load and will need refinement. For the pilot phase it has been decided to leave them both in a similar format to their original structure and refine the relevant constructs after the initial data analysis.

The quality of the data collected would be strengthened by the inclusion of demographic variables collecting household data on: income; number of people; number of dependent children; education levels; dwelling type and postcode. In addition to providing alternative analysis of the primary data set collected, the demographic data would allow for broad comparisons with Census data.

Future directions for research

Building on this work specifically, once the pilot phase is complete and the final instrument reported, a representative sample of the Australian population can then be surveyed. Sample size becomes important when analysing data you wish to generalise to the broader population. The final scales currently have 51 questions, Hair, Anderson, Tatham & Black (1998) suggest a minimum of five respondents per question are needed and preferably a ten-to-one ratio. This would give a target of 510 useable responses to reach the ten-to-one level. With survey response rates often around the 20% mark, a minimum of 2550 surveys would need to be distributed in normal circumstances. Given this survey is targeting only those households who have not yet adopted broadband, the number of surveys sent should be doubled to allow for the fact that the number of households with broadband is likely to be approaching 50% by the time any survey is distributed.

While beyond the scope of this paper, work needs to be done in specifically looking at the adoption of broadband in Australia by single person households. These households represent 24% of households nationally, but only 19% of single person households have broadband compared to the household average of 39%. The gap is even wider when you consider 59% of households with five people have broadband connected (ABS 2007).

Conclusion

The issues of frustration and the complexity of making a purchase decision serve as barriers for those individuals who are already predisposed to be conservative and like making considered choices in their purchase decisions. The scales proposed here broaden the

existing IS view of technology adoption by including the purchase complexity construct, as well as reframing well established constructs in terms of the households' view.

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FUTURE FUNDING OF THE TELECOMMUNICATIONS UNIVERSAL SERVICE OBLIGATIONS IN AUSTRALIA

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Abstract

This paper focuses on possible new arrangements for the funding of future universal service obligations (USOs) in telecommunications.

The Minister for Communications, Information Technology and the Arts announced a review of the current USO arrangements in June 2007. This paper is written in the hope that it will provide some input into this review.

The paper provides an overview of the development of the USO and its funding since it was formally introduced under the *Telecommunications Act 1991*. It notes the difficulty the Government has had with the process of calculating the cost of the USOs. It also discusses the implications of other Government policies on the USO, in particular the increased level of direct funding of services in rural and remote areas.

The formal USO covers only standard telephony services, yet more and more broadband services are becoming ubiquitous. In addition, competitors to Telstra are beginning to provide telecommunications services in rural areas.

For these and other reasons the Communications Minister has announced that the Government will conduct a review of the USO arrangements in late 2007.

An earlier review was conducted by the Department of Communications, Information Technology and the Arts (DCITA) in 2003-04 which considered a range of options for revision of the USO arrangements. This paper contends that while that review offered a thorough analysis of the issues at the time, developments since then have made the options considered then impractical now. Accordingly a wider range of options needs to be considered. Two additional options are discussed: a line tax as suggested by the Organisation for Economic Cooperation and Development (OECD) in 2003; and for the Government to take over direct management and funding of the USO.

This paper includes an evaluation of the options, drawing on recently published work, to conclude that it is probably inevitable that changes will need to be considered to the management and funding of the USO.

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Future funding of the Telecommunications Universal Service Obligations in Australia

This paper focuses on possible new arrangements for the funding of future universal service obligations (USOs) in telecommunications. It is argued that current arrangements are not working effectively and that future industry changes will require a new approach.

Background

The paper acknowledges the work undertaken by the Department of Communications Information Technology and the Arts (DCITA) for its 2004 “Review of the Operation of the Universal Service Obligation and Customer Service Guarantee”. That review provided an extensive overview of the history and development of USO policy in this country and a consideration of options for the future.

This paper necessarily covers some of the same ground. However, it aims to highlight areas where different conclusions could be reached. It also draws on other contributions to the debate since that report was released as well as recent developments in the telecommunications industry in Australia which suggest a wider range of options now need to be considered than those canvassed in the 2004 report.

The establishment of current USO funding arrangements

Prior to competition being introduced in 1991 into telecommunications the incumbent, then called Telecom Australia, funded USOs from monopoly profits earned, primarily, from its operations in the cities. This policy had been government practice in developed countries over many decades.

Through a number of policy measures, such as subsidised installations and line rentals and uniform local call pricing successive Australian Governments had encouraged the take up of telephone services throughout the country. A telephone service at a reasonable price was perceived as a right of all citizens whatever the cost.

While a government monopoly Telecom simply funded high cost, loss making services, chiefly in rural and remote areas, from its overall monopoly profits. However, when the government of the day was considering introducing competition into the market in the late 1980s it was argued that competition would remove monopoly profits and that Telecom would be unable to fund these services. In 1988 the Government commissioned a study into the costs. The then Bureau of Transport and Communications Economics (BTCE) and Telecom, undertook a joint study (BTCE 1989).

At the time, there was considerable confusion over the definition of the USO. While it was recognised that rural areas were more likely subsidised than urban areas many argued that there was a subsidy from long distance services to local services, or from usage to access, the joint study focussed on customers. The ‘obligation’ is to provide a service to all customers. However, the ‘cost’ is the ‘loss’ that the customer causes Telecom. That is, a customer was considered a USO customer if, in supplying all her telephony services, Telecom made a net loss. Two elements were considered important in the definition:

- That the customer was loss making; and
- Telecom would not supply services to that customer unless required to do so.

In measuring the loss the BTCE adopted an economic approach based on the concept of avoidability – that is, it looked at only the revenue and cost that could be avoided if Telecom did not provide services to that customer, given that all other customers were provided with services. Telecom adopted an approach that had a more ‘accounting’ focus. It basically looked at the profitability of each exchange after distributing higher level national and district costs among exchanges – what is termed a ‘fully distributed cost’ approach.

Strictly, the USO cost is the sum of the net cost of all USO customers. Telstra can, of course, have a large USO cost, even though it is very profitable overall. It would be even more profitable if it just served the profitable customers and not the USO customers. To measure the total USO cost, one should divide all customers into profitable and loss making and sum the loss making. Thus, for example, if the returns from a group of customers were: +1, -2,+5, +3, -4, +3, -5 and +2 then the group as a whole would be profitable (+3) but the USO would be 11. By not serving the USO customers a profit of 14 would be made.

It is not sufficient to argue that because Telstra makes a large profit overall, or it does not have a rural deficit, it should simply be required to fund the USO. This is because there are economic inefficiencies in supplying loss making services and funding them from profitable services. These arise because some customers are not paying the full economic cost of services while other customers are paying more than the economic cost. Efficient resource allocation requires ascertaining the extent of the cross subsidies and then instituting policies to provide for funding the loss making services in the most efficient manner. The first step is to measure the cost of the existing USO.

The BTCE study

In practice, it is not possible to measure the profitability of every one of the 10 million or so Telstra services. The smallest unit used in the BTCE’s study was a ring of customers at a given distance from an exchange (for example, out to 1km, from 1km to 2km and so on). Costs and revenues for customers in each ring were calculated using a model developed by the BTCE into which data was provided from Telstra’s accounts. Every one of the 5000 or so exchanges was assessed for USO customers. In later versions of the model, the ring analysis was not used but exchanges were simply divided into built up areas and non-built up areas. To the extent that these groups are not totally homogenous (that is, all loss making, or all profitable, customers) the estimate of the total USO will be an underestimate – in the later version of the model more so than in the original BTCE model.

The study group reported in mid 1989. The BTCE reported a cost estimate of around \$240 million while Telecom’s estimate was around \$800 million. The Government at the time accepted the BTCE’s methodology and cost estimate and decided that this was within the capacity of the industry to fund.

The Government established a regime to provide for the continued funding of, by then, Telstra’s USOs in its 1991 legislation. This introduced a costing and funding regime employing the BTCE avoidability methodology. The annual USO cost was initially determined using the BTCE’s costing model which was later redeveloped. All carriers contributed to a Universal Service Fund the funds in which were largely passed to Telstra.

There were a number of unique features of the original BTCE USO costing model. They are outlined here to demonstrate how difficult it would be for Australian Communications and Media Authority (ACMA) or the Australian Competition and Consumer Commission (ACCC) to regularly upgrade the model as the market develops.

Some of the features meant that the model was quite complex.

- The concept of avoidability required the development of two key features of the cost model.
 - The first was the calculation of incoming call revenue since Telstra would lose revenue from calls *to* USO customers as well as revenue *from* USO customers if they were no longer provide with services. This brought a major complication. The model had to be designed to remove double counting of call revenue between USO customers (but not between USO and non-USO customers). However, which customers were USO customers had to be determined by the model at the same time. This required a recursive model to perform both tasks at the same time.
 - Secondly, avoidability differs at different levels within the network. For example, avoidability at the customer premises is different from avoidability at the exchange. Removing a customer from the network may save that customer's premise equipment but very little exchange equipment.
- It was impractical to calculate costs at the level of each of the ten million or so customers. Instead groups of customers at each exchange were evaluated (see below for discussion on 'rings'). As a consequence, the model would underestimate the USO cost because it involved some averaging of costs and revenues within these groups.
- The model employed a long run view of costs and revenues. This was because the obligation was for an indefinite period. This required consideration of the costs of replacing assets. Telstra has a huge number and range of assets to value.
- The model adopted an approach that was later embodied in the concept of 'forward looking' costs. This required that assets had to be valued at market prices which reflected both depreciation plus obsolescence (that is assets may be devalued where newer versions could provide services more cheaply, for example digital switches replacing analogue switches).
- A large sample survey was conducted by Telstra to help determine the avoidable costs of the customer access network, the largest elements of fixed costs. Using a 'ring' analysis, the cost was determined for laying out the customer access network (CAN) within the first kilometre from the exchange, then the avoidable cost of laying out the network within the second kilometre, given that the network within the first kilometre was in place. Cost for successive 'rings' around the exchange were determined for a large range of exchanges (predominantly rural and remote). Statistical analysis was employed to determine a relationship between cost and two key factors: population density of each ring and distance from the exchange, the former being the more significant variable.
- Small surveys were conducted to determine a range of other relationships including: the ratio of incoming to outgoing trunk calls for customers at different sized exchanges; and the ratio of local calls to trunk calls at different sized exchanges.

Because of its complexity, and the fact that the model is reliant on Telstra to provide all the data inputs, disputes quickly arose over the 'robustness' of the model. This culminated in the regulator, AUSTEL (subsequently the Australian Communications Authority (ACA) and now ACMA) commissioning a new model.

Some of the areas of contention included:

- The need for the model to be updated to incorporate new CAN technologies coming to market (including wireless and satellite technologies);
- The rate of return on assets needed to be determined more carefully (in the original analysis a range of values was employed);
- The need for a more accurate 'life cycle' model to determine depreciation of assets and their current market value.

As well as these features, there were other, more general, bones of contention apart from the fact that all the data for the model had to be supplied by Telstra with AUSTEL not being in a position to verify it. In addition, other carriers complained that Telstra obtained a number of benefits from being the Primary Universal Service Provider (PUSP) that offset, at least in part, the cost of the obligation. These benefits were considered by the ACA but, with advice, it decided that they were either difficult to measure or not valid benefits of Telstra's position as the PUSP. It is at least debatable that most, if not all, the benefits touted accrue to Telstra by virtue of its being the ubiquitous national carrier and that they would largely remain if the few per cent of USO customers or USO payphones were no longer serviced.

One benefit that has been contentious relates to what has been termed 'life cycle' effects. In essence, though, it is not so much a benefit but rather relates to the definition of a USO. Specifically it concerns customers who may be a USO at one time but may not be forever. For example, customers in new housing estates may be unprofitable for a few years but ultimately become profitable. One could argue that Telstra would be prepared to provide service to them, even if not required to do so. If so, they would not meet the second element of the BTCE's definition above. However, this second condition would be difficult to establish for a lot of marginal cases around the country. This issue is being complicated by the fact that other carriers have been providing telephony services in some new housing estates. Should they share in USO funding?

The new model commissioned by AUSTEL in 1995 was first used by the ACA to calculate the 1997-98 USO cost. However, controversy surrounded this model as well, not least because of the much higher cost estimate of \$548.1 million. Some key issues still remained, including debate over the appropriate cost of capital employed, or Weighted Average Cost of Capital (WACC), the inability to check Telstra's inputs and other issues with the earlier model.

The model was not used from 1998-99 as the Minister, on advice, determined the subsidy amount that year, and has done so up until the present, at a much lower level. The level each year has been largely determined using trend analysis of costs and revenues since 1997-98. However, while this may produce a result more acceptable to the industry, in no way could it be considered as producing results that reflect the real USO cost. This is because the USO net cost will never follow simple trend relationships between revenue and cost. A simple example will illustrate this.

Suppose the cost for a customer is \$2500 in a year and the revenue \$2450. The USO cost is \$50. If cost increased by, say, one per cent but revenue stayed the same, the net USO cost would increase by 50 per cent to \$75. There will always be variation in costs and revenues, that is costs and revenues will not uniformly change, across exchanges and customers. Small changes in cost and revenue can produce large variations in USO cost. These are impossible to predict without a model. The inclusion of incoming call revenue complicates the picture

enormously as does the avoidability cost analysis which is far from linear. The sensitivity of the model to small changes in costs was noted in controversy regarding the WACC in particular when the first results were obtained from the new model in 1997-98. Small changes in the WACC produced large changes in the modelled cost.

Given all the controversy over use of the model, and no easily recognised alternative to calculating the real USO cost, what options are available? This is discussed further below. Before that, it is worth considering what happened when the Government introduced a policy of making the USO subsidy contestable in 2000 as an alternative approach to providing the USO, rather than funding Telstra alone to provide it.

USO Contestability arrangements

In an effort to encourage competition in the provision of the USO the Government announced in 2000 the establishment of contestability pilots. These were regions where competitors would be allowed to take over provision of the USO in return for the subsidies applicable to the regions. Two regions were initially chosen; an area on the South Australian/Victorian border and one on the north eastern New South Wales/Queensland border.

The two areas were divided into over a hundred Universal Service Areas for each of which a 'per service' subsidy was calculated by the ACA based on the existing USO cost model. Some built up areas in the two regions attracted no subsidy because they were calculated as profitable areas.

Competitors to Telstra were encouraged to provide services in these areas provided they offered their services to all customers in the areas for which they were registered. That is, they could not attempt to pick out only profitable customers within the areas.

In the event no operator took up the offer to enter any of the areas. While DCITA 2004 argued that there were a number of benefits from the experiment, nevertheless, in practice it was a failure. Indeed, it was obvious at the time that it would fail to attract any interest – although this in itself may have had a benefit in silencing those operators who had argued that the subsidies Telstra had been receiving were too high.

The reason the experiment failed was because the subsidies were an insufficient inducement. It was obvious that they would be, for a number of reasons. Firstly, because the USO modelled costs were based on a forward looking methodology, the USO cost is not Telstra's actual cost, but what it would be if Telstra used the latest and best technology. Thus it is a *minimum* cost. No one, including Telstra, could, by definition, come in with a new technology at lower cost. The only way a competitor could provide services at a lower cost would be if it had much lower administration costs.

Secondly, Telstra had a key advantage, which was reflected in the USO cost estimates. Telstra had economies of scale and scope throughout the two regions, and throughout its whole network. No competitors could match these. And because Telstra had one hundred per cent of the infrastructure, and a new competitor would start with zero, and then have to win market share from Telstra, it would take many years before it could hope to approach Telstra's economies of scale. Thus, the subsidies were estimated based on the assumption of a monopoly provider. It was highly unlikely that any other provider could become the monopoly provider (and thus Telstra completely exits the market in that area) and the costs for

two or more providers would be likely to be significantly higher than the costs for a monopoly provider (for example, because of duplication of infrastructure).

Of course, if the modelled USO costs are a *minimum* this suggests two things. Firstly, Telstra is not being compensated for its *real* costs, only *efficient* costs. That is, if Telstra is inefficient in any area it has to bear the cost. Of course, this provides an incentive to become efficient. Secondly, if the USO were ever opened up for competitive provision, the cost would likely increase, perhaps substantially.

The experiment also raised a number of issues which would have to be considered if ever a competitor took over servicing a USO area in future. The first of these is what happens to the existing Telstra network. This question has a number of dimensions, not all of which were considered at the time.

The issue of a back up was considered. That is, if a new competitor were to withdraw, for whatever reason, an alternative was required if customers were not to be left high and dry. It was decided that Telstra would be required to maintain its network, for which it would receive a subsidy. However, because no operator did take up the challenge, some consequential issues were not addressed. For example, what if the competitor wanted to be provided with non standard telephony services by Telstra to resell to the customer? Not all of these are 'declared' so Telstra would not be obligated to provide them. What about price if Telstra did agree? This would be subject to negotiation. If there was no agreement the ACCC may not be able to intervene where the services were not 'declared'.

On the other hand, what would happen over time if new services were introduced by the competitor that Telstra's network could not supply? At the time of these contestability arrangements broadband services had not taken off. Today, if a new competitor supplying a range of broadband services were to leave the market Telstra may not be able to step in and supply these services. Could Telstra take over the competitor's network? Would Telstra be forced to upgrade its network to enable it to provide equivalent services? This gets to the issue of a broader, or upgraded, 'obligation' which will be discussed further below.

Another more subtle criticism of the approach concerns the method of calculating the USO subsidies.

The national USO cost model relies heavily on averaging. By that it is meant that costs and revenues cannot be determined for each of the ten million customers. It is a model after all. There has always been criticism that costs, for example, were modelled using an insufficiently large sample of exchange areas. The sampling errors were large². However, given large numbers of customers at exchanges and the large number of rural exchanges, over 4000, the statistical laws of large numbers will help cancel errors. Costs at some exchanges may be too high, and at others too low but overall these should largely cancel each other.

However, trying to estimate subsidies for small, individual Universal Service Areas exposes all the errors. The estimate for any given area is likely to be significantly in error, even though across the nation a reasonable cost estimate may be produced. If they were to produce

² Of course, the sample may also have been biased. That is, it may not have had a large enough share of remote exchanges in it. Since remote exchanges are the most likely to have USO customers, they should be very highly represented in the sample.

their own estimates, based on detailed characteristics of each area, they could find a large discrepancy between their own costings and the subsidies offered. Even an area as large as each of the two contestability areas would be a risky proposition. Alternatively, it could offer potential gains. It could open up opportunities for arbitrage – new competitors could enter areas where the subsidy is excessive and leave to Telstra areas where the subsidy is insufficient. This would be economically inefficient.

The model was designed as a national costing model. To estimate costs at the exchange level would require a considerably more complicated model incorporating a much greater number of variables (for example terrain and topology, maybe soil types, existence of footpaths, residential density (eg high rise buildings), detailed population mapping and so on).

The experiment was bound to fail. But as a testing ground, it did at least expose some issues that will have to be addressed if the USO is to be opened to competition in the future.

Before examining options for future USO provision, there is one more development in recent times that has the potential to significantly affect USO delivery in future. That is the growing importance of Government funding programs in recent years, particularly those aimed at providing services to rural and remote customers.

Government funding programs

Ever since the Telecommunications Service Inquiry into the state of Australia's telecommunications in 2000 the current Government has instituted a range of funding programs to improve services in the bush, including USO areas. These range from provision of telephone services through satellite phone subsidies, various mobile phone network assistance programs, extending untimed local calls, and recently, provision of broadband telecommunications services to rural and remote areas.

Through these programs, the Government has been partly assuming the role of provider of USO services, to the extent that these services have been taken up by USO customers. In addition, the Government has, de facto, extended the scope of the obligation beyond that of a standard telephone service. Indeed the current Communications Minister has been quoted as saying now that everyone is now entitled to a broadband service. De facto, the obligation is for a broadband service. In fact, under the current Broadband Connect program, services provided to rural and remote customers must be equivalent to those in metropolitan areas, in terms of price and data speeds, albeit that these requirements have not formally been applied to the USO.

Recently the Government awarded OPEL³ \$600m under the Broadband Connect Infrastructure Program, plus an additional \$358m to enable OPEL to go further. This marked a big step towards the Government becoming intimately involved both in setting service standards in rural areas and actually managing the provision of services.

It is likely that this new infrastructure investment will provide services to some existing USO customers. It appears from the maps provided publicly of the OPEL consortium's plans, that there will still be some customers without access to broadband services. The Government proposes that the issue of providing these with broadband services will be examined in the

³ OPEL Networks PL is a joint venture between Optus Networks PL and Elders Telecommunications Infrastructure PL.

forthcoming review of regional telecommunications. Funding has already been set aside for this under the Australian Broadband Guarantee and the Communications Fund. There are a number of possible options: small broadband providers could be invited to fill in the gaps (it may well be profitable for them to do so or they may seek a subsidy as was provided under the HiBIS scheme, for example) or the Government might call for specific tenders for services. Under either of these options at least some current USO customers could well end up being served by carriers other than Telstra.

In addition, in the future, even the OPEL infrastructure will need upgrading as the demand for ever greater bandwidth and new multimedia services outstrips network capability. The number of USO customers could increase. There may well be a need for further Government assistance. In many of the areas to be covered by OPEL infrastructure Telstra is already providing some broadband services. It could also well be that the Government is faced with more than one carrier in some areas, each seeking assistance for USO customers.

Multiple USO service delivery

The issue of multiple USO providers raises a range of other matters. One ramification has already been discussed. That is, whether there is a need to keep Telstra's network operational in case a new provider discontinues service provision for whatever reason. If so, this is really a price to be paid for competition. At the time of the USO contestability pilots, this cost was assessed to be small. However, that would only be true in the short term. In the longer term, as equipment had to be replaced the cost would be increase as it would with broadband rather than telephony equipment. In theory, with all the network in place, but no revenue received by Telstra, the cost of maintaining the network, including capital costs, would greatly add to the current real cost of the USO.

In any case, Telstra's existing network would eventually be unable to provide the new services being offered by the new entrants. How would the Government be able to ensure no loss of services to USO customers? If only STS were guaranteed, there would be constant pressure to upgrade the commitment. Would Telstra, as the only operator with ubiquitous presence, be allowed to operate, or take over, a competitor's network? What compensation would be required at the fire sale? Might this not be a cheap way for Telstra to acquire some broadband assets? Would Telstra be allowed to buy out competitors or would this be prevented by the ACCC just as it refused to approve the FOXTEL purchase of the Galaxy/Australis pay TV operation even though it meant that that operation went out of business?

ULL access dispute

Recently the issue of USO funding was highlighted in public discussions over access prices for unbundled local loop (ULL) services. What highlighted the issue from the USO viewpoint was the Government's announcement in December 2005 to reiterate its parity pricing policy for retail line rental services. That is, Telstra was required to continue providing a line rental product in rural areas at the same price as in urban areas, despite cost differences. Telstra argued that this policy conflicted with de-averaged access prices for wholesale ULL services – that is, different prices in different geographic areas. In essence, it is the parity pricing policy that 'causes' the USO. That is, if Telstra and other carriers could charge different prices for the same service around the country, to cover costs, there would be no USO.

In early 2006 the Government requested the ACCC to report on the desirability of de-averaged ULL access prices in light of its parity pricing policy. This analysis included the claim by Telstra the low access prices in urban areas were reducing its (monopoly) revenues

making it difficult for Telstra to meet its USO obligations. Telstra claimed that the subsidy received from the universal service fund (USF), now set by the Minister, was insufficient to meet its actual costs. The ACCC accepted that Telstra's argument of the relevance of USO costs and subsidies was material but did not accept that Telstra had provided evidence that the USF subsidy was insufficient.

The ACCC dismissed Telstra's claims although clearly the ACCC is not in a position to calculate the impact of the ULL access prices on Telstra's ability to fund its USOs without a model to assess the cost of the USOs. While the ACCC might be able to judge, from its models, the overall profitability of Telstra's business in its remote areas, this gives little guidance on the USO cost. As noted earlier, the size of the USO cost bears no relationship to the overall profitability of an area. In addition, the ACCC analysis could not properly take account of incoming call revenue, cost avoidability at various levels and a range of other factors. The ACCC access models have their own problems, particularly in measuring the range of costs in rural and remote areas (which was of little importance in the early days when access was only required in urban areas). They are cost models only, not USO models. They were never designed to throw any light on USO costs and revenues.

Nevertheless the ACCC did recognise the need to monitor the USO position thus implying that there might be a shortfall between the USF and actual USO costs in the future.

The ACCC's decision to refuse Telstra's 'averaged' ULLS access charge was appealed by Telstra to the Australian Competition Tribunal. In its decision, published in May 2007, it argued that the question of a subsidy shortfall was irrelevant and that the Tribunal could not 'disregard the actual subsidy fixed by the Minister'. That is, the Tribunal argued that the issue of actual USO costs was largely irrelevant and that the key issue was the efficient cost of the ULL service. It also argued that Telstra's contention that de-averaged charges would harm its ability to fund its USOs was based on the assumption of what competitor would do in urban areas which was in turn based on the assumption that competitors could not bypass Telstra's network in urban areas. Bypass destroys the ability of an averaged access price to protect Telstra's ability to fund its USOs. The Tribunal noted evidence that there was some measure of bypass.

The Tribunal also appeared worried that averaged access prices might enable Telstra to make sufficient profit on other services in urban areas that were not subject to the parity pricing requirement to completely subsidise its rural services and so be free to undercut competitors in urban areas for services subject to the parity pricing requirement and thus destroy competition. The Tribunal noted that it could not reach a definitive conclusion on this point – that is, Telstra doesn't need above normal profits on ULL services in urban areas since it makes sufficient above normal profits in other areas of its operations. It concluded that while wholesale price averaging may not inhibit competition in urban areas it would be unlikely to promote it.

The Tribunal does appear to accept a link between the USF payment and the case for averaging ULLS charges across the country. The Tribunal's stated that:

If the USF does not compensate Telstra for losses it would make when supplying line rental services in rural areas, then it may be that it needs to average its ULLS charges in order to ensure it can recover above-cost revenues from the provision of retail line rental

services in urban areas in order to recover fully the cost of providing the ULLS and a normal rate of return on its capital. (ACT para 230)

However, the Tribunal was not convinced that the USF failed to fully compensate Telstra for its USO costs. This appears to be based largely on the fact that the Tribunal did not accept the PIE II model used by Telstra to estimate its costs.

Of course, Telstra's PIE II model was not built as a USO model, rather as a straight forward cost model. So the same criticism could be applied to its use to determine USO costs as to the ACCC's calculations.

The key point about the foregoing discussion is that the USO issue is now having a major impact on debates about access prices which, in turn, are crucial elements in debates about the future competitive structure of telecommunications. Following the ULL debates, the arguments have carried over to Telstra's proposal to build a fibre to the node (FTTN) network. Unless the issue of the cost of the USO, and how it is to be financed, are resolved, it will continue to complicate regulatory and investment decisions.

Upgrading the USO

The 1994 Communications Futures Report (BTCE 1994) which looked into the then future implications of a broadband network for Australia noted that the issue of upgrading the USO from standard telephony to broadband would, in due course, have to be resolved. In order to assist in addressing this issue it set out a five-step framework for considering a possible contender for an upgraded USO:

1. adequately identifying and defining the product;
2. determining that the product is sufficiently 'essential' to justify the major policy interventions associated with a USO designation;
3. determining that costs are reasonable relative to benefits;
4. finding a practical and efficient implementing mechanism; and
5. working through any likely effects on other policy goals.

DCITA 2004 did not address the issue of upgrading the USO. Indeed its recommendations were based on the obligation remaining as one covering standard telephony only.

The Communications Futures Project modelled the likely cost of a broadband network in the bush and estimated that it could require a subsidy of \$1 billion per annum. That was over 12 years ago. The estimate was based on estimating overall costs and revenues for the network rather than using the recognised avoidability approach.

The CFP report rejected the upgrading of the USO on a number of the above grounds, but particularly because, at the time, it was not considered sufficiently 'essential'. However, this has changed since then. The Government's policy is now to make broadband services available to everyone. The price of broadband for most customers has decreased significantly and most of the other grounds listed by the CFP have now largely been met. Indeed, the Minister for Communications, IT and the Arts announced on 18 June 2007 that "fast affordable broadband access' will, under the Australia Connected program, by June 2009 'become a reality' for 99 per cent of the population (Coonan 2007). While not specified in the Telecommunications (Consumer Protection and Service Standards) Act 1999 broadband is becoming the *de facto* obligation.

While equipment costs have fallen over time, it is possible, indeed very likely, that upgrading the USO to cover broadband services could increase the net cost. It is notable that per customer subsidies provided under the Broadband Connect program were around \$3000. While they are multi year, it is likely that regular costs may be incurred if the service quality (eg data speed and downloads) standards are upgraded regularly additional costs would be incurred over time. A key issue may be whether the current USO customers are to be provided with subsidised services other than satellite broadband services. If so, the cost could increase significantly above that for providing standard telephone services (STS). Many more customers might become unprofitable besides the 400 000 or so identified in the last run of the USO model.

The cost of a broadband USO would largely depend on the technology solution adopted. In recent times relatively inexpensive wireless broadband systems have been developed which have been deployed by small operators. Even the larger carriers are providing alternative services, such as Virgin's 3G based wireless local loop service that includes a box that can provide a connection to the standard analogue telephone handset and a WiFi signal for broadband services. Sometimes they do not have all the carrier grade features of systems deployed by the major carriers – for example, battery backup for emergency calls. However, they may be the only cost effective systems for many rural areas. Nevertheless, they may pose longer term risks, as outlined earlier, that the operators may not be able to technically upgrade them later, or may choose to exit the market in the face of high upgrade costs. A higher grade service, with customer service guarantee requirements, could cost considerably more.

The options

Before considering the options it is worth reviewing some of the recent literature on USO provision. The OECD has released a number of papers on UAO issues in recent years including one by Patrick Xavier (2006)

This report examined a number of financing options:

- Cross subsidy
- A tax on each telephone number
- A connection based system
- General taxation
- Contribution from local government and other government departments
- Contribution from spectrum auctions, spectrum pricing and privatisation.

The first of these is largely the current situation. In essence, the other options boil down to two basic funding options – direct funding from the budget or through a dedicated, or hypothecated funding mechanism. Because the OECD has supported the line tax option, this has been chosen to represent the other Xavier options.

Three options were considered by DCITA 2004. These include:

- Telstra funds the USO without subsidy
- Previous arrangements restored with a new cost model developed
- Previous arrangements with a simpler method of determining the subsidy developed.

The main reason the DCITA 2004 options are considered is because recent developments, including funding programs, have altered the merits of the options. It will be argued that the favoured option in that report, that Telstra funds the USO without subsidy, can no longer be considered a useful option.

Combining all of these a set of five options emerges – the three considered by DCITA 2004 plus:

- a line, or number, tax, and
- budget financing and management by the Government.

OPTION 1 - Telstra funds the USO without subsidy

The arguments in favour of this option are canvassed in DCITA 2004 so they will not be covered in detail here. In essence, this option would remove the need for costing the USO and so do away with all the arguments over the method, remove the need for the universal service fund and sharing of costs by the industry. It is obviously the simplest option. However, it should be noted that in DCITA 2004 it is conditional on the obligation not being extended beyond the standard telephone service. With this condition it was considered the favoured option.

However, apart from the impact on Telstra, there are two arguments against this proposal which have become stronger since that report was released.

The first is Telstra's argument that its ability to fund the USO has been compromised as competition has increased, particularly through the requirement on Telstra to provide access to unbundled local loop services.

While it is beyond the scope of this paper to assess the merits of Telstra's claim, whether now or in the future, it is worth noting that the OECD has recognised this as an issue for many countries where the incumbent telco has specific universal service obligations. The ACCC and the Australian Competition Tribunal have both looked at the issue but both have stated that they are unable to reach a conclusion. The only way to answer the question is with an agreed USO model.

The second problem, that adds force to the first argument, is the gradual move towards making broadband services ubiquitous. No longer can the obligation be held to standard telephony services. Telstra is already facing pressure to make broadband services available to rural and remote customers. The Government is providing grants for upgrading to broadband and the Minister has claimed that anyone who wants broadband can now get it (albeit only a satellite service in many areas).

The cost of moving Australia to broadband, and then keeping parity between the bush and the city, will be huge and we cannot expect Telstra to shoulder the bill for all unprofitable services. This would gradually have a significant effect on Telstra's overall operations.

A final nail in this option's coffin is that Telstra's competitors are starting to supply services in rural areas through Government funding programs. In due course they will take over some loss making, and so USO, customers. They may do so soon enough through the BCIP. If we were to adopt this option, would Telstra's competitors have to provide service to these customers in the long run without any subsidy as well?

OPTION 2 - Previous arrangements restored with a new cost model developed

The key aspect of this option is the development of a new model. However, as noted above, this will require agreement, or at least acceptance, of a number of existing and new features of the model. Some of these include:

- Settling the question of USO benefits;
- Settling the issue of the definition of a USO customer eg whether customers in new estates are included;
- Settling the question of the appropriate WACC;
- Commissioning a much larger sample of exchanges with which to assess avoidable costs;
- Extending the model to cover competitive USO provision;
- Designing the model to be as close to customer level as possible;
- Avoiding of the 'year one' problem through proper depreciation calculations; and
- Building in flexibility to include services other than the standard telephone service eg broadband.

Not all of these issues have so far been discussed.

The issue of the WACC will probably always be contentious. Certainly the ACCC and Telstra disagree. There is a literature on the question of risk and the value of options theory in helping to quantify the effect of various risks. In the end the ACMA will have to be the arbiter unless it ends up in the courts.

The sample size is a critical issue. In the AUSTEL commissioned model only a small sample of exchanges was employed resulting in all exchanges being classified as one of about seven types. This is clearly insufficient, particularly for remote areas where most exchanges with loss making customers are located. There are a huge number of small exchanges and costs vary widely - particularly CAN costs. Costs per customer vary enormously and so a much greater number of exchange types is needed for remote exchanges, if not a return to a formula approach relating cost to population density and other relevant factors. While distance is less relevant for wireless networks, population density is a big factor in the cost pre customer for wireless and wired networks. The difference in costs per customer between an exchange of one thousand lines, for example, and an exchange of twenty lines is likely to be orders of magnitude.

Implications of competitive delivery for the model

A key issue is how to calculate the USO subsidy for the new operators. In terms of the USO costing model, competitive USO delivery complicates the modelling. The model would have to identify USO customers in each network as well as then calculating incoming call revenue from USO customers within networks and between networks – all within each iteration of the model. This is because incoming calls across networks provide revenue through terminating access charges.

The inclusion of competitive USO providers into the model will be very complex. It may also require that the basic measurement unit of the model be reduced. At present towns are divided into built up and non-built up areas. This can reduce the USO cost considerably because it can hide loss making customers within built up areas with profitable customers in

non-built up areas. With competitive USO provision there may be groups of customers of different competitors within the one non-built up area, for example. If so, the area will have to be disaggregated to identify groups of customers belonging to each carrier. This may increase complexity of the model enormously. At present each area only has to be categorised as one of seven types. With competitive provision many of the 4000 or so exchange areas will have to be disaggregated – wherever there is another carrier besides Telstra.

In the end, at least initially, it may even be easier to calculate separate USO costs for the other carriers manually. However, it should be on a basis consistent with the USO model.

The year one problem relates to the fact that at the start of the period the model is measuring, a reliable method is needed for calculating the ‘forward looking’ market value of assets employed in producing the USO. On top of this, one has also to determine the historical cost of the assets. The rate of return, or WACC, is applied to the ‘forward looking’ market value of assets and in year one, depreciation is equal to the difference in this market value of the asset at the beginning and end of the period. However, over the life of the asset the depreciation allowance should exactly equal the historical cost. With many USO providers, this issue will also become more complex.

On top of these issues, there are a number of other issues on which there is disagreement within the industry (generally Telstra versus the rest), in particular whether there should be an allowance for the benefits Telstra gains by being the USO provider. Taken together, they seem to suggest that a new model would be problematic. However, if the industry was willing to accept the limitations of a model this could still remain a viable solution. After all, the industry accepts the use of a model by the ACCC in setting access charges (although Telstra argues for its own PIE II model). While the ACCC model is only a cost model, there is little to suggest that that model is any more robust than the USO model. The problem is, of course, as suggested in DCITA 2004, the model may well indicate that the USO cost is much higher than the current levy set by the Minister and so requiring a much greater contribution from the industry. In reality, there is no point in progressing with a new model until the industry agrees to stop disputation and accept the outcome of the modelling process.

The impact on the industry could be substantial. The model produced a cost estimate in 1997/98 of \$548 million. The current levy, determined by the Minister, is less than \$150 million. Industry currently pays around 30 per cent of the levy and Telstra around 70 per cent. This would imply an increase in the annual levy payment by Telstra’s competitors from less than \$50 million to over \$150 million, and possibly more if the USO is upgraded to broadband.

OPTION 3 – Employing a simpler method of calculating the USO cost

This option largely boils down to setting a cost estimate by consensus initially, with some basis for moving forward. It reflects the current status quo. DCITA 2004 saw merit in the proposal in that it was fair and provided a measure of certainty to the industry. It saw the approach as striking a reasonable balance between efficiency and equity objectives.

It essentially involves a political judgement by the Government. It is difficult to see how any simple approach could approximate what is a complex model and so the chances of coming up with a solution that reflected the real USO costs would be negligible. One would suspect the final figure would simply reflect judgement: on the one hand, about the ability of Telstra’s competitors to fund the USO without impeding their ability to compete with Telstra; on the

other, based on a recognition that the real cost of the USO is likely to be much higher than the current levels of compensation. It is likely, as DCITA 2004 suggests, that the subsidy would be at a level similar to that currently set by the Minister rather than return to the levels estimated in the past by the model.

The option does have the advantage that it is a much simpler process. It does not require all the administrative effort involved in running the model.

The problem with a process that does not make any attempt to find out the real cost of the USO means that we will never know the efficiency losses involved, nor will we be able to assess Telstra's claims in future that its ability to fund the USO is diminishing.

In fact one could argue that this option is worse than Option 1 in that the subsidy actually received by Telstra is so small, currently around \$50 million compared with revenues of over \$20 billion that it makes hardly any impact on Telstra yet still imposes a burden on Telstra's competitors, straight from their bottom line profits. Option 2 hurts competitors more but at least it can be argued to have efficiency gains.

OPTION 4 – A tax on lines or numbers

In a paper examining the case for unbundling the local loop in member countries the OECD (2003) noted the potential for loss of revenue to the incumbent from mandatory provision of access to the local loop might diminish the ability of the incumbent to continue subsidising its USO services. The OECD proposed an efficient 'universal service tax or subsidy (p35) which could be applied to ULL lines. The OECD claims that the proposal has a number of merits: it can be designed to be economically efficient, it links the payment for the USO to the loss of monopoly profits from telephony from providing ULL services; it is equitable in linking the beneficiary (the access seeker) directly to the cost whereas under current arrangements the link between levy liability and eligible revenue is very tenuous.

A key issue is the size of the levy. Without a model to calculate the USO it is difficult to assess the appropriate level of the levy. However, the OECD argues that it can be set efficiently, with minimal distortion to the market. Presumably, with a relatively small access price, competitors should be able to pass most of the levy onto customers. With the last calculated USO cost estimate at \$550 million per annum and given around 10 million lines, the charge would be around \$55 per annum or \$4.60 per month per line. Of course, not all the USO funding need be collected through this charge to ensure that competitors who did not access Telstra lines, for example those providing wireless services, might also contribute to the USO. In effect the tax could be a 'customer' tax. Decisions might have to be made about whether those customers who only used mobile telephony services should contribute to the USO.

While a tax of around \$4 per month might be a small compared with current rentals it would, as Xavier notes, be a regressive tax and may require additional programs to protect low income earners. The alternative of a number tax would, of course, need to be much less per number, given that there are over 30 million numbers.

The negative efficiency impacts of this option may be larger than those for Options 2 and 3. For Options 2 and 3 the subsidy cost come off the bottom line of each carrier and should have minimal affect the pricing of individual products. The line or number tax, on the other hand involves increasing the price of a specific product provided by all carriers. However, line and

number access has generally been assessed as having a low price elasticity of demand and so welfare loss should still be low. In addition, it is spread widely, so minimising the level of the tax which should minimise its effect. The extent of the distortion imposed by the tax will, of course, depend on the size of the tax.

OPTION 5 – The Government takes over the responsibility – for both determining service levels and funding them (ie budget funding).

As noted above, the Federal Government, and to some extent State and local governments, are already starting to fund some USO services. Through its funding programs in recent years the Federal Government has poured well over a billion dollars into telecommunications, some of which would have flowed to USO customers. The recent announcement of Broadband Connect Infrastructure Program grants will ensure many USO customers obtain broadband services, at least for the foreseeable future. Given that the Government has been called upon more and more to fund these services, and will undoubtedly be called upon into the future, then it might seem sensible for the Government to take over formal control of USO funding. This it has done for a range of other public services, such as national roads and air services. Of course these are in areas the Federal Government does not have full constitutional responsibility whereas it does in telecommunications.

For the Government to take over the USO it would need to scope it. That is, identify USO customers or at least areas where it would accept responsibility for ensuring services were provided – or else provide criteria or a mechanism for defining them.

In the areas identified as USO areas (whether they contain non-USO customers does not really matter) the Government could provide funding for USO service providers, through, for example annual contracts or tenders with the Government setting the minimum level of services.

In effect, the Government is doing a lot of this now. The HiBIS program and Broadband Connect Infrastructure Program do this. Many of the NTN and associated projects did this, for example the mobile phone contracts for small towns and highways.

If done widely, to cover all USO areas this would be expensive, at least initially. No one, including Telstra, would tender for the USO for less than the current USF subsidy. It is likely that any provider would want considerable more. Initially there may be little competitive tension in the bidding process. Telstra may simply win many of the contracts at a higher price. However, this may in part reflect the fact that the current subsidies are far below the real cost. If the USO subsidies reflect the true cost of services then there may well be more interest shown by other carriers in supplying them.

The other reason that the cost may be higher is if the obligation were to be increased to a fast broadband service. This is basically inevitable now that the Government has stated that it will ensure that almost all customers can access fast broadband services. However, over time demands for even better services will inevitably increase. Customers might have more success in getting services upgraded from the Government than from a private supplier. The cost of providing such services is likely to increase.

Over time telephony services are likely to be absorbed into broadband services. With the growth of voice over internet protocol (VoIP) services telephony will become a minor data

stream in the broad multi media services provided to customers. The growth of mobile services may mean that fixed telephony services become less important to customers. The obligation may remain *de jure* as standard telephony but will gradually become a *de facto* broadband obligation. Even though rural and remote customers may be asked to pay for their broadband services, because prices for these services have been effectively linked to metropolitan prices through the HiBIS and Broadband Connect programs, many of these customers will not be paying the full cost of their services – effectively creating a broadband USO.

As Xavier notes, funding expenditure from general taxation is generally the favoured method of economists as it is less, although not completely, distorting than taxing specific goods or services. That is, it is better that taxpayers decide how to reduce their expenditure in the face of additional taxation, and so minimise their welfare loss, rather than the Government deciding. He also notes that the Regional Telecommunications Inquiry (2002) supported funding of upgraded services from the budget, in line with many other subsidies for rural areas and industries, in preference to the industry funding them through the current USO mechanism (249-250).

Some critics oppose budget funding on the basis that it is vulnerable to changes in fiscal policy whereas predictability is important. To the extent that this is true, it only reflects the fact that Governments have to make fiscal decisions. The other side of the coin is that Governments should make better choices when the costs are transparent to all. It is not normally economically efficient to link a particular revenue source to an expenditure item – revenue raising should be based on efficient pricing principles (for example, marginal cost pricing) while expenditure decisions should be based on benefits (for example, through benefit cost analysis) but also take into account economy wide resource allocation principles.

The Regional Telecommunications Inquiry (Estens Report) basically supported direct Government funding. It noted that the USO “is not an effective mechanism to provide broad consumer access to an increased range of services into the future”. It suggests that the Government should have a role in funding broadband services to loss making customers even if not through the USO mechanism. Once the USO moves beyond vanilla STS someone has to make decisions as to the level of services to be provided in unprofitable areas. There is an argument that this should not be left to Telstra, or any other carrier. The fact that Government has instituted reviews such as the RTI tends to support this. However, if, as noted above, standard telephony is becoming simply one of many data services offered as part of a broadband package of services to customers, it will progressively become difficult to sustain a separate telephony USO but a Government policy of providing broadband services to all. Broadband services will become the *de facto* universal service, which will include telephony services. The major practical difference might be that those who did not want broadband services, or rather, pay for them, might still be able to choose a standard telephone service. Over time, these customers will become few in number.

A further argument in favour of Government responsibility for the USO is the complexity that will inevitably arise as, over time, other competitors enter the market. With multiple USO suppliers there will inevitably be tension among customers receiving different levels of service. The risk of business failure could well increase as it did in urban areas after 1997. There is less of a problem in urban areas though, where there are more alternative suppliers. The problem of retaining a USO provider of last resort may be more easily resolved if the Government has greater control over service provision.

On the other hand, the Government may not wish to become too deeply involved in the business operations of a number of USO providers. The Government has been seeking to divest itself of various business undertakings over the past two decades. However, it is already starting to become involved through its funding programs and will inevitably be more so given the large amounts set aside for future funding through the Communications Fund.

In a way, this would be an extension of the contestability USO scheme started in 2000. One could argue that that scheme was unsuccessful largely because the level of subsidies offered was too low. But also, the range of alternative technologies has increased markedly since then, particularly lower cost wireless technologies, which now make it more profitable for new competitors to enter rural markets. The Broadband Connect Infrastructure Program highlights the impact of technology on business models over the past few years. In 2000 such a program would not have been sensible as there was no effective alternative to copper technology.

In the past there was a view that budget funding could well entrench Telstra's monopoly. Telstra has certainly received a large share of Government funding over the years. However, this is also changing as a result of technology. There are now more viable alternatives to Telstra's network and technology. The chances of more competition are greater today, and should become even greater in future. The Broadband Connect Infrastructure Program offers a chance for significant competition into rural areas.

Of course, assuming the management of the USO will create problems for the Government. In some areas Telstra may be the only carrier willing to provide the service. It may seek more money. The Government will need to develop an independent process, presumably through ACMA, for determining whether Telstra's claim for subsidy is reasonable – not a model but at least some costing guidelines. Initially the Government may need to continue the current ministerially set USO arrangements in the short term and gradually move away from them for those areas where it is possible to tender services.

A further constraint may be that the USO customers are not grouped together in a way that favours single contracts, rather they are dispersed. But this issue is already being addressed through Broadband Connect (for example, through the large OPEL contract).

Assessment of options against the Xavier and Economides criteria

Attempts have been made in the literature to provide a framework for assessing various USO options. Both Xavier (OECD 2006) and Economides (1997) set out a range of useful criteria. The table below attempts to assess each of the five options against the Xavier and Economides criteria.

Table 1 – Assessment of five funding options against Xavier and Economides criteria

Criteria	Options				
	<i>New model</i>	<i>Simple model</i>	<i>No Telstra funding</i>	<i>Line or number tax</i>	<i>Budget</i>
Xavier					
Efficiency	X	X	X	X	√
Equity	√	√	√	?	√
Certainty	?	X	X	√	X
Transparency	?	?	?	√	√
Competitive neutrality	X	X	X	X	√
Technological neutrality	X	X	X	X	√
Cost effectiveness	X	X	√	X	√
Economides					
Broadly funded	√	√	√	√	√√
Narrowly targeted	X	X	X	X	√
Overall ranking				2	1

To some extent there is a measure of judgement in the assessments of each option, as there is in defining each of the assessment criteria. Xavier (OECD 2003, 50) has defined the criteria as follows:

Criteria for assessing a funding mechanism

- *Economic efficiency* – the financing of universal service should distort economic behaviour as little as possible;
- *Equity* – equity is a contentious ‘normative’ criterion that may be variously defined/assessed eg whether there are similar costs for people with similar abilities to pay, and whether contributions are fair and reasonable;
- *Transparency* – the opportunity for public scrutiny of information, to the maximum extent possible;
- *Certainty* – specific, predictable and sustainable arrangements;
- *Competitive neutrality* – does not discriminate in favour of any company;
- *Technological neutrality* – does not discriminate in favour of any technology;
- *Cost effectiveness* – cost effective to introduce (if a new scheme) and cost effective to administer on an ongoing basis.

Source: The regulation of Access services (with a focus on telecommunications), OECD, 7 November 2003 (<http://www.oecd.org/dataoecd/23/61/18645197.pdf>)

Economides has a similar range of criteria but introduces two extra ones:

- *Narrowly targeted* – the funding is targeted to those who ‘need’ it; and
- *Broadly funded* – the incidence of the tax or other funding should fall as widely as possible and not be a burden on only a small group of users.

While efficiency is the first assessment criterion in the table it will be dealt with separately below. This is because it has separate aspects including administrative efficiency or complexity and economic efficiency.

Only the line or number tax is rated poorly on equity grounds because it is a regressive (fixed) tax that will impact poorly on low income customers. However, this could be mitigated by programs to assist low income earners. The other options involve the burden falling on taxpayers or telecommunications users in general or Telstra's customers – fairly wide groups. The incidence on individuals can only be avoided or reduced by reducing consumption of telecommunications services. It is not clear cut, of course, as lower income customers use telecommunications services to varying degrees and there are currently low income assistance measures available. A number tax might be somewhat less inequitable than a line tax if it is the case that higher income earners are more likely to have a mobile phone, or even several, and that many mobile phones are used for business.

The Telstra funding option is rated poorly on the criterion of certainty. The reason was that the less compensation provided to Telstra the less likely it is to provide better services to its loss making customers. Of course the other two options may only be marginally superior on this criterion since Telstra may continue to argue that is not being adequately funded – even with an agreed model. The budget funding option is rated poorly on certainty on the grounds that it is subject to budget priorities. Xavier notes, however, that any form of cross subsidy, which is implicit in all but the last option, will become increasingly unsustainable over time with increasing competition. Therefore, all but the line or number tax options fare poorly on this criterion.

On transparency, the use of a new model would improve our understanding of the real cost of the USO. Likewise, tendering for the USO under the budget funding option will also clarify the real cost. However, while the provision of the USO is left to Telstra there is less transparency as to how the money is spent. The budget funding option, with competitive delivery of the USO would be much more transparent.

The construction and operation of a new model rates lower on cost effectiveness, because of the administrative cost involved. The line or number tax could also involve some administrative cost. However, considering the overall cost of the USO, even these costs would be relatively small.

All the options are broadly funded. The first two involve all customers of all carriers (except the very smallest) sharing in the funding. The third would only affect Telstra's customers, although they are about 70 per cent of the total. The fourth involves all fixed line (line tax) or all telecommunications (number tax) customers and the last all taxpayers – basically the same group as all telecommunications users.

The assessment of options against the criterion of narrow targeting of services is partly philosophical. Is it better for say Telstra to decide on services to USO customers, guided by its own business interests, albeit constrained by regulation, or is it better to the Government to set the parameters? For example, through a tender process the Government may be offered a range of solutions to choose. The other options involve leaving the decision on level of services to particular customers to Telstra. Of course, in one important sense the whole USO is not well targeted. Services are subsidised on the basis of higher cost not on equity or need.

That is wealthy people in rural areas get the same subsidies as poorer people in those areas (apart from those on Government pensions etc who receive specific additional subsidies).

Efficiency

There are at least two separate aspects of efficiency. The first is administrative complexity. The first three options have in common the fact that Telstra largely decides on the services offered to customers, although currently with a regulatory regime to ensure at least basic levels of service are maintained. However, over time there have been changes in Telstra's commitment and approach. For example, prior to 1988 there was concern that Telstra may have 'gold plated' its network in the absence of competition. In more recent times there have been criticisms of Telstra's services. For example, claims that it has let maintenance slip, that it has chosen technical options that have hindered deployment of ADSL services (for example, use of RIMs and pair gain systems) and that it has failed to utilise its network to the fullest in providing the latest ADSL2+ services.

The option of the Government managing the USO through, say, public tenders, may enable the tighter control through contractual arrangements. The Government may be in a better position to specify the type and quality of services available than leaving more decision making to Telstra. However, it would still require considerable Government administrative oversight.

On the question of economic efficiency the assessment is largely turns on the merits of industry funding, Telstra funding through cross subsidy, a service tax or budget funding. In theory cross subsidy is the worst option in that it distorts demand decisions for USO customers and all profitable customers who are faced with prices that are excessive. Industry funding could be less distorting. However, there is the likelihood that the impact could be more problematic on Telstra's competitors, particularly if the cost is large. Very few carriers, for example, even make a profit and USO contributions could represent a substantial cost to smaller carriers and thus hinder competition.

As noted earlier a tax on lines or numbers has economic efficiency implications because it too, like cross subsidy, distorts prices. However, if the elasticity of demand is low, which is likely, then the efficiency impact of either option will be less.

As noted by Xavier, Budget funding is likely to be less distorting than a tax on services.

Overall assessment

On balance, on these criteria, budget funding or a line tax rate most highly. The other options, including the DCITA 2004 preferred option, rate poorly. Budget funding, in particular, scores best on the criteria of technological neutrality, competitive neutrality and technical efficiency because it removes the decision making on services from Telstra. That is, the Government can tender services to any carrier using whatever technology the carrier chooses. It can be driven by the market. Of course, this assumes that the Government takes expert advice. It also scores well in economic efficiency since a tendering process can introduce competitive tension which is not present in the current USO process.

The line tax option does not rate significantly above the first three options, largely because the funds are still largely passed to Telstra to disburse. It also suffers from the need to decide what level of tax to levy and to link this to the services actually provided. The budget funding option provides more flexibility, albeit with less certainty of funding.

The line tax and budget funding options could be combined. That is, the Government manages the USO but funds it through a line tax rather than having it funded from the bottom line (that is, from the profits or added to the losses) of each carrier as at present. The line tax would be a less preferable means of raising revenue than through general taxation but it might offer some political advantages. It would link the USO to telecommunications based funding and provide a measure of certainty for USO funding (although there may be efficiency arguments in basing Government funding on a wide range of factors, including macro economic factors, rather than tying it to particular sectional demands).

Costing versus management

As suggested above, funding and the management of the USO can be divorced. A line, or number, tax could be combined with all the other options except for Option 3 – no Telstra funding. Equally budget funding could be combined with Options 1 and 2.

The key to the attractiveness of the budget funding option is that it facilitates direct management of the USO through contracts, rather than the current indirect regulatory approach (legislation, pricing policies, customer service guarantees etc). In particular, provision of the USO through a competitive mechanism, such as a tender process, can ensure greater efficiency. It may result in one monopoly replacing another but at least there can be some competitive tension in the tender process. The Government could, of course, involve itself in greater management of the USO provision through tenders but yet continue requiring industry to fund the cost.

There are still major issues to resolve if we were to move to Government management of the USO. The Government would still have to decide the level of funding, or its corollary, the level of services to be provided. However, there would no longer need to build a new USO cost model as the Government would determine it. That provides this option with a major advantage over a line or number tax linked to the current universal service fund. The latter option requires a determination of the level of the tax.

To some degree telecommunications is becoming more like other areas of Government involvement such as roads, public transport and municipal services. Wherever possible, provision by the private sector in a competitive market is desirable. Where this is not possible, services should be supplied in a competitive selection process with government oversight of standards and levels of service.

The cost

Theoretically, a tender process could reduce the ‘apparent’ cost of the USO if it covered profitable areas as well as unprofitable areas, as did the Broadband Connect Infrastructure Program. As noted earlier, the bigger an area considered, and the more heterogeneous it is, in terms of profitable and unprofitable customers, the less the ‘apparent’ USO cost. Thus a large tender could force bidders to cross subsidise some or all loss making customers from the above normal profits of other customers. The resulting bid, in terms of subsidy required could be lower than the actual USO cost. Tender arrangements change the rules – they hide the USO cost in a cross subsidy. However, as noted earlier, cross subsidies involve inefficient resource allocation.

Of course tender arrangements may not work everywhere. In more remote areas, in particular, only Telstra may wish to bid. If there is no competitive tension there are no market forces on Telstra to prevent a bid for an excessive subsidy. In these areas the Government

may have to continue current arrangements but perhaps with an auditing by the ACMA of Telstra's USO claims for these areas.

In those areas where a tender is feasible while the cost to the Government, or industry, may be lower than the true USO cost, the impact on Telstra could be larger. If Telstra is to remain in these areas and is to continue to be the USO provider of last resort, its USO cost has still to be funded even though it faces a competitor. In addition, because it will lose market share, its USO cost may rise, possibly substantially. This is because it is likely to lose much more revenue than cost. This reflects the fact that much of rural and remote Australia is still a natural monopoly. Duplication of the network in many rural and remote areas may be an inefficient allocation of resources.

If Telstra is not to be required to remain USO provider of last resort then it should be compensated for the write off of its USO assets if it chooses to vacate the market since these assets were only put in place because of the USO. So to if another carrier is offered a subsidy to provide these services. Depreciation of these assets is part of the economic cost of the USO. Even though many of these assets are old, their market value in total could still be large.

As noted earlier, it is difficult to estimate the cost of the USO today or in the future, especially if it is upgraded to a broadband USO. It will depend to a large extent on the technology solution adopted. There is no consensus concerning the real cost of the current standard telephony USO. Telstra has claimed on many occasions that the real USO cost is much higher. The last estimate using the USO model was \$548.1 million in 1997-98⁴. DCITA 2004 (141) accepted that the cost could be significantly higher than the current ministerially set subsidy level of \$157 million. The only way to measure it accurately is with another large, costly and time consuming modelling exercise.

On top of the annual USO payments from industry, the current Government has spent or allocated well over \$1 billion towards providing broadband services in rural and remote areas through HiBIS, ABG and the Broadband Connect Infrastructure Program. A similar sum is likely to be available from the earnings of the Communications Fund over the life of the Fund.

The way forward

Given the difficulties of costing the USO it is likely that that Government will continue the current arrangements while it moves to gradually take over the management of at least much of the USO. No doubt programs such as Broadband Connect will continue. Of course, there may always be some areas, particularly remote areas, where no other carrier besides Telstra may be willing to provide fixed line, or even wireless, services. Satellite services may provide much of the solution but there may remain some customers who rely on their terrestrial Telstra solution.

The current arrangements might be revamped somewhat. For example, a small scale study of current costs, particularly the cost of providing broadband services, could at least suggest

⁴ When the new model was first run in 1997-98 a cost estimate of \$1.8 billion was produced. This was later discounted mainly because it was discovered that it was based on the new, or current replacement, price of assets, rather than the market, or depreciated, value of assets.

whether the current ‘determined’ cost is in the right ‘ballpark’ of the real USO cost. This could be useful for other policy debates as well, such as whether or how quickly to roll out a fibre based network beyond major urban areas.

Where there are identified alternative providers to Telstra, some apportionment of the cost could be made on a ‘per service’ basis, much as was provided under the unsuccessful contestable USO program. These ‘per service’ subsidies might be determined for a range of areas of the country reflecting remoteness, or population density, the chief drivers of costs.

While the 2004 review noted that such simple measures were unsatisfactory, they may well suffice to fill in the gap as the Government introduced new arrangements for managing the USO on a more permanent basis.

Unfortunately, bringing competition to the bush through some form of Government managed tender process still leaves many issues unresolved. Some of these were outlined above – for example, what to do if Telstra withdraws from one or more areas and a new provider fails. Will the Government require new providers to allow Telstra, or another provider, to use their infrastructure to provide services if they cannot? What if these assets are tied up in bankruptcy proceedings? Should the Government require Telstra to provide a temporary service (for example, satellite phones or mobile phones or even a broadband service such as a 3G service)?

Conclusion

Market conditions surrounding the USO have changed markedly since it was formally established in legislation in 1991 and particularly in recent years. The option favoured in DCITA 2004 now no longer seems attractive. The current USO framework is becoming unworkable and will become more so as new competitors to Telstra start providing services in USO areas. The gradual upgrading of services to broadband makes the basis of the current obligation, to provide a standard telephony service, likely to become progressively outdated. In addition, even though the USO may, *de jure*, remain as a standard telephony obligation, it is becoming *de facto*, a broadband obligation. The cost of providing broadband services to rural and remote areas could increase the overall cost of providing telecommunications services to loss making customers. For these reasons a major revision of the funding and management of the USO is required.

The Government has already moved towards funding USO services directly through its funding programs such as Networking the Nation and Broadband Connect. This will undoubtedly continue with the money set aside in the Communications Fund. This is probably the right direction. At the same time it will bring some measure of competition to rural and remote areas for the first time.

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TEN YEARS ON ... HOW IS PART XIC OF THE TRADE PRACTICES ACT HOLDING UP TO THE INFRASTRUCTURE ONSLAUGHT?

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Synopsis

After ten years on the statute books, Part XIC of the Trade Practices Act 1974 (Cth) (the “TPA”) is being called upon more – and is under greater pressure – than ever.

Part XIC gives telecommunications carriers and carriage service providers a right of access to “declared services”: essentially the bottleneck services which form the building blocks of telephony, data and video services that we seem to be craving with an insatiable appetite.

Some of the declared services with which most of us are familiar include access to the public switched telephone network (“PSTN”), mobile termination access, some transmission routes and, of course, the unconditioned local loop service (“ULLS”).

In the early days of “telecommunications deregulation”, the race was on for access to Telstra’s PSTN, so that the likes of Optus, Primus Telecom and AAPT could provide competitively priced long-distance and international telephone services.

However, whilst it may not have been apparent in 1997, ULLS has turned out to become probably the greatest source of competitive tension in the telecommunications industry. One company (namely, Telstra) owns practically all of the underground copper-wire network which forms the basis of the ULLS and many of its competitors are now exercising their statutory right to obtain access to the ULLS, so that they may provide high-speed broadband services to their customers.

This has been described as a move to facilities-based competition. However, not wanting to stand still, commentators, industry players and regulators are already looking ahead to the next stage of infrastructure competition in the communications industry generally.

Somewhat fortunately, there have been a number of decisions on “appeal” to the Australian Competition Tribunal in the last several years, which have shed light on the proper application of Part XIC. These have mostly focussed on access to the “copper network” and mobile termination services, but the Tribunal’s decisions apply across the various declared services (and other services for which it is anticipated that declaration will apply).

Themes

The intended role of Part XIC: facilitating timely and non-discriminatory access to telecommunications bottleneck facilities

In practical terms, the initial role of Part XIC of the TPA was (and still is) to facilitate timely and non-discriminatory access by *access seekers*, to telecommunications bottleneck facilities. This is generally regarded as being important, because it is uneconomic to duplicate such facilities (such as the “last mile” copper network from the access unit in the street to people’s homes).

The Australian Competition & Consumer Commission (the “**Commission**”) decides which services to declare and a service, once declared, must be made available to access seekers in accordance with *standard access obligations* (“**SAOs**”) which are set out in section 152AR of the TPA.

Terms of access

Once a service has been declared, an access provider may give what is known as an *access undertaking* to the Commission; such an undertaking sets out the primary terms upon which the access provider proposes to supply the declared service to access seekers. The Commission must conduct an enquiry into whether the terms in the access undertaking are reasonable and must either accept or reject the undertaking. If accepted, the terms of the undertaking form the basis of the terms of supply of the declared service to access seekers. In determining whether the terms in the undertaking are reasonable, the Commission is required to have regard to a number of criteria, as set out in section 152AH of the TPA.

As a separate matter, an access seeker may request access to a declared service from an access provider. If the parties cannot agree on the terms of access, either party may bring the matter before the Commission by way of arbitration. In determining the matter, the Commission is required to have regard to a number of matters as set out in section 152CR of the TPA; the matters set out in sections 152AH and 152CR are essentially the same.

The Commission is required to have regard to a number of matters in assessing an access undertaking or in making a final arbitral determination. These are:

- whether the terms/determination will promote long-term interests of end-users (the “**LTIE**”) of carriage services or of services supplied by means of carriage services. In determining this question, regard must be had to the extent to which the thing is likely to result in the achievement of the following objectives:
 - the objective of promoting competition in markets for listed services;
 - the objective of achieving any-to-any connectivity in relation to carriage services that involve communication between end-users; and
 - the objective of encouraging the economically efficient use of, and the economically efficient investment in: (i) the infrastructure by which listed services are supplied; and (ii) any other infrastructure by which listed services are, or are likely to become, capable of being supplied;
- the legitimate business interests of the carrier or carriage service provider, and the carrier’s or provider’s investment in facilities used to supply the declared service;

- the interests of persons who have rights to use the declared service;
- the direct costs of providing access to the declared service;
- the operational and technical requirements necessary for the safe and reliable operation of a carriage service, a telecommunications network or a facility; and
- the economically efficient operation of a carriage service, a telecommunications network or a facility.

It is important to note that the person submitting an access undertaking bears the onus of proving that the terms of the undertaking are reasonable within the meaning of section 152AH.¹

Access undertakings may be taken on review to the Tribunal,² however, arbitral determinations may not. A number of the above criteria have been the subject of consideration by the Tribunal upon review. The recent cases which have gone before the Tribunal have provided guidance as to the proper interpretation of key provisions of Part XIC of the TPA (including in particular sections 152AH and 152CR) and it is these matters on which this paper focuses.³

Quarantined investments

Whilst an access provider must comply with the SAOs in respect of a given declared service, it is also possible for an access provider to avoid having to comply with the SAOs in particular circumstances.

For example, an access provider may apply for an exemption in respect of existing declared services⁴ or in respect of anticipated declared services (such as services which might be provided by means of a fibre to the node (“FTTN”) network).⁵

¹ See the Telstra LSS case at para 20.

² A review before the Tribunal is a re-hearing of the matter *de novo* and is limited to material information given, documents produced or evidence given to the Commission in connection with the making of the decision to which the review relates and any other information that was referred to in the Commission’s reasons for making the decision to which the review relates.

³ Note some of these cases dealt with Part IIIA rather than Part XIC, although they all dealt with the various statutory concepts embodied in Part XIC. The recent salient cases are:

- *Re Application by Sydney International Airport* [2000] ACompT 7 (the “**Sydney Airport case**”)
- *Re Application by GasNet Australia (Operations) Pty Ltd* [2003] ACompT 6 (the “**GasNet case**”)
- *Re Application by Seven Network Limited* [2004] ACompT 11 (the “**Seven Network case**”)
- *Re Application by Services Sydney Pty Ltd* [2005] ACompT 7 (the “**Services Sydney case**”)
- *Re Application by Optus Mobile Pty Ltd and Optus Networks Pty Ltd* [2006] ACompT 8 (the “**Optus MTAS case**”)
- *Re Application by Vodafone Network Pty Ltd and Vodafone Australia Limited* [2007] ACompT 1 (the “**Vodafone MTAS case**”)
- *Re Application by Telstra Corporation Limited* [2006] ACompT 4 (the “**Telstra LSS case**”)
- *Re Application by Telstra Corporation Limited (No.3)* [2007] ACompT 3 (the “**Telstra ULLS case**”)

⁴ Telstra currently has an exemption application before the Commission in respect of wholesale line rental services and local carriage services.

⁵ See section 152ATA of the TPA.

Section 152ATA of the TPA provides:

- (1) A person who is, or expects to be, a carrier or a carriage service provider may apply to the Commission for a written order that, in the event that a specified service or proposed service becomes an active declared service, the person is exempt from any or all of the obligations referred to in section 152AR, to the extent to which the obligations relate to the active declared service.
- ...
- (6) The Commission must not make an order under paragraph (3)(a) unless the Commission is satisfied that the making of the order will promote the long-term interests of end-users of carriage services or of services provided by means of carriage services.

The policy foundation for section 152ATA was explained in the Seven Network case as follows:

The 2002 amendments, which, *inter alia*, made undertakings and exemptions available in cases where declaration had not occurred (and even when the service was not yet in existence), were implemented in response to the Productivity Commission's inquiry report on Telecommunications Competition Regulation (December 2001). The Explanatory Memorandum to the Telecommunications Competition Bill 2002, which introduced the amendments, noted that they were aimed "to increase the level of competition and investment in the telecommunications market to the benefit of consumers and business". This was to be achieved by, *inter alia*, facilitating timely access to basic telecommunications services, facilitating investment in new telecommunications infrastructure, encouraging a more transparent regulatory market, enhancing accountability and transparency of decision-making under Pt XIB of the Act.

The purpose of each of the new provisions relating to access undertakings and the ability to seek anticipatory exemption orders was stated in identical terms "to provide certainty for potential investors in telecommunications infrastructure and services in relation to access to that infrastructure or service in the future...".

Prior to the exemption created by s 152ATA, a potential investor was unable to receive an order exempting it from the obligation to provide access to a declared service or to lodge an access undertaking until it supplied an active declared service. The Explanatory Memorandum to the Bill stated:

"This can provide a disincentive for investment because it means potential access providers cannot obtain regulatory certainty as to whether or not their service will be declared, and if so, on what terms they will be required to provide access. In particular, where 'risky investments' are subject to potential declaration, the investment may be rendered uneconomic as a result of this uncertainty."

While it was noted that the costs were difficult to quantify, the potential for lost or delayed investment was highlighted in the Explanatory Memorandum.

In considering how s 152ATA was likely to be used, the Explanatory Memorandum stated:

"Longstanding exemptions may be appropriate in circumstances where a service is 'ex-post' contestable, and therefore would not normally be declared, but an investor may wish to obtain a ruling that this is the case beforehand."

Alternatively, exemptions for a limited period could be granted as "an incentive to invest and innovate in otherwise uncertain circumstances".

In considering the conditions which may attach to an anticipatory exemption order, the Explanatory Memorandum noted:

“[A]n order may contain a limitation that the exemption applies to a service that is supplied using a particular facility, or particular infrastructure and/or in a certain geographical area. This also provides flexibility for the ACCC to grant an exemption in relation to any combination of standard access obligations.”⁶

Also, it is possible for an access provider to lodge a *special access undertaking* with the Commission,⁷ whereby it proffers access terms in respect of an anticipated declared service.

In the Seven Network case, the Tribunal drew the following distinction between sections 152CBA (in relation to special access undertakings) and 152ATA (in relation to anticipatory exemption from SAOs):

...an issue arises as to the relationship between the provisions and scheme of s 152ATA and the provisions and scheme of s 152CBA and their associated sections. Is it in the long-term interests of end-users to have an exemption granted under s 152ATA or is it more in their interests for an access undertaking or scheme to be proffered pursuant to s 152CBA? Which statutory mechanism is more suited to a determination or order that sets out access conditions that are premised on an affirmative view that the conditions are in the long-term interests of end-users?

We consider that it is the statutory mechanism applying to an application under s 152CBA, rather than an application under s 152ATA, which is more suited to an application that requires consideration of the suitability or adequacy of conditions of access to a carriage service or a carriage service provider. An application under s 152CBA focuses directly on the core key issue, namely, the access conditions. By way of contrast, an application under s 152ATA focuses upon the extent to which an exemption from an obligation to comply with the standard access obligations will be in the long-term interests of end-users. In such a framework or context any consideration of the suitability, adequacy or reasonableness of the conditions of access to the service is derivative and not a primary consideration.

This is not to say that the Commission and the Tribunal should not consider applications pursuant to s 152ATA such as have been made by Foxtel and Telstra. They should do so, but they should be particularly vigilant in focusing on the key criterion - is the order exempting the applicants in the long-term interests of end-users? That is a different focus from one that considers the reasonableness of conditions of access.⁸

So, the policy objective of Part XIC is to strike a balance between critical investment in telecommunications (or, more broadly, communications) infrastructure on the one hand and ensuring on the other hand that where competition requires that competitors have access to bottleneck facilities, then access and interconnection are provided on reasonable terms and in a timely fashion.

Issues to which the Tribunal has given consideration

The LTIE

So, what does the “long-term interests of end-users” mean?

The Tribunal in the Seven Network case said:

Having regard to the legislation, as well as the guidance provided by the Explanatory Memorandum, it is necessary, in our view, to take the following matters into account when applying the touchstone - the long-term interests of end-users:

- * End-users: in this matter, “end-users” include actual and potential subscribers to subscription television services and other viewers in their households. The term is also likely to include

⁶ Seven Network case, paras 36-40.

⁷ See section 152CBA of the TPA.

⁸ Seven Network case, paras 100-102.

businesses, such as hotels and other places where people congregate, that subscribe or may potentially subscribe to subscription television services;

- * Interests: the interests of end-users lie in obtaining lower prices (than would otherwise be the case), increased quality of service and increased diversity and scope in product offerings. In our view, this would include access to innovations such as interactivity in a quicker timeframe than would otherwise be the case; and
- * Long-term: the long-term will be the period over which the full effects of the Tribunal's decision will be felt. This means some years, being sufficient time for all players (being existing and potential competitors at the various functional stages of the subscription television industry) to adjust to the outcome, make investment decisions and implement growth - as well as entry and/or exit - strategies.

In considering how these elements may combine, it may be the case, for example, that very low prices are in the short-term interests of end-users. Over the long-term, however, sustainably low prices (which may be higher than the "very low prices" referred to above) are more likely to enhance their interests, as the long-term interests of end-users are likely to suffer in an environment characterised by short-lived operators who fall over soon after the customer signs with them, as distinct from one in which reliable service-providers offer competitive, but sustainable, services. Moves that enhance the quality and diversity of service may be subject to a similar analysis.

The use of the "long-term" may also assist in resolving the apparent tension between the criteria in s 152AB(2)(c) and (e). For example, action that promotes competition in the short-term may deter investment and hence, over the longer-term, competition may lessen (resulting in reduction to efficiency and innovation). Moreover, an action may promote competition at the retail level (resulting in more channels offered by more operators), but may deter facilities-based competition, with fewer service providers being prepared to establish delivery mechanisms of their own than would otherwise be the case. Assessed over the long-term, however, there is less likely to be any conflict between the promotion of competition and efficiency. Nonetheless, to the extent that there are mixed effects, we will have regard to the overall or net effect.⁹

And further from the Seven Network case:

The LTIE test was introduced into the Act as part of the new telecommunications regime in 1997. The Explanatory Memorandum for the Trade Practices Amendment (Telecommunications) Bill 1996 provides guidance as to the interpretation and application of the LTIE test. In particular, guidance is provided in relation to the term "end-user". In this respect, the Explanatory Memorandum (under the heading 'Proposed section 152AB - Object of this Part') states:

*"The term 'end-users' recognises that telecommunications networks and services are used both by customers with a direct contractual relationship with a carrier or service provider and other end-users of carriage or content services (such as the members of a customer's household)."*¹⁰

However, the above statements only define the literal meanings of the words within the LTIE formulation: they do not define the concept of the LTIE (in terms of its inherently economic basis); nor do they shed light on the meaning of the statutory provisions in section 152AB of the TPA.

The Tribunal in the Seven Network case accepted the Commission's interpretation of the LTIE test in applying total-service long-run incremental cost ("TSLRIC") pricing principles and accordingly summarized the LTIE test as follows:

⁹ Seven Network case, paras 120-122.

¹⁰ Seven Network case, para 47.

In our view, there are some basic pricing principles that should be observed in applying the LTIE test. In considering these principles, we are in general agreement with the approach established by the Commission in its guide to *Access Pricing Principles - Telecommunications* (as published in July 1997). In our view, key principles include:

- * The price of a service should not exceed the minimum costs that an efficient firm will incur in the long-run in providing the service.
- * The costs are the forward-looking costs, including a normal return on efficient investment (which takes into account the risk involved).
- * Forward-looking means prospective costs using best-in-use technology. The access provider should only be compensated for the costs it would incur if it were using this technology, not what it actually incurs, for example in using out-of-date technology which is more costly. Of course, a firm may be using older technology because it was the best available at the time the investment was made and replacing it cannot be justified commercially. In a competitive market, however, that firm would only be able to charge on the basis of using the most up-to-date technology because, if it did not (in this hypothetical competitive market) access seekers would simply take the service from an alternative service provider.
- * The cost of providing the service should be the cost that would be avoided in the long-run by not having to provide it. Thus, it is the additional or incremental costs necessarily incurred, assuming other production activities remain unchanged. In this matter, it assumes that Telstra and Foxtel would be providing subscription television services to subscribers.

This version of cost-based pricing is known as ‘total service long run incremental cost’ (“TSLRIC”). It includes operating and maintenance costs, a normal commercial return (moderated by the risk involved) and a contribution to common costs. In our view, in the general case where access prices need to be regulated, unless pricing is on a TSLRIC basis, efficient investment is unlikely to be encouraged. This, in turn, would fail to promote competition in the long-term, as end-users would not be able to benefit from new investment (thereby also missing out on more efficient and diverse product offerings). It is always the case that once an investment is made and sunk (it cannot be undone and the money recovered by selling the infrastructure as ‘parts’ or scrap), it is unnecessary - strictly speaking - to charge anything more than marginal cost to ensure the investor stays in business. After all, the investor is better off receiving its marginal costs rather than closing down. Such an approach, however, disregards the signals sent to other prospective investors who, if observing enforced marginal-cost pricing, are less likely to invest in the future.

This discussion should not be taken to suggest that TSLRIC pricing should be imposed at every opportunity. It will often be the case that regulation, including regulated pricing, is not appropriate in given circumstances. It does mean, however, that, in our view, it would generally not be in the LTIE to depart from TSLRIC pricing where access is regulated. Accordingly, where an access regime requires, or creates an unacceptable risk, of non-TSLRIC pricing, the Tribunal considers that such a regime is unlikely to encourage the efficient use of, and investment in, infrastructure.¹¹

Promotion of competition

The exposition of the notion of competition in the case of *Re Queensland Co-operative Milling Association Ltd and Defiance Holding Ltd* has consistently been applied in Part XIC matters. In that case, the Federal Court said:

“In our view effective competition requires both that prices should be flexible, reflecting the forces of demand and supply, and that there should be independent rivalry in all dimensions of the price-product-service packages offered to consumers and customers.

Competition is a process rather than a situation. Nevertheless, whether firms compete is very much a matter of the structure of the markets in which they operate...”¹²

¹¹ Seven Network case, paras 135-137.

¹² *Re Queensland Co-operative Milling Association Ltd and Defiance Holding Ltd* (1976) 25 FLR 169, at 188-189.

The Explanatory Memorandum to Part XIC of the Act expands on the promotion of competition criterion:

...it is intended that particular regard be had to the extent to which the particular thing would enable end-users to gain access to an increased range or choice of services.¹³

As a practical example of the application of the promotion of competition criterion, the Commission's ULLS Pricing Principles arrive at the unequivocal conclusion that, in the context of the ULLS, the reduction in the ULLS charge would clearly enable end-users to gain access to an increased range or choice of services, including in particular the opportunity for ULLS providers to offer different and varied service options to end-users, in addition to competitively priced broadband services and improved service quality in relation to such services. It would also give end-users more choice of service providers.

Further, the Commission said in its LSS Pricing Principles (in the context of whether to declare the line sharing service):

In certain telecommunications markets, specific market characteristics may mean it is more efficient for there to be only one provider of a given service. In these circumstances, however, it may be that there is scope for competition to occur in downstream and/or vertically related markets. Without access to the vertically related service, however, carriers in vertically related markets will be unable to provide a final service to end-users.

Under the Act, declaration of a service can promote competition in listed services by mandating access to those services that are supplied in monopoly-provided vertically related markets. Further, under certain circumstances, the Act enables the Commission to set terms and conditions for access to these services. In turn, this can help ensure that a lack of competition in one market (the market in which the "eligible service" is supplied) does not prevent the development of competition in downstream, vertically related, markets.

In general, therefore, the Commission believes that declaration of an eligible service is likely to promote competition where the following conditions are present:

- the eligible service is an input that is used, or that could be used, to supply carriage services or services provided by means of carriage services (often referred to as 'downstream services'); and
- competition in the market for the supply of the eligible service is unlikely to be effective in the future and this is likely to have a detrimental impact on competition in markets for downstream services.

In most cases the markets most likely to be affected by declaration are the market(s) for downstream services rather than the market in which the eligible service is supplied (where these markets are separate). This reflects the key rationale for access to essential infrastructure – that of promoting more competitive downstream markets by achieving a supply of inputs upstream at terms and conditions more reflective of competitive outcomes. Further, the aim of promoting the LTIE guides the Commission to be particularly mindful of the impact of declaration on the supply of services at the retail level.¹⁴

When the question of interpreting the meaning of the "promotion of competition", the Tribunal has made the following pronouncements.

¹³ *Trade Practices Amendment (Telecommunications) Act 1997* (Cth) Explanatory Memorandum.

¹⁴ ACCC, Final Decision on whether or not a Line Sharing Service should be declared under Part XIC of the Trade Practices Act 1974, August 2002 ("**LSS Pricing Principles**"), section 4.1.

In the Sydney Airport case:

The Tribunal does not consider that the notion of “promoting” competition in s 44H(4)(a) requires it to be satisfied that there would be an advance in competition in the sense that competition would be increased. Rather, the Tribunal considers that the notion of “promoting” competition in s 44H(4)(a) involves the idea of creating the conditions or environment for improving competition from what it would be otherwise. That is to say, the opportunities and environment for competition given declaration, will be better than they would be without declaration.

...

The before and after tender competitive position is not, however, the appropriate focus of the Tribunal’s concern in relation to the s 44H(4)(a) test. In reaching a view as to whether increased access “would promote competition”, the Tribunal must look to the future on a similar basis to the way it looks at the authorisation provisions, namely the future with or without declaration. Clearly, the Tribunal must have regard to the factual position as it now stands, with the tender process completed and Jardine and Ogden selected. But it must also determine what impact, if any, declaration would have on competitive conditions over and above the post-tender outcomes.¹⁵

In the Telstra ULLS case:

We consider, with one qualification, that that observation applies to the meaning of “promoting competition” in s 152AB(2)(c) of the Act: *Seven Network Limited* (No 4) [2004] ACompT 11 at [124]. The qualification is that pursuant to s 44H(4)(a) (before its amendment) the Minister (and the Tribunal on review) had to be satisfied that access or increased access “would promote competition” in a market, whereas pursuant to s 152AB(2) we must have regard to “the extent to which” the term or condition is likely to result in the achievement of the objective of promoting competition in relevant markets. The difference in language recognised the different legislative regimes in Pt IIIA and Pt XIC. Section 44H(4)(a) (before its amendment) did not require a consideration of the extent to which access or increased access would promote competition in a market. Now s 44H(4)(a) requires the Minister (and the Tribunal on review) to be satisfied that access or increased access would promote a material increase in competition in a market. When, for example, s 152AB(2)(c) directs the Commission (and the Tribunal on review) to have regard to the extent to which averaging is likely to result in the achievement of promoting competition in rural areas, the Commission (and the Tribunal on review) must consider the extent of the competitive impact of averaging in rural areas and the likelihood of that extent, not only the improvement of the environment for competition.

Competition is a process, rather than a situation: *Re Queensland Co-Operative Milling Association and Defiance Holdings* (1976) 8 ALR 481 at 514-515. It is the way in which firms interact, and respond to each other, to ensure they best achieve their individual objectives. Under traditional economic theories of the firm, firms are normally considered to operate with the objective of maximising profits. In general, it is assumed that firms with this objective will compete to win market share from each other. In turn, competition between firms in this way is desirable from a consumer perspective because it creates incentives for firms:

- to lower their prices towards their costs of production in order to attract more consumers to their business so that they can expand their market share; and
- to seek greater productive efficiencies (now and over time) so that they may lower their costs of production. In turn, this enables them profitably to lower prices for consumers in ways that will attract more consumers to their business in order to increase their share of the market.

It is in the interests of consumers that efficient producers of services survive the process of competition as they ensure that a given service can be profitably produced at the lowest possible cost. In turn, efficient producers are able profitably to provide services to consumers at lower prices. The process of competition allows efficient suppliers to survive and displace less efficient suppliers in well functioning markets. Inefficient suppliers will produce their services at a higher cost than their rivals. They will be unable profitably to lower the prices they set for consumers to the same level as

¹⁵ Sydney Airport case, paras 106 and 111.

more efficient producers, with the consequence that they will be unable to win consumers and will therefore be forced out of the market. If, however, efficient suppliers are unable for other reasons to remain in the market, prices will not reduce to levels consistent with the costs of the efficient suppliers.

Accordingly, we believe it is important not to confuse the objective of promoting competition with the outcome of ensuring the greatest number of competitors. That is, the Act aims to promote competition because of the benefits that result from the process of competition, such as lower prices for consumers and the displacement of inefficient suppliers by efficient suppliers of services. As the Tribunal observed in *Sydney International Airport* (supra) at par [108]:

“The Tribunal is concerned with furthering competition in a forward looking way, not furthering a particular type or number of competitors.”¹⁶

And in the Services Sydney case:

Whether averaging will promote competition in the relevant markets for listed services depends upon whether averaging will enable efficient suppliers to operate in dependent markets. The aim is not to ensure that the greatest number of competitors – irrespective of their level of efficiency – can enter and successfully remain in relevant markets. Rather, it is to ensure the existence of the conditions necessary to promote effective competition.¹⁷

Efficient investment in infrastructure

In order to satisfy the LTIE test, the prices claimed by an access provider should be based on the forward-looking efficient cost of providing the service.

For example, costs which are based on actual costs, rather than the forward-looking costs of an efficient operator, are likely to lead to over-investing in the relevant network (*i.e.* “gold plating” the network).

The Commission made the following observations in the LSS Pricing Principles (again, in the context of declaration of the service):

Many of the submissions argued that a LSS would promote the more efficient use of infrastructure, and is thereby in the LTIE. The Commission agrees that the key advantage of a LSS is that it promotes optimal use of copper loops. For example, the simultaneous provision of services on one line by two separate providers will obviate the need to install a separate line for consumers wishing to be supplied data services by one service provider and voice services from a different service provider.

...it is not clear that the terms and conditions, including price, upon which Telstra currently intends to supply a LSS, are reasonable. Further, in the absence of declaration (or the threat thereof) it is also unclear whether Telstra would have an incentive to agree to terms and conditions consistent with the LTIE into the future. To the extent that Telstra might have an incentive to set terms and conditions in a fashion different to that which one might expect in a competitive markets for this service, declaration can serve to provide a means to remedy this form of market failure. This is particularly important as the Commission believes any moves by an access provider to set terms and conditions differently to those that would arise in competitive markets would be likely to prevent participants in downstream markets from competing with Telstra effectively in those markets. This would be likely to reduce allocative and dynamic efficiency in these markets since it will impact on competitors’ ability to offer innovative and higher quality products to consumers and limit the extent to which the prices of final services consumed by end-users reflect the efficient costs of their production.¹⁸

¹⁶ Telstra ULLS case, paras 96-100.

¹⁷ Services Sydney case, para 136.

¹⁸ LSS Pricing Principles, section 6.1.

In the Telstra LSS case, the Tribunal stressed the pivotal requirement that an access provider establish that the charges in its access undertaking are based on *efficient* costs:

...we would point out that whenever an access provider seeks approval of an access undertaking from the Commission which involves a consideration of a price term by comparing it with costs, it would be necessary, in order to satisfy the statutory framework, that the access provider establish that its costs are efficient costs.¹⁹

In the Seven Network case, the Tribunal noted that encouraging investment by access providers may be at the expense of investment by access seekers that would otherwise occur.

Efficient investment, however, implies the right mix. That is, efficient outcomes mean that optimal buy/build decisions are being made, as assessed from the perspective of end-users. By 'optimal' is meant providing the best outcome in terms of prices, quality and diversity.

...

Furthermore, caution must be exercised to ensure that the access price attaching to infrastructure is not excessive, as this would be unlikely to encourage efficient use of investments. Where certain infrastructure has excess capacity but is overpriced, further investment in infrastructure (designed to avoid the excessive access price) may not - from an end-user's perspective - be efficient. Accordingly, a balance must be reached between allowing a reasonable, but not excessive, return to access providers. Reaching this balance will assist in encouraging both the efficient use of, and investment in, infrastructure. Such balance, in turn, is likely to promote competition in the long-term.²⁰

The Tribunal's treatment of Optus' "efficient cost" claim in the Optus MTAS case demonstrates the difficulties faced by access providers in overcoming this crucial hurdle. Optus in that matter went to great pains to demonstrate that its costs were efficient, diverging from Telstra's standard "historical/actual" cost approach (which the Commission and Tribunal have consistently rejected) and instead advancing a "deemed efficient" cost approach:

CRA [Optus' consultant] noted that its model was not entirely based on actual network costs as asset values had been adjusted to reflect modern equipment prices. For this purpose Optus provided CRA with information on changes in its mobile network equipment prices over time. CRA's modelling approach was said to be forward-looking in the sense that it measured the costs that would be incurred by a new entrant supplying the GSM services rather than the historical costs of Optus' past equipment purchases.²¹

However, the Tribunal rejected this approach, notwithstanding its freshness and ingenuity, as once again it lacked the underlying evidentiary support and analytical rigour to satisfy the Tribunal that Optus' costs represented the true, forward-looking, efficient costs of providing the service:

However, there was no evidence before the Commission, or before us, that the cost inputs provided by Optus to CRA were efficient costs. Optus had identified costs relating to its GSM mobile business for 2003/2004 but there was no evidence before us that the costs so identified were "efficient".²²

This approach was reinforced by the Tribunal in the Vodafone MTAS case:

¹⁹ Telstra LSS case, para 46.

²⁰ Seven Network case, paras 130 and 134.

²¹ Optus MTAS case, para 115.

²² Optus MTAS case, para. 114.

Vodafone submitted that there was no material capable of casting sufficient doubt on the efficiency of its inputs into the PwC models to affect any conclusion that the prices and terms in the undertaking were reasonable. In support of this submission, Vodafone relied upon the following matters:

- neither the Commission nor any of the intervenors had nominated any specific cost, item or aspect of Vodafone's business or network which was said to be inefficient;
- the preparation of the PwC models involved a revaluation of network assets to current day values and this would remove any suggestion that Vodafone's network assets were overpriced;
- Vodafone's network was developed, and its non-network costs incurred, in a highly competitive environment. It followed that Vodafone's costs were efficient because of the competitive market in which Vodafone operated; and
- the consultant Analysys considered that for the purposes of producing top-down fully allocated cost results, the use of Vodafone's actual costs was reasonable.

We do not consider that Vodafone's submission poses the correct question. As we observed in *Application by Optus Mobile Pty Limited & Optus Networks Pty Limited* (supra) at par [118]:

“Although there is merit in the proposition that a firm in a competitive market has an incentive to be efficient and to incur its costs efficiently, there is still a need for the Commission (and, on review the Tribunal), to be satisfied, having regard to the matters set out in s 152AH and the objectives in s 152AB of the Act, that the firm's costs are efficiently incurred.”

...

It is not to the point that there is no material before us capable of casting sufficient doubt on the efficiency of Vodafone's inputs into the PwC models. Rather the point is whether we are satisfied, having regard to all the material placed before us, that Vodafone's costs are efficiently incurred.²³

And further in the Vodafone MTAS case:

We consider that Vodafone is obligated to adduce some evidence that its costs were efficiently incurred. In saying this, we have no wish to impose a requirement that the submitter of an undertaking to the Commission foresee every possible speculative criticism of its investment and other business decisions. There are limits to the second-guessing of an operator's basic strategic decisions regarding the size of its network, the geographical area it seeks to cover, the level of market demand it seeks to satisfy and the manner of its product development. Nevertheless, it cannot be sufficient simply to assert, without any supporting material, that costs were efficiently incurred.²⁴

This underlines the contention that the ambit approach to pricing which has been observed in relation to access providers' access undertakings has been consistently and comprehensively rejected by the Commission and the Tribunal. It is submitted that, in future, access providers would have a greater chance of having their access undertakings accepted, were they to proffer undertakings which were based on plausible, realistic and defensible costings – supported by verifiable and credible evidence – rather than ambit claims which have no proper evidentiary basis, but rather appear to be founded on hyperbolic economic theory.

²³ Vodafone MTAS case, paras 48-49.

²⁴ Vodafone MTAS case, para 60.

The legitimate business interests of the carrier or provider

In considering the legitimate business interests of the access provider, the focus is on what is *legitimate*. The Tribunal said in the Telstra LSS case:

The expression “legitimate business interests” is a general expression and is somewhat open-textured. What is “legitimate” conduct or a “legitimate” interest in business may be open to a number of differing interpretations. We consider that a carrier’s “legitimate business interests” is a reference to what is regarded as allowable and appropriate in commercial or business terms. In the context of s 152AH(1)(b), the expression connotes something which is allowable and appropriate when negotiating access to the carrier’s infrastructure. When looked at through the prism of a charge term and condition of access and its relationship to a carrier’s cost structure, it is a reference to the interest of a carrier in recovering the costs of its infrastructure and its operating costs and obtaining a normal return on its capital. Support for this view can be found in the Explanatory Memorandum to the *Trade Practices Amendment (Telecommunications) Bill 1996* which introduced Pt XIC into the Act. That Memorandum noted:

“Consistent with Part IIIA of the TPA, the references here to the ‘legitimate’ business interests of the carrier or carriage service provider and to the ‘direct’ costs of providing access are intended to preclude arguments that the provider should be reimbursed by the third party seeking access for consequential costs which the provider may incur as a result of increased competition in an upstream or downstream market.”²⁵

It is submitted that an access provider’s legitimate business interests, including its ability to exploit economies of scale and scope, are satisfied by supplying the service to access seekers at a price which is consistent with a properly constructed, verifiable TSLRIC model (or the closest available approximation to TSLRIC).

The interests of all persons who have rights to use the declared service

In the Telstra LSS case, the Tribunal found that a cost allocation method which denied access seekers equality of opportunity in relation to the retail markets in respect of which they are in competition with Telstra was not in the interests of all persons who have rights to use the declared service (in that case, LSS). The Tribunal said that:

...the interests of persons who have a right to use the LSS, access seekers, are served by an access price that enables them to compete on their merits (that is, on the basis of their own efficiency) in downstream markets.²⁶

The direct costs of providing access to the declared service

The price for the declared service must be cost-based. As described by the Commission in its *Access Pricing Principles* paper,²⁷ the TSLRIC pricing methodology is generally accepted as being the best available way of determining cost-based (long-run) charges for declared services.

Again, the notion of “direct costs” is intended to preclude arguments that the provider should be reimbursed by the third party seeking access for consequential costs which the provider may incur as a result of increased competition in an upstream or downstream market.²⁸

²⁵ Telstra LSS case, para 89.

²⁶ Telstra LSS case, para 138.

²⁷ Australian Competition & Consumer Commission, *Access Pricing Principles – Telecommunications*, July 1997.

²⁸ See fn 25, above.

However, the Tribunal has expressed the view that the reference to “direct costs” in paragraph 152AH(1)(d) of the TPA does not exclude consideration being given to *indirect* (fixed and common) costs.²⁹

Other issues considered by the Tribunal

The role of market definition

The Tribunal has not placed tremendous weight on market definition analysis in Part XIC cases. In the Services Sydney case (which was a Part IIIA case, but which dealt with legal questions which have parallels in Part XIC), the Tribunal said:

While product and geographic substitution will often be the focus of argument in Pt IV matters, this is less often so in Pt IIIA matters. The focus here tends to be not on the dimensions of the market, as defined by substitution, but on the existence of separate markets from the market for the service. In other words, at which functional levels in the supply chain do markets occur?

Consistent with the QCMA case, a market exists where there are actual or potential transactions for goods or services. Actual transactions can be observed, but how do we determine whether there are potential transactions, which is generally the issue that arises for consideration under Pt IIIA, at least as regards the market(s) for the service(s)? This question arose first under s 46 in the High Court decision *Queensland Wire Industries Pty Ltd v Broken Hill Proprietary Co. Ltd* (the Star Picket Fence Post case) (1989) 167 CLR 177, which concerned a refusal to supply on reasonable terms a product known as ‘Y-bar’, which was needed to make star pickets for rural fencing. The question arose as to whether there could be a market for or including Y-bar, when there was no actual trade in the product. The High Court found that there was. Deane J said (at 196) that:

‘... a market can exist if there be the potential for close competition even though none in fact exists. A market will continue to exist even though dealings in it be temporarily dormant or suspended. Indeed, for the purposes of the Act, a market may exist for particular existing goods at a particular level if there exists a demand for (and a potential for competition between traders in) such goods at that level, notwithstanding that there is no supplier of, nor trade in, those goods at a given time – because, for example, one party is unwilling to enter any transaction at the price or on the conditions set by the other.’³⁰

Numerous choices, one approach

The Tribunal has clarified an important question: that is, where there is a range of possible integers available to choose from, how does one decide which is appropriate?

In the GasNet case, the Tribunal said:

It is clear...that there is no single correct figure involved in determining the values of the parameters to be applied in developing an applicable Reference Tariff. The application of the Reference Tariff Principles involves issues of judgment and degree. Different minds, acting reasonably, can be expected to make different choices within a range of possible choices which nonetheless remain consistent with the Reference Tariff Principles. Where the Reference Tariff Principles produce tension, the Relevant Regulator has an overriding discretion to resolve the tensions in a way which best reflects the statutory objectives of the Law. However, where there are no conflicts or tensions in the application of the Reference Tariff Principles, and where the AA proposed by the Service Provider falls within the range of choice reasonably open and consistent with Reference Tariff Principles, it is beyond the power of the Relevant Regulator not to approve the proposed AA simply because it prefers a different AA which it believes would better achieve the Relevant Regulator’s understanding of the statutory objectives of the Law.³¹

²⁹ See the Optus MTAS case, para 137.

³⁰ Services Sydney case, paras 109-110.

³¹ GasNet case, para 29.

In the Telstra LSS case, the Tribunal had to consider whether the price for monthly access in Telstra's access undertaking was reasonable. In applying the above principle from the GasNet case, the Tribunal found that the question is not what is the *most* reasonable figure, but whether the figure that is posited by the provider of the access undertaking is reasonable within the meaning of the relevant statutory criteria:

In this area of analysis there is no one correct or appropriate figure in determining reasonable costs or a reasonable charge. Matters and issues of judgment and degree are involved at various levels of the analysis. In considering whether Telstra's estimates of its costs are reasonable we are not driven to considering whether the Commission's or other parties' views or assessment of those costs are more reasonable. Nor do we enquire whether Telstra's method or approach in estimating its costs is the correct or appropriate approach. If Telstra's method or approach in estimating its costs is reasonable having regard to the statutory matters set out in ss 152AH and 152AB then the matter rests and a comparison with the \$9.00 monthly charge is then to be made: *Application by GasNet Australia (Operations) Pty Ltd* (2004) ATPR 41-978 at [29].³²

Later in the Telstra LSS case, the Tribunal said:

In a number of respects we are operating in areas where there is no one specific regulatory, economic, accounting or financial answer, and where there may be a number of approaches to the determination of relevant costs or their allocation which may be regarded as reasonable. Our inquiry is directed to whether Telstra's \$9.00 monthly charge in its access undertaking is reasonable having regard to the statutory matters set out in of ss 152AH and 152AB of the Act.³³

Material before the Tribunal

In the Telstra LSS case, an issue arose as to whether the parties were limited to submissions made before the Commission, or whether they could raise new submissions and contentions. In short, Telstra contended that to permit the Commission and interveners to raise new submissions (albeit based on material which was before the Commission below in accordance with sub-section 152CF(4)), would amount to a denial of procedural fairness. The Tribunal held that sub-section 152CF properly construed contains no such limitation and that it would severely curtail the function and power of the Tribunal if it was limited only to considering submissions and contentions which had been advanced before the Commission.³⁴

Further, material which was before the Commission but which was erroneously omitted from the material to be put before the Tribunal, may subsequently be put before the Tribunal.³⁵

International benchmarking

In attempting to have access undertakings accepted, various access providers have provided so-called international benchmarking reports which purport to demonstrate the reasonableness of their proposed access prices as compared with access prices for similar services overseas.

The Commission and the Tribunal have been somewhat sceptical about accepting such material. In the MTAS case, in rejecting such material, the Tribunal dealt with the question thus.

However, a number of other additional factors relevant to cost differences between the countries were not taken into account by CRA [Optus' consultants]. These included spectrum allocations, network purchasing power, vertical/horizontal integration, network usage and scale, population density, land and labour costs, the use of different technology, retail prices, scope of services offered and the

³² Telstra LSS case, para 63.

³³ Telstra LSS case, para 67.

³⁴ See Telstra LSS case, paras 17 *ff*.

³⁵ See *Application by Re Telstra Corporation Limited* (No 1) [2006] ACompT 7.

quality of services offered. The Commission submitted that the effect of CRA making only selective adjustments to its international cost benchmarks resulted in a distorted and unreliable analysis.

...

We do not consider that the international benchmarking analysis proffered by Optus is of any assistance to us in determining the issue as to the reasonableness of Optus' price. The range of prices derived by CRA is so broad as to be of little assistance. Further, the nature of the adjustments made by CRA and the adjustments to which it gave no consideration, render the figures derived an inadequate comparator for Australian conditions.

In any event, the nature of the international benchmarking exercise was such that it teaches very little, or nothing at all, as to whether Optus' price terms are reasonable having regard to the matters set out in s 152AH and the objectives in s 152AB. In order to place any reliance upon the international benchmarking analysis it would be necessary to know much more about the regulatory environment within which they were determined, the state of the relevant markets and the socio-economic environment in which the mobile services were operative.³⁶

Conclusion

Now that a number of decided cases have considered the meanings of various key provisions in Part XIC of the TPA, it seems the hurdle for having an access undertaking accepted is somewhat higher than access providers might originally have thought.

For a start, they must provide a credible evidentiary basis for their cost claims – not just economic posturing, however eminent their experts might be. Also, they must frame their cost claims in terms of the reasonableness test in Part XIC – not in terms of some putative proxy for reasonableness, such as their historic or actual costs, or some approximation to so-called international benchmarks – and they bear the onus of demonstrating that such claims are reasonable.

This failure by access providers to put credible access undertakings before the Commission means that often the only practical avenue by which access seekers may obtain reasonable access prices for declared services (in accordance with section 152CR of the TPA) is to submit themselves to arbitration – only to have to argue the same matters, albeit in a different forum. This begs the question as to the effectiveness of the access undertaking regime in general. Whilst there have been criticisms levelled at the time it takes to obtain an arbitral outcome, at least this avenue provides a mechanism which is capable of yielding definitive outcomes on access prices for declared services for both access providers and access seekers.

*** A note about the author**

Matthew Nicholls, principal of Nicholls Legal, has practised in telecommunications and trade practices law for over 13 years. Matthew has acted for multiple parties in each of the recent reviews by the Australian Competition Tribunal in relation to declared services under Part XIC of the TPA, is currently acting for several parties in Telstra's High Court challenge to Part XIC and recently assisted in advising the Department of Communications, Information Technology and the Arts on the policy and regulatory implications of next generation networks. Contact: matthew@nicholls-legal.com.au

³⁶ Optus MTAS case, paras 293 and 296-7.

WIRELESS FOR RURAL BROADBAND

PROFESSOR REG COUTTS

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Paper Presentation Summary

Wireless Broadband technologies can play an important part in the deployment of broadband infrastructure albeit for different contexts in both developed and developing countries.

Wireless technologies have a particular niche in the different ways of developing countries that do not have a mature copper network for DSL and in developed countries for application in rural environments and difficult locations. This paper considers the two potential technology platforms WiMAX and HSPA in the Australian rural context. WiMAX has arisen very rapidly in parallel with mobile technologies such as 3G as a serious alternative in many applications. This paper examines a hypothetical case example to inform the debate about the application of wireless broadband in rural Australia.

Radio spectrum and standards, together, produce the necessary oxygen to enable wireless and mobile systems and breathe their magic. While making significant headway in just a few years, the spectrum bands for WiMAX are still fragmented within the major regions of the world and this is an obstacle to the development of low cost globally compatible equipment. The WiMAX community of equipment vendors and operators have focused on the 2.5GHz and the 3.5GHz bands for initial *mobile* WiMAX equipment availability. WiMAX conforms to two broad standards, the IEEE802.16d standard decided in 2004 for which certified equipment is available and the other *mobile* WiMAX IEEE802.16e standard decided in 2005 for which certified equipment has yet to appear.

In Australia Telstra has rolled out its 3G network Next G™ at 850MHz to encompass the earlier rural CDMA network. In addition to providing 3G mobile services the Next G with the upgrade to HSPA offer wireless broadband service to rural users. The other 3G operators such as Optus and Vodafone are expected to roll out their HSPA networks at 900MHz in the next few years as well. In June of this year, a new player OPEL, jointly owned by Optus and Elders was awarded the Government contract to rollout a rural wireless broadband service by June 2009 in competition with Telstra based on WiMAX initially announced to utilise the class licensed 5.8GHz band. In my view this band is not suitable for broad WiMAX deployment. The 2.3GHz band which is suitable for WiMAX and available to be used in rural Australia except for the Northern Territory is held by Austar. Austar were initially considering to roll out a rural broadband service based on WiMAX in competition with OPEL and Telstra. Unwired who is in an alliance with Austar with respect to the 2.3GHz band offer a “pre-WiMAX” base *nomadic* broadband service in Sydney and Melbourne. However, since the OPEL announcement, Austar has decided not to proceed and Unwired has attracted investment interest from Channel 7 and Optus. While spectrum below 1 GHz at 700 MHz is attracting hue interest in the USA for rural WiMAX, this spectrum suitable for mobile WiMAX won't be available in Australia until until post 2012 with the transition to Digital TV. However, for fixed rural broadband WiMAX at 2.3GHz with a rooftop antenna is comparable in technical performance to HSPA at 850MHz.

To illustrate the application of the two wireless technology alternatives compared to current DSL technologies, the paper considers a 'hypothetical rural town' in Australia. For DSL the range is limited to 4 km from a central exchange and can offer over 12Mbit/s to users. From our modelling and industry consultation, both WiMAX at 2.3GHz and HSPA at 850MHz can provide similar user data rates of 8-12 Mbit/s expected of ADSL1 and ADSL2+ within what is termed the dominance zone of a single base station site. While the dominance zone would be about 8km out from the base station, the service area for acceptable service would extend beyond this out to nearly 20km for WiMAX and 35km for HSPA but where the user data rate would drop to about 2Mbit/s. In practice further base stations would be established to extend a network of cells to meet demand and assure acceptable service levels. The paper discusses why peak bit rates can for light loading be expected to be obtained by a great majority of users within the dominance zone.

The main objective of the study behind this paper was to compare the technical capability of 3G/HSPA and WiMAX for fixed broadband rural application in a defined time period. The consideration of the likely timing of the availability of equipment offering higher data rates and new features such as MIMO was crucial in such a comparison but will not be discussed here. The paper discusses the task of choosing between the two WiMAX standards given a time to market requirement of only two years. In the case of WiMAX, the choice is between available industry certified IEEE802.16d equipment supplied by multiple vendors or pre IEEE802.16e equipment from a single vendor. Either way a transition at a later date to the certified IEEE802.16e equipment will be required which will potentially include changing customer equipment. In the case of 3G and HSPA, certified equipment from multiple vendors is available and the medium term evolution is very credible. The issues of backhaul, broad commercial issues and the longer term evolution to a 4G are not discussed in this paper. The global rivalry between what is seen as the old 'telco model' and the new 'consumer content and devices' model is increasing in intensity and fuels the claims of the two 'camps' as I choose to describe them.

A number of key policy questions arise from this assessment of the role of the two alternative broadband wireless technology platforms for rural application in Australia:

- How should spectrum policy allow timely application of broadband wireless technologies to reduce barriers to entry for competition in rural markets? It is unfortunate that the 700MHz band of great potential for mobile WiMAX in Nth America will not be available in Australia.
- In what way should government subsidise 'market risk' in rural markets to encourage sustainable infrastructure investment (including backhaul) by any of the industry players while minimising infrastructure duplication? It is not clear how the funding of the OPEL consortium
- How should government maximise the potential for 'best industry practice' by assuring support through policy (eg spectrum policy) for technologies based on global standards but while encouraging local innovation. Again it is not clear how funding the OPEL consortium which will be forced to duplicate DSL infrastructure and adopt short term fixed WiMAX technology (assuming they can acquire the required spectrum at say 3.5GHz) which is not a longer term WiMAX evolution path.
- How do all these decisions impact the policy review of the USO policy, how it should be funded and delivered?

In summary, I believe the WiMAX technology platform does provide a complementary viable access technology to HSPA for rural broadband services in the immediate term. However, the timing requirement for the OPEL consortium to meet its obligations to government in mid 2009 to provide national broadband is problematic. Further, potential new players such as Austar with spectrum at 3.5GHz suitable for WiMAX will now not be proceeding and many other community based carriers will see increased disincentives for rural investment. Telstra in the mean time will be rolling out HSPA at 850MHz and the other carriers subsequently at 900MHz and while so both technology platforms will be utilised to complement DSL access and future FTN investment in the major centres. The policy questions and research issues seem to be left to until after the policy decisions are made!

INDIGENOUS CULTURE AND COMMUNICATIONS

Can stakeholders build a better telephone service?

ROBERT MORSILLO



*Mr Bruce Breaden (Chairman Central Land Council) with the author.
Photo courtesy Central Land Council, March 2002*

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This paper is based on an investigation and minor thesis leading to the award in 2006 of Master of Arts in Communications by Swinburne University. A full copy is available from the author.

Abstract

The apparent disconnect between communications and culture in remote Indigenous communities in Australia raises many questions about the nature of the relationship between the preferred and proffered technology of public policy and the needs and aspirations of the user group. It is important to explore these questions, which should allow for the more intelligent design of communications technologies as well as provide insights into what makes for successful technological innovation within the Australian telecommunications industry.

This paper seeks to explore the corporate and cultural complexities involved in developing a new communications technology solution, called Country Calling, for such a user environment. The starting point is the persistent very low take-up and maintenance of personal or household telephone services in remote Indigenous communities. A social construction of technology approach is used to review three primary questions: (i) How is the current Standard Telephone Service culturally constructed with respect to remote Indigenous

communities? (ii) How are users represented in the technology innovation process? (iii) How is a new technology solution negotiated between supplier constraints and user demands?

The paper argues that best-practice public participation processes combined with an understanding of the user environment can provide for the construction of new technologies that will hopefully allow more people in Australia to stay connected.

Introduction

While there is much debate regarding access in regional areas of Australia to new communications, such as broadband Internet, effective solutions for voice telecommunications in remote Indigenous communities are still lacking (most recently noted by Central Land Council, 2006).

This deficiency was officially recognised in the Besley inquiry, which found service levels in Indigenous communities were poor, and “warrant particular attention” (Telecommunications Service Inquiry, 2000, p. 182). The Government has followed up on the Besley report recommendations and after further inquiry and consultation issued a formal report and action plan (the Telecommunications Action Plan for Remote Indigenous Communities or TAPRIC) that “sets out a guiding policy framework and action agenda to deliver sustainable service improvements” to remote Indigenous communities (Department of Communications, 2002, p. 14). In 2005 the Government announced its follow-on Backing Indigenous Ability program as part of the major Connect Australia package of funding for telecommunications initiatives (Department of Communications, 2006).

Recent survey data suggest a continuing deficiency in take-up of the Standard Telephone Service and other communications services. In 2004 only 79% of Indigenous respondents (urban, regional, rural and remote) reported having access to personal telecommunications services compared to 98% for the general population (See Table 1 below). Indigenous respondents living in metropolitan locations reported significantly higher levels of accessibility to telephone services (7.1 rating on a scale of 1 to 10) than those in regional (6.3 rating) or rural and remote locations (5.5 rating) (Low Income Measures Assessment Committee, 2005).

Table 1: Access to personal telecommunications services 2002–2004

	2002	2003	2004
	General Population % - Indigenous Sample %		
Fixed	96 - 69	94 - 61	94 - 48
Mobile	74 - 46	71 - 38	72 - 63
Internet	37 - 16	60 - 9	61 - 9
None	NA - 17	3 - 25	2 - 21

Sources: Panorama 2002, ABS Nov 2000 *Households with access to the Internet at home*, Roy Morgan Research Jun-Aug 2003, Sep 2003-Aug 2004, LIMAC research 2002, 2003, 2004.

The Standard Telephone Service as a Constructed Artefact

The question arises as to whether the Standard Telephone Service in Australia is part of the problem rather than part of the solution. Does it encode in its design, construction and implementation significant assumptions about the way (certain) people live or relate, which mitigate against take-up? The social construction of technology approach gives prominence to a technology’s interpretive flexibility in the eyes and hands of its designers and users: “...technological artefacts are culturally constructed and interpreted ... There is not just one possible way or one best way of designing an artefact” (Pinch & Bijker, 1984, p. 422).

Such an approach opens up the sealed box of the Standard Telephone Service to the inspection and analysis of its various constituent parts, its multiplicity of design decisions, its “what might have been” options, as well as their effect upon different users. Indeed, the Standard Telephone Service is defined by a large number of attendant characteristics, including technical specifications, connection, billing, payment and credit management, directory listing, fault repair and priority assistance. The following “features” are significant in the way they presume a certain kind of user of the service:

- *A Voice Service* – the user is someone who belongs to an oral-aural culture.
- *Service Connection Costs* – the user is someone who is most likely to live in an urban area with pre-existing (or at least pre-installed) services and where the dwelling is not very far from the property boundary.
- *Legal Lessee* – the user is a single identifiable person who is able to take responsibility for all usage of the service and including all consequent liabilities.
- *Mobility* – the user is someone who does not move about very often, who lives in a relatively stable household that does not change inhabitants very often.
- *Billing* – the user is someone who has a reliable postal address and regular postal service, access to payment transaction facilities, relative stability of location, and is able to estimate and budget for accruing charges.
- *Pricing* – the user is someone who is most likely to have a stable and reasonable level of income, who can afford the fixed cost monthly access charge and who makes an average number of calls from their service and so benefits from the post-1997 re-balancing between access and call charges.
- *Handsets* – the user is someone who does not belong to the 20 per cent of the Australian population that has a reported disability (Australian Bureau of Statistics, 2003) and might require assistive technology in the use of communications and associated Customer Premises Equipment.

Resisting the Standard Telephone Service

The social construction of technology approach allows a study of the *failure* of a technology to illuminate the relationship between it and society. It gives standing to episodes of user resistance to the technology and/ or to the terms and conditions on which it is offered. Failure and resistance can be seen as two sides (supply-demand) of the Standard Telephone Service in remote Indigenous communities. Kline (2005, p. 54) offers an interesting case-study of “resistance to the use of the device prescribed by telephone companies”, namely the party-line connection. The telephone company insisted the service be only used for one-on-one private conversations, rather than for public conversations or eavesdropping, which was possible. “But many farm people viewed eavesdropping in a favourable light, as a way to transplant the rural custom of ‘visiting’ onto the new technology of the party line” (Kline, p. 55).

Some of the problems associated with the Standard Telephone Service in Australia, including those in remote Indigenous communities, might also be understood as resistance to the unusual nature of the service with its private rather than public purpose and its individual rather than shared features (to generalise from Kline’s example). The following four resistance scenarios, by different groups of users, reveal some of the assumptions built into the Standard Telephone Service in Australia.

The Standard Telephone Service as a Disabling Technology

The oral-aural feature of the Standard Telephone Service was resisted when in 1995 the Deaf community in Australia argued before the Human Rights and Equal Opportunity Commission that a Teletypewriter should be supplied as part of the Universal Service Obligation to people who communicate by text on the same or similar terms as equipment supplied to people who communicate by voice. The determination of the *Scott versus Telstra* case in favour of a deaf telecommunications user (Human Rights and Equal Opportunity Commission, 1995, para 39) resulted in the Standard Telephone Service being recognised as a communications service *end-to-end*, rather than just a network connection unrelated to the needs of the end-users and the terminal devices that may be required (such as a Teletypewriter).

The Standard Telephone Service as an Unaffordable Technology

During the early 1990s peak community groups such as the Australian Council of Social Service (ACOSS) were raising the issue of access to communications as a necessary prerequisite to job searching and finding employment (Australian Council of Social Service, 1993). Surveys noted the resistance to the take-up of telephone services among people who were unemployed and the stated difficulties of affording the ongoing monthly access charge, despite the desire to receive calls from potential employers, supportive friends and family. This led to the development, in consultation, of Telstra's InContact® telephone service.

The Standard Telephone Service as a Credit-Challenged Technology

Initial take-up of the Standard Telephone Service in remote Indigenous communities resulted in a re-interpretation of a technology designed for individual and/ or settled household use. Users resisted this feature of the service. Shared use of the telephone service was consistent with the shared use of other goods and services in the community but proved to be incompatible with the standard offering. At one time it was estimated that approximately 35 per cent of wired telephone services lay idle because of previous disconnection for credit management reasons (Duchek, 2002).

The Standard Telephone Service as a Complex Technology

The situation on Mornington Island in Australia can be interpreted as a resistance scenario to the Standard Telephone Service (Lacey, 2002; Boyle, 2002). The original proposal for service provision involved the community council on the island paying in bulk for the monthly line rental component of the installed Standard Telephone Services and recouping that cost as part of the tenancy agreement with each household. Customers could make calls using a pre-paid calling card that was purchased from the local store. However, problems soon arose. The complexity of using the pre-paid calling card proved to be a large barrier to use. The small print and English language instructions on the card also did not help in a mainly oral culture (Lacey, 2002). Further, the cost of local calls via the pre-paid calling card were substantially higher than normal. The resistance to this solution came about when it was realised that Telstra's Standard Telephone Service cannot be barred from accepting incoming reverse charge calls. Once this became well known on the island the whole system and solution collapsed and other service options had to be quickly enacted.

A Standard Telephone Service for Standard Users

In summary, the Standard Telephone Service provided under the Universal Service Obligation has a number of built-in, scripted assumptions about affordability, mobility, access to postal and payment services, individual (financial) responsibility, household constancy, disability

accessibility and being regarded as a non-essential service. In other words, it configures the standard user as someone who fulfils those assumptions.

The Remote Indigenous Community User Environment

Most inquiries about telecommunications in remote Indigenous communities point to a range of demographic and socio-economic factors that affect take-up (eg. Telstra Corporation Ltd, 2001). Issues such as geographic and social isolation, literacy, income, education, employment and health all play a significant role and have been well documented (Department of Communications, 2002, pp. 18-22).

However, it is the range of *customary* factors that also needs to be drawn out, which might also affect the take-up of the Standard Telephone Service in remote Indigenous communities:

- *Diversity* – Indigenous communities are diverse in their demographic makeup and cultural traditions. Many different languages are spoken and behaviours that might be accepted in one community may not be tolerated by another.
- *Mobility and Kinship* – Indigenous people in remote communities might be quite peripatetic as they undertake important ceremonial business, respond to a death in the community, or move to traditional lands.
- *Social calculus* – is a term coined by Schwab (1995) to describe how Indigenous people will generally calculate transactional value based on social reciprocity, rather than potential financial cost.

For such Aboriginal people, whether or not cash is exchanged for access to others' consumer goods, services or labour, and the amounts of cash involved in the transactions, are dependent upon people's own assessments of the social value and context of the proposed transaction, rather than its formal economic value (Altman & Ward, 2002, p. 31)

- *Relational dynamic* – A consequence of this social calculus is the emphasis placed on relationships and having the time to get to know a person and a technology. Technology is constructed in personal terms and requires just as much careful initiation as a new personality. Otherwise, the telephone, and other communications technologies, can be perceived as “white fella” property and alien to the community (Bomford, 2002). “...too often people see themselves as recipients or even victims of someone else's technology” (Fisher, 2006, p. 16).
- *Humbugging* – A further outcome of this social calculus where one member of the clan is able to put demands on another to provide cash, or goods or services, for free, or on a less than commercial basis. Watkins (2002) points out that these “cultural obligations to other family members may be reinforced by poverty – you don't say ‘no’ because next week you may need *them*.” However, it is clear that this shared usage of the Standard Telephone Service is one of the major reasons for “unexpected” high bills and consequent credit management action by suppliers leading to disconnection of services.
- *Community ownership* – resources such as telecommunications are seen as community resources, not belonging to an individual household: “...the notion of household use of telecommunications is an entirely inappropriate framework from which to approach the needs of these communities” (Casson, MacNeil, & Wilding, 2002).
- *Community capacity* – This issue is highlighted in various submissions from Indigenous organisations arguing the priority of human capital development, giving attention to

human infrastructure requirements, along with physical communications infrastructure needs. The Indigenous Remote Communications Association argued for the:

...adequate provision of human capital development, skill acquisition, career pathways and employment opportunities complimenting remote and very remote Australia's telecommunications infrastructure (Indigenous Remote Communications Association, 2002, p. 7).

- *Cultural business* – In order to build community capacity Indigenous people themselves point to the need to develop, maintain and pass on cultural knowledge. So, an important consideration for the use of communications technologies in remote Indigenous communities will be their utility for communicating cultural knowledge, as dé Ishtar notes: “If our projects are to benefit Indigenous peoples it is essential that we find ways of recognising and honouring the Living Culture of our hosts” (dé Ishtar, 2004, p. 3).

Interpreting the User Environment

In summary, an analysis of the user environment in remote Indigenous communities shows strong evidence of a cultural misalignment between the technology artefact and the intended user. The configured user is not recognisable in that environment. The conception of household and family is much broader, itinerant and diffuse than generally allowed in western cultures. The notion of individual property and ownership is problematic in a largely communally based society where most resources are shared. The communications requirements of cultural and community business take precedence over private individual business needs. The capacity of many communities to successfully self-organise and enter into sustainable agreements cannot be assumed.

User Representation in Technology Development

Traditional paradigms of technology development generally give priority to the manufacturer, who determines the problem or need, undertakes research and development, design and construction of the new artefact and then seeks to commercialise it. In order to have successful take-up of a technology designers might investigate certain aspects of the intended user and their environment. Usually this is done through market research, with the results of qualitative and quantitative surveys fed back to the designers by firms that specialise in such research.

More recently it is being recognised that users do play an important role in innovation. The work of von Hippel has shown that “lead users” in particular play a role in a large proportion of successful innovations, often by constructing a prototype solution to a problem they have encountered and then convincing a manufacturer to take it to the wider market (von Hippel, 2005).

A social construction of technology approach reveals that the user has been represented in the design of the technology almost from the very beginning, even if only implicitly. The question becomes whether more successful technology outcomes can be achieved if users are *explicitly* represented in the design and development phases.

Technology Democracy

With the increasing importance to and impact of technology on human life and society there is an increasing call for the democratisation of technology, particularly when developing countries are confronted with multi-national technologies.

Just providing access to basic technologies is not enough. People also need control, both over the use of existing technologies and the development of new ones. The only way of ensuring that any technology will benefit people is to provide opportunities for them to participate in its development. Such processes should not only draw on their existing knowledge and practices, but also their assessment of particular circumstances in which the technology might be used (Wakeford, 2004, p. 3).

Closer to home, this democratisation of technology view has been reflected by Peter Binks, CEO Nanotechnology Victoria Limited:

For successful commercialisation of technology, there has to be engagement between the people who are developing the technology, the people who are funding the development and the people who intend to use it. The relationship must be one where they are all equal parties (Binks, 2006).

Public Participation

Technology democracy can be viewed as the application of more general participation processes specifically to technology development. Public Participation is a well-developed and recognised process (International Association for Public Participation, 2006) that seeks to allow user influence in decision making. It can also be referred to as consumer consultation or community engagement. According to the International Association for Public Participation (IAP2) effective processes must be based on the following seven core values:

1. The public should have a say in decisions about actions that could affect their lives.
2. Public participation includes the promise that the public's contribution will influence the decision.
3. Public participation promotes sustainable decisions by recognizing and communicating the needs and interests of all participants, including decision makers.
4. Public participation seeks out and facilitates the involvement of those potentially affected by or interested in a decision.
5. Public participation seeks input from participants in designing how they participate.
6. Public participation provides participants with the information they need to participate in a meaningful way.
7. Public participation communicates to participants how their input affected the decision.

(International Association for Public Participation, 2006)

A public participation process can be useful where there is a large number of disparate stakeholders involved in the development process. The ability of a process to bring together and take into account the views and interests of such a large range of stakeholders, while focussing on the decisions that need to be made and outcomes expected, is its strength.

Who is the Public in Public Participation?

In applying a public participation model to technology development a key issue is: who is the "public" that is engaged. Large companies tend to rely on market research to gather end-user data, but it is clear that users are not the only interested stakeholders. Jessika van Kammen notes the opportunity to "extend the diversity of techniques for constructing representations of

users beyond market surveys” (van Kammen, 2003, p. 158) even if complexities arise when multiple stakeholders represent multiple views of the user.

It is clear that in the case of remote Indigenous communities there are many significant stakeholders involved in developing communications solutions. These include: representatives of remote Indigenous communities, who work with and advocate for improved services on behalf of their constituencies; community organisations, who provide human services such as health and welfare to these communities; the Commonwealth Government, which provides funds and overall policy direction and State Governments, who are responsible for health, education and other infrastructure requirements; and supplier business units, who may not necessarily all be consistent in their views of the intended user.

Telstra has been engaged in participatory processes with each of the identified stakeholder groups and the following consultation processes and forums were utilised in negotiating the construction of a new telephone service for remote Indigenous communities: the Telstra Consumer Consultative Council (TCCC) with representatives of remote Indigenous communities; the Low Income Measures Assessment Committee (LIMAC) with representatives from community organisations; the Commonwealth Government’s Indigenous Communications Committee with representatives from the supplier and the provider of funds; and internal project committees.

The latter provides another window onto the complex construction of any technology. There is a large number of different and contributing stakeholders *within* the organisation that builds and implements what is (first) thought to be a relatively straightforward solution.

- Pricing – approving customer charges
- Billing – adapting systems to suit
- Credit management – ensuring credit risk was contained
- Marketing – branding and customer information materials
- Product development – adapting calling card systems to suit
- Consumer affairs – providing user environment/ customer needs input
- Network technology – assessing network traffic and demand impacts
- Customer service processes – integrity of ordering processes
- Customer facing business unit – channels to market
- Regulatory – signing off on compliance

Advocates as Stakeholders

While it is important to understand from users directly their relationship to a possible technology, engaging with advocates can bring to light different issues that may still be crucial for success of the technology.

Room was created for ... advocates to introduce different frames of meaning ... for example ... their concern for the kinds of relations between users and providers that such a technology might constitute (van Kammen, 2003, p. 170).

Advocates for remote Indigenous communities Community did introduce “different frames of meaning” that may be important for success. Firstly, there was a strong focus on the need for community capacity building that promotes economic development and effective Indigenous

participation, in addition to technology infrastructure building, for example from the Indigenous Remote Communications Association (2002). This communal perspective would not necessarily be apparent when considering the individual and their use of a technology. Secondly, there was a strong focus on the diversity of needs and community situations with advocacy for a range of solutions to be trialed, for example from the Central Land Council (2006). This introduces a broader perspective on finding communications solutions than simply focussing on the product features of a household telephone.

The State as a Stakeholder

The relationship between technology and culture is not necessarily a neutral one. The question has to be asked whether in seeking the successful domestication of an alternative household telephone service in remote Indigenous communities the State (that is, the government of the day representing the dominant or majority culture) is also seeking to recreate certain “normal” patterns of household life and responsibility that are more in keeping with the dominant culture rather than with Indigenous culture. Resistance by remote Indigenous communities to such technologies might thus be also interpreted as a political-cultural clash.

Citizens who reject technologies developed by the state for a common public good ... or who fail to use them in the prescribed way, not only become inappropriate users of technologies but also fail in their civic responsibilities and eventually are deemed “bad” citizens (Oudshoorn & Pinch, 2003, p. 19).

Issues of hegemony and assimilation can also arise from the offer of certain normative technologies such as a household telephone and Internet access. In this view, users must also be considered as citizens, not just consumers, who have a certain relationship to the State, not only to the technology.

Negotiating a New Technology

Evolution or Revolution?

Thomas Kuhn, an influential contributor to the history and philosophy of science, outlined a theory of *The Structure of Scientific Revolutions* (1962) that distinguishes between “normal science as puzzle solving” and “crises” that may lead to revolutionary “paradigm changes”. In a similar way, technology commentators and futurists have come to talk about “sustaining” and “disruptive” technologies. The latter term, in particular, was coined by Harvard Business School professor Clayton M. Christensen (1997) to describe a new technology that unexpectedly challenges and begins to displace an established technology. Sustaining technology relies on incremental improvements to an already established technology. Christensen points out that large corporations are designed to work with sustaining technologies. They excel at knowing their market, staying close to their customers, and have mechanisms in place to develop *existing* technology.

The question becomes whether successful communications solutions for remote Indigenous communities can come from further development to existing technologies such as the Standard Telephone Service or whether such a user environment represents a crisis of the prevailing paradigm.

Constructing Country Calling

The case of the reverse charge call

It was clear from the experience of Mornington Island that the unrestrained bills caused by reverse-charge calling was an issue that needed resolving in some way. However, no suitable revision of the reverse-charge feature could be envisaged by the project team and the conclusion reached was that it needed to be controlled through selecting a telephone service level that barred reverse-charge calls altogether, namely the InContact® telephone service. Thus a culturally apposite mode of placing a telephone call through verbal-aural means for remote Indigenous communities was withdrawn.

The case of a not-so-free InContact®

The only problem with InContact® from the supplier's point of view was that it was free (of ongoing monthly charges). However, the high cost of infrastructure maintenance in remote areas meant that no discount could be envisaged on standard line rental charges. The tussle between wanting to encourage telephone take-up, but not at any cost, is revealed. Ironically, a scarcity (telephone take-up) is restricted by scarce resources (infrastructure availability) and price signals, which are the usual variables used to encourage greater demand, are to be kept as close as possible to standard rates.

The case of Centrepay

As part of the development of its Access for Everyone programs for people on low incomes Telstra had introduced the option for its customers to utilise Centrepay to make regular credits to their telephone account from their Centrelink pension or benefit payment. A special contract was created with Centrelink just for the Country Calling Line and a fortnightly even dollar amount chosen (\$12 per fortnight) that came closest (\$26 per month) to the Standard Telephone Service rental for the standard offering (HomeLine Complete, \$26.95 per month).

The case of the local call price

In order to make Country Calling relevant to communities like Mornington Island, where all services were within a local call of each other, there was a strong user preference to make the local call price as close to standard as possible (25¢), particularly if the line rental was also close to the standard price.

The case of the family call option

Another strong user preference was to be able to use this household telephone service for family conferences. The importance of kinship as a driver of mobility and cultural business has already been noted. A precedent came from the development of the larger Telstra payphone booth that had been specially designed with lots of room so that a whole family could gather around the payphone and take turns to talk on the one call.

The case of a dual-rate pre-paid calling card

Country Calling was intended for the remote market segment, though it was allowed that users of the Country Calling Card (see Figure 1) should be able to roam and use it from any Telstra service, whether in a remote or urban area. To that end, a novel suggestion was made to have differentiated tariffs depending on where the Country Calling Card was being used. If it was used with a Country Calling Line it would have a generally beneficial tariff for remote

Indigenous households. If it was used from any other access service, such as a public payphone, it would revert to standard call charges.

The case of micro-prepay

Micro-prepay refers to the ability of a customer to efficiently (ie. whenever and wherever desired and at low cost) top up a pre-paid telephone account with very small amounts of credit. Examples to date come mainly from developing countries and it appears that micro-prepay is successful in promoting affordability and the use of communications generally among people on low incomes. “Micro-prepay is a powerful and obvious tool for improving affordability” (Milne, 2006, p. 46).

Country Calling is a pre-paid fixed line service but it does have line rental payments aligned to the fortnightly cycle of Centrelink payments (deducted through the Centrepay service) and with small denomination (\$5, \$10, \$20) top-up calling cards, locally obtained. In this way it attempts to align the charges for the service to the actual income availability of the customer for both timing and actual dollar amounts. Country Calling therefore implements some of the elements of micro-prepay.

Figure 1: Country Calling Card



Country Calling as User Innovation

In summary, Country Calling as a new product reflects in many more ways the user environment into which it is being trialed. In a very real sense, then, this alternative telephone service innovation has been constructed by the intended user in remote Indigenous communities. However, it is also clear that Country Calling is but an incremental improvement to a sustaining technology for the supplier. It is very much work in the mode of “normal science as puzzle solving”, which seeks to build on the traditional household telephone paradigm and extend the value of the considerable investment in fixed copper network infrastructure and associated technology platforms. This is similar to the TTY provision for the Deaf and InContact® telephone service provision for people who are unemployed (see Table 2).

Table 2: Users in technology development: From the standard to the alternative

Standard Telephone Service	Standard User Environment	Resisting User Environment	Resolution Process	Alternative Telephone Service
Voice service	Aural-oral culture	Deaf community	HREOC discrimination action by (non-) users	TTY and other equipment supplied at equivalent cost to Standard Telephone Service
Monthly line rental	Stable income	Unemployed people	Public Participation processes by supplier with internal technology advocacy and negotiation	InContact telephone service supplied at zero ongoing cost
Post-paid billing	Postal and payment services	Remote Indigenous communities	Public Participation processes by government and supplier with internal technology advocacy and negotiation	Country Calling Line
Individual lessee	Stable household			Country Calling Card
(Re-) connection fees	Stable location			"Robust" community payphone and (pre-paid) mobile phones

Conclusion

The aim of this paper has been to propose ways in which representations of the remote Indigenous communities user environment might drive communications technology innovation to produce more successful outcomes.

Using a social construction of technology approach to study the various components of the Standard Telephone Service reveals an artefact that is culturally constructed. When a person in a remote Indigenous community looks into the mirror of the Standard Telephone Service they do not see any resemblance of themselves in the user that is being reflected back.

Pushing the social construction of technology paradigm further: if the intended standard user is at least implicitly reflected in the constructed standard artefact, then this opens up the possibility of *explicitly* including the intended user in the construction of a new artefact. To do this, the paper looked at two basic processes. Firstly, understanding the user environment in as broad a cultural context as possible through direct fieldwork and listening to user representatives. Secondly, actively representing the user in the technology construction phase through the participation of stakeholders external to the supplier, as well as through the advocacy of the internal Telstra Consumer Affairs function to the range of business unit stakeholders. A successful pathway to innovation can be opened up through direct user consultation and active representation by interested stakeholders. Arguably, this is an expanded model of user-innovation (cp. von Hippel, 2005) that includes other important stakeholders.

The perspective of the social determination of technology leaves open the possibility that people can make a difference to their technological future if they are interested and get involved (Green, 2002, p. 9).

Country Calling is currently being trialed in a number of remote Indigenous communities. Its ultimate success or otherwise as a sustainable alternative telephone service is still to be determined. In the end it will be a mix of technologies that will increase communications access for remote Indigenous communities.

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MOBILE INFORMATION COMMUNICATIONS TECHNOLOGY: IMPACT ON CHILDREN AND YOUNG PEOPLE

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Abstract

This paper considers the forms and extents of the impacts that mobile phones are reported as having on young people's lives, and the ways in which young people as media users are contributing these impacts. It examines how these representations of mobile use influence policy at national, local and informal levels by governments, schools and families. It asks: How are children and young people affecting, and affected by, the development and popularity of mobile information communications technologies? What are the social impacts on young lives? How have media policy and regulatory environments adapted to the changes in children's lives that have been brought about through their adoption of mobile technologies and applications? What implications are there for policy makers, commercial operators, child advocates and others?¹

Introduction

The impact of mobile phones² on the lives of children and young people is significant in a number of important ways. Sheer weight of numbers of phones and rates of use aside, these ubiquitous, obligatory devices have to an extent transformed inter-personal communications within peer and family groups, altered expectations about social relations, created new consumer products and associated modes of consumption, and so on. The popularity, prevalence and diversity of mobile phones has excited those in the telecommunications and entertainment market for a number of years, but it has also exposed raw nerves among those with concerns (not always unjustified) about the uses the mobile phone can be put to and the communicative freedom they offer. This has been prompting a set of policy responses from various levels of society: government, business interests, educators, and even – in a more

¹ This research forms part of an Australian Research Council funded Linkage Project between the University of Technology, Sydney and the New South Wales Commission for Children and Young People. Their generous support and assistance is gratefully acknowledged.

² The term 'mobile phone' is used throughout this paper, for convenience, to refer to what might more accurately be termed 'mobile information communications devices' – a term that underlines the variety of uses now associated with the device: telephone, pager, camera, television, music player, personal organiser, web browser, location device, and more.

private or proto-political sense – families. Some of these impacts and responses can be traced as continuations of earlier changes to the mediated social landscapes; others are regarded as more specifically related to the functions and uses of the mobile phone.

In this paper, some of these impacts and responses are considered, beginning with a review of mobile youth media studies to date and some speculations about the near future of the field. Some secondary survey and interview-based research and considered, and a discourse analysis approach to indicative policy documents is suggested. I include some brief discussion of the suggestive findings of this research and some responses to key questions about young mobile users, namely: How are children and young people affecting, and affected by, the development and popularity of mobile information communications technologies? What are the social impacts on young lives? How have media policy and regulatory environments adapted to the changes in children's lives that have been brought about through their adoption of mobile technologies and applications? What implications are there for policy makers, commercial operators, child advocates and others? These are larger questions than can be fully dealt with in this paper, so a focus on some school policies is offered as only one example of policy response³. Also, this paper is part of an ongoing research project which will consider these questions at greater length, so the purpose here is to present indicative findings and to suggest parameters for further discussion in this area.

A subsequent concern of this paper is to foreground the young mobile users in the research into and debates about their mobile use, and therefore a preliminary foray into theories of childhood and the framing of youth in popular and public discourse is required. The purpose here is not to be conclusive or didactic, but to open up the conversation about the impacts of mobile phones on young people's lives and the institutional responses to these impacts. However, an argument is made that the place and voices of children, hitherto less seen and heard than talked about or to, ought to be closely and keenly considered and valued in the formal debate about mobile phone use.

Review of the field I Framing the discussion

This section starts with some remarks about theories of youth and childhood, and their relationship with mobile media studies, before framing the discussion of mobile impacts and responses under three sub-headings: the early stages; panics; and (more briefly) the next stages. For each of these stages, there are short summaries of the scholarly work to date, of policy responses, and of the relationship of these to the notions of mobile youth which are discussed here.

Childhood

Childhood, up until the latter half of the twentieth century, had been regarded (or rather, disregarded) as something of a poor cousin in social theory. Ariès (1962) in his history of images of children, made a crucial contribution to the idea of childhood as being an historical and social phenomena, rather than merely a natural categorisation dependent on biological age. Stone (1977) and de Mause (1974) added weight to the idea that childhood was regarded very differently in the past, especially by parents who were thought to have been less emotionally attached or less protective of children. These ideas about apparently uncaring

³ The ethical debates about advertising and marketing strategies would present another set of policies to consider, in this sense policies by commercial operators and the relevant regulatory bodies. Emerging social norms within the institution of the family present another set of regulations for consideration. These are subjects of future study.

parents have been critiqued (see Pollock 1983) but the idea persists that conceptualisations of children and childhood have changed and therefore may change further, subject to shifts in society, politics, culture and so on. There are also histories of childhood that exist outside the western intellectual traditions, for example, Confucian notions of the ideal child (Bai, 2005, see also Yoon, 2006b), adding further weight to the idea of childhood that is dependent on cultural settings and histories. All of this leads to James, Jenks and Prout's (1998) contention that childhood is a sociological phenomenon, and their didactic warnings against 'pre-sociological' views of childhood:

This spacious category contains the dustbin of history. It is the realm of common sense, classical philosophy, the highly influential discipline of developmental psychology and the equally important and pervasive field of psychoanalysis. The gathering principle for the set of models assembled here is that they begin from a view of childhood outside of or uninformed by the social context within which the child resides. More specifically, these models are unimpressed by any concept of social structure (9-10).

Pre-sociological views of children and the young include, among others, the Hobbesian 'evil child' born into sin and therefore uncontrollable, needing, through processes of surveillance and discipline, to be domesticated or civilised (nature requiring taming) and – mirroring Hobbes – Rousseau's naturally good child, innocent and as yet unblemished by worldly experience. James et al (1998) caution also that these pre-sociological views were not to be dismissed, if only because some persist in the public imagination: "they are models which continue to inform everyday actions and practices alongside more sophisticated sociological theorizing about childhood" (21). We can see, for example, how these pre-sociological positions inform attitudes towards childhood which are evident in the media panics that surround use (or abuse) of mobile phones and cameras, and by the growing acceptance of (or requirement for) constant contact and surveillance of young people by parental authority figures. Cook (2004) also outlines how conceptions of child consumers as either exploited or empowered by the market and its vast range of commodities for childhood consumption fail to fully consider the possibility that children might be actively involved in making decisions about modes of consumption and participation in forms of work (including home-based chores as well as work outside the home); we see this continuing in the concerns raised about the expenses associated with mobile use, including the range of down-loadable products and subscription services, and the associated economic impacts on young lives.

If this sounds like good news for those interested in marketing products and service to young people, suggestive as it is of an approach to policy making that is less forcefully required to be protective of young mobile users, two reasons for caution remain: (1) young consumers may be more capable of making their own decisions than has been traditionally recognised by policy makers but they are also, this suggests, less predictable targets of marketing campaigns; and (2) policy settings in any case have responded to the politics of parenthood, with its concerns about risks and its rationales of care, rather than responding to the expressed needs of children and young people themselves.

This can be seen in some of the policy and media documents discussed below. However, before approaching these, a brief foray into relevant recent and ongoing work on young mobile users is required.

The early stages: communication, display, relationships

In summary, research into young mobile phone users emerged in the late 1990s as a response to the popularity of the mobile phone and especially text-messaging services, and proceeded to add matters of display, status and identity to those aspects of mobile phone use that required consideration, and has sought to explore more thoroughly the functional and relational uses – coordinating activities, managing relationships with peers and families, and the like.

Regarding the prevalence and popularity of text-messaging, Taylor and Harper (2002), following Mauss (1925/1966), harks back to traditional practices of gift-giving to seek an explanatory framework. Their suggestion is that the act of sending the message (or ‘giving the gift’) is at least as important as the content of the message/gift. This has been influential for many later studies of mobile messaging (see Green, 2003; Johnson, 2003; Ling, 2005; Taylor and Vincent, 2005; Goggin, 2006; Yoon, 2006a). Ito (2003) goes further, adding that the processes of display and exchange in gifting (not gift giving, but gift exchanging, displaying, requiring) generated and demonstrate power-geometries, much as Mauss, Taylor and Harper et. al., suggest, and these power-geometries are contextual, dependent on location in networks and structures that vary in time and space.

Elsewhere, the function of the mobile as a device for displaying class status, group membership, relationship status, and individual aesthetic tastes is emphasised by Plant (2003), Caronia and Caron (2004), Caronia (2005) and Ling, (2001, 2005). Also, Ling and Yttri (2002) discuss and go beyond the notion of micro-co-ordination that handled logistics (i.e. by checking on items needed while shopping) and a ‘softening of time’ (i.e. by re-arranging meeting times and locations while in transit). They outline the concept of hyper-coordination, which involves both coordination with peers and parents and aspects of individual expression and social interaction, including the ability to maintain access to peer groups when not in direct physical proximity, including while in the classroom or the home. Matsuda (2007) has been particularly interested in the importance of mobile phones for the management of familial relations and household scheduling in the context of urban Tokyo families.

The implications for policy in this set of issues includes the management of costs for young people for whom the mobile has become an essential device in peer relationships and a contributing factor in their self-esteem, as well as a significant expense for consumers who are often economically dependent on parental sources of income, perhaps additional to part-time salaried employment for later users. Also, the competing interests of schools, who seek to limit the potential for disturbance in the classroom, and those students, and sometimes parents when it comes to the desire for constant contact, has required new policy responses, as discussed below.

In relating notions of childhood to these policy areas, we might focus on the emphasis on the social aspects of mobile phone use, including the way mediated relationships via the mobile are aspects of young people’s social lives, which are networked and structured within relations of power. Socio-economic status can contribute to the placement of a young person in their social world by providing them or denying them the material resources to display status, maintain communicative relations and therefore take their place in the peer group. Cultural capital and communicative capacities, also, are currency in these environments. And the place of children within the hierarchical institutions of families and schools can furthermore be regarded as expressions of the socialisation of childhood.

Panic! Moral panics and Media panics. Surveillance. Risk.

Scholarly work on the reporting of mobile phone use and attitudes, especially towards young mobile users, makes reference to the pivotal work by Cohen (1972; see also Hall, et. al. 1978) on mainstream representations of the mods and the rockers to introduce the concept of ‘moral panics’. Also called ‘media panics’, these typically involve the use of authoritative sources and dramatic individual stories to create a narrative of social unrest, disruptive, risky or criminal behaviour, and declining standards. The panic is deliberately fuelled by a sense of institutional crisis and spiralling social chaos which is not being met with an adequate institutional response, and threatening to spin into worsening crisis. Leach (2005), following Beck (1992), notes that this pattern may “reflect a trend in dominant cultures to be concerned with their own plight. In this way, media panics are symptoms of a larger crisis of a ‘risk society’” (608-9). Leach continues to ask a pivotal yet oft-unconsidered question of this form of analysis, namely: “what would proper media treatment of important social trends look like? How would they properly engage in a way not to cause panic?” (609). This is a question worth considering but is beyond the scope of this paper.

Goggin (2006), for one, outlines the areas of concern, sometimes panic, that are associated with mobile phone use. The first of these is the perception that radiation from handsets and base stations poses a health risk. Goggin notes that media coverage of these supposed threats focussed on the risks for children by mobile towers and led to regulatory responses which moved these towers away from sites such as schools and child-care centres (p.111). The role of scientific authority in the construction of discourses of threat and of reassurance is important here: the often typical inconclusiveness of scientific reports has done little to unequivocally deny the prospect of health risk, although this area of debate has been tempered by the ongoing popularity and perceived utility of the mobile phone, as well as being clouded by other concerns. Goggin notes these concerns centre around the uses of mobile phones by young people that are either a threat to culture or to society. That is, mobile phones threaten culture by encouraging declines in standards of literacy due to the popularity of text messaging, and a consequent decline also in interpersonal communication skills. (We might add threats to educational standards due to classroom disruption and cheating. See Campbell, 2005, for one of few critical discussions of the impact of the mobile phone on the institution of the school.) Threats to society include deviant behaviour such as mobile or cyber-bullying, including by taking embarrassing photos that are then distributed via mobile phones and on the Internet, as well as ‘happy slapping’ and other similar phenomena involving violence perpetrated for the purpose of recording on a mobile phone camera or similar device. It is not that these actions are not actually happening, or do not result in actual harm to individuals. Even if the actual size of the problem is probably overstated by media reports, these actions are happening and people have been hurt and even killed as a result. However, Goggin’s point is, regarding social risks, that “bullying via the instrument of the cell phone remains almost exclusively something that is associated with children and young people” (118) and, regarding cultural risks, that “advocates of critical literacy have contended that skills in using, reading, viewing and listening to mobiles and other new media can and should become a part of relevant but also rigorous curriculum and pedagogy” (117).

Therefore, when observing these reports of mobile use and the policy responses that they provoke, we might ask to what extent these concerns are a product of attitudes that sees (1) cultural literacy and education as something traditional, fixed and immutable rather than dynamic and diverse; and (2) young mobile users as posing greater risks, or being exposed to greater risks, or for other reasons associated with our notions of childhood as being in need of greater degrees of monitoring and discipline than older mobile users. Analysing policy

therefore calls for an examination of how young people are and should be subject to surveillance and restriction by and within the institutions of the state, the school and the family. The legal and moral obligations of parenthood and of the school's duty of care come into question, as do the risks to reputation of student, family and school. Also, policy interventions ought to be evaluated against the size and significance of the issues there are attempting to address. Here, there are two separate but related issues: (1) harm-minimisation for young mobile users; and (2) political needs to respond to potential disruptive campaigns by fearful parents of these children. Finally, policy analysis ought to consider the attempts to balance these concerns against the perceived and actual benefits of mobile phone use, as well as the apparent impossibility of the mobile phone becoming any less popular or ubiquitous in the foreseeable future.

The relationship to notions of childhood in these reported impacts and policy responses is quite clear and need only be briefly underscored. Children and young people are here presented as being more threatening (Hobbes's little devils), and more at risk, requiring protection (Rousseau's little angels). Young mobile users' forms of communication are regarded as being immature and inadequate, in line with the conceptualisation of children as being incomplete versions of adults. This is not to say that children do not require care, or do not continue to learn as develop further cultural and literacy skills. They do. (We adults do also.) Rather, the suggestion here is that policy can also regard young mobile users as being decision makers, with a sense of agency and therefore suggestive of responsibility, but also subject to social structures, most obviously the institutions of the family and the school (see Campbell, 2005, p.8) and structures in networked peer groups. We shall see that this has indeed not escaped some policy makers in educational institutions.

The next stages: convergence, ubiquity.

Speculation about the next stages in the 'mobile evolution' abounds, yet considerable uncertainty prevails. As such, and as most scholars are understandably reluctant to engage in futurology, there is little research to draw from when considering what is next for mobile users. However, some themes emerge. One is the convergence, in the mobile phone handset, of a variety of devices: cameras, GPS tracking devices, games, music and video players and Internet browsers are probably the most important and most obvious of these. Jenkins (2005, 2006) is the chief proponent of ideas about convergence among media theorists, and one not afraid of forecasting. He outlines his broad definition of convergence thus:

By convergence, I mean the flow of content across multiple media platforms, the cooperation between multiple media industries, and the migratory behaviour of media audiences who will go almost anywhere in search of the kinds of entertainment experiences they want. Convergence is a word that manages to describe technological, industrial, cultural and social changes depending on who's speaking and what they think they are talking about.

...

In the world of media convergence, every important story gets told, every brand gets sold, every consumer gets courted across multiple media platforms (2006, p. 2-3).

Jenkins is an enthusiastic advocate of the idea that significant changes are afoot. Prensky (2005) follows this theme in a more celebratory and evangelical essay on the pedagogical capacity of mobile devices: "What can you learn from a Cell Phone?" he asks, answering:

“Almost anything!” Goggin (2006) takes up the notion of convergence via the theme of mobile media, wherein mobile studies ought to consider the mobile as a media as much a communications device, and mobile users as both consumers, and producers and broadcasters, of media. In this sense, Goggin acknowledges that mobile media research faces a significant challenge during a period of rapid change, namely: “the need to bring together a broad knowledge of communications, cultural and media history and theory to follow the cell phone’s metamorphosis into media *par excellence*. Not only to follow, however, but also to participate actively and knowingly in the opening up and shaping of such media and technology” (p. 211).⁴

Along with convergence, the theme of ubiquity is emerging as a key focus for media studies. For some, ubiquity is merely a reference to the pervasiveness of mobile phones and other new media devices. But increasingly it is used to describe the transformation of information communications technology (ICT) into “networks that can be accessed by anyone and anything via a wide variety of mechanisms or access methods, without limitations of time and space” (Srivastava, 2004, p. 240). Associated with terms like ‘Everyware’ (Greenfield, 2006) and ‘Calm Technology’ (Weiser and Seely Brown, 1996), here ubiquity refers to the disappearance of ICT into everyday appliances – clothes, cars, fridges, trains – and into bodies, via implants such as pacemakers or Radio Frequency Identification Devices (RFIDs)⁵.

For policy makers, the potential of converging and ubiquitous ICT seems to pose significant threats as well as showing great promise. The threats to privacy are explicit, as are the implications for controlling access to inappropriate and illegal content. However, the opportunities that these new technologies promise seem almost irresistible for industry seeking to create convergent products and services to meet the needs of a ubiquitous ICT society, and also for policy makers seeking to gain strategic advantages for industry within their constituency, and serve their publics by enabling them to access the benefits of the ubiquitous age.

Regarding notions of childhood, two points need to be made. Firstly, those concerns regarding privacy and inappropriate content raise their heads again, as do the related and persisting notions of children as angels, devils or incomplete adults. Secondly, if children are to be considered as existing in social spaces and structures, then the capacity for converging and ubiquitous ICT to alter these structures ought to be taken into account. This is speculative, of course, but the capacity to reduce, through ubiquitous ICT, social distance among family members geographically distant from one another holds out great promise for familial relations. However, the intrusion of family space into the spaces of the school and the peer network looks more awkward and problematic. In other words, the social spaces of childhood, school, family, peer group, work place, and so on, with their sometimes competing frameworks of authority and differing sets of social norms, appear to be on the brink of collapsing even further into one another. The consequences of this will probably be both disruptive and re-constitutive of some traditional social structures, and generative of new modes of social behaviours, institutions and relations. Time will tell – but the time to think about these things is well and truly here.

⁴ See also Goggin and Hjorth (Eds.) (2007) for a recent series of conference papers exploring this further.

⁵ A number of speakers, including David Murukami Wood and Katherine Hayles referred to this at the recent 2007 Theory, Culture and Society conference: Ubiquitous Media: Asian Transformations, at the University of Tokyo.

Recent Analysis

This section presents some secondary research findings on the social impacts of mobile phone use by children and young people. The review of the field above includes numerous references to research with adolescent mobile users, so this section focuses on pre-adolescent users⁶. It then considers some of the policy responses to these impacts and the role of media reporting in this policy development. The first part of this section is an overview of some selected survey and interview-based research from the United Kingdom (Davie, Panting and Charlton, 2004) and Japan (Matsuda, 2007, forthcoming), there being to my knowledge no comparable available research to date from Australia. The second part employs critical discourse analysis with selected policy and media documents.

Survey and interview analysis.

Much of the relatively little published survey and interview research on the social impacts considers the decision to get a mobile phone, its importance to the user, and relationships with friends and peer groups, relationships with family members, and disruptive and inappropriate, or necessary and important, uses of the mobile phone within school settings. These are outlined here.

The decision to get a get a mobile phone is one that appears to be a process of negotiation between mostly parents and children. The initial idea is variably attributed to either parent (in Japan) or child (in the United Kingdom), but the central motivations for initially getting a phone seem roughly consistent, namely: anxieties about child safety, related needs to remain in potential constant contact with family members, increasing use of mobile phones as a communications device by schools and extra-curricula organisations, and concerns about children being socially disadvantaged if they are unable to maintain links with their peer groups. The age at which mobile phones are being first provided to and used by children is lowering. At one stage entry into high school or middle school was deemed to be an appropriate age for a child's first mobile phone but increasingly younger children, from the ages of roughly six to ten, are becoming mobile phone owners and/or users, sometimes sharing a phone with other family members.

Mobile phones can become very important very quickly to younger users, although experiences vary. One suggested trend is that as mobile phone users grow older and are owners for longer periods of time their emotional attachment to the device itself becomes less important – or, at least, that they are less likely to report their affection for their phone to researchers, and it may be the case that they are more likely to frame the importance of their phone in terms of its functions, either as communicative tool or as identity or status display device. Another key difference suggested is that pre-adolescent users are more inclined to report that the most important relationships are with family members, especially parents (and in the case of Japan, mostly mothers); for adolescent users, as has been referred to above, the peer group assumes greater importance.

⁶ Here a distinction between children and adolescents is employed to highlight the scant research interest to date in mobile users younger than 12 years old. Some of the differences between pre-adolescent and adolescent users emerge in this analysis, and there is much more to be explored in this area, pending further research (see Donald and Spry, 2007). The theories of childhood outlined earlier can be applied to both pre-adolescent and adolescent children, although variations of course occur. Developmental psychology suggests that the physical, cognitive and emotional development occurs with age, and this is not challenged here. Rather, the purpose here is to analyse the changes in social structure and agency that affect young people at difference stages of their lives.

Matsuda's (forthcoming) research with Tokyo families is instructive here. She explores parent-child relationships based on negotiation and trust as well as the familiar, familial notions of care, discipline, and supervision. Her findings, based on surveys with over 300 mothers and children and interviews with 13 mothers with school-aged children, suggest that the *feeling* of safety and security is a highly important factor in the acquisition of a mobile phone, but that the background and attitude of the mother regarding technology use and trust in their child is also influential. Early adopter mothers are more likely to have early adopter children. Parents who are more likely to discuss disciplinary matters with their children are more likely to negotiate the use of the mobile phone with their children. Also, Matsuda's work supports Geser's (2004) suggestion of the mobile phone as a device for 'remote control mothering'⁷, wherein mothers are able to fulfil some of their parental tasks at a distance because of their ability to communicate with their children. Likewise, when children are able to contact their parents literally at the press of a button, a related phenomenon referred to as 'Mom in your pocket' has been observed. This refers to the constant referral to mothers by children with concerns, queries, or other – sometimes seemingly trivial – needs for support and advice.

Davie, Panting and Charlton's (2004) earlier study of 351 10-11 year old school children in Gloucestershire suggests similar findings about the importance of the mobile phone for maintaining family links. Calls are made mostly 'to chat' or to coordinate activities like being picked after classes, sports activities or similar. Most calls, however, are made from home. (Srivastava (2004) makes a similar point about Japanese mobile calls also (p. 246).) Two fifths of children reported that they had made 'emergency calls', but while a few of these were apparently indeed quite serious emergencies prompting a '999' emergency call, many were matters like a friend's phone being stolen, a parent not appearing on time to pick the child up, or a pet running away. These may be compared to Matsuda's observed use of the mobile phone as a mother in the pocket.

In summary, the use of mobile phones by pre-adolescent children can be characterised by having many of the same concerns as older groups, but with the additional factor, or slight variation, that the roles of parental relations are more significant in the ways outlined above. These are of course very preliminary findings and much more work needs to be done – a matter of increasing importance as policy responses are already being generated that affect the lives of these young mobile users. It is to these policy responses that we now turn.

Policy responses | document and discourse analysis.

The methodological approach adopted here is critical discourse analysis, a method that looks carefully at the languages deployed in this subject area, considering the lexical sets and the genres perceivable in the documents in question, and also places these documents in social contexts, seeking to reveal or imagine possible agendas and subtexts and (perhaps unintended) affects. This methodology is commonly used in policy and media analysis. One of its main proponents, Fairclough (2003), suggests how it can be used to examine both the social world in question as well as different representations of this world:

⁷ Their may be culturally-specificities implicated in the emphasis on the mother in Japanese families (see Hendry, 2003). These may be shifting (see Kingston, 2004). Indeed, as noted elsewhere (Spry, forthcoming), there is some suggestion that regional and national cultural roles play a significant part in mobile media cultures. This clearly challenges Castells et. al. (2007; Chapter 4) suggestion of a 'global youth mobile culture'.

Discourses not only represent the world as it is (or rather is seen to be), they are also projective, imaginaries, representing possible worlds which are different from the actual world, and tied in to prospects to change the world in particular directions. (124)

In considering the documents, the use of forms of genre, vocabulary, and narrative are noted, examined and interpreted as demonstrating forms of discursive practice. “Certain document types constitute – to use a literary analogy – *genres*” suggest Atkinson and Coffey (2004), “with distinctive styles and conventions. These are often marked by quite distinctive uses of linguistic *register*: that is, the specialized use of language associated with some particular domain of everyday life” (59).

In this analysis, a selection of policy documents from schools, industry bodies, and government agencies are considered. The policy document is a specific genre within a broader possible set of relevant documents that could also be considered. (Media reports of mobile phone use in the school and the home would be another. Policy documents relating specifically to the cost factors that impact on young mobile users is another.) They are presented here in order to focus on one aspect of the relationship between young mobile users and the social institutions within which their mobile use occurs, and to demonstrate the use of such analysis in deepening our understanding of the social environment within which the policy responses to mobile phone occur. The narratives and lexical sets that are identified and analysed here are limited to those that relate to the conceptions of childhood, and to those concerns about mobile phone use expressed in the literature, referred to above.

There are some significant restrictions to this analysis. Other types (or genres) of documents, representing responses to mobile phone use, could meaningfully be examined. Other frameworks could be deployed in the analysis, and the range and number of documents could be expanded. (Although, the number and range of policy documents in Australia at present is limited, and the prospect is that policy responses will develop and shift in response to changes in mobile ICT use that have been predicted.) These are tasks for the future. Nevertheless, the contention here is that this analysis provides an indication of what policy responses have been hitherto made apparent, as well as suggesting a methodological framework for ongoing work in this area.

A selection of passages from policy documents is included in Appendix One and the entire draft recommended policy from the Australian Mobile Telecommunications Association (AMTA) is included separately in Appendix Two. Here, the focus is on the lexical sets and narratives as expressed in these documents as they relate to some of the key themes of childhood and youth mobile phone use discussed above.

A major lexical theme is the imposition of the mobile as a ‘disruptive’ device within the classroom environment. The use of phones in ways that interrupt the learning process is frowned upon and the sense is that mobile phones should neither be seen nor heard inside the classroom. AMTA urges the use of ‘soundless features’ such as vibration alerts and text messages as preferable on school grounds. Use of mobile phones for ‘cheating’ calls for disciplinary action. Mobile phones are seen as a danger. A key lexical set here is that of appropriate use versus ‘harassing or threatening behaviour’. Particularly in the case of cyber-bullying via calls or text messages and the use of cameras in places such as change rooms in toilets. This is to be expected from the previous studies of mobile phone use among children and the risks associated with it, including the literature on panics discussed above. How

effective school policy measures will be in mitigating these risks is a serious ongoing question.

In these senses, children are seen as requiring institutionalised discipline and protection, and the school reserves the right to impose these rules and enforce them in accordance with Departmental guidelines. However, schools are seen as being at potential risk of legal liability, and this prompts introduction of a set of terms that make clear the limits of the schools responsibility, namely that risks of threat or loss or damage to the devices are not to be borne by the school or Department.

The rights of children and families to maintain communicative contact are considered, explicitly by the Tasmania Branch of the Australian Education Union, and these rights are balanced against those of the school. In this area, it is useful to note that these competing rights regimes are unresolved, referred to as a set of ‘major problems’ relating to mobile phone ownership and use. AMTA articulates this somewhat differently, employing the language of ‘mutual responsibility and respect of all the parties involved in the use of the mobile phone’. In most cases, the pre-existing school procedures for getting messages from family members via the school phone rather than the students’ mobile phones are preferred or insisted upon. Given what we have seen from the existing literature, we might think that this expectation will struggle to be met. Parents insisting on contacting their children, and children their parents, will challenge the school’s ongoing capacity to insist on this without upsetting parents and creating disciplinary expectations that are at odds with contemporary expectations regarding familial communications practices. This tension will require some form of resolution.

The capacity for mobile ICT in the classroom is paid little attention, aside from the Victorian Department of Education and Training acknowledgement that ‘in some circumstances such devices can be appropriately incorporated into the learning program’. This will not hearten the advocates of the transformative potential of converging and ubiquitous ICT, although it is possible that these types of discussions are more likely to be found in other sets of developing educational policies, specifically those related to curriculum development.

Overall, the policy documents express a view of the mobile phone’s role in young people’s social lives and its potential uses. The narrative tells of a process and an institution that seeks to limit or somehow ‘demobilise’ the mobile phone. If one of the key aspects of mobile ICT is its capacity for constant communicative contact, then limiting this is likely to prove unpopular in the least, even if it does appeal to traditional and ongoing cultural expectations about the role of the school and the types of behaviours that are permissible or desirable within this social space. Still, as the mobile continually brings the outside world to the school, these expectations will remain difficult to maintain. Limited also is the narrative about the capacity for taking the educational experience beyond the classroom and into or part of children’s broader social world through forms of mobile or e-learning. Again, this may be present elsewhere.

Conclusions

The mobile phone has certainly had profound impacts on young people’s social lives. These will continue, and younger children are becoming more a part of the mobile communications environment than perhaps anticipated. Some of the impacts considered here include the production of risk for children and the converse notion of safety and security brought about

through the perception of the potential for constant familial contact. The importance, in some cases necessity, for mobile communication to facilitate socialisation within peer groups, is another regular feature of the reported research. And the expectation that ongoing developments in mobile ICT will lead to further developments (many of these led by the young users themselves) is driving a sense that we are still in the period of a significant transformation in the communications environment.

Less certain is the degree to which the notions of childhood that are informing contemporary responses to mobile phone use have moved much beyond the pre-sociological. There is much work to be done here. Social aspects of mobile users such as socio-economics and cultural literacy are two areas which are worthy of greater examination. The policy implications that have also been touched on above also relevant here. Children have a legitimate role in developing the rules and institutions that affect them, both in the sense of their voices being heard when researching the impact of the mobile phone on their social lives, but also in the sense that they can play a part in developing appropriate responses. This is the role of, amongst others, the New South Wales Commission for Children and Young People and as such a goal of the broader research project of which I am a part. I look forward to speaking more about how this project and its research findings incorporate the input of the children of New South Wales in the future.

APPENDIX ONE : SELECTIONS FROM AUSTRALIAN POLICY DOCUMENTS

The following comes from a document produced by the Australian Education Union Tasmanian Branch (AEUTAS, n.d.):

Once upon a time, the problem of students scribbling notes under the desk and surreptitiously passing them around the classroom was the bane of a teacher's existence.

Oh, we wish that problems were still as simple! Today, with mobile phones being the essential accessory of all 10+/- year olds, the problem of texting to other students in the room, in another class, to anyone in the world, is all pervasive.

Together with this use of new technology, comes a whole new set of problems relating to access rights, privacy and harassment.

It is not appropriate for the AEU Tasmanian Branch to set out a mandatory policy to control the student use of mobile phones in all school/colleges in the state, as local conditions vary from site to site (p.1)

This is from the Australian Capital Territory Department of Education and Training (2005):

Schools and colleges can make reasonable rules about what students can and cannot bring to school. They can ban anything which is illegal, dangerous or is likely to cause disruption or harm to the smooth running of the school and the education of other students.

The use of mobile phones, pagers, Walkmans and similar devices in class is disruptive to the learning environment of all students and should be discouraged. Students wishing to use these devices in special circumstances should negotiate arrangements with relevant school/college staff.

Schools and colleges should regularly advise students, parents and carers of their expectations in respect of these devices. They should also be reminded that no liability will be accepted by the school or college in the event of the loss, theft or damage of any device unless it can be established that the loss, theft or damage resulted from the department's negligence.

Primary schools, high schools and colleges may have different expectations regarding the use of mobile phones by students. Schools are expected to develop a policy statement and set of procedures which provide guidelines for the appropriate use of mobile phones during school hours (p.1)

This is a similar example from the Victorian Department of Education and Training (2006):

Schools and colleges can make reasonable rules about what students can and cannot bring to school. They can ban anything which is illegal, dangerous or is likely to cause disruption or harm to the smooth running of the school and the education of other students.

The use of mobile phones and similar electronic devices in class can be disruptive to the learning environment of students and should be discouraged. It is acknowledged however that in some circumstances such devices can be appropriately incorporated into the learning program.

Schools which decide to allow the use of mobile phones at schools should clearly and regularly advise students, parents and guardians of their expectations with regard to these devices (p.1)

Finally, this is from Speers Point Public School (n.d.) in New South Wales:

1. RATIONALE

- Mobile phones have become an important and invaluable part of our modern lifestyle. The school understands there are times when possession of a mobile phone can provide a sense of safety and security while travelling to and from school, as well as enabling urgent calls or contact for parents. Given the primary school setting we should consider their use in this context.
- This policy is to be read in conjunction with Legal Issues Bulletin No 35 and Premier Carr's media release 7th Mar, 2005.
- There are current concerns about the use of SMS to bully others and all students should be able to come to school feeling safe and secure.

2. PURPOSE

- The school aims to provide a happy, safe and stimulating learning environment for all students. The purpose of this policy is to ensure that mobile phone usage does not disrupt this learning environment

- To clarify the responsibilities of staff and students with regard to mobile phones

3. IMPLEMENTATION

Students

- In general, students should not bring valuable items to school – as they can be easily lost or stolen, which is often distressful for a primary age child.
- If a mobile phone is required for reasons of specific safety or urgency then parents should negotiate with Principal on how best to manage this. Usually this will involve the child delivering the phone to the office for safe keeping (under lock and key) and picking it up again in the afternoon. This will only be for urgent situations and the student will be responsible for this.
- Students bring mobile phones to school at their own risk.
- Students bringing mobile phones to school without prior arrangement and written permission will be expected to turn the phone off, leave it at the office and request that their parents contact the school to negotiate any specific urgent need.
- It has always been the school's practice to pass on important messages to students throughout the day. This can be done by phoning the office and requesting that the message be given to the child (in most circumstances there will be no need for students to have a mobile phone).
- No mobile phones are to be taken on excursions.
- Any student found using a mobile phone in an inappropriate manner (bullying, harassing, intimidating) will have the phone confiscated and returned to the parent. The student would also be subject to the appropriate discipline code.

A P P E N D I X T W O :

From: Australian Mobile Telecommunications Association (n.d.)

DEVELOPING AN ACCEPTABLE USE POLICY FOR MOBILE PHONES IN YOUR SCHOOL

This template may be used as a starting point in developing an Acceptable Use Policy for mobile phones in your school. You should add, delete, or modify items to reflect the specific needs and standards of your school and community. Completed Acceptable Use Policies should be signed by students and their parents or guardians to signify that they have read and accepted the conditions for taking a mobile phone to school and it should be kept on file at your school.

This template is based on the principles of mutual responsibility and respect of all parties involved in the use of mobile phones. It requires accountability on the part of the user for his or her actions. It is designed to assist in managing the safe and responsible use of mobile phones by students and involves parents as partners in assisting their children in the proper use of mobile phones. It is underpinned by an overall requirement for students to exercise care and use their mobile phones in a considerate manner and to be aware of situations in which others could be affected by their actions. It makes clear that the privilege to take a mobile phone to school may be withdrawn if a student fails in his or her duty to behave responsibly and in accordance with the school's requirements.

Acceptable Use Policy for mobile phones

1. Purpose

1.1 The widespread ownership of mobile phones among young people requires that school administrators, teachers, students, and parents take steps to ensure that mobile phones are used responsibly at schools. This Acceptable Use Policy is designed to ensure that potential issues involving mobile phones can be clearly identified and addressed, ensuring the benefits that mobile phones provide (such as increased safety) can continue to be enjoyed by our students.

1.2 [School] has established the following Acceptable Use Policy for mobile phones that provides teachers, students and parents guidelines and instructions for the appropriate use of mobile phones during school hours.

1.3 Students, their parents or guardians must read and understand the Acceptable Use Policy before students are given permission to bring mobile phones to school.

1.4 The Acceptable Use Policy for mobile phones also applies to students during school excursions, camps and extra-curricular activities.

2. Rationale

2.1 Personal safety and security

[School] accepts that parents give their children mobile phones to protect them from everyday risks involving personal security and safety. There is also increasing concern about children travelling alone on public transport or commuting long distances to school. It is acknowledged that providing a child with a mobile phone gives parents reassurance that they can contact their child if they need to speak to them urgently.

3. Responsibility

3.1 It is the responsibility of students who bring mobile phones to school to abide by the guidelines outlined in this document.

3.2 The decision to provide a mobile phone to their children should be made by parents or guardians.

3.3 Parents should be aware if their child takes a mobile phone to school.

3.4 Permission to have a mobile phone at school while under the school's supervision is contingent on parent/guardian permission in the form of a signed copy of this policy. Parents/guardians may revoke approval at any time.

4. Acceptable Uses

4.1 Mobile phones should be switched off and kept out of sight during classroom lessons. Exceptions may be permitted only in exceptional circumstances if the parent/guardian specifically requests it. Such requests will be handled on a case-by-case basis and should be directed to [insert name of appropriate teacher]. Parents are reminded that in cases of emergency, the [school office/other point of contact] remains a vital and appropriate point of contact and can ensure your child is reached quickly and assisted in any appropriate way.

4.2 While on school premises, students should use soundless features such as text messaging, answering services, call diversion and vibration alert to receive important calls.

4.3 Mobile phones should not be used in any manner or place that is disruptive to the normal routine of the school.

4.4 Students should protect their phone numbers by only giving them to friends and keeping a note of who they have given them to. This can help protect the student's number from falling into the wrong hands and guard against the receipt of insulting, threatening or unpleasant voice, text and picture messages.

5. Unacceptable Uses

5.1 Unless express permission is granted, mobile phones should not be used to make calls, send SMS messages, surf the internet, take photos or use any other application during school lessons and other educational activities, such as assemblies. Students should only use their mobile phones before or after school or during recess and lunch breaks.

5.2 Mobile phones must not disrupt classroom lessons with ringtones or beeping.

5.3 Using mobile phones to bully and threaten other students is unacceptable and will not be tolerated. In some cases it can constitute criminal behaviour.

5.4 It is forbidden for students to “gang up” on another student and use their mobile phones to take videos and pictures of acts to denigrate and humiliate that student and then send the pictures to other students or upload it to a website for public viewing. This also includes using mobile phones to photograph or film any student without their consent. It is a criminal offence to use a mobile phone to menace, harass or offend another person and almost all calls, text messages and emails can be traced.

5.5 Mobile phones are not to be used or taken into changing rooms or toilets or used in any situation that may cause embarrassment or discomfort to their fellow students, staff or visitors to the school.

5.6 Should there be repeated disruptions to lessons caused by a mobile phone, the responsible student may face disciplinary actions as sanctioned by the Principal or student council.

6. Theft or damage

6.1 Students should mark their mobile phone clearly with their names.

6.2 Students who bring a mobile phone to school should leave it locked away in their locker/bag when they arrive. To reduce the risk of theft during school hours, students who carry mobile phones are advised to keep them well concealed and not ‘advertise’ they have them.

6.3 Mobile phones that are found in the school and whose owner cannot be located should be handed to front office reception.

6.4 The school accepts no responsibility for replacing lost, stolen or damaged mobile phones.

6.5 The school accepts no responsibility for students who lose or have their mobile phones stolen while travelling to and from school.

6.6 It is strongly advised that students use passwords/pin numbers to ensure that unauthorised phone calls cannot be made on their phones (eg by other students, or if stolen). Students must keep their password/pin numbers confidential. Mobile phones and/or passwords may not be shared.

6.7 Lost and stolen mobile phones in Australia can be blocked across all networks making them virtually worthless because they cannot be used.

7. Inappropriate conduct

7.1 Any student/s caught using a mobile phone to cheat in exams or assessments will face disciplinary action as sanctioned by the Principal or student council.

7.2 Any student who uses vulgar, derogatory, or obscene language while using a mobile phone will face disciplinary action as sanctioned by the Principal or student council.

7.3 Students with mobile phones may not engage in personal attacks, harass another person, or post private information about another person using SMS messages, taking/sending photos or objectionable images, and phone calls. Students using mobile phones to bully other students will face disciplinary action as sanctioned by the Principal or student council.

[It should be noted that it is a criminal offence to use a mobile phone to menace, harass or offend another person. As such, if action as sanctioned by the Principal or student council is

deemed ineffective, as with all such incidents, the school may consider it appropriate to involve the police.]

8. Sanctions

8.1 Students who infringe the rules set out in this document could face having their phones confiscated by teachers. The mobile phone would be taken to a secure place within the school and the student's parent informed. Appropriate arrangements would then be made for the parents to collect the mobile phone.

8.2 Repeated infringements may result in the withdrawal of the agreement to allow the student to bring the mobile telephone to school.

8.3 As set out in the previous section, failure to heed the rules set out in this document may result in an alleged incident being referred to the police for investigation. In such cases, the parent or guardian would be notified immediately.

Effective: (Date)

Parent/Guardian Permission

I have read and understand the above information about appropriate use of mobile phones at [school] and I understand that this form will be kept on file at the school and that the details may be used (and shared with a third party, if necessary) to assist identify a phone should the need arise (eg if lost, or if the phone is being used inappropriately).

I give my child permission to carry a mobile phone to school and understand that my child will be responsible for ensuring that the mobile phone is used appropriately and correctly while under the school's supervision, as outlined in this document.

Parent name (print)

Parent signature

Date

Student name (print)

Mobile phone number _____

Student signature

Date

Teacher name (print)

Teacher signature

Date

If you have comments or suggestions, please contact [School representative contact information].

B I B L I O G R A P H Y

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MOTOR TELEPHONY: POLICY RESPONSES

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Introduction

In many respects, mobile phones have fitted into the folds of everyday life with minimal fuss. Building on the developments and experiences of telegraphy and landline telephony, people's use of the device to communicate with others at a distance has mostly been a natural and taken-for-granted progression. Yet the emergence and widespread adoption of mobile telephony has also been accompanied by unforeseen consequences. The mobile phone's use in vehicles and the effect this has on road safety is one example, and forms the focus of this paper. Tragic road deaths resulting from phone use, media coverage and an increasing amount of research attention have created concern and pushed the practice onto the public policy agenda. A number of questions have been posed. How does phone use affect driving performance? Is it a serious road safety issue? What is the best way to manage the risks? Should mobile phone use while driving be legally banned? And, if so, should both hand-held and hands-free be prohibited? Or is self-regulation a more appropriate strategy? As we explore the rationales, processes and deliberations of government in grappling with the regulation of motor telephony, we see the answers are not straightforward. This is a controversial and complex area of regulation, one which involves a diverse array of groups with different interests and motivations.

Regulating mobile telephony: Developing a new perspective

This issue presents us with a valuable opportunity to observe some of the tensions and complexities that a new technology creates, and to study some of the particular and distinct connections between mobile phones and cars. I have termed this relationship *motor telephony*. Motor telephony presents new challenges, and new rules have been made and implemented as a result. In this sense, my work builds upon the growing scholarship looking into mobile phones. Rich Ling, who has written extensively about the adoption and use of mobiles, states that:

the newness of the device means that to some degree we are making up the rules as we go along...Beyond providing insight into innovation, it affords us the chance to see how the innovation is accepted and how it causes the revision of existing values and practices. It allows us to see who is influencing the definition process and, in effect, whose toes get stepped on. (2004, p. 22-3)

An ever-growing academic interest in the sociological dimensions of mobile phones has centred on when, where, how and what communication and interaction they afford. Hot topics include their effect on social relationships, the blurring of public and private boundaries,

changes in how time and space are experienced, the cultural and symbolic meanings of mobile telephony, and developing a typology of user groups.

However, while the aforementioned literature offers important insights, there is a need to broaden the scope of inquiry in order to more thoroughly encompass the ethical, social, legal and political dimensions and to interrogate the ‘relationship between “use” and “non-use”’ (Goggin, 2006, p. 39). Written predominantly within a sociological and psychological framework, contemporary work tends to emphasise the mobile’s ‘anytime, anywhere’ characteristics and seamless use. Yet the wider political, economic and social factors that regulate, limit and control its use, as well the disruptions this technology causes, have not been fully probed. When areas of tension are discussed, the focus has typically been too narrow. Talking about the emergence of the device and its uses in everyday life, Fortunati’s insights are instructive:

The use of the mobile in public spaces has taken concepts, norms and laws by surprise, catching them on the completely wrong foot. If up to now the approach developed by sociologists has been to analyse how good manners in social relations had been changed so radically by the use of this communication instrument, the time has come to change direction. The problem in fact is much more complex: it is not only a question of aesthetics, of good behaviour, but also an ethical, legal and political problem. (2002, p. 522)

In turn, this paper intends to broaden the scope of enquiry of current research by detailing some of the political and legal dimensions of regulating mobile phone use while driving. Indeed, unpacking the role of government is crucial to understanding motor telephony. The development and use of both cars and phones has been, and is, framed by governments at every level. They have supported, fostered and funded mobile telephony (for example, allocating frequency spectrum and providing financial incentives) and the car industry (for example, building roads and supporting manufacturers), in turn encouraging the widespread adoption and use of both of these technologies. At the same time, emerging empirical data, along with accidents associated with operating a mobile phone while driving, has raised concerns over the broader impact on traffic safety. In this context, governments have a duty to protect citizens from harm. Goggin alludes to such a tension: ‘governments have had to manage a number of conflicting roles and perspectives on technology, reflecting different views and interests of sections of the populace as well as different ministries’ (2006, p. 113). As we will see, there are distinct challenges involved in responding to this tension.

Broadly speaking, a variety of social policy responses have been proposed, debated, rejected and implemented in terms of addressing the effects of mobile phone use in the car. These include legislation, fines and penalties, as well as appeals to personal, social, moral and ethical responsibility. In Foucault’s conceptualisation, the role of government concerns the ‘conduct of conduct’, which includes both ‘governing the self’ and ‘governing others’ (Lemke, 2000, p. 2). Government, Foucault suggests, is ‘a “contact point” where techniques of domination – or power – and techniques of the self “interact”’ (Burchell, 1996, p. 20). Along the lines of Foucault, I classify regulatory strategies into two broad categories: *institutional* and *social*. *Institutional* regulation refers to the restrictions imposed and enforced by governments, police and state authorities (for example, legislation, traffic regulations, fines and penalties). I define *social* regulation as measures which have no legal imperative, but instead rely on personal responsibility (for example, courtesies to be observed while driving,

moral expectations of others). This distinction serves as a useful tool in exploring the various methods which have been called upon to modify driving habits.

The aim here is to examine the introduction of legislation and prohibitions, showing how the practice of motor telephony is subject to an existing legal infrastructure concerning management of the traffic system. Aside from describing the legal mechanisms that specifically address phone use in vehicles, I consider some of the political rationales and debates, as well as pragmatic considerations, which have influenced the strategies adopted by various jurisdictions throughout the world. Investigating these influences helps differentiate Victoria's approach from that of others.

Victorian political context concerning road safety legislation

Laws and regulations are commonly adopted in order to encourage and reinforce safe driving practices and modify driver behaviour. Their development, introduction and implementation, however, is not always a clear-cut, linear or rational process, and there is an often complicated trade-off between the personal freedom afforded by the car, and regulatory interventions that aim to reduce crashes and promote safe driving. 'The social goals of maximising mobility and maximising safety', says Johnston, 'are frequently in conflict' (1989, n.p.). This balancing act is handled in various ways by different countries and between the Australian states and territories. In general, Victoria has a record of proactive and determined legislative action addressing road safety, being the first jurisdiction in the world to introduce compulsory wearing of crash helmets for motorcyclists (1961), compulsory wearing of seatbelts (1970) and random blood alcohol tests (1976) (Joubert, 1979; Davison, 2004). Other countries have taken a different approach, focusing more on education and self-regulation.

Victoria (and Australia) has been more proactive than other jurisdictions in introducing legal measures to tackle road safety issues. In political terms, the United States has traditionally held individual rights in higher regard than Australia. According to Costar, 'rights have never occupied a privileged place in Australia's political culture' (symbolised by the absence of a bill of rights), whereas in the United States the Bill of Rights' purpose was to protect people 'by ensuring that a democracy would not infringe individual rights'. As a result, citizens have come to regard such rights as 'the highest political good' (2006, pp. 3-5). These differences in political reasoning have influenced road safety policies in a real and observable manner. As an example, the United States and United Kingdom both took until the 1980s to introduce mandatory seatbelt laws, more than a decade later than Victoria. In their analysis and comparison of five countries' experience of such laws, Campbell and Campbell point out that eight attempts in the United Kingdom at passing mandatory laws had been unsuccessful and 'opponents of the law were mainly concerned about the perceived loss of individual freedom, as has been true in the United States' (1986, p. 35). As the next section shows, a similar trend is evident in phoning and driving laws, with Victoria pioneering legal measures addressing the practice.

Phoning and driving legislation in Victoria

As far back as the 1950's, Victorian legislation addressed motor telephony. Regulation 193 *Motor Car Regulations 1952* stated:

Except with the approval of the Chief Commissioner the driver of a motor car shall not while the motor car is in motion use any telephone microphone or any other similar instrument or apparatus in such motor car.

The wording of the law remained virtually the same up until the mid-1980s, and although these laws had been in existence for over three decades, Victoria is credited as the first major jurisdiction in the world to specifically ban hand-held phone use in cars in 1988 (Cain & Burris, 1999; Hahn & Dudley, 2002). Regulation 1505 of the *Road Safety (Vehicles) Regulations 1988* stipulates that:

- (1) Except with the approval of the Road Traffic Authority and as provided by sub-regulation (2), the driver of a motor vehicle must not, while driving the vehicle, use a hand held –
 - a. telephone
 - b. microphone
 - c. similar instrument or apparatus– in the vehicle.
- (2) Sub-regulation (1) does not apply to the driver of a vehicle that can be used as an emergency vehicle.

Up until this point, the regulation was in practice limited to a small number of people using two-way radios and was a rarely encountered or prosecuted offence (Road Safety Committee, 1994). As mobile telephony grew in popularity during the 1990s, phone use in cars became much more common. In turn, activity and discussion began to centre on enforcement and penalties associated with the regulation. A Victorian parliamentary Road Safety Committee report into the demerit point scheme warned that the ‘rapid expansion of car and mobile telephones has created a new situation and there is growing community concern about the road safety implications’ (1994, n.p.), subsequently recommending that using a hand-held device incur a fine as well as three demerit points.

Policy debates

As evidence of car crashes and fatalities caused by use of hand-held phones mounted during the 1990s, governments have been pressured by various groups (including opposition politicians, road safety organisations, academic institutions and members of the public) to increase penalties and create more effective deterrents. Andrew Brideson MP, for example, called on the state government to ‘implement harsher monetary penalties for drivers who use handheld mobile phones’ (*Road safety: Mobile phones*, 2003, p. 1248). However, the growing number of empirical studies attempting to document the road safety effects was fragmented, and there remain large gaps in knowledge. This makes it hard to justify regulatory changes. VicRoads¹ Road User Behaviour manager describes the paucity of quality information as ‘an area of frustration for many of us policy developers’ (Road Safety Committee, 2005, p. 2). The former general manager of road safety made the same point:

we do not have reliable research evidence [concerning the number of crashes in Australia where mobile telephone use is a contributing factor]. That is a problem, because without that information it is very difficult to formulate recommendations. There is plenty of research that shows it has a detrimental effect on driving. We know that retrieving and sending text messages does that as well, and we know that mobile phone use is associated with a higher risk of crash involvement – a fourfold increase.

¹ VicRoads is the registered business name of the Roads Corporation, a statutory corporation within the Victorian government infrastructure portfolio. Its purpose is to manage the state’s arterial road network, implement road safety strategies and programs, and provide vehicle registration and driver licensing services.

However, the problem in linking that to actual crash numbers is there. (Road Safety Committee, 2005b, p. 4)

As we can see here, caution remains when it comes to interpreting research and making further alterations to the law, as shown in the debate around whether to prohibit hands-free phones while driving.

In recent years a growing chorus of researchers, road safety advocates, police and members of the public has called for an eventual ban on hands-free use. Responding to the findings of McEvoy et al. (2005) who found no difference in crash risk between hand-held and hands-free, the Victorian Transport Minister's spokesperson said:

previous research into mobile phone use has indicated...hand-held use is significantly more dangerous than hands-free...however, the Government is prepared to look at any new research which may provide insight into how the road toll can be further reduced. (Silkstone, 2005)

In August 2005 the government changed its tack, proposing to prohibit all mobile phone use for learner and probationary drivers as part of a graduated licensing scheme (VicRoads, 2005). This received a mixed reception.

On the one hand, the public and a range of stakeholders were generally supportive.² Other organisations, such as the Royal Automobile Club of Victoria (RACV) and Australian Mobile Telecommunication Association (AMTA), adopted a more conservative approach. The RACV (2005) called for more research into the associated risks before introducing such measures. General manager Ken Ogden thought there was insufficient evidence to justify a restriction of hands-free phones, describing it as 'a fairly draconian measure' (Road Safety Committee, 2006, p. 3). The Australian Transport Council (2005) echoed this view, stating that 'evidence is accumulating that use of hands-free units also involves a significant increase in crash risk but there is debate about the extent to which further legal restrictions would reduce serious crashes'.

Of course, decisions about legal regulations are not determined solely by empirical research. They need to be viewed in a broader context which situates mobile phone use amongst other traffic safety issues, as well as other regulatory options (such as education and driver training). Some members of parliament, for example, have expressed a reluctance to ban the practice in the context of other driver distractions. Bruce Atkinson wondered whether using a phone was any more dangerous than reading a street directory, eating or drinking, suggesting caution when prescribing 'one behaviour as a dangerous situation' while excluding other potentially risky behaviours that may 'equally contribute to accidents', while John Vogels questioned the broader repercussions of 'bringing in regulations for everything' in terms of

2 According to VicRoads senior policy advisor Russell Scott, copies of the discussion paper were sent to stakeholder organisations by the Minister for Transport inviting them to respond to it and the proposed measures. These included members of Victoria's Road Safety Reference Group, youth and community organisations, local government, schools, TAFE colleges, universities, parent groups, emergency services, medical organisations, legal organisations, and industry groups with an interest in road safety issues. The public comment given in confidence could not be provided and, in turn, I cannot be specific about the feedback received from these groups. Nevertheless, the responses did indicate widespread support and stakeholders were generally positive about the proposed measures (VicRoads, 2006).

‘making life more difficult’ (*Road Safety (Amendment) Bill: Second reading*, 2003, pp. 1573, 1585).

There are also pragmatic limitations concerning the enforceability of legislation. In opposing the Victorian government’s proposal to restrict hands-free use, the AMTA’s chief executive officer Chris Althaus declared the association:

Would not support any recommendation to ban the use of hands-free mobiles by P-plate drivers. The difficulty of enforcing a total ban would make it unworkable and may lead to young drivers taking risks to use mobiles surreptitiously to avoid detection. (AMTA, 2006, p. 1)

This comment alludes to the fact that seemingly beneficial controls may lead to unintended outcomes. It also hints at another important factor: the need to gain a basic level of community acceptance. As Assistant Commissioner Bob Hastings of the Victoria Police put it:

if you are seeking compliance, then you have to take the community with you. I am not sure just hitting them over the head all the time is the best way to go, and saying, ‘You cannot do this’. (Road Safety Committee, 2005a, p. 16)

In the same way, David Healy, general manager of road safety at the Transport Accident Commission (TAC), contends that it is important to adopt a ‘staged approach’. He says that ‘it would be important, before considering a total ban, to educate the community about the level of risks associated with any mobile phone use while driving’ and to encourage voluntary compliance. Then, ‘once the community understands and accepts the dangers...consideration could be given to a wider ban’ (TAC, 2005, p. 16). In turn, the Victorian government has invested in advertising in order to foster community acceptance of current bans.

In May 2005, the Road Safety Committee³ released a report on their inquiry into the country road toll. This provides a useful insight into the process of negotiation, illustrating how legal measures operate alongside other strategies. The inquiry found mobile phones and driving to be a significant issue during extensive public meetings with a broad range of stakeholders (including state government departments, Victoria Police, the TAC, local government, the vehicle industry, road safety groups and the public). Committee member Barry Bishop described the debates as ‘tough’, ‘difficult’ and challenging in terms of striking the right balance in the community (*Road Safety (Further Amendment) Bill: Second reading*, 2005, p. 1267). Although there was a general recognition that phone use in cars was both widespread and risky, suggested methods for tackling the situation differed. Some witnesses had preferred technological solutions, others stronger financial penalties, and many saw educational programs as the best answer. Several displayed a resignation that in-car features such as phones were ‘here to stay’ (Road Safety Committee, 2004a, p. 183), that it was a ‘difficult issue to respond to...in a society where it [mobile phone use] is all pervasive’ (Road Safety Committee, 2004c, p. 815), and that ‘people will transgress if they think they can get away with it...you need other approaches’ (Road Safety Committee, 2004b, p. 776). All told, legal enforcement by itself was not regarded as an adequate solution. As the general manager of road safety at VicRoads put it:

3 The Road Safety Committee comprises a cross-party representation of Victorian state members of parliament.

I think education offers the best chance of dealing with this because enforcement is very difficult and if we get the community to the point where there is large acceptance of the risks and there is compliance – people decide they will not use the phones in the vehicle – then I think that is the best chance in the short term of getting changed behaviours (Road Safety Committee, 2004c, pp. 815-16).

Recognising drivers' continued use of hand-held phones despite the threat of legal penalties, the report concluded by again recommending increased penalties together with a 'broad education strategy' (Road Safety Committee, 2005c, p. 264). While this appears a sensible and balanced recommendation, it is worth remembering the at-times competing interests of various stakeholders. Certain groups, in particular, the car and phone industries, do not support an increase in legal penalties, but favour self-regulatory approaches. In contrast, police and some road safety advocates are more supportive of broadening prohibitions to include the use of hands-free mobile devices, as well as increasing fines.

In summary, the legal deliberations around mobile phone use in cars provide a prime example of the non-linear trajectory of the policy process. Responding to a question concerning whether legislation is lagging behind technology in cars, VicRoads chief executive officer David Anderson said 'we would prefer to follow a process of "Here is the new technology; what does it mean for us in terms of safety?" Then, "what is the legislative response to that?"' (Road Safety Committee, 2005b, p. 9). This linear progression can be conceptualised in three stages: technology, research and response. A technology becomes available and is adopted by people, research is conducted in order to evaluate evidence of risk and the threat to road safety, and then a response is developed. As the general manager of road safety at VicRoads stated, 'one of Victoria's characteristics over the years has been tweaking the legislation as the evidence provides...we have never really leapt into something without strong evidence' (Road Safety Committee, 2005b, p. 9). Whilst it offers an overarching principle, in practice this logic is subject to a much more fluid and disordered environment. Each of the stages described above are in flux: mobile technology is constantly evolving and changing form, empirical evidence remains unclear, and when legislation has been enacted it has been hard to enforce. In addition, the ways in which various stakeholders respond to these challenges differs.

Having canvassed the deliberations in Victoria, we now move on to compare the state's legislative approach with that of other countries.

Phoning and driving laws in other countries

Laws similar to those in Victoria (and Australia⁴) have been enacted in a range of countries, although there remains a large discrepancy between when laws were introduced and the level of restriction. While a very small number of nations – such as Israel, Portugal and Singapore – have chosen to ban *all* forms of phone use in cars (Land Transport Safety Authority, 2003), the most commonly adopted strategy is to restrict hand-held use. Table 4.2 shows the nations currently prohibiting hand-held use. The ten year gap between Australia and the next country to introduce similar legislation (Denmark) highlights one distinct variation in how the issue

⁴ In 1999 all Australian jurisdictions agreed to abide by a nationally uniform set of regulations, the Australian Road Rules. Rule 300 addresses the use of hand-held mobile phones: (1) The driver of a vehicle (except an emergency vehicle or police vehicle) must not use a hand-held mobile phone while the vehicle is moving, or is stationary but not parked, unless the driver is exempt from this rule under another law of this jurisdiction (Office of Legislative Drafting, 2003).

has been tackled. Some countries have been reluctant to use legal means to combat the practice and have chosen not to implement any regulations. This group includes Canada, China, Indonesia, New Zealand, Sweden and the United States.

Table 4.2: Countries prohibiting hand-held phone use while driving, and year of introduction (where known)

Country	Year ban was introduced	Country	Year ban was introduced
Australia	Uniform as of 2001	Malaysia	
Austria		Netherlands	
Belgium		Nigeria	2005
Brazil	2001	Norway	
Bulgaria		Philippines	
Chile		Poland	
Czech Republic		Portugal	
Denmark	1998	Romania	
Egypt		Russia	2001
Finland	2003	Singapore	
France	2003	Slovak Republic	
Germany	2001	Slovenia	
Greece		South Africa	
Hong Kong		South Korea	2001
Hungary		Spain	
Ireland		Sweden	
Isle of Man		Switzerland	
Israel		Taiwan	
Italy		Thailand	
Japan	1999	Turkey	
Jersey	1998	Turkmenistan	2003
Jordan	2001	United Kingdom	2003
Kenya	2001	Zimbabwe	2001

Source: Dizon (2004a); *Countries that ban cell phones while driving* (2006).

In some countries, bans are enforced in individual states, provinces or cities. New Delhi (India), Mexico City (Mexico), Islamabad (Pakistan) and the Canadian province of Newfoundland are examples of this. The United States typifies such a piecemeal approach. Cell phone related Bills were first listed on the National Highway Traffic Safety Administration's (NHTSA) *Legislative Tracking Database* in 2000 (which documents the tabling and implementation of Bills in each state). Despite constant lobbying and the tabling of a large number of Bills, as of 2005 only three states (Connecticut, New Jersey, New York) and the District of Columbia had passed laws banning hand-held phones that relate to *all* motorists (NHTSA, 2005). More specific limits apply in other states, such as restrictions for

bus, transit and novice drivers. Other variations have included moves to ban cell use in specific situations, such as when ‘turning on to or off of highways’ or moving through school zones or in ‘congested parking lots’, though none of these have been enacted (NHTSA, 2005, n.p). Several states have introduced laws preventing local jurisdictions from regulating cell phone use in order to stop an even more fine-grained set of legal restrictions. According to Matt Sundeen, a policy analyst with the National Conference of State Legislatures, this reflects an attempt to prevent a patchwork of rules within states (Roberts, 2006).

Table 4.3 shows the number of Bills relating to cell phones that were introduced in the United States between 2000 and 2005 pertaining to prohibitions and changes to fines and charges. As the last line indicates, these have had a very poor success rate: from 2000 to 2003, less than 4 per cent were enacted into law. A slight shift is discernible in 2004 and 2005, with this proportion increasing, although more than 90 per cent were still rejected by the various state senates and committees involved.

Table 4.3: Number of Bills rejected and enacted by type, United States, 2000-05

Content of bill	2000		2001		2002		2003		2004		2005	
	R*	E	R	E	R	E	R	E	R	E	R	E
Restrictions for bus drivers	3	0	12	0	5	3	4	2	3	2	11	1
Restrictions for novice drivers	0	0	10	0	10	0	12	1	20	0	29	7
Local jurisdictions	0	0	1	1	3	1	2	3	2	0	1	0
Research into cell phone issues	3	1	9	1	3	2	1	1	1	0	0	0
Prohibiting cell phone use and increasing penalties	37	0	69	1	64	0	79	0	37	2	55	1
Tracking information re: cell phones and car crashes	8	0	17	1	10	1	8	0	7	1	5	1
Education of drivers	2	0	2	2	3	0	3	0	2	0	0	0
Establish cell phone use as criminally negligent	2	0	8	0	5	0	3	1	4	0	3	0
Miscellaneous	7	0	5	0	2	0	3	0	1	0	4	0
<i>Total**</i>	61	1	124	6	97	7	105	8	69	5	95	10
<i>Percentage of Bills passed</i>	2%		5%		7%		7%		7%		10%	

Source: NHTSA (2005).

Notes:

In the time period 2000-05, Bills were proposed in all states.

*R stands for ‘rejected’ Bills, and E for ‘enacted’ Bills.

** The totals are less than the number of Bills shown, because some Bills include two or more types of action (for example, recommending prohibition for novice drivers *and* bus drivers).

These differences raise some important questions which have not been explored in detail. Why does there remain such a notable discrepancy between countries? On what basis have approaches differed?

The differences between jurisdictions in adopting, delaying or rejecting legislation as a regulatory option can be partly explained by the various styles of political reasoning of

different governments and social institutions. In this regard, debates in Western countries (such as Australia, New Zealand, the United Kingdom and United States) have centred on a number of points. Delays in passing specific laws are partly explained in terms of the scope for managing phone use via existing legislation. In the United Kingdom and New Zealand, for example, proposals to introduce new regulations were countered with the argument that drivers using their phones could be charged under current laws (the United Kingdom has since gone on to ban hand-held use, but New Zealand has not). United Kingdom motorists caught using a phone may be charged with reckless or dangerous driving, 'carrying out activities while driving which negatively impact the operation of a vehicle', or failing to maintain proper control of their vehicle (Cain & Burris, 1999, n.p.). Difficulty in enforcing the bans provides an additional disincentive.

Another common argument is that it is unfair to single out mobile phones when drivers are distracted by a variety of activities such as changing the radio station or smoking. According to this perspective, law-makers can't ban every kind of distracting activity. As an example, Jim Champagne from the Governors Highway Safety Association in the United States said: 'It is simply not good public policy to pass laws addressing every type of driver behavior' (Cook, 2006, n.p.). This comment hints at the relationship between personal responsibility and state regulation: To what degree should governments regulate different behaviours within the vehicle? In reference to in-vehicle behaviour, how specific should laws be? Ted Balaker, from Reason Foundation (a libertarian think tank), opposes banning cell phones on the grounds that 'you can embark on a slippery slope. You can ban eating in your car, drinking coffee in your car. You have to ask yourself, "where does this end?"' (Lawhorn, 2005, n.p.). This shows that, at least in the United States, reluctance to infringe upon individual liberties is an obstacle to introducing laws addressing phone use.

The New Zealand experience

New Zealand provides a useful comparison to Australia, being a nation which has not regulated phone use in cars but is currently debating the issue. The New Zealand Automobile Association (AA), equivalent to the RACV, has advocated the restriction of hand-held phones (New Zealand Automobile Association, 2004a, 2004b) and recent surveys have found support for restrictions: 75 per cent of 750 respondents to a newspaper poll supported banning their use in cars (Dearnaley, 2005) and 63 per cent of AA members were 'extremely concerned' about the issue (New Zealand Automobile Association, 2004a, n.p.). In contrast to Australia, where public opinion has also been supportive of a ban, at this stage no laws have been introduced.

The issue has been bubbling along for a number of years, with a string of Land Transport Safety Authority reports addressing the topic. As part of consultations undertaken in 2002 regarding changes to the *Land Transport (Road User) Rules* (Land Transport Safety Authority, 2002), it was decided not to proceed with legislative restrictions. Reasons given for this decision included:

- Lack of consistency in terms of allowing motorists to hold other objects such as a cigarette or food;
- Difficulties in enforcement;
- Research remaining inconclusive in demonstrating the effectiveness of laws in reducing phone-related crashes;
- An assertion that current police powers are an adequate means of monitoring the activity (it was reported that some motorists had been prosecuted under existing road

rules for impaired driving due to cell phone use; see Land Transport Safety Authority, 2003).

The report goes on to claim that, over the past five years, cell phones were, on average, implicated in 23 crashes per year. This constituted 'less than half of one percent of all reported injury and fatal crashes' and 'relative to other road safety risks, cell phone use does not constitute a serious road safety problem... By contrast, alcohol contributes to around 1200 reported injury and fatal crashes a year' (Land Transport Safety Authority, 2002, p. 49). Implementing and enforcing bans was not a high priority when compared to the other major contributors to road accidents.

The New Zealand government has remained reluctant to implement bans, instead directing the Land Transport Safety Authority to undertake 'further analysis on the issue' (New Zealand Automobile Association, 2004a, n.p). Transport Safety Minister Harry Duynhoven said that, despite strong public support, the cabinet would not be rushed into a decision, hoping that a new rule could be put in place in 2006 'after substantial public consultation' (Dearnaley, 2005, n.p.). In spite of publicity generated by a road death that was attributed to mobile phone use in late 2006, which renewed calls for a ban, as of early 2007 no law had been introduced.

The comparisons between the United States, New Zealand and Australia highlight some important features of legal debates. It is significant that the driving public, who would feel the constraints on their freedom, actually favour bans. This indicates that arguments based on appeals to the public good, or individual liberties, tend to come from governments and particular social institutions, each with their own interests and motivations. The concepts of personal freedom and state regulation (via laws and regulations) have been drawn upon by countries (and certain organisations) in different ways to support their position. Australia has been more willing to use state intervention as a means of protecting the public good, whereas in the United States the defence of individual rights has meant that legislative measures have failed to gain widespread approval. This difference in political rationales is but one part of the picture. As seen in New Zealand, pragmatic considerations (such as the enforceability of regulations and the lack of reliable empirical data) have also been drawn upon to cast doubt on the usefulness of legal intervention.

At the same time as highlighting the differences between countries, it is important to recognise the nuances and complexities within various states' and nations' approaches. Although it can be said that Victoria has pioneered the enactment of road regulations in a number of areas (including telephone use in vehicles) and that this tendency to embrace legislation has been informed by a particular political tradition, the process of making policy decisions has not been entirely straightforward, logical or linear. The legislative response to mobile phone use while driving has been dealt with in a piecemeal manner in negotiation with public opinion, interest groups and scientific research, and although Victoria has adopted a unique approach in terms of implementing road safety countermeasures, there has been no general philosophical or conceptual reconciliation of these issues.

Social regulation

Having outlined the deliberations surrounding legal measures, let me briefly touch upon efforts to restrict mobile phone use while driving via *social* means, or self-regulation. Another pivotal strategy for reducing risky driving practices is based on mobilising the self-governing capacities of citizens. Attempts to do this take a range of forms, including appeals to moral

and ethical responsibility, as well as education and publicity campaigns. Nikolas Rose talks of these strategies in terms of the responsabilisation of individuals and organisations. This means that 'the management of risk' involves the 'deployment of a range of novel technologies for acting indirectly and at a distance on the objects to be governed', and that 'it is not solely the state that should make...risk calculations: individuals, firms and communities should manage their own riskiness' (Rose, 1999, pp. 236-7). This has been described as governing through freedom. 'The government of freedom', Rose contends, 'may be analysed in terms of the deployment of technologies of responsabilization' (1999, p. 74).

Aside from legal measures, governments also have an interest in developing the ability of citizens to modify their own behaviour, whereby drivers are encouraged to take personal responsibility for their actions. Traffic safety education and media campaigns highlighting the risks involved – to name two examples – focus on the agency and ethical capacities of motorists to modify their own behaviour and minimise risky driving practices. There are also strategies pitched at a societal level which aim to alter social norms. Each of these initiatives have been employed in attempting to change driver's use of hand-held phones, both by government and other groups.

Indeed, a range of institutions, from the car lobby to mobile phone companies and private business, have adopted a rhetoric which emphasises self-regulation. The underlying current is that self-regulation is sufficient (in contrast to more laws and more severe punishment), and that people can be relied upon to make good choices while driving. This style of reasoning is driven, in particular, by private industry. Former AMTA chief executive officer Graeme Chalker contended that 'by adhering to...simple common-sense practices, drivers can make full, productive and safe use of mobile phones' (AMTA, 2004, n.p.). In the United States, the spokesman for the Cellular Telephone and Internet Association states that 'it has to be up to the driver to determine when is a good time and a bad time to make a call' (Dizon, 2004b, p. N17), while Motorola encourages people to 'practice good driving judgement' (2005, n.p.). Put another way, Dizon says that 'those who believe that driving while calling is generally a safe practice say society can't legislate common sense' (2004b, n.p.).

Conclusion

Australian – and in particular, Victorian – governments have a tradition of regulating drivers' behaviour via laws and enforcement in the interests of the public good. Other countries have a stronger history of protecting privacy and individual liberty: as a result, legislators tend to favour less formal approaches which emphasise personal responsibility, such as education, media campaigns, appeals to morality, and changing habits and social norms. But this distinction should not be over-stated: even though Victoria has displayed more willingness than other jurisdictions to tackle the issue via legislative measures, this has not come without debate. There is a complex relationship between the rationales of legislative development and the enforcement of laws. Moreover, there remain a diverse range of groups with differing opinions: public policy decisions are subject to a variety of interests. It is noteworthy, for example, that the general public does not tend to draw on the notions of the public good and private liberties in the same way as other stakeholders. This style of reasoning is predominantly drawn upon by governments and by organisations which have a vested interest in the use of mobile phones while driving (such as the telecommunications industry). In this way, the description of deliberative processes in this paper opens up new empirical and theoretical questions about the relationships between private industry, individual motorists, legislators, government ministers and bureaucrats, who each maintain different roles, objectives and spheres of influence. This kind of analysis of debates concerning regulation

can also inform issues raised by developments linking other emerging technologies and vehicles, such as in-car navigation systems.

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IS INDUSTRY MEETING THE INFORMATION NEEDS OF PEOPLE WITH DISABILITIES ON ACCESSIBILITY FEATURES OF TELEPHONE EQUIPMENT?

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1. Abstract

Telecommunications equipment manufacturers and importers now provide information about accessibility features on telephone equipment for people with disabilities. This is a requirement based on an Industry Code that was developed over a two-year period by a Communications Alliance Working Committee. This paper will outline the need and describe the complex processes that led to this new service, the interplay between the main stakeholders (consumers, the telephone supplier industry, the telecommunications companies, the regulator and the body developing the Industry Code), lessons learned and the next steps in the process. The paper will also describe the information to be provided and how it can be accessed. In conclusion, the paper will recommend the establishment of an online database to enable people with disabilities to effectively find and compare the accessibility features they need.

In October 2003, the Australian Communications Authority (now called the Australian Communications and Media Authority) formally requested that Australian Communications Industry Forum (ACIF) (now called the Communications Alliance) develop both an industry code and an industry guideline to improve information on telecommunications access for people with particular communications needs. The Industry Code "ACIF C625:2005 Information On Accessibility Features For Telephone Equipment" along with the associated Industry Guideline "ACIF G 627:2005 Operational Matrices For Reporting On Accessibility Features For Telephone Equipment" now requires telecommunications equipment importers and manufacturers to provide product information on the functional characteristics of the equipment that will be beneficial to people with disabilities. This information is provided to telecommunications service providers who provide the information to their customers.

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2. Background

Much of the technology in mobile phones was invented to enable those with a disability to participate more fully in our society yet these features (e.g. miniaturisation, vibrate alert, CCD cameras, speech recognition and generation) are now included in many mobile phones used by the bulk of the population (Law, 2006). These features assist the able-bodied community at times when they are temporarily disabled (such as not being able to hear their phone ringing while in a noisy environment or not being able to see the phone while driving a vehicle).

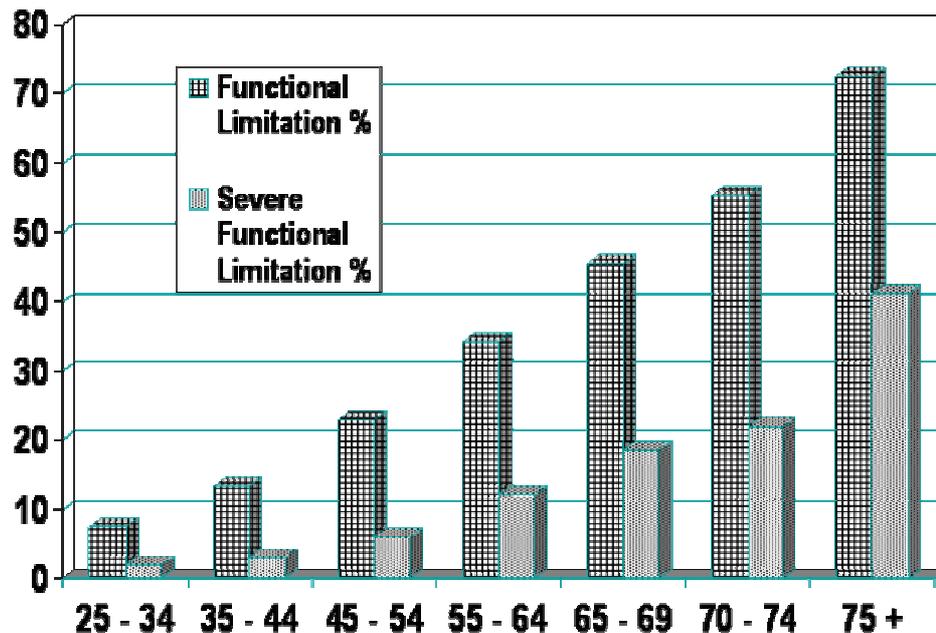


Figure 1 Percentage of population with a Functional Limitation against Age.
Ref: Trace Center, Madison, WI, USA

Whereas we might think of this as a temporary disability, it is simply a functional limitation due to a particular circumstance at a given time. In a similar way, we need to think of a disability as a functional limitation due to a physical impairment. The reality of a longer-term functional limitation is more accurately portrayed in Figure 1. We can see from the graph that by the time we are 75 years or older, 72.5% of the population will experience a functional limitation and 41% will experience a severe functional limitation.

This fact and the importance of the integration of people with disabilities into our technological society has highlighted the need for functional limitation to be taken into account at the time of product design; commonly referred to as Universal Design (UD) or Inclusive Design. Universal Design has often been mis-interpreted as the design of a single product to suit the needs of all people with a functional limitation. UD is a process that takes into account the needs of those with a functional limitation at the time of design (see references). This can be a zero or low cost option when responding to some functional limitations such as increasing the contrast of keypad characters through appropriate choice of foreground and background colours and the choice of the size of the characters on the display. Adopting UD principles will increase the number of people able to use the product and consequently the market that the product will appeal to.

The fact that a product (or phone) does not have a certain feature does not make it inferior. A phone with large keys will be easier to use by a person with gross motor control but will be unworkable for a person with only fine motor control. Hence the size of the keys is important in the matching of a particular phone to suit a person's needs. Similarly, a person who is blind will have no use for a visual display and a person who is deaf has no need for sound output. Clearly a phone that has spoken text, a large visual display and high quality sound output will be applicable to a larger population. Many current phones do have features that are needed by people with a disability or who are ageing.

By informing the public about the features that do exist on a particular phone, those with a disability/functional limitation will be able to choose from a range of phones to identify the one most suitable for their disability/functional limitation.

3. Introduction

Federal Government legislation makes some provision for telecommunications equipment to meet the particular communications needs of Australians. Under section 380 of the Telecommunications Act 1997, the Australian Communications and Media Authority (ACMA) may make a standard relating to features of customer equipment used in connection with a standard telephone service that are designed to cater for the needs of people with disabilities. A 'standard telephone service' (STS) is defined in the Telecommunications (Consumer Protection and Service Standards) Act 1999 as a service for voice telephony or its equivalent that passes the 'any-to-any connectivity test'. Any to any connectivity is when an end user of the service is ordinarily able to communicate, by means of that service, with another end user who is supplied with the same service for the same purpose.

The Telecommunications Disability Standard "Requirements for Customer Equipment for use with the Standard Telephone Service—Features for special needs of persons with disabilities" AS/ACIF S040 (2001) requires the inclusion of only two specified features, a hearing aid coupling (but not for mobile handsets or cordless handsets that don't allow coupling) and a raised 'pip' on the key associated with the digit '5',

In October 2003, ACIF (now part of the Communications Alliance) was asked by the ACMA to develop:

- an industry Code requiring importers and manufacturers of customer equipment that use a telephone handset or keypad that is manufactured in, or imported to Australia, for use with the standard telephone service, to provide information about whether or not their equipment has certain features that could enhance accessibility for people with a disability; and
- an industry guideline outlining the types of features that would enhance the accessibility for consumers with a disability, to be considered during the future importation and manufacture of telephone handsets or keypads that are manufactured in, or imported to Australia, for use with the standard telephone service.

The objective of the Code (ACIF C625:2005) is for equipment suppliers to provide information on the features of their equipment which may assist in meeting people's communications needs. This will be done in one of two ways:

- through the provision of such information by equipment suppliers (ES) to carriage service providers (CSP) in order that CSPs may be able to inform their own customers about equipment features; and

- through the provision of such information to consumers, on request of that consumer, with such information on features of their customer equipment that might meet that individual's communications needs.

The accompanying Industry Guideline (ACIF G627:2005) lists equipment features against which equipment suppliers report (see Appendix). That document is expected to be regularly updated to reflect the latest developments in equipment technology. The Code does not apply to the provision by equipment suppliers of information on customer equipment to retail outlets not under the control of carriage service providers. Those retail outlets would be outside of the jurisdiction of the Telecommunications Act 1997 and codes made under that Act. If consumers require information on equipment features, and that information is not available from retail outlets, they will be able to seek that information directly from the equipment supplier.

4. Development of the Code

A Working Committee was formed with members from:

- Australian Communications and Media Authority (ACMA) (2 representatives)
- Australian Electrical and Electronic Manufacturers Association (AEEMA)
- Australian Rehabilitation and Assistive Technology Association (ARATA) (Rob Garrett)
- Cisco Systems
- Consumers' Telecommunications Network (CTN)
- NEC Business Solutions
- Nokia
- Telecommunication and Disability Consumer Representation (TEDICORE) (Gunela Astbrink)
- Telstra
- Trillium Communications
- Vodafone

ACIF provided project management support to the Working Committee.

The first meeting of the committee was on 13th April 2004. Nearly all meetings had members in Melbourne and Sydney linked by videoconference. Some meetings used a 3 way video connection to include Adelaide. Approximately 20 face-to-face half and full day meetings occurred.

The draft version of the Code was published with the Public Comments closing on 13th December 2004. The Committee consideration of Public Comments took place in the beginning of 2005 and continued with its discussions over the ensuing months. A meeting held on 21st July 2005 decided on a new approach. As a result, a smaller group of 3 members containing representatives from the equipment suppliers, carriage service providers and consumers (Rob Garrett) along with the CEO of ACIF and the ACIF Consumer Project Manager met to propose a solution to resolve the impasse.

The proposal generated by this group contained:

1. A significant decrease in the features to be recorded by the suppliers. The features were reduced to questions that nearly all could be answered by a yes / no answer and did not require any physical measurement. See the Appendix for the final list of features.

2. A requirement that the suppliers respond to customer enquiries regarding the particular features on a particular phone.
3. The introduction of a regular review process.

Agreement to go to ballot for the revised code was obtained at the final meeting of the Working Committee on 28th November 2005. The subsequent ballot was in the affirmative and the Code (ACIF C625:2005) was submitted to the ACMA. However, there were considerable delays in registration of the Code by ACMA due to industry concerns about aspects of the Code. The Minister was informed about the delays. The Code was finally registered on 12th October 2006.

5. Implementation and Future Plans

Following the registration of the Code, the suppliers had 6 months to implement the processes to ensure that the accessibility information is reported as required by the Code. The implementation date was 12th April 2007.

The Information Accessibility Administration Group (IAAG) was set up during the implementation period of the Code. This group comprises representatives from the equipment suppliers and CSPs but no consumers. It is defined as an implementation group to assist suppliers to better understand their obligations under the Code. As a result, an information sheet has been developed for this purpose (see references).

A key issue is the method used by manufacturers and importers of telephone equipment for the supply of information to carriage service providers (CSPs) on accessible features. There is no direction in the Code on this aspect. It may initially be done through the use of spreadsheets based on the matrices of features from the guideline that will then be distributed to CSPs for further dissemination to their customers. This seems like a clumsy and burdensome way to provide this type of information. TEDICORE has been discussing over the past few years with key government and industry stakeholders the need for an online database. Such a centralised database would provide a streamlined and uniform way for manufacturers and importers of telephone equipment to input the data in a secure environment. This data would then be searchable by CSPs and customers with disabilities based on criteria of a variety of features. The results of the search would list a number of fixed, mobile, cordless or office telephones offering the required features. This online database should be designed so that it is accessible for users and easily navigable through a website. TEDICORE has written to the Department of Communications, Information Technology and the Arts about this issue and ACMA has been urged to coordinate the development of such a database. Unfortunately, no progress has been achieved yet.

The Code states that a review will be done after twelve months. It is important to ensure that the features relevant to people with disabilities are included in the list. We see the current matrices as a starting point and that there is much scope for adding further features such as the measurement of the size of keys and the level of volume control.

6. Conclusion

The above analysis of the evolution of the Industry Code on Information on Accessibility Features for Telephone Equipment clearly demonstrates the long and expensive process involved. However, important progress has been made.

It is important for industry in future to have a clearer understanding of the growing role that older people and people with disabilities play in the overall marketplace. If their needs were

properly met, there would very likely be more active users of telecommunications products and services amongst the aged and disability communities.

Equally, it is vital to inform disability and ageing communities about the availability of this new information and to ensure that the information is readily accessible to all Australians.

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APPENDIX: ACCESSIBILITY FEATURE INFORMATION TO BE SUPPLIED

MOBILITY/DEXTERITY FEATURES

FEATURES COMMON TO BOTH FIXED AND MOBILE HANDSETS

Dial-out buffer memory: Number to be called can be entered and checked on the display before sending.

Speaker-phone capable: Hands free operation during dialling and after call initiated. If "Yes" does the phone have full duplex speaker phone capability?

Short Messaging Service capable: Messages can be read, composed and sent using the phone's screen and or keypad.

Predictive Text sending: Phone predicts a whole word from the first few letters of the word being typed using an inbuilt dictionary (for SMS/MMS use).

Guarded/recessed keys: Keys that are recessed or guarded in some way are easier to press and reduce the possibility of pressing the wrong key.

Handset weight: For handset incorporating batteries, weight of handset together with batteries. Specify type or model of batteries used.

Coupling to a device: Device can be connected to the phone by using: cable, infrared signal, Radio waves (wireless connection) eg. Bluetooth, Other – describe...

Tactile key markers (cordless and mobile): A tactile (such as a raised 'pip') marker to identify where the '5' key is.

Standard key layouts: Number layout uses the standard 3 x 4 (12 key) keypad array.

Key feedback – tactile: Pressing a key provides a change that can be felt to confirm button has been pressed.

Key feedback – audible: Pressing a key provides a tone that can be heard to confirm button has been pressed.

Audible identification of Keys: The number on the Number keys is spoken when pressed. Audible key feedback different for function and number keys.

Adjustable font: Adjustable font style & adjustable character size

Visual line status display: Visual display of the line status (i.e. on-line).

Microphone amplification: Adjustable volume control of microphone to amplify outgoing speech. Setting "Retains" or "Resets" to default after each call.

FIXED LINE HANDSETS FEATURES

Wall Mounting: Can the phone be mounted on a wall with or without an accessory?

Keypad separate from handset: Keypad provided is separate from handset on a base unit or on a plug in option.

Handset Alert: Phone provides an audible alert when handset not replaced correctly. Phone provides a visual alert when handset not replaced correctly

Handset - plug connected: Alternative headset can be connected in lieu of handset

Port for Additional earphone/headset: This facility enables an additional earphone to be plugged in so both ears can be used to listen or another person can listen and assist with a call. It also enables a headset to be installed for hands-free use.

Key feedback – displayed: Number being dialled is displayed on the screen.

Ringer volume adjustable: Adjustment of the ringing volume is possible.

Text display – visual: Visual display of incoming text is provided.

Tactile ringing signal: Vibrating indication is provided when the phone rings.

Visual ringing signal: Light source is provided to indicate when the phone rings.

MOBILE HANDSETS FEATURES

Connection for Additional earphone/headset: This facility enables an additional earphone to be plugged in so both ears can be used to listen or another person can listen and assist with a call. It also enables a headset to be installed for hands-free use.

Display Characteristics: Colour display

Speech-input keying: Voice recognition for setting up calls.

Text send – keyboard: Standard layout of QWERTY keyboard

INFORMATION & COMMUNICATIONS TECHNOLOGY EVOLUTION AND CONSEQUENTIAL DAMAGE

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Abstract

Information and Communications Technology (ICT) has continued to evolve to a point where its use and application is both impressive and ubiquitous. ICT is able to solve a wide range of social human challenges and issues. The technology is able to link people from all over the world, facilitate scientific discovery and break-through, and is able to bridge many social divides. Indeed information and communication technology has evolved; however there is recent evidence that this same technology may have unintended consequences. This paper suggests that a trend has emerged where the benign and correct use of ICT may unexpectedly result in social disruption and harm to others, resulting in consequential damages. Whilst technology may be used in a malevolent way by a person intending to cause harm, the subject of this paper is on the negative consequences caused by benign, perhaps by unsuspecting individuals, rather than the malicious user. Evidence indicates this trend is now occurring, suggesting that a key point has been reached in the power and strength of ICT that no longer permits the luxury of candid use without due consideration to the potential un-intended consequences. To counter these problems we suggest that policy development and technology assessment methods are required by institutions to manage the use of ICT in order to reduce the possibility of un-intended social harm and consequential damage.

Key Words: Unintended Consequences, Innovation, Information & Communications Technology, ICT, Consequential Damages, Technology Assessment.

1. Introduction

An informal review of the hottest new industry trends in 2007 has identified 16 Information & Communications Technology (ICT) related innovations out of a total of 50 innovations [1]. In other words, ICT represented 32% of the emerging ideas discussed, which included progress in space exploration, advances in molecular science, and environmentally efficient energy solutions. The significance and importance of ICT is clearly visible in its positive impact to our society. ICT improves our lifestyle with entertainment devices and gadgets, social benefits through collaboration and communication, and numerous business efficiencies and productivity improvements are bestowed through its use. While ICT has become a necessary asset to many aspects of our every day life, there is growing evidence that this same powerful technology can sometimes have undesirable side effects which impact the community and our society.

This paper suggests that a key point has been reached in the power and strength of ICT that no longer permits the *luxury of candid use* without considering the consequences. The term

candid use is used here in this context to denote *unreservedly straightforward* (or casual) use of technology. Moreover, a trend is emerging where the benign and correct use of ICT may unexpectedly result in unintended social disruption, causing harm to others and with consequential damages to institutions. For the individual the results may be personally devastating, for corporate institutions this may result in financial impact, legal activity, and loss of community standing.

Recently, there are a number of instances where the presumed benign use of technology has resulted in unintended consequences. This includes breaches of trust in security measures [2], concerns regarding radio emissions [3], and rapid increases in electronic waste [4]. The technologies associated in these instances were not manufactured to be intentionally malicious; however the technology was applied by users in a way that resulted in both direct and indirect harm. Such scenarios provide motivation to industry and government for developing policies to guide technology implementers on how to moderate the use of ICT so as to not cause such unintended consequences. Developing such policies will also help mitigate the social and financial repercussions when such consequences do occur and foster corporate responsibility to the community.

We build upon the theories of Merton on what factors cause unintended consequences [5], by proposing additional contributing factors that are relevant to ICT. These principles are then used to highlight several examples that involve ICT of how such consequences have occurred. This serves to draw attention to the theme presented that ICT has evolved to a point where its casual use is no longer available without due consideration of consequences. We also suggest parameters to guide industry and government on how to prepare policies that may mitigate the impacts to institutions and the community. Hence, we view the main contributions of this paper as follows.

- Suggests that technology has recently evolved to a point that no longer permits the *luxury of candid use* without due consideration to the potential unintended consequences.
- Establishes the factors relevant to ICT that contribute to such consequences, presenting several scenarios and the likely repercussions if ICT is applied without appropriate safety checks applied on its use.
- Outlines several parameters for developing policies, guidelines, and technology assessment methods for industry and government.

The next section discusses the literature related to the evolution of technology and its societal impact. Section three identifies contributing factors based upon Merton's theories and section four outlines several examples of how ICT has resulted in un-intended consequences. In section five, an initial set of parameters for establishing policies and guidelines is presented. The final section summarises the key observations made and suggests areas of further work.

2. Background and Related Literature

Bargh and McKenna observe that the Internet as a communications technology follows a similar trend established by telegraph, telephone, radio and television, by building upon the capabilities of previous innovations [6]. They examine the effects of Internet on the psychological well-being of users and the community, noting several risks with communications technology.

Naisbitt studies the relationship between technology and the human element. He suggests that an eco-system exists where as technology is introduced in our lives, there is a counterbalancing need that offsets this introduction. He also observes that humans introduce technology without thinking about how relationships will change, what will be enhanced,

what will be displaced and what is diminished. He suggests that the introduction of a new species is similar to the introduction of new technology into the home, the workplace or society and will have significant consequences [7].

In [8], Williams suggests that studies on the effects of technology introduction may be superficial unless deeper analysis of the cause and effect between technology and its impact to society, culture, and psychology is carried out. For instance, he points out that in many ways television was a technological accident with several unforeseen consequences. This included its impact to other forms of entertainment and news media, but also on aspects of the family, cultural and social life.

Hargittai reviews the impact of the radio as a large scale communications technology and draws several comparisons to the recent introduction of the Internet [9]. She observes that the origins and evolution of both forms of technology follow a similar path that led to regulations being imposed on institutions offering these technologies. Several consequences of the technology's introduction were inevitably dealt with. This included personal privacy, national security, information reliability, and children's use of technology. She observes that this was addressed at the start of the 20th century with radio and once again at the start of the 21st century with the Internet.

Healy conducts a panel discussion on the unanticipated consequences of technology [10]. The panel more broadly discusses the implications of unanticipated consequences as both positive and negative. He also points out that the inventor, or designer, of a new system is not usually the best judge in assessing the good or harm that may be incurred. In [11] Tenner critically analyses several forms of technology and why 'ironic' unintended consequences emerge, suggesting that a general rule seems to pervade technology which explain 'why things bite back'. Additionally, there are a number of other more general studies on the consequential impact of ICT in various industry segments [12, 13, 14].

The previous works have observed that new technology has the potential to introduce risk, and that existing analysis techniques may not fully divulge the potential consequences. It appears to be accepted in the literature that technology has the potential to inflict un-expected outcomes. We extend this notion here suggesting that a point has now been reached in the evolution of ICT that simply no longer permits candid, i.e. casual, use without due consideration to unintended consequences. This is a fundamental shift in the way we perceive ICT, from the possibility of causing unintended harm, to an acceptance that ICT will cause harm if precautionary measures are omitted. More specifically, the power and strength of ICT warrants a more systematic analysis of the potential impact to the community if negative consequences are to be avoided.

3. Unintended Consequences

Unintended consequences may be generally classed as unexpected positive outcomes, or unexpected negative outcomes. The literature does focus on the later and in the context of this paper the negative unintended consequences are of interest. We study this aspect further here by providing a formal analysis of the factors that contribute to such negative outcomes.

3.1 The Merton Principles

It is suggested that the first complete analysis of unintended consequences was conducted by Robert K. Merton in 1936 [15, 16]. At the time the notion was referred to as unanticipated consequences, however it is widely regarded that Merton coined the term *unintended consequences*. Arguably one of the most influential sociologists of his time [17], Merton

suggests that there are five factors that contribute to unintended consequences: ignorance, errors, immediate interests, basic values, and self defeating prophecies [16, 18]. We briefly outline these factors.

Ignorance is the incomplete knowledge of the domain and the fundamental tenet that it is impossible to anticipate everything. This often involves acting upon opinion and estimate, with perhaps misplaced confidence on incomplete information.

Errors in the appraisal of the current situation and of future possible situations contribute to unintended consequences. This includes the error of applying historical precedence to predict outcomes to the current situation. Further, a failure to observe that recognised procedures, that have been previously successful in certain circumstances, may not be so under all conditions.

The immediate interest will influence and override longer term interests. Intense interest precludes objective analysis of the broader issues, resulting in emotional bias. This may also include decisions made that intentionally ignore longer term impacts due to the short term goals.

The basic values we possess as humans will influence certain actions. The actions taken in accordance with our values will focus on a particular value area. Often, no additional consequences are considered based upon our value judgement. What we judge as right for one another is considered right based upon our values, regardless of whether this is in fact true or not. This obviously has severe limitations. Individuals who have differing sets of basic values will yield different results (unintended consequences). Merton also points out here that the complex interaction of society will mean that impacts in one area will, in the longer term, ultimately impact adjacent areas and the value-system held by the change agents. Such a result will potentially alter the original set of basic values of those who instigated the change.

The final factor identified by Merton is that predictions of social development do not eventuate because the prediction itself is a new element, changing the course of what may have originally occurred. This is more generally referred to as the 'self-defeating prophecy'. In other words, the fear of certain consequences drives people to find solutions before the problem occurs; hence the prediction does not eventuate. How this relates to unintended consequences is a little obscure at first. However, if one predicts a consequence of dire proportions, this may alter people behaviour significantly. Unfortunately, the new balance that eventuates, in order to avoid the original prediction, may actually contribute to a far greater range of new unexpected consequences, often more serious than the original predicted consequence.

3.2 Time and Dimensional Factors

In addition to Merton's primary factors that contribute to unintended consequences, he also makes the observation for the need of "time" and "resources", remarking upon how diminished time contributes to ignorance. Merton also notes that such resources must be distributed amongst several aspects of innovation, which includes the anticipation of consequences.

This notion of time and resource constraint is particularly relevant to ICT in the present innovative culture. A number of elements contribute to time-to-market pressure including product obsolescence, global competition, and gaining early market share from rapid introduction [19]. The conventional wisdom of R&D institutions is that *radically innovative products* provide the best competitive advantage [20, 21]. It is suggested that incumbent organisations often fail to innovate due to their culture of risk aversion [22]. Hence, there is a need and willingness to take risks [21].

Research and industry appears to be focused on time-to-market reduction [23], perhaps due to the “*winner takes all hypothesis*” [24]. New product development is often a trade-off between time-to-market and product performance, and can be affected by development resources [24]. Further studies, in related engineering disciplines, show that high-tech products that reach the market six months late, even if on budget, earn 33% less profit over five years; conversely, if delivered on time with a 50% budget overrun will reduce the profit by only 4% [25, 26]. Taken together, these innovation constraints inevitably place further pressure on the ability of individuals to fully explore the potential for unintended consequences. We suggest that the issue of time and resource constraint warrants individual analysis as an additional factor that contributes to unintended consequences.

The ideas discussed thus far are based upon the impact of a particular technology as a single instance of innovation. A further perspective on consequences is the potential impact of technology due to the absolute dimensions associated with the innovation. This may be the mass production of unit items, volume or capacity of information storage, or significant increases in functional capability of advanced technology.

Table 3

Factors in Unintended Consequences

Factor	Description
Ignorance	Incomplete knowledge of the domain. The impossibility of anticipating everything.
Errors	Errors in the appraisal of the current situation and of future possible situations.
Immediate Interest	The immediate interest will influence and override longer term interests.
Basic Values	The basic values we possess humans will influence certain actions.
Self Defeating Prophecy	The prediction itself introduces a new element, giving rise to a self defeating prophecy.
Constraints	Time-to-market versus product quality trade-offs, versus resource constraints.
Dimensions	Mass production scale and deployment, complexity, and volume of information.

It may be viewed that by merely duplicating instances of a simple problem, an overall increase in problem domain complexity results. For example, it is suggested that technologies introduced into mass culture, such as the Internet, create disorder from excessive use of applications [27]. Due to the magnitude of functionality introduced in present day devices, product design and engineering complexity increases; and, increased complexity contributes to unforeseen events [12]. Mass production of mobile devices introduces problems in distribution, revision management, and control. Further studies point out that the increased

prevalence of consumer electronics is the single most significant contributor to electricity consumption in the home [28]. The capability to mass produce technology may be considered a modern phenomenon, generating new consequences in e-waste [29]. With recent advances in manufacturing capacity together with increasing capabilities of ICT, we suggest that this is an additional factor contributing to consequences.

Dorner suggests that complexity, dynamics, intransparency, ignorance, and mistaken hypothesis also contribute to the difficulty of understanding the problem domain of systems engineering [30]. The additional factors of constraints (time and resource) and dimension contribute further to the underlying causes, and perhaps augment the degree of impact that each of Merton's primary principles have on society. While the primary principles defined by Merton are fundamental human qualities, the additional properties of constraint and dimension are more correctly classified as characteristics associated with the human innovation process. We now summarise the factors contributing to unintended consequences that are relevant to ICT and the broader domain of technology, see Table 1.

3.3 Definition of Consequential Damages

Before focusing on the more specific impact of the recent evolution of ICT we first provide a formal definition of the term consequential damages. This helps to understand the potential liabilities when consequences do occur. West's encyclopaedia of American Law provides a concise definition [31], see Table 2 below.

Table 4

Consequential Damages

Injury or harm that does not ensue directly and immediately from the act of a party, but only from some of the results of such act, and that is compensable by a monetary award after a judgment has been rendered in a lawsuit. Detriment that arises from the interposition of special, unpredictable circumstances. Harm to a person or property directly resulting from any breach of warranty or from a false factual statement, concerning the quality or nature of goods sold, made by the seller to induce the sale and relied on by the buyer.

This definition refers to the injury or harm caused to person or property that is indirectly associated with the act of a party. This is the result of special, unpredictable circumstances, concerning the quality and nature of goods. Further definitions refer to a foreseeable consequence [31 p.332], or 'ramifications of a particular course of conduct that are reasonably foreseeable by a person of average intelligence' [32]. Merton also remarks upon the foreseeable aspect of such events [16]. The term foreseeability is defined as 'the facility to perceive, know in advance, or reasonably anticipate that damage or injury will probably ensue from acts or omissions' [33].

This point regarding foreseeability may be particularly relevant today, with comprehensive supporting tools and processes that render the consequences of our actions as quite foreseeable. However, due to the factors outlined in Table 1, particularly time and resource constraints, institutions may elect to forgo, or compromise, the necessary due diligence tasks that thoroughly assess the potential for unintended consequences. This would naturally suggest that any remedial actions are not in place, with no clear visibility of the potential financial liability that may be incurred. Such inaction of foreseeable consequences may be interpreted as negligence [33, 32 p.221].

4. Socially Disruptive Behavior of ICT

In the previous section we discussed the factors that contribute to unintended consequences. This was generalised to the broader domain of innovation. Using the established criteria as a vehicle for analysis we now focus and apply this discussion to information and communications technology. Several scenarios are immediately obvious when one considers the potential unintended consequences and these are discussed. However, the longer term repercussions of the consequences occurring may be more illusive to determine. Given the recent advances in the strength and power of ICT, it is argued that where ICT is applied without the appropriate due diligence reviews carried out, the impacts and liabilities may increase in severity. Before considering these notions further, we first clarify the behavior of disruptive technology.

The term *disruptive technology* generally refers to an innovation or breakthrough that eventually displaces established technologies [34]. While the authors also suggest that such breakthroughs initially under perform, these technologies usually imply radical innovation and change, having severe financial repercussions for the incumbents and greater financial reward for the innovators. Although the specifics of the definition are argued [35], this interpretation of the term perhaps represents the general consensus amongst industry and research.

In addition to the accepted disruptive characteristics, the potential exists for a concomitant socially disruptive aspect of technology. Moreover, the unintended consequences of ICT may disrupt our social fabric and the well being of others, causing injury or harm to person and property.

It is important to re-iterate that the type of consequence discussed here are not intentional, or at the hand of a malicious user. Rather this is the result of the benign or candid use of technologies. Moreover, ICT has matured to a level that no longer permits straightforward use without an investment in time and energy to understand the potential negative impact to others. We now analyse each of the factors in Table 1 in relation to ICT, identifying examples that illustrate how consequences can occur.

4.1 Ignorance

Perhaps the key protagonists of ignorance are familiarity and complacency, which deceive us into ignoring the potential impacts of our actions. A new technology is often considered well founded and perhaps well understood when its presence has been adopted for several years. However, there is a failure to make fundamental observations of the impact of these innovations once deployed. Any initial observations may serve as early warnings to future hazards.

Web based technologies is one example of a recent ICT innovation that is fundamentally accepted. This is often viewed as necessary in organisational change to improve many aspects of how we conduct business. For instance, while the Internet has been applied to increase electronic commerce in business, it has also increased Internet fraud making identity theft easy [36].

A further example is a study that conducted research on the impact of web based technologies on a contact service business for sharing information within a firm [14]. This was carried out in order to understand the impact on time, control, and organisational change. Both the anticipated and unanticipated consequences were assessed, the key unanticipated findings included:

- increased pressure and stress of work for managers and employees,
- managers gained control in monitoring employee performance and increased access to information, and
- employees felt they were being watched by “big brother”; this also contributed to increased stress and served as a disincentive to perform.

Examining the last consequence noted above further, we observe that incentive to perform is a key theme of innovative institutions. Further work also points out that performance measurement approaches actually inhibit innovation [37]. There is both a human impact due to additional stress and a financial impact in market competitiveness through innovation. Considering the importance of innovation to competitive advantage [20, 21], any action that negates this would seem to warrant careful consideration.

4.2 Errors

Krueger and Funder conduct in-depth study on the sources of human error [38]. They observe over 40 published sources of errors, remarking upon the more salient, which include: conformity with false majority judgements, the allure of counter-intuitive findings, incoherent interpretations of errors, adherence to norms not requiring explanation, self-enhancement, and emotional biases.

Often we base judgement upon the advice of custodians, and this information may not be accurate. For example, a recent study on Internet safety highlighted significant discrepancies between what parents claim to know about their children’s Internet activities and their actual activities [39]. These misunderstandings contribute further as a source of errors, with decisions made upon flawed data. Studies conducted by Dorman and Howell conclude that analysis with few subjects also greatly increases the likelihood of errors [40].

Data quality and completeness appears to be an industry wide problem. Much time and effort is expended by organisations to ensure data accuracy. However, mistakes and errors continue to persist. The degree to which data errors contribute to harm is perhaps related to the way in which such data is applied. A recent example has shown that immigration system data errors have led to illegal detainment in the majority of cases [41]. Some of which have resulted in court proceedings [42]. In addition, the data-matching possibilities of these types of innovations are at risk of error and abuse [36].

Perrin equates the concept of innovation to Campbell’s theory of evolution of science and the importance of trial and error [37]; as long as these are subject to evaluation [43]. ICT innovations come about due to the trial and error approach [44]. However, such ICT innovations may not be subject to evaluation, particularly in regard to consequences.

4.3 Immediate Interest

The issue of immediate interest is exemplified by commercial factors that influence the behaviour of business. Business institutions are driven financially and key objectives are oriented towards short term gains, with quarterly fiscal targets. An additional, and perhaps more subtle, observation is that ICT solutions are often deployed to address an immediate business problem. As the prevailing environment changes, the original solution is applied to address a far greater range of issues; some of which are perhaps not aligned with the original objectives of the system. This mismatch in short term needs and longer term outcomes is demonstrated through seizure of information systems for alternative purposes. ICT deployment within libraries serves as an example in this instance.

Libraries are under increasing pressure to maximise technologies in order to keep up with publisher offerings and academic demands [45]. These are immediate interests, and the longer term impact on the use of these technologies is seldom considered. While checks are placed upon the information maintained within these systems, the degree of auditing and validation placed on library records would naturally seem to be less rigid than those applied to mission critical systems; such as immigration systems. Moreover, it is suggested that ‘library technology networks often evolve in a semi-wild environment rather than emerge as carefully planned systems developed with full realisation of the consequences for patron privacy’ [45]. In spite of this, increasingly information maintained in these systems is being seized for other purposes, even prosecution [45]. Hence, longer term ICT objectives may be forced to change, contributing further to a range of consequences.

Herrman, Fox, and Boyd also note that both the short and long term consequences of learning technologies be analysed as far as possible [46]. Citing a study on the installation of telephone systems in remote areas, they observed that an immediate interest was in addressing communication; however, a longer term impact was a “loss of community” [46], which is perhaps crucial to the survival of many remote communities.

Rogers introduced formal theories on the diffusion of innovation [47]; the rate at which new technologies spread. He points out that when a certain take-off point is reached, innovations can spread rapidly. When the innovation involves communication technologies, the diffusion process is accelerated [48]. The escalation of take-up is also likely to contribute further to longer term unforeseen consequences, particularly when one considers that societal trends encourage the rapid take-up of new technologies. More recently, Rogers also observes that little research has been conducted into unintended consequences [49].

4.4 Basic Values

Schwartz postulates that there are ten basic values (e.g. benevolence, security, achievement, etc.) derived from three human conditions: the needs of individuals as biological organisms, requisites of coordinated social interaction, and the survival and welfare needs of groups [50, 51]. He points out that values are the standards or criteria people use to evaluate actions, policies, people, and events. They are beliefs tied to emotion, are not objective, and that we all hold values in varying degrees of importance [51].

In a society of increasing technological dependence, it is plausible to consider that our basic human values are commuted to the innovations that we create. These innovations will invariably foster aspects of social well being and may also yield unexpected negative results. The degree to which we scrutinise these technologies is also guided by our values. Accordingly, it is reasonable to theorise on two aspects of human values here: the commutation of values into technology and the degree of scrutiny exercised.

The broader domain of human identification and monitoring technologies involve moral and ethical issues [52]. One emerging innovation is the use of radio frequency identification (RFID) devices for tracking and monitoring. This technology is particularly useful in a number of tracking scenarios: assets for the enterprise, toxic hazards, medical supplies, and wildlife preservation. Recent advances have also enabled these devices to be applied to human authentication and monitoring, as a subdermal implant [53], or worn as an external adornment. The use of technology for tracking people is a hotly contested debate in human values and ethics, “tracking animals is ok, but not people”. With arguments presented for and against the contribution to humanity of this technology applied in this way [52, 53, 54, 55]. This example embodies the commutation aspect of values. The human values have been commuted to a technology; the ability to track people is believed to be acceptable and the

technology embodies this value. How this technology is subsequently applied also extends the commuted values, in scenarios that rely upon individual scrutiny (how it is applied).

In extending the values discussion of tracking devices applied to people, the prospect of liability, in the case of a mishap, is evident. For instance, the potential consequential harm, due to subdermal tracking devices, has been clearly pointed out by the US Food and Drug Administration [56] and security experts [57]. When considering the original definition of consequential damage and the notion of foreseeability, it would seem difficult to entertain the position that a convincing argument could be mounted to deny liability in the case of unintended consequences. This is a degree of scrutiny in the application of technology, the values that guide human concern to scrutinise.

Realising or ignoring the possibility of danger to others comes down to a human values perspective. Schwartz observes that what is considered important by one is considered unimportant by another and that we prioritise values differently [50, 51]. This suggests that the possibility exists that some individuals will consider their needs above the welfare and needs of the group when casting judgement on ICT innovations. In other cases, this is merely an interpretation on personal and organisational values. Notwithstanding, the judgement will rest with one or several individuals, and institutions will be held accountable and liable when negative consequences do occur. This further motivates the need for well founded policies and guidelines.

4.5 Self Defeating Prophecies

Self defeating prophecies are predictions that result in new actions which create a feedback loop that cause the original prediction to fail [58, 59]. The new actions and elements may have unintended side effects [15, 16]. The notion of a self defeating prophecy and unintended consequences, particularly in ICT, may seem abstract at first. However, we explore an example that engages networks, smartcards, and Internet commerce to elucidate the relevance of this theme.

In 1982, Chaum introduced the idea of anonymous electronic cash [60]. Over time, several predictions were made regarding a cashless society and the replacement of conventional physical money [61, 62]. A number of early issues were proposed regarding consumer privacy, anonymity, and fraud [63]. This list of e-cash properties continued to expand [64, 65]. Ultimately, the electronic cash protocols proposed employed sophisticated cryptography to address the concerns raised [64, 66, 67]. However, the protocols were complex, varied considerably, and held features that were undesirable to banks and government [68]. This made e-cash difficult for many financial institutions to agree upon and adopt. The solutions suffered from technological overkill [69, p.106]. The advent of the Internet created real demand for electronic commerce and e-cash was not adopted. Numerous e-cash start-up companies subsequently failed [69, p.74]. This contributed to the use of simple (less secure) electronic commerce forms such as traditional payment cards. This became the *de-facto* standard and has led to increased payment card fraud, identity theft, and spam.

The original predictions of e-cash and the cashless society initiated actions which contributed to its defeat, and the alternatives have had negative consequences. While the initial predictions did not eventuate, it may be that some electronic currency form will be adopted as an inevitable progression of money. Although perhaps not in the style of true secure anonymous electronic cash that was originally invented.

4.6 Constraints: Time and Resource

How the compression of time and resources contributes to the troubled delivery of technology projects is well understood. Innovation involves activities from concept to commercialization and when key project steps are eliminated or compromised, product quality may be impacted. While such compression during innovation impacts the traditional project delivery phases, this may also eliminate key tasks such as product readiness reviews and risk analysis of unanticipated outcomes.

Risk management involves the management of both foreseen and unforeseen risks which may have negative effects [70]. Traditional risk management is focused upon reducing risk during project delivery, and similar risk methods may be used to evaluate the risk of consequential impact of ICT [71]. In section 3.2 it was observed that innovation involves the need and willingness to take risks [21]. When the project management tasks associated with risk are further compromised by time and resource constraints, the possibility of unexpected outcomes would naturally seem to increase.

The paradigm of risk taking and expected failure in innovation, suggests it is likely that the precautionary step of conducting risk analysis may be overlooked. Due to time and resource constraints, this may be an intentional decision not to take such precautions, or a compromise in the quality of the measures taken. Provisions in law, such as proximate cause and dependent compliance error, may conclude liability when duty of care and related precautions are not exercised suitably [72].

4.7 Dimensions: Scale & Complexity

The complexity of ICT has and continues to increase significantly, in some instances exponentially. In 1965, Moore predicted a doubling of chip transistor density approximately every two years (Moore's Law) [73]. Metcalfe's Law states that the community value of a telecommunications network is proportional to the square of the number of nodes (users) on the network [74]; often used to explain the exponential growth of the Internet. Gilder's Law states that bandwidth will triple every twelve months [75]. It is perhaps ambitious to assume that such rapid increases in the strength, reach, and scale of ICT would have minimal unexpected consequences.

The problem of increasing complexity in all areas constantly increases the probability of the occurrence of unforeseen events [12]. A more recent example of further complexity is the use of mash-up technology for developing web applications. Mash-up solutions draw content from many peer and subordinate sources and hence render content from many, often hidden, service providers. The number of dependencies and inter-relationships increase significantly, and it is strongly suggested that emerging mash-ups technology has many legal consequences [76].

The volume of ICT that pervades society has created new issues in excessive energy consumption [28], electronic waste [4], and environmental sustainability [77]. Given the prevalence of so many radio emitting devices, there is recent work suggesting this to be a factor in colony collapse amongst bees [78]. In addition, ubiquitous deployment of devices that can be tracked has raised a range of issues in security, privacy, and the ethics of human monitoring.

A final point to consider is the trend in amassing volumes of information. In many situations such broad knowledge has important benefits. However, the capture of personal and private data has introduced important societal consequences [79]. Centralised data compounds can aggravate identity theft problems, particularly when data operations are outsourced. Perhaps

a more compelling concern is the increasing practice of reapplying information that has been originally gathered for some more benign purpose. Moreover, the information is applied to serve other functions, without the express permission of the owner. This highlights the *de facto* approach of retaining all data until some other compelling need emerges.

Sobel cites legal cases to make the point that privacy embodies the moral fact that a person belongs to himself and not others, nor to society as a whole [52]. Given that information originally captured to meet one objective is subsequently being seized for other purposes [45], the practice of reapplying data without obtaining express permission from the true owners introduces potential liabilities in the advent of a negative consequence. It follows, that a practice of deprecating sensitive information gathered on people, when the original purpose has been served, is necessary.

4.8 Revisiting the Consequences of ICT

It is important to re-iterate that the points considered in this section are in the context of technology that is introduced in good faith to improve society. The technology introduction however, may invite unintended consequences. Due to the strength and power of ICT, the *luxury of candid* use of new technology is no longer available without due consideration given to the potential consequences.

While a number of important contributing factors have been discussed, it is important to observe that these factors are not limited to ICT. Rather, they are persistent issues that affect all forms of technology and innovation. In addition, it may be the case that one or more of these contributing factors are present with a particular invention. Logically, this would seem to lay the foundation for more severe consequences.

Perhaps a final observation that can be made is that exceptional time, energy, and resources are often spent to ensure fast and on-time market delivery. However, when consequences have emerged, the magnitude of the response to correct a negative outcome is minor in comparison to the efforts to deploy. Given that current reactive measures may be considered tepid at best, this further motivates the need to ensure that sound policy and guidance is in place as a preventative measure, particularly as the financial consequences may be severe.

Development of such policies is the responsibility of the institution developing an ICT innovation, the implementer (deploying organization) of the technology, and is also the responsibility of the institution accepting the innovation for deployment. Thus in practice, several sets of policies and guidelines will be developed independently and applied by the respective parties.

5. Policy Approaches in Managing ICT

In referring to the Internet and modern technology in general, High Court Justice Kirby stated the need for reviewing applicable laws and policies to adapt them to new technology in order to protect people [80]. It is important to consider however, that the establishment of policies guiding the use and introduction of technology may equally be harmful to the community.

In referencing policies to manage addictive gambling, Bernhard and Preston point out that the development of noble intentioned policies itself may have unintended consequences [81]. Bernhard further notes that noble intentions alone are insufficient for policy development, rather scientific research is required to evaluate the real effects of policies, and that such research is essential to develop best practice to effect the changes we seek [82]. Others observe that once a tragedy occurs, the public and government are both more likely to endorse and implement serious limitations with little deliberation as to their consequences [9].

Notwithstanding, we seek to identify candidate tools and processes that will assist in defining policies that will mitigate the potential for negative consequences while advancing the field of ICT.

5.1 Technology Assessment Methods

In 1972, the Office of Technology Assessment (OTA) was introduced in the U.S. The mandate was to assess adverse and beneficial consequences of applying technology [83]. Technology assessment reports that aided policy makers were prepared by considering input from interest groups, stakeholders, and experts. The office served for 23 years and there is much debate on how the legacy is to be replaced or reintroduced, with several initiatives proposed to advance such assessments.

The precautionary principle has been proposed as a method for anticipating risk of novel technologies [84]. The principles have been incorporated into a number of international treaties and agreements, in order to avoid serious damage and anticipate harm, or risk of harm. This has been largely adopted to address environmental issues, providing a framework for decisions when uncertainty prevails. The authors argue that that the approach may be used to evaluate ICT, in particular pervasive computing. By illustrating several unintended effects of ICT, it is shown how the basic tenet is applied to mitigate risk of harm. A key theme of the approach is the definition of a system of values.

A further analytical tool exists such as Life Cycle Assessment, with its application to the telecommunications industry [85]. The objectives are broadly aligned to addressing environmental issues, with four key steps that involve goal and scope definition, inventory, impact assessment, and interpretation. Other authors suggest that a qualitative approach for establishing criteria be used for evaluating potential risks in new ICT innovations such as pervasive Computing [71]. A technology assessment method is proposed that involves the steps of scenario development, screening for potential risks, and the application of a risk filter.

There is a great deal of history and work on technology assessment, with further proposals for assessing the actual technology assessment methods as well [86]. However, we suggest that given the variety of technology and risk assessment methods, it seems prudent that the establishment of well founded social values is necessary. More precisely, sound values for guiding analysis, decisions, and policy making is an essential first step towards any proposed method.

The broader theme of values in decisions on risk is actively researched [87]. Science, technology, and human values continue to increase in importance with literature spanning some 40 years [88]. Porter *et al.* point out that basic core assumptions are the major determinants of forecast accuracy [89, p.112]. Fundamental assumptions regarding social values, and the embodied errors, are key determinants of unanticipated consequences [16]. Others remark upon the importance of social values and how these become embedded within innovations [90]. It follows, that such values would lay a solid foundation for any assessment method, and hence any policy that is subsequently conceived. Due to potential bias, conflict of interest, and variation in human values, it follows that the formulation of such guiding values involves the public as widely as possible.

5.2 Evidenced Based Policies

There are several aspects to consider with regard to policy development. Policy development itself is a task in innovation, as it introduces new notions and ideas. As such, it would naturally seem that policy development is also likely to succumb to the influences that Merton

raises for innovation [16]. We briefly touch on two aspects here, evidence based policies and the strength of peer review for determining efficacy of candidate policies.

In reference to cable technologies, it is suggested that policy makers will find it more difficult to create regulations that focus on one service without considering the fallout of a policy on other services [91]. Furthermore, Campbell suggests that there is a need for testing candidate policies to see if they remedy the problems that give rise to their introduction [92, p.141]. In the UK, the use of pilot projects, provide a basis for evidence-based policies [37]. Such measures are likely to contribute to a broader impact analysis. However, to obtain scientific credibility on outcomes, peer review of the methods, analysis, and results appears necessary.

Studies have been conducted to assess the impact of future ICT for input to policy decision making [93]; and have been subject to peer review. Other Technology Assessment centers have contracted relevant experts to conduct impact analysis, which have been peer reviewed and published [71]. A key proposal for subsequent Technology Assessments initiatives within the U.S. is that assessment reports be subject to rigorous external peer review before delivery [83]. A convincing argument seems logical that any such technology assessment be subject to peer review to validate the scientific basis, credibility, and remove any potential bias.

It is important to observe that even the best intentioned policies that pay little regard to evidence-based peer review, have the potential to cause more harm than good. As Roots points out, policies intended to protect may have unintended consequences and backfire [94]. Where policy development is not supported with appropriate time, is not subject to peer review, nor accompanied by evidenced based methods to support introduction, then such policies will not be of the necessary quality to warrant introduction.

6. Conclusions and Discussion

A generally accepted view is that in order to be truly innovative one must expect an element of risk, make mistakes, and accept the possibility of severe failure [37]. This general view is epitomised by mainstream venture capital, where it is suggested that 'our single biggest advantage may be the fact that we've screwed up in more ways than anybody else on the planet when it comes to bringing new technologies to market' [37, 44]. Considering the potential for consequential impacts of ICT, such continued practice has the potential to further aggravate any negative outcomes. In order to preserve the integrity of ICT and its propensity to do more harm than good, both socially and economically, these views must be challenged.

Authors have made the general observation that the increasing power of innovation makes it difficult to anticipate implications of novel technologies and that this is outrunning the capacity to anticipate consequences [84]. Grunwald suggests that ambivalence towards science and technology is largely acknowledged today; leading to risk research, technology assessment, and ethical reflection to anticipate, counter and minimize negative effects [95]. We suggest in this paper that the evolution of technology has taken a step further, and is now at a point where the strength and power of ICT no longer permits the *luxury of candid use* without considering the potential consequences. This is not due to malicious intent, but rather an un-intended consequence of using ICT in good faith. In many ways this may be considered a familiar notion, as it represents a general trend in society where there is no longer a luxury of casual use of water, energy, and the environment.

In addition to the Merton principles, we suggest that the additional factors of time and resource constraints, and dimensions in scale and functionally of new technologies are contributors to unintended consequences. We discuss several examples against the identified factors to illustrate the potential impact and harm to others. Finally, we propose several

parameters to guide policy development. This includes an activity to define a set of values, drawn widely from society, for underpinning technology assessment methods, and the use of evidence-based techniques such as pilot studies together with peer-review in formulating suitable policies.

As Guston and Sarewitz note, the over arching goal of research based innovation is to improve the human condition [90]. Taken together, these issues present society with a new challenge that must be dealt with if one is to avoid harm to others, social disruption to the community, and the financial losses that ensue.

6.1 Further Work

While there is considerable research in risk management and risk assessment for project delivery, there is less work in the area of consequential risk analysis. That is, the methods and processes that help identify risk of unintended consequences.

There is further work to define more comprehensive criteria and guidelines for government and business institutions in policy preparation. For instance, how does one handle disagreements during values based evaluations? In addition, the analysis of legal liabilities and ethical responsibilities of institutions are also suggested as further work.

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COMMUNICATION POLICIES FOR URBAN VILLAGE CONNECTIONS: BEYOND ACCESS?

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Abstract

The urban renewal strategies being rolled out in all Australian capitals result in an increasing number of residents living and sharing space in city areas. This densification process calls for a closer inspection of the communication policies and initiatives and their adequacy to support the socio-cultural needs and interactions of urban residents. In this paper we discuss findings to date which are derived from an ongoing media and communication study into the Kelvin Grove Urban Village, the Queensland Government's flagship urban renewal project in Brisbane. Its master plan indicates that the key design aim is *'to engender a strong sense of community and a safe sustainable environment'*, and in the context of the proposed information and communication strategies to *'deliver a viable and enduring connected community'*. In this paper we examine how the master plan's rhetoric about the importance of the information society and village connections has been translated into strategies and policies, and how these policies are now being converted into practical and tangible initiatives. We examine some of the strategies designed and employed to move beyond access and towards effective use of the communication infrastructure in order to enable and support social connections between urban village residents.

Keywords: communication policy; master-planned community; urban informatics; triple play; urban village; access

Introduction

Approximately two-thirds of Australia's total population reside in major cities (Australian Bureau of Statistics, 2004). Current projections for South East Queensland are 3.71 million residents by 2026, an increase of around 1.05 million people, or almost 50,000 each year on average (Queensland Government, 2005, p. 5). Brisbane is one of the most pressured given its long history of low density urban sprawl and now its status as the second highest growth region in the world after Phoenix, USA. These trends are similar in other areas elsewhere in Australia and the world and reflect the changing role of cities internationally. Although some simple minded developers still claim that, *'building new infrastructure on the fringe is cheaper than upgrading services in the inner suburbs and lowering densities increases*

biodiversity and lowers air pollution levels' (Day, 2005; cf. Masters, 2005), many governments, developers and communities have come to the realisation that the continuation of the low-density urban sprawl in Australia is not sustainable – neither environmentally, socially nor economically. As a result, Australia – one of the most urbanised countries in terms of the high proportion of urban dwellers among its total population – has developed compact city policies (Healy & Birrell, 2004).

In order to accommodate sustainable urbanisation and population growth outside current metropolitan areas, the design and development of mixed-use, master-planned communities are a key component of these policy responses. Master-planned communities are usually *'large scale, private sector driven, integrated housing developments on 'greenfield' suburban sites. [... They] usually integrate a mix of housing types, open space and recreation facilities, commercial and service facilities, and sometimes employment opportunities'* (Minnery & Bajracharya, 1999, p. 33). These developments are supposed to be more than agglomerates of buildings insofar as they are driven by master plans which aim to generate a *'sense of community and belonging'*. However, Gleeson (2004) argues that the prevailing attitude of developers, who confuse genuine efforts to encourage participatory planning with *'master-programming'*, is detrimental to their original design objectives.

Some master plans include an assessment of planning policy outcomes based upon *'triple bottom line'* accounting (Gleeson, Darbas, & Lawson, 2004, p. 353), that is, accounting for the development's impact on environmental, economic and social sustainability criteria. In recognition of the fact that communication and interaction is a key feature to support the social component of urban sustainability, master plans contain policies and design strategies that seek to provide access to a communication infrastructure. However, Gilchrist (2000, p. 269) argues that *'community development involves human horticulture, rather than social engineering'*. Access to a communication infrastructure per se may be necessary but is not sufficient to fulfill the ambitious community development objectives of master planned communities (Foth, 2003; Gaved & Foth, 2006).

From an anthropological point of view, policies not only *'codify social norms and values, and articulate fundamental organizing principles of society, they also contain implicit (and sometimes explicit) models of society'* (Shore & Wright, 1997, p. 7). The increasingly important identity model offered and constructed by the urban development policy discourse (as well as across other fields such as health, education, economy) is that of *'community'*. Randolph (2004, p. 483) argues that, *'the language of community has come back with vengeance in policy areas that ignored it for many years. Cities are becoming, perhaps more than ever before, collections of distinctive communities and neighbourhoods, all the more differentiated as the cities grow in size and complexity. As the city expands, people remain focused on their small part of it.'*

Master-planned communities are this *'small part of it'* for an increasing number of Australians. Regarded as a new way to make urban densification socially sustainable, they are supposed to provide an environment conducive for local interactions with other residents to occur and informal social networks to emerge. Place-based issues can be a motivation for such local interactions, but in their absence, neighbourhood community development requires attention to social rather than place-based stimuli (Foth, 2006a, 2006b). Rather than being limited to exploring place-based issues, the alternative approach is to seek out opportunities as per Hornecker et al. who examine opportunity spaces where *'there is no urgent problem to be solved, but much potential to augment and enhance practice in new ways'* (2006, p. 47). Neighbourhoods can be such opportunity spaces insofar as they provide residents with

opportunities to communicate, interact and socialise with each other. How can we identify and nurture these opportunities?

Re-evaluating literature on community, Defilippis et al. (2006, p. 674) suggest that, *'communities, because of their central place in capitalist political economies, can be a vital arena for social change. But they are also arenas that are constrained in their capacities to host such efforts'*. How can we identify and overcome these constraints?

In this paper we explore some of these opportunities and constraints in relation to the communication policies and initiatives proposed and realised at the Kelvin Grove Urban Village, a master-planned community development in Brisbane. The paper offers an examination of the continuing translation of the master plan's rhetoric about the importance of the information society and village connections into strategies and policies. These policies are now being converted into practical and tangible initiatives. We examine some of the strategies designed and employed to move beyond access and towards effective use of the communication infrastructure in order to enable and support social connections between urban village residents. With this paper we hope to be able to contribute to the ongoing debate informing the establishment of a working model of communication policies for similar estates, developments and precincts.

Village connections between face-to-face and mediated interactions

The primary¹ case study selected for this research is the Kelvin Grove Urban Village (KGUV; see Figure 1 and www.kgurbanvillage.com.au) – a master-planned residential development in inner Brisbane which offers a unique opportunity to theorise ways that local social networks evolve and operate around individual 'capillaries' (Foth & Adkins, 2006). It is a joint initiative by the Queensland Government Department of Housing and Queensland University of Technology to create a mixed-use development on 16.57 hectares of existing land at Kelvin Grove, a suburb just two kilometres from Brisbane's central business district. The KGUV is guided by a planning and design strategy aiming at a higher level of integration between residential, commercial, educational and cultural facilities. This \$600M urban renewal project is expected to be fully developed and occupied by 2010 at which stage it will comprise more than 1000 residential units for more than 2000 residents.

The project partners are currently selling sites for 800 to 900 private housing apartments of middle to high value as well as additional sites for private retail and commercial development projects. They are negotiating for approximately 100 affordable housing apartments to be built within these new developments. Additionally, they are transferring four lots to the Brisbane Housing Company for more than 150 affordable housing apartments to be developed. The Department of Housing feeds the profits made from these transactions back into public housing initiatives.

¹ For comparative reasons, we are working in collaboration with our overseas partners on other secondary sites such as vertical real estate, gated communities and greenfield developments (Foth, Gonzalez, & Taylor, 2006).



Figure 1: Aerial view of the Kelvin Grove Urban Village indicating mixed land use, courtesy of the KGUV project team

Despite the fact that master-planned communities are usually associated with large-scale urban developments, the 16.57 hectares of land occupied by the KGUV are relatively small compared with some master-planned communities spanning over 100 hectares developed over more than 20 years. The reference to a ‘village’ in the title ‘Kelvin Grove Urban Village’ evokes associations with a small-scale, casual and arguably safe locale – perhaps even the ‘little box’ ‘where people walked or cycled to visit one another and one’s strong ties were regularly encountered within the immediate neighbourhood’ (Larsen, Axhausen, & Urry, 2006, p. 264). Wellman (2002) characterises such ties as door-to-door and place-to-place relationships – as opposed to person-to-person and role-to-role relationships of networked individualism. Larsen et al. (2006) explain further that these everyday face-to-face proximities and social interactions in village-like city neighbourhood of the first half of the twentieth century are widely documented across classic studies. They cite Richard Hoggart who describes proletarian neighbourhoods in the 1930s as ‘small worlds, each as homogenous and well-defined as a village where one knows practically everybody, and extremely local life, in which everything is remarkable near’ (Hoggart cited in Larsen et al., 2006, p. 264).

The ‘urban village’ notion of the KGUV is conversely organised around the principles of heterogeneity, diversity and permeability in terms of both socio-economics and demographics. However, for some apartment owners and tenants, the image of a ‘diverse city fringe community’ which they formed through marketing material and sales presentations does not reflect their lived experience after moving into the KGUV. Some of the young people at our research workshops expressed a desire to meet other young and ‘well-off’ people with diverse tastes and preferences. They were not aware that diversity also meant being collocated with diverse income groups some of which are poor, unemployed and accommodated in affordable housing. The fact that collocation per se does not ensure social proximity or compatibility is further evidence for the significance of community development initiatives.

The geographic proximity to Brisbane's CBD and related benefits of being 'urban' such as access to city infrastructure ranging from cultural and educational venues, health, administration and public transport, align with a general 'metropolitan diversity' connotation of an urban village environment. Naturally, apart from positive aspects conveyed by the term 'village', there are also negative undertones that are reminiscent of feelings of insularity, homogeneity and intolerance. In Florida's creative cities studies, he remarks that, *'the high social capital communities showed a strong preference for 'social isolation' and 'security and stability' and grew the least – their defining attribute being a 'close the gates' mentality. The low social capital communities had the highest rates of diversity and population growth'* (Florida, 2003, p. 15).

In any case, the concept of 'urban village' can be a useful organising discursive device. It points to the metonymic relation between 'urban' and 'village' which gives meaning and direction to the design goals of the residential project rolled out on the ground. This dialogical definition between 'urban' and 'village' can also provide grounds for thinking about a series of other related dualisms observable empirically, such as stability and mobility, physical (offline) and virtual (online), visible and invisible, and local and global (Aurigi, 2006) – in short of mediated and unmediated forms of communication.

Vilém Flusser, a media philosopher, observes in the chapter 'Thinking about Nomadism':

Until now those who never left their home were seen as 'idiots' in the original Greek sense of the word, that is, private people who knew nothing of the world. That has changed as a result of the Information Revolution. Information is now distributed to private homes, and presently it is the person who leaves his home and goes out in public who is seen as the idiot. (Flusser, 2003, p. 42)

As opposed to the past, when people had to go back and forth between their homes and the village square, walk up and down the hill, and go down to the stream to refill their buckets with water, Flusser finds that, *'it looks as if this rushing about is now purposeless and that it is now finally possible to remain seated'* (Flusser, 2003, p. 42). He goes on to argue that:

(1) It is information and not possessions (software not hardware) that empowers, and (2) communication, not economics, now forms the substructure of the village (society). What this two-part formulation makes clear is that the settled form of existence – the home – and a fortiori the stable, field, hill, and stream are no longer functional. (Flusser, 2003, p. 43)

Flusser is well aware of the ubiquity and impact of communication technologies on everyday practices. He was indeed one of the first to formulate the concept of 'tele-society' in human communication, which he broadly defines as a potential for bringing people closer via networks, including media. However, his two-part formulation and the boundary between physical mobility and the 'real' world and 'remaining seated' and the 'mediated' world is much more blurred and complicated. There has been a lot of research drawing attention to a more holistic approach needed to understand and interpret the contemporary urban spaces and urban designs for the functionality of the former. Aurigi (2006) for example, proposed the notion of the city augmented and permeated by information and communication technologies, rather than looking at ICT projects in isolation. The same can be said about social relations and civic participation that has long been acknowledged to have moved from the public squares to textual sites of media (Hartley, 1999).

The point raised here is that the design requirements of public 'urban village' space such as that provided by the KGUV are retaining traditional aspects of social interaction and networking (unmediated face-to-face communication) while relying on old and new media

technologies to connect with others (mediated communication). The physical urban village design of the KGUV features a town centre and shops along the main street, and people do go back and forth between their homes and the village square, walk up and down the hill – quite literally, for a lot of residents and QUT staff and students commute between the old Kelvin Grove campus on the hill and the Creative Industries Precinct at the bottom on a daily basis. At the same time do they use ICT routinely and in a quotidian way.

Empirical data for this paper was collected in conjunction with four other sub-research projects for a broader KGUV community research project, and took place over two collective workshops in July 2007. Each workshop lasted for two hours, during which each project team (of two researchers) was given approximately twenty minutes to conduct their research. The reason for conducting collective workshops was due to the concern that frequent invitations for participation may appear intrusive and may – over time – cause ‘research fatigue’ and therefore negatively affect the residents’ feelings towards their membership to the community. According to the slogan of the community, *Learn, Live, Work, Play*, we recruited participants from various backgrounds in relation to KGUV – including students and staff members of Queensland University of Technology and residents. The recruitment process involved notifications at the Community Hub (official community space where regular meetings occur) and emails, which resulted in the total of 32 participants including the researchers involved in the KGUV project. Although the format remained identical for both of the workshops, the participant groups showed some fundamental demographic differences, especially in terms of age and thus lifestyle. This presented nuanced comparative results between two broadly defined demographics – older (40+) and younger (20’s) with general connotations these terms embody – despite the limited size of the groups and the time of 20 minutes. Apart from two participants, all were competent English speakers; however, the two non-English speakers were assisted by an interpreter to provide increased freedom with communicating their ideas.

In one of our focus group, when asked about the ways of contacting other residents at KGUV, senior residents observed:

Oh, we just yell out.

We live on the ground floor and shout out ‘X, you’re there?’

[I shout] through my kitchen window.

Or we just knock on the door.

I knocked on the door, and I thought ‘they probably don’t know who it is’ because no one knocks on the door here. We all buzz instead.

At the same time, younger focus groups participants admitted sending between 20 to 40 text messages a day and spending a lot of time online, and senior residents expressed interest in ‘catching up’ on using new media technology. They also make use of a computer lab located at the KGUV community hub, particularly when training sessions are available. This can be seen as a classic example of generational gap and digital divide which is a common finding of other studies as well (e.g., Dutta-Bergman, 2005; Hopkins, 2005; Meredyth, Ewing, & Thomas, 2004; Selwyn, 2004). It also gestures at the existence of many variables and meanings of community for different people as confirmed in our empirical studies (physical/virtual), the relation mirrored and constituted at the level of communication (mediated and unmediated). Indeed, the increasing ubiquity of internet services and applications has led many scholars to question the dichotomy between cyberspace (the virtual or mediated) and real space (the physical or unmediated). New media and information and

communication technology afford an increasingly seamless transition between mediated and unmediated forms of interaction (Wellman & Haythornthwaite, 2002).

A more integrated approach to communication and community also allows for the recognition of the importance of typically modern sites for social interactions such as coffee shops and culture / community hubs (Oldenburg, 2001; cf. Soukup, 2006). In fact, it is only with the opening of local cafés and bistros at the KGUV that local community within the village started to emerge visibly, including the mingling of QUT staff, students and village residents. Urban public spaces inviting sociability are increasingly important not despite but because of the range of communication forms supporting social ties, bridging links and local interactions that occur across the online / offline scale of communications (Fallows, 2004; Horrigan, 2001), an effect that has been termed 'glocalization' (Robertson, 1995). Thus both face-to-face and mediated forms of interaction need to inform communication policies for urban village connections.

Communication strategies in the KGUV master plan

The KGUV is 'committed to a diversity of uses and a lively public realm'. Its master plan indicates that the key design aim is 'to engender a strong sense of community and a safe sustainable environment', and in the context of the proposed information and communication strategies to 'deliver a viable and enduring connected community'. As such, the KGUV is seen as a significant showcase of Queensland's emerging information economy, designed to provide opportunities to integrate work and home through high-speed communication systems for both the local business community and the residential community. The ICT infrastructure at the KGUV completes the \$30M community infrastructure investment already made and handed over in roads, sewers, water, electricity, parklands, etc. It features a 'triple-play' fibre network providing telephone, television and data services. The fibre network is complemented by wireless services allowing subscribers to access the internet in parks, restaurants and other locations around the KGUV. The ICT infrastructure of the KGUV received a 'Special Mention for the Effective Use of Broadband' from the Australian Telecommunications Users Group (ATUG) at its 23rd Annual Conference, Gala Dinner and National Awards night which was held in Sydney on the 7 and 8 March 2007.

The list of goals in the KGUV integrated master plan (KGUV, 2004) is explicit and as wide ranging as spatial framework, identity and urban performance, built form, heritage, sustainability, planning, economic development, social development, transport, research, delivery, community development and information and communication technology. In this paper we focus on the latter two. Still, the whole list provides a broader framework into the underlying design principles and intentions of the development more generally.

Communication policies and access to media infrastructure for community-building have long been a central part of the urban development framework and a public sphere in general. The significance of media in constructing a sense of identity and belonging has however shifted away from a 'common' and politicised the public sphere debate embodied by public service broadcasting within a nation-state to more open and highly differentiated mundane active participation characterised by 'connections' and 'networks' of the Web 2.0-type in a globalising world. In parallel, the practice of citizenship, traditionally conceived as focused on political civil rights and responsibilities, and later politics of recognition demands, has been extended to encompass also entertainment, leisure and consumption activities (Burgess, Foth, & Klæbe, 2006; Nava, 2002; Sinclair & Cunningham, 2000). Against the backdrop of socio-political discourse of the 'knowledge economy' and 'information society', access to communication and information services and media literacy figure now prominently as part of

cultural citizenship, ‘a key means, a right even, by which citizens participate in society’ (Livingstone, 2004, p. 11). Additionally, the idea of ‘creative industries’ has emerged as a powerful trend in policy field, especially in the Australian context. As its proponents argue, the attractiveness of the concept lies in mainstreaming the economic value of the arts and media through recognition of creativity as a critical input into developing areas of the growth economy (Cunningham & Turner, 2006). Indeed, QUT’s Creative Industries precinct is symbolically located within the KGUV.

These key concepts and policy domains impinge on the strategic development of our case study; they constitute a platform for the organisation of the KGUV community. The master-plan’s rhetoric about the importance of ‘community development’ and ‘information society’ is merged together in an idea of ‘village connections’ and envisions:

Community development

We will foster a sense of community by using facilities, spaces, events and technology to deliver experiences that enrich Village life. Strategies include appointing a Community Development Manager, forming a community association and using QUT services to form a community well-being program.

Information and communication technology (ICT)

We will deliver a viable and enduring connected community, enhanced by continuing innovations in ICT. Strategies include installing a fibre optic spine throughout the Village, and connecting all businesses and residences to it. (KGUV, 2004)

In this policy imagination, ICT are to play an important role in establishing intra and inter-village connections. The emphasis is simultaneously on both the local and global communication and networks that extend beyond the ‘village’. At the same time, a ‘connected village’ is to ‘achieve integration on-line and in life’ (Village Handbook, March 2007). These different communication modalities – local and global – are strategically pursued by the ICT infrastructure at the KGUV. The ‘triple-play’ fibre network provides telephone, television and data services, including a ‘peering link’ allowing QUT students living in the KGUV to access the university’s online resources from their home computers at no charge. Significantly for the local community-building project, the KGUV ICT package includes also free of charge gaming, voice and video chatting at up to 100Mbps per second available to the subscribers within KGUV, apart from more traditional technologies such as free-to-air and pay-television (Foxtel) and a small range of other satellite services.

Take-up of access to the ICT infrastructure is slower than expected. Our research indicates that many KGUV residents do not access the internet from their homes. A high proportion of older residents use the free internal telephone services available but not internet services. The situation looks different with the younger generation. Young people report high demand for good quality ICT services, and the specifically established company ‘Village Connections’ is on its toes trying to keep up. As a result, the possibility of accessing an advanced ICT network does not always correspond with performance, demand and actual practice on the ground. Many residents we interviewed are not yet aware of the ‘triple-play’ services and do not intend to use the internet at home. Many perceive ‘free online gaming’ with other ‘villagers’ as an odd idea, and while they are likely to use free phone calls on a regular basis, they are also happy to continue to ‘yell out through the kitchen window’. This further reinforces the need for communication policies which are not limited to issues of ‘access’ and ‘being online’.

Beyond access and towards an urban village?

The KGUV development partners acknowledge that access to the ICT infrastructure is necessary but not sufficient to ensure ‘effective use’ (Gurstein, 2003). Therefore the integrated master plan (KGUV, 2004), which is complemented by a four year community development strategy to initiate and animate the ‘urban village’, calls for research and development of appropriate systems which can run on the applications layer of this infrastructure and provide an online mechanism to link the people and businesses that ‘live, learn, work and play’ at the KGUV, including residents of the KGUV and nearby areas (including affordable housing residents, seniors and students); university staff and students living or studying in the KGUV and nearby areas; businesses and their customers; and visitors. One of the systems currently being developed is a community portal intended to encourage participation in the KGUV by being a key information resource of the mix of activities, programs and facilities available. It also seeks to facilitate community uptake of ICT by hosting entertainment and information content that encourages exploration of the ICT infrastructure available at the KGUV.

Aurigi suggests that the term portal is limiting ‘*people’s interpretations ... to broadcasting information and providing institutional services*’ (Aurigi, 2006, p. 19). He argues for a

need to re-address this tension and identify the emergence of the portal paradigm as something that has a lot to do with television and has weakened the reflection on, and construction of, a civic network. [...] But it has to be remarked how powerful and accepted the portal paradigm has become and how this type of vision can affect the shape of things to come in the augmented city’ (p. 19).

Although we continue using the term portal, we are challenging the established paradigm of its expected functionality by moving away from a pure broadcast-only medium towards a hybrid community information and networking system.

The KGUV project team would like to see the community portal as part of a toolbox that residents can access to maintain their private social networks, alongside and possibly interconnected with email, phone, SMS and face-to-face interaction. Hence the objective is to design a community portal which learns from the issues faced by previous projects (e.g., Arnold, 2003; Arnold, Gibbs, & Wright, 2003; Cohill & Kavanaugh, 2000; Hampton & Wellman, 2003; Hopkins, 2005; Horning, 2007; Meredyth et al., 2004) and includes features that allow residents to take advantage of the communication services the internet can offer in order to conduct personalised networking (Wellman, 2002). The community portal affords local communication and interaction partners – compared with other global communication tools, this may be a unique advantage (Foth, 2006b). The system would allow residents to meet and interact online, but also to translate and continue the online interaction into offline, real life, collocated and face-to-face interaction. This offline and place-based dimension is a key challenge in the design, development and deployment of the portal.

In order to explain this challenge we distinguish between collective interaction for discussion *about* place and networked interaction for sociability *in* place. The portal includes features such as public discussion forums, noticeboards, events calendars and content management services. These functions support collective interaction for discussion about places that promote a one-to-many or many-to-many broadcast mode of communication. They complement the collective community activities organised by the community development workers and could extend to place-based community activism around issues such as neighbourhood watches, traffic calming and street rejuvenation initiatives organised by the proposed KGUV Community Association.

Activities and interactions around such place-based interests may be able to fuel social interaction for a while. Yet, a system that is solely based on a collective interaction paradigm requires a continuous effort to reach and sustain a critical mass of users. Many consider this to be a key criterion of success (Arnold et al., 2003; Patterson & Kavanaugh, 2001), and critical mass has been reported as one of the most common stumbling blocks for such systems: *'If you build it, they will not necessarily come'* (Maloney-Krichmar, Abras, & Preece, 2002, p. 19). Although place-based initiatives and collective activities present valid motivations for neighbourhood interaction, we argue that there can be other, more inherently social reasons which do not require a critical mass of users. Analysing the interaction paradigm of social networking systems such as instant messaging shows that a network interaction paradigm may turn the problem – lack of shared place-based interest – into an advantage: social diversity.

Our previous research found that – despite not knowing many of their neighbours – urban residents believe that it is very likely that within the diversity of residents living in the same neighbourhood, there may be some who they might be socially compatible with, alas certainly not all of them. Yet, apart from serendipitous encounters, there are no convenient means to find out if they are. The aforementioned notion of the neighbourhood as an 'opportunity space' introduces the conceptual context for such scenarios and opens up a new set of design challenges for the KGUV community portal. This view sees the portal as a way to enable, enhance, augment or facilitate existing or emerging social networks between urban residents. This networked interaction for sociability in place describes the more private space occupied by a 'society of friendships', that is, social networks of friends who live within relative proximity to each other. They use informal peer-to-peer type of network communication tools such as email, SMS and instant messaging to interact online, but proximity enables them to gather face-to-face and interact offline. They see each other primarily as 'friends who live nearby and not as 'neighbours'.

If we regard the KGUV as an opportunity space, one of the key challenges of the portal is thus to find appropriate means to afford residents a seamless, selective and voluntary pathway to transition from 'neighbour' to 'friend' and to link these new nodes with their existing social networks.

However, linking the people and businesses that 'live, learn, work and play' at the KGUV is also possible without the necessity of accessing the ICT infrastructure at all. One of the most successful initiatives are the Digital Storytelling workshops run by public historian Dr Helen Klæbe which investigated the potential of digital storytelling to constitute a form of history production that adds value beyond that of the traditional aural or video oral history interview by maximising direct participation. Further details about the Sharing Stories project as well as related KGUV community development initiatives beyond access have been published elsewhere (Burgess et al., 2006; Klæbe & Foth, 2007; Klæbe, Foth, Burgess, & Bilandzic, 2007).

Conclusions

This paper emphasises the role of the interconnections between different types of communicative practices of the face-to-face and virtual interactions, not only along the lines of the traditionally theorised digital divide and different types of media literacy between older and younger generations of KGUV residents but also of an ongoing everyday negotiation between the two, irrespective of demographics. We argue that those two are not conflicting practices. As a result, communication policies need to consider how residents traverse between physical / virtual, local / global, collective / networked interaction modi. The significance of our research lies precisely in its capacity to help inform adequate policy

strategies, based on awareness and empirical findings. This can ensure a more open-minded approach to policy and strategic planning, a more interactive policy process that extends beyond a fashionable discourse of 'information society', 'innovation' or even 'village connections'. We argue for a more actor-orientated and cross-disciplinary perspective, emphasising the need to take into account the opinions of individuals, agencies and social groups that have a stake in how a system evolves.

Policies and master-plans are instruments to regulate a population, often technical, rational, and action-oriented they are used to solve problems and affect change. However, they have also a more diffuse impact. Through linguistic devices of 'community' and 'society', categorisations of individuals as 'citizen', 'community-member', 'national' or 'customer' and strategies that emerge from those visions, policies influence how people think and construct themselves and conduct their social relations as free individuals (Shore & Wright, 1997). In the case of a diversified demographics such as in the KGUV, a participatory sharing of ideas between policy-makers, stakeholders and people who are influenced most directly by the outcome is particularly crucial in order to capture many variables of needs, desires and an aggregate of illiteracies and practices without leaving some groups out of the picture.

In fact, these apparent asymmetries in media competences or generally life experience can be potentially turned into a mutual advantage. Yuri Lotman argues that '*bipolar asymmetry of semiotic systems*' is the generative mechanism of meaning in any semiotic system (Lotman, 1990, p. 2). A shift in value and position, a dialogue between heterogeneous elements, including different levels of skills and competences, result in creation of something new, which in turn leads to cultural development and change (Lotman, 1990). What occurred to us in the workshop conducted is an idea of mutual, inter-generational learning for community-building. Collaborations are a useful tool for bringing people together, whether using digital media and communications or not. Similarly, a well-known, traditional community board where KGUV residents could exchange their skills and learn from each other (e.g., gardening swapped for baby-sitting, language teaching for teaching to play the piano, etc.), could potentially be more effective in fostering community than interventions that depend on ICT take-up.

Finally, to avoid utopian hopes it is important that challenges are acknowledged and probed but possibilities also suggested. Policy constructions are processes rather than products, as it often remains unclear how a particular vision and program or initiative is taken up in a particular context. Policy stipulations are often articulated in general terms, allowing unpredictable outcomes once implemented in a given context. In the case of the KGUV master-plan however, the program is targeted at a specific community and therefore should account for contingent relationships of the context (i.e. a diverse socio-economic, age base of the resident demographics).

This paper set out to explore some questions around communication policy available in the KGUV, moving from the normative claims of the master-plan to the empirical experiences underpinned by different variables of the meaning of 'community'. The data gathered in the workshops allows for setting preliminary grounds for recognition and description of the problem. The master-plan rhetorics of 'village connections', advanced 'triple-play' information and communication technology gestures towards a particular policy vision for the KGUV that favours a popular 'knowledge economy' branding but sometimes loses sight of people's actual needs and practices. The recognised disjunction between policy rhetoric and on the ground reality and some examples presented in this paper suggest that communication policy around the KGUV should take account of not only access provision to ICT but also a number of variables in meaning of community and communication for different

demographics, different socio-cultural competences, needs as well as an ongoing dialectic between the local and the global in our times.

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communications policy & research forum

program 2007

DAY 1: Monday, 24 September 2007

09:00 to 09:30 registration

09:30 to 10:30 keynote address by **Peter Manning**, adjunct professor of journalism at UTS, author and journalist. **topic:** Can the media take criticism?

10:30 to 11:00 coffee

11:00 to 12:30 session 1

1A. Broadband

(chair: Reg Coultts)

Martin Stewart-Weeks: To Broadband or Not to Broadband: That is the (Australian) Question
Trevor Barr: Towards understanding users*
Peter Adams: Survey instrument for household broadband adoption*

1B. Citizen journalism

(chair: Mark Armstrong)

Terry Flew: A citizen journalism primer
Lee Duffield: Journalists and online media: new forms of content and service to publics*
Joe Atkinson: Performance journalism: ethics, commerce, theatre and public interest*

1C. Changing media

(chair: Debra Richards)

John Sinclair: The shock of the new: old media strategies in the digital age
Andrew Kenyon & Jason Bosland: Australian content after broadcasting
Vivienne Waller, Ian McShane, Denise Meredyth & Julian Thomas: Australian information seekers and citizens

12:30 to 13:45 lunch

13:45 to 15:15 session 2

2A. Telecommunication infrastructure

(chair: Reg Coultts)

David Luck: Future funding of universal service obligations
Matthew Nicholls: Part XIC of the Trade Practices Act and the infrastructure onslaught
Iain Little & Jane Van Beelen: Investment vs regulation in telecoms markets

2B. User-led innovation: participation, identity and cultural production

(a panel convened by Prof. Trevor Barr of the Smart Internet CRC)

Darren Sharp: User-led innovation: a new framework for co-creating knowledge and culture*
Ann Knowles & Danielle Williamson: emerging adults: blogging, motivation and identity exploration*
Mandy Salomon: virtual worlds & 3D Web: Australian policy debates in Second Life*

2C. Creativity and innovation

(chair: Julian Thomas)

Robert Morsillo & Chris Dodds: Community business partnerships for innovation in communications
Christopher Pavlovski: ICT Evolution and Social Policy Issues*
Marcus Foth & Aneta Podkalicka: Policies for urban village connections: beyond access?*

15:15 to 15:45 coffee

15:45 to 17:15 session 3

3A. Rural communications

(chair: Peter Darling)

Reg Coultts: Rural wireless broadband
Robert Morsillo: Indigenous culture and communications: can stakeholders build a better service?

3B. Restrictions on free speech in the media

(a panel convened by Gail Hambly of Fairfax Media)

Peter Timmins: Deputy chair, Australia's Right to Know Audit
Matthew Moore: Freedom of Information Editor, Sydney Morning Herald
Ian Robertson: Sydney Managing Partner, Holding Redlich

3C. Cultural industries

(chair: Debra Richards)

Ross Gibson & Andy Lloyd James: Scenarios for the future of television
Jason Bosland: Analogue house of cards in the digital era: shifting structures of TV policy
Scott Ewing & Julian Thomas: Downloading, uploading: uses and users of digital content in Australia

17:15 to 18:30 drinks sponsored by the International Institute of Communications

* Refereed paper

DAY 2: Tuesday, 25 September 2007

09:00 to 10:00 keynote address by **Mark Pesce**, founder of FutureSt. **topic:** Three billion: what happens *after* we're all connected?

10:00 to 11:00 session 4

4A. Consumer rights

(chair: Christina Slade)

Teresa Corbin: Communications consumer rights charter
Gunela Astbrink & Rob Garrett: Accessibility/usability of telephone equipment for disabled

4B. Legal issues

(chair: Christina Spurgeon)

Nancy Marder: Cameras in the courtroom
Robin Wright: So you want to tape off TV? Implications in the digital world

4C. Public service media

(chair: Rob Nicholls)

Kim Dalton: Public broadcasting in the digital environment
Tim Phillips: New age for Australian film and TV: unless you are under 13

11:00 to 11:30 coffee

11:30 to 13:00 session 5

5A. Damn lies and statistics: where does Australia rank in broadband comparisons?

(a panel convened by Peter Gerrard of the Aust. Computer Society)

Shara Evans: CEO, Market Clarity
Peter Darling: Principal, Ponderosa Communications
Kevin Morgan: PhD candidate, Victoria University

5B. Online life

(chair: Christina Spurgeon)

Bernadette Luck: Cyber-bullying: an emerging issue
Nick Abrahams: Legal issues of Second Life and other worlds

5C. Digital TV transition

(chair: Rob Nicholls)

Cinzia Colapinto & Franco Papandrea: Digital TV policies in UK, US, Australia and Italy*
Alex Encel: Closing analog TV: the free STB solution
Alex Varley: Making digital TV transition work for disadvantaged Australians

13:00 to 14:00 lunch

14:00 to 15:30 session 6

6A. Mobile telephony

(chair: Andrew Kenyon)

Damien Spry: Mobile information communications technology: impact on children and young people*
Glenn Jessop: Motor telephony: policy responses*

6B. Cultural diversity

(chair: Terry Flew)

Liza Hopkins: Diasporic media and identity construction in the Turkish community in Australia
Christina Slade & Ingrid Volkmer: Transnational media and citizenship: Arabic language television in Europe*

6C. Providing an evidence base for communication regulation

(a panel convened by Lyn Maddock, Deputy Chair of the ACMA)

Joseph di Gregorio: Telecommunications use and expectations: Consumer profile
Margaret Cupitt: Media and Society: community research
Paul Roberts: Communications and media futures studies: a retrospective
Lesley Osborne: Media literacy and ACMA

15:30 to 15:40 short break

15:40 to 16:40 session 7

7A. Telecom regulation models

(chair: Andrew Kenyon)

Alister Montgomery: Future directions for fixed line network regulation
Chris Berg: Network layers model for telecommunications regulation

7B. Online social issues

(chair: Terry Flew)

Sal Humphreys: Regulation of online software*
Shilo McClean: Three case studies of new models of user-generated content

7C. Older users

(chair: Lesley Osborne)

Rob Pedlow, Devva Kasnitz & Russell Shuttleworth: mobile phones and older people
Pam Coultts: Older people on the wrong side of the digital divide?

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