Moveable Media:
Mobile Internet and New Policy Modes
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post-print chapter
forthcoming in *Creativity, Innovation and Interaction: Public Media Management Fit for the 21st Century*,
edited by Michal Glowacki and Lizzie Jackson (New York: Routledge, 2014).

Introduction

The emerging mobile Internet is a key area of media transformation in the 21st century, generating intense, complex changes in our mediascapes that generate many challenges for media managers, policy makers, and media and communication scholars. In this chapter, we offer an overview of mobile Internet development and characteristics, focusing on the Internet's convergences with telephonic, televisual, and locative technologies. We then provide insights into public media policy development and management that address the scale, scope, and profundity of the identified issues mobile Internet raises.

Our main argument is that mobile Internet has still not been integrated into digital media policy frameworks, regulatory institution operations, and governance processes of the Internet. In addition, the overall implications of mobile Internet for public media have been not been grasped. We contend that although some public media managers have taken pioneering steps to grapple with mobile Internet developments, internationally, this is a highly significant and novel field for problem solving in the public interest and cooperative policy making.

Internet governance has itself already involved a shift of decision-making power from nation states to supranational actors, such as the Internet Corporation for Assigned Names and Numbers (ICANN), and the establishment of new multinational forums, such as the World Summit on the Information Society (WSIS). These decentralized, contested modes of governing have led to significant debate about how traditional, nationally based media regulators operate across borders and interact with industry and public stakeholders.

Mobile Internet extends and complicates transborder encounters. For example, technologies such as geospatial positioning systems (GPS), used in mapping, photo-tagging, and augmented-reality applications, bring diverse new actors into the telecommunications and media governance orbit, such as urban designers and municipal governments. This is in addition to transnational service providers like Google and Twitter and individual social media users. Regulators are increasingly obliged to consider the interests of a broader array of industry participants, consultants, and lobbyists, including governmental agencies, community, and not-for-profit 'third-sector' organisations.

Yet it is not always clear how these actors are incorporated by existing media and cultural policy institutions and processes or what degree of influence they—and the publics they represent—may have on the developing mediascape. Furthermore, the iteration and mobilisation of user opinion in chatrooms, blog posts, and social media lends new intensity to public involvement. Against this backdrop, this chapter offers a preliminary map and conceptual grid of the new policy modes presented by the mobile Internet and the potential pollcy connected with mobiles offer for reshaping media management strategies.

In conceptualizing the management challenges of the mobile Internet, we are working firstly in the field of global media policy studies (Raboy, 2002), which seek to understand the institutions, actors, central issues, and politics of policy formation. We analyse how these are connected within and beyond territorial media ecologies. We also recognize that research into media use and consumption is vital to enable us to understand how technological change unfolds. Without a clear, nuanced understanding of media forms, affordances, and cultures of use, media managers and public commentators can tend to be swayed by enthusiastic projections of new media take-up and social significance. Finally, our chapter suggests an influential technology research and development role for public-service media in mixed market settings with access, participation, and diversity as central objectives. This complements recent studies into the role of public-service media in social and cultural innovation systems (Cunningham, 2013).

With these governing concepts in mind, we firstly discuss the rise of the mobile Internet, the broad policy issues it throws up, and its distinctive features as it takes shape across three convergent media axes. Secondly, we examine how national public-service media and regulatory authorities (key institutions in media management) have responded to specific mobile Internet policy challenges. Our reference case is the Australian Communication and Media Authority (ACMA), which has sought, like many regulatory agencies in recent years, to find systematic and interactive policy approaches to dealing with media convergence and stakeholders.

Rise of Mobile Internet

Globally, the rapid growth of mobile infrastructure and use has required urgent policy address, most obviously in spectrum allocation and bandwidth access as network demand accelerates. Mobile broadband subscriptions in developed countries more than tripled between 2007 and 2011, and in developing economies they increased 10 times, although from a much lower base (International Telecommunications Union, 2011). This has particularly been the case in Africa, where mobile Internet is in its early roll-out stage (Rao, 2011). As smartphone ownership has increased, so has the rate of Internet access from mobile phones relative to desktop access, nearly levelling in Japan, the UK, and North America (Google, 2012). Furthermore, in 2012, there was a 2.5-fold increase in the number of mobile-connected tablets, each of which was responsible for nearly two and a half times more traffic than the average smartphone (Cisco, 2013: 2).

Internet-worked, personalized, portable media, such as smartphones and e-readers, are central to new expectations held by consumers of media and communications, including social networking, self-publishing, and online trade. Increasingly, the future of media itself is bound up with the evolution of the Internet, something underscored by national plans for next-generation broadband Internet and telecommunications infrastructures and debates around their design, features, and management (Given, 2010). Such media are becoming pivotal to education, work, and commercial life. Thus, the mobile Internet will have a cardinal influence on media industries and political, cultural, and societal arrangements.

For this reason, there is a need to ensure nascent digital communications networks and media platforms provide all citizens with equitable, inclusive means of representation and participation in public life. Effective media management through appropriate policy and regulatory frameworks is critical in securing these goals. But the international scope and rapid pace of technology change, combined with the little-understood dynamics of user innovation, poses significant issues for research and analysis.

Although there has been as yet little systematic research on mobile media and its regulation, there are early signs that the mobile Internet appears to profoundly expand the domains and modes of policy making, the actors involved, and the processes of public engagement and deliberation. It is also expanding the concept of media, hybridizing telecommunications, traditional media (press, broadcasting), and new media (online, mobile) to embrace a wider range of technologies and settings. The rise of the mobile Internet involves developments across three major axes of media convergence with the broadband Internet: (1) with mobile telephony, (2) with digital television broadcasting, and (3) with the new media ecologies evolving around locative, spatial/mapping, and sensing technologies. Understanding the drivers of these transformations helps in conceptualising effective policy development processes and responses.

Mobile Internet–Phone Convergence

The convergence of the Internet with the mobile phone stretches back at least until the mid-1990s. It can be broken into two periods: the birth of the Web and Wireless Application Protocol (WAP) and the growth of high-speed data networks.

The popularity of the Web and its affordances—multimediality, hypertextual linking of Internet resources, interoperability (working across devices, platforms, applications, and screen), and ease of use—quickly suggested the mobile phone as a platform for the telephony industry to concentrate its online R&D efforts. Finnish giant Nokia, along with Motorola, Ericsson, and Unwired Planet (later to become Phone.com), instigated the WAP platform in 1997. WAP became key to the implementation of an Internet-like environment on mobile phones, something mobile manufacturers and carriers wanted to provide. Yet due to slow data speeds and limitations on handsets, operating systems, and applications, WAP proved a frustrating experience for users, attracting limited interest.

The celebrated pioneer in early mobile Internet, however, was the i-Mode ‘eco-system’, developed by the Japanese carrier NTT DoCoMo. The i-Mode system was a packet-switched data service that operated over the mobile phone network. Content providers were encouraged to develop products (such as mobile music), and consumer subscription and purchases were made as easy as possible—a notable achievement in the early days of the mobile Internet.

It took some years before a similar ease of use was available in other countries, with the widespread adoption of ‘WAP 2.0’. Mobile portal and premium services took off in 2002 through 2005, harnessed to different business models with music, video, and other downloads and also multimedia and text messaging proving business mainstays. This eventual take-up of WAP and the applications and services it incubated are obvious precursors to Apple’s iPhone, Google’s Android, and other smartphones, as well as their accompanying apps and app stores. Internet development communities also had a burgeoning interest in mobile Internet, with Web developers leading the bridge building with the mobile vendors and carriers.

The second period of mobile Internet transformation dates roughly from 2004 to 2005, characterised by increased network data capacity, more diverse forms of network access, accelerating consumer take-up, and broadband Internet substitution for telephony. With enhanced 2G networks and the introduction of 3G networks, the Internet could be much more easily accessed via mobile networks (in the global north, at least) for mobile video, games, music, photo-sharing sites, and other contemporary high-bandwidth Internet experiences. USB modems or chips enabled

high-speed access for laptop computers, tablets, and other devices. These shifts saw mobile broadband achieve rapid take-up around the world.

Now fourth-generation (4G) mobile networks, involving a mix of mobile cellular and wireless Internet (Wi-Max and other wi-fi successor technologies) technologies, promise much faster Internet access. Developments in next-generation broadband networks have also accelerated the process of replacing traditional fixed and mobile telecommunications circuits with Internet protocol–based packet-switch networks (Middleton and Given, 2011).

Another significant factor in mobile Internet has been the continued evolution of multimedia handsets. These enabled easy network access, media downloads, social media, and app use, with smartphones becoming fashionable particularly from mid-2007 following the success of the Apple iPhone and then Google's Android operating system.

Yet this trajectory of use is not culturally uniform. In Asian countries, mobiles have long been important in Internet access and use, especially in their pioneering of social software, with long-established communities around applications such as Cyworld (South Korea) and Mixi (Japan) (Hjorth, 2009). In the West, social networking systems were developed around desktop platforms until comparatively recently (with the exception of social software experiments in the 1990s). So it was not until 2007 to 2008 that social software and systems became widespread on mobiles in non–Asian countries, and then the growth was phenomenal (Nielsen Company, 2010).

Furthermore, the global dominance of mobile social systems such as Facebook cannot be underestimated. By 2010, Facebook was certainly the West's leading social networking system, with a substantial proportion of mobile users. In the process, it also became a platform adopted and reshaped by users in non–Western countries, underscored by its role in the Arab Spring uprisings of late 2010 and early 2011. Yet Facebook's rise has obscured the cultural importance of other social networking and social media applications, not least in markets like China, where instant messaging service QQ and 'weibo' or microblogs such as Fanfou and later Sina have led the growth of public commentary on social, cultural, and political issues.

Mobile Internet–Television Convergence

Social networking, with its user focus on media sharing, is also a factor in the development of another convergence axis for mobile Internet: the intersection between online video and television broadcasting. Television has long had its own development trajectory towards digital broadcasting and portable consumer equipment. More recently, the 'postbroadcasting' world of the Internet (notably Web and peer-to-peer video-sharing services) has contributed to new forms of television (Meikle and Young, 2008; Turner and Tay, 2009) that integrate websites, on-demand content, live video streaming, and chat and user-generated content.

From 2005, we saw the Internet and television 'co-evolving'. Broadband networks had become widespread in the world's more prosperous or more technologically advanced communities. By 2011, the infrastructure had improved to the extent that the long-lived video store and mail-order models were able to be seriously challenged by companies such as Netflix in the U.S. and global online distribution systems such as Apple's iTunes. There is now a widespread expectation on the part of industry, policy makers, and scholars that next-generational broadband networks, such as Australia's National Broadband Network, will become the decisive distribution platform for television broadcasting.

Bandwidth maturation has supported the rich televisual possibilities of new Internet services, applications, and cultures—from peer-to-peer (P2P) file sharing through to, more recently, video search and 'social' television, which is arguably at the forefront of the medium's development (Ducheneaut et al, 2008). The Internet-based architecture of video-sharing services and applications has provided a way that you, the viewer, can 'broadcast yourself', as the YouTube motto goes (Burgess and Green, 2013), remix, curate, and share your favourite works. Such activities are becoming a central part of the formation and practices of television audiences.

Concerning mobiles, something called 'mobile television' was developed from the late 1990s as part of the development of digital television technologies and standards. However, mobile television remains at an early stage, partly because of the cautiousness of providers, but also (as proponents have realized since the first flush of enthusiasm for the idea) because there are technical, regulatory, and content issues to be surmounted. For their part, mobile carriers have moderated or even dropped their claims about mobile television, now presenting the mobile phone as one of many ways to consume audiovisual content. As one market research report put it, "Mobile TV is dead—long live mobile video" (Budde, 2011).

So with 'official' mobile television slow to find a strong base of consumers, mobile television practices unfolded instead in the user cultures of the Internet and the increasingly hybrid environment of global mobile media (Goggin, 2011a; Marcus et al., 2010)—that is, along our second axis of mobile Internet.

A kind of popular mobile television emerged when users articulated the cellphone's video camera and screen display capabilities with YouTube and Vimeo's distributed, do-it-yourself broadcast systems. Mobile phones were being used for recording video from the mid 2000s, as dramatized by the increased news broadcast use of mobile video footage in instances in which higher-quality amateur video or professional footage was not available, such as the 2005 London terrorist bombings. From this period, mobile video recordings also became a key element of social media practices, with video consumption, creation, modification, and sharing constituting 'unofficial' digital television (Lobato, 2012). Alongside amateur mobile footage, online video services offer the mobile consumption of content originating from television. It is therefore understandable that this form of digital television resembles existing television forms and genres or forms part of contemporary television media systems.

This appearance of a new television ecosystem centring on the mobile Internet is especially due to the 'affordances' or utilities (Gibson, 1977) of smartphones and tablet computers, which lend themselves to audiovisual cultures. On the consumption side, the screen is larger (especially in the case of tablets), visual quality is enhanced, and Internet protocols are harnessed to different cultures of use, from automated media content purchases through to downloading via torrent platforms. Furthermore, the software ecologies of mobile media, involving the creation of applications (apps) distributed via 'app stores', function as effective platforms for third-party developer innovation and personalised consumer use (Goggin, 2011b). At the same time, the fragmentation of mobile and wireless services has seen the growth of commercial ventures like Netflix or Hulu, which seek to provide integrated and increasingly 'user-pays' forms of television across all available platforms.

Mobile Internet therefore presents policy makers with questions of access to and participation in the development of television ecosystems. This is already apparent in, for example,

European debates on open standards and interoperability between distribution technologies and mobile TV devices.

Mobile Internet–Locative Technology Convergence

The third interface of the contemporary mobile Internet is perhaps the most complex. It involves a range of new networked-information and communication technologies and infrastructures that exploit geographic and spatial data, alongside relative locative associations, being reconfigured in relation to each other. A short (and certainly not definitive) list includes: broadcasting to mobile networks; innovative network models such as mesh networks and cognitive radio; sensor technologies; radio frequency identification (RFID); the geospatial Web; and location-based mapping and positioning technologies. For illustrative purposes here, we will focus on the ecologies of what is now often termed 'locative media' (Gordon and de Souza e Silva, 2011).

Location technologies for cellular mobiles have been in development since at least the late 1990s. Locative media developed steadily during the 2000s and were the focus of artistic, activist, urban design, and innovation initiatives. Mobile media are now awash with various kinds of customizable location devices and functions that have greatly expanded earlier conceptions of how place could be constructed, explored, capitalized upon, and mobilized. As well as the location technologies developed by cell phone companies and carriers, we have also seen the rapid development of Bluetooth in advertising, user file sharing, satellite navigation technologies (satnav), and the development of geoweb applications (such as Google Earth and Apple Maps). Location information has become critical in diverse activities such as alternative-reality mobile gaming (ARGs) and also for the finding of friends, intimates, and new contacts within social software. Experiments with location-aware information apps demonstrate the capacity for media to deliver contextual news tailored to the user's relationship with place (Øie, 2012). Location technologies are useful for the annotation and mark-up of locales when photographing, filming, or recording. Finally, mobile Internet applications and smartphone apps also take advantage of the possibilities of location technologies.

Some public-service media (PSM), most obviously the BBC and PBS, have been quick to exploit experimental uses of GPS–enabled mobile media for augmented-reality drama and documentary. The Australian Broadcasting Corporation (ABC) MyBurb project, for example, invites users to upload images, video, and audio to be used in creating interactive histories of their suburbs. The augmented landscapes are then navigated using a Layar-based smartphone app.

But undertaking research and development in this area, although it may conform to public-service media remits to explore new cultural forms or promote media innovation, highlights contentious policy and operational questions. Firstly, what are the limits to the public funding of mobile Internet developments in a period of constant change? Public-service media already face claims they crowd out entrepreneurs in emerging markets and so must address the increasingly difficult question of how to allocate their scarce R&D resources to new media platforms in an age of expanding technological diversity. In developing new online services and making digital content more accessible to mobile online users, public-service media are also stretching their operational budgets and risking increased bandwidth costs as the number of users requesting such mobile services rises. It is therefore clear public media managers should develop strategic tools to evaluate the relevance and value of locative technologies, which must include measures of public response.

The second concern is choosing the factors that determine public investment in new technologies or applications. Should public media managers be prioritising industry competition, existing policy objectives, financial implications, perceived audience demands, or operational needs? Some locative innovations such as geo-tagging scripts for text, image, and audiovisual content are widely integrated into software packages. As a consequence, these are inexpensive and useful to both journalists and users, so they present few adoption dilemmas. Other practices, such as the geo-blocking of video files to limit the bandwidth costs generated by extranational users, are controversial and widely circumvented. A 2012 European Union Media Futures forum has condemned the practice of restricting content access on a territorial basis and advocated increased access to content for European citizens to enable their mobility between member countries (EC, 2012). Yet as we have indicated, public-service media may not be funded to support the increased data mobility of citizens. Indeed, they are effectively punished financially for becoming more popular online through increased content distribution costs (see Australian Broadcasting Corporation, 2012).

Locative technologies pose a challenge to public-service media that therefore may need to renegotiate their historic, territorially bounded relationships with audiences and funding bodies. In addition, it is likely to be necessary to consider the new spatial implications of always-on broadband and the orientations of diasporic populations to mobile Internet and the locative services it offers.

New Governance, New Actors, New Challenges

As our brief discussion of these three cardinal axes hopefully shows, mobile Internet has moved well beyond its early form on mobile handsets to encompass a complex, interrelated, and convergent set of technologies, infrastructures, and emergent user practices and cultures (Feijóo, Maghiros, et al. 2009; Feijóo, Pascu, et al. 2009; Goggin, 2011a). Although research on the mobile Internet is developing, this has yet to be integrated into a comprehensive understanding of policy frameworks, regulatory institutions, and processes of the Internet—let alone media and management practices.

For instance, the place of mobile Internet in national broadband infrastructure planning is a significant issue given that the diffusion of mobiles and wireless has steadily increased. There is, for example, a growing (and largely unmet) demand for mobile Internet on public transport, in public areas, and at major political and cultural events, as well as the expectation of its availability to citizens during disaster recovery. Yet there is little discussion as yet of how public media, especially the traditional public-service broadcasters, fit into national broadband infrastructure and service plans. This is a yawning policy gap generally when it comes to broadcasting over next-generation networks and highlights significant problems with digital policy reviews and subsequent reforms now being undertaken around the world, especially when it comes to questions of how citizens use media to participate in society and culture.

Many countries, like our own, Australia, still lack consolidated, convergent media and communications policies and regulation. From the mid- to late 1990s onwards, national parliaments, policy makers, and regulators have sought to grapple with the Internet, mobile media, and national broadband. They have progressed through the deployment of subsidiary regulation, additional policy measures, and new legislation. More recently, convergent media regulation has been the subject of many international and national policy inquiries and initiatives, while in media research, convergent media and its policy implications is a central problem (Dwyer, 2010). As

these reforms progress, public-service media are often involved and mentioned, yet we would argue that their role remains systematically understudied and capitalized upon. European PSM organisations, for example, struggle with ex-ante evaluations of their public value (Moe and Donders, 2011) and questions about their place online. They are hampered by the lack of data, systematic or global comparative information about how public-service Internet services are used, or what users have to say about them.

Indeed, there is little research available that tells us how these and other policy institutions, processes, and actors are responding to the disruptions and affordances offered by the mobile Internet. Neither do we have a detailed understanding of how traditional media policy institutions (relevant government departments, media and competition policy regulators, and standards organizations) actually do convergent media policy. Over and above this, we lack research that charts and theorizes the new kinds of entities and actors that are expanding what we understand by media policy and the field in which public media operate. Significant debates have emerged, for example, about how national and regional media regulators now interact with the transnational providers of mobile online services, such as Twitter and Facebook.

A further set of challenges derives from the evolution of newer public–private enterprise relationships and from a far wider range of diverse industries collaborating with public media on new forms of programming and emerging public media services. In locative media, for instance, urban development interests (whether urban planners, municipal government, or property developers) become important in the design and deployment of navigation, location, and satellite technologies. These then shape the way streetscapes are represented and used. Elsewhere, public media are increasingly involved in the crafting and delivery of e- and m-health initiatives, contributing to intensified self-regulation and surveillance of our physicality and psyche (Lupton, 2012).

Mapping this new plurality of actors and interests is the subject of our own research underway, but it is useful to outline here the historical trajectories of policy and regulation in order to indicate where the gaps lie. The two main bodies of policy relevant to mobile Internet are the frameworks deriving from telecommunications and mobiles and, secondly, the Internet. There is a duality of policy evident in this split due to different historical traditions of understanding and managing media—and this has resulted in a gulf in which the development of policy and management has not kept pace with the technology and its user experiences.

Mobile Internet policy has evolved from longstanding international telecommunications regulatory frameworks that traditionally revolved around the International Telecommunications Union, with clear relationships between local (countries) and global (international organisation). Until the early 1980s at least, there was a well-established body of internationally coordinated concepts, practices, frameworks, policy knowledge transactions, and institutions that evolved from the 19th century onwards (predating the telephone itself). From that period, structural reforms—including new technologies, privatization of former monopoly carriers, and creation of competition and of independent regulators—saw new policy concerns and objectives fashioned. Regulators typically assumed responsibility for mobile phones, and indeed mobiles were bound up with (and a catalyst for) telecommunications reform. With the rise of mobile data and premium services, mobiles followed audiotext services at the forefront of new policy approaches, especially self- and coregulation.

The Internet's mass diffusion occurred in the mid 1990s, at the high-water mark of this telecommunications reform. However, its distinctive, indigenous policy frameworks and processes emerged from research networks and institutions in the 1970s and 1980s, and they were based within a decentralized, participatory architecture of governance. This was represented first in the work of the Internet Engineering Task Force and, from the 1990s, in the supranational Internet Society organisation and the World Summit on the Information Society conferences. These structures proved reasonably effective for some things like global technical standards development. However, they were of questionable utility and legitimacy when it came to confronting traditional media regulation questions such as privacy, content regulation, and media diversity, or for newer concerns such as cultural diversity (Frau-Meigs, 2007).

In the past decade, Internet and mobile telephony policy institutions, concepts, and approaches have begun to have an impact on traditional media and communications regulation, which was formerly centred on television and radio broadcasting. Public-service and community broadcasting, for example, have been reinterpreted in Web and mobile forms, often with attendant processes of charter review and reform. However, convergent media are evolving faster than legacy frameworks can respond. Online video, as noted above, is a dynamic, complicated area of television and mobile Internet convergence, presenting jurisdictional and other challenges for existing policy institutions (Curtis, Given and McCutcheon, 2012).

Two of the initial difficulties mobile Internet poses are how to reinterpret discreet media and communications regulatory regimes and core policy concepts for these convergent—increasingly Internet protocol–based—contexts. In the Australian federal government's 2012 *Convergence Review* report, regulatory proposals have shifted from the silo-based approach that separated the legacy media and telecommunications industries. Instead, legislation for digitalised and networked media would potentially address layers of network, carriage, and content service providers (DBCDE, 2012: 107). This approach follows a policy model first proposed by Sicker and Mindel (2002), with targeted legislative or other controls applied at precise points in the service or content delivery stack.

As part of that review process, the national regulator, the Australian Communications and Media Authority (ACMA), has also reconsidered the value of 'news diversity' in the light of increasing Internet media pluralism. The European Commission began such a process in 2007, producing a major study and diagnostic monitoring tool for assessing the risks of media pluralism in digital media environments (EC, 2009). Like the EC, the ACMA has recognised the continuing importance of diversity measures for democratic process. However, it also argued that there was a need to recalibrate the methods for evaluating and supporting media diversity, especially in the expanding field of online news and opinion publishing. The ACMA questioned whether its existing method—limiting ownership, control, and audience reach in defined geographic markets—was effective in the light of online media development:

> This is because media influence is no longer solely predicated on broadcasting services and print media. Although these media are still highly influential, a number of alternative media have growing influence (particularly user-generated content and online services). (ACMA, 2011: 42)

This suggests that the notion of what constitutes 'influential' media could include both new public media channels and participatory media forms. The immediate problem, then, is how to reconceptualise and measure voice diversity and online influence for a mobile Internet future.

Although we have done foundational research on media diversity and influence in relation to online news (Dwyer and Martin, 2010; Dwyer, Martin, and Goggin, 2011), there is no work we are aware of that systematically considers diversity issues in relation to mobile platforms. Given the headlong rush of news and media providers into mobile media (especially apps) and new subscription and pay models, this type of research is critical to underpinning effective policy for equitable access and participation in digital media systems. As yet, we know little about the kind of media content—news, entertainment, other forms—that appear on apps or the role that smartphones, tablets, and apps play in wider cross-platform, convergent media ecologies. Nor are we aware of specific regulatory consideration of these mobile Internet forms and the policy issues they pose. That this is a problem, for public-interest policy making is further emphasised when we consider how little control users have over the shape and operation of those new informational ecologies that arise from locative media.

Privacy, Access, and the New Informational Ecologies

Media organizations' collection of personal information and data is a well-established regulatory issue. In the 1990s, the capabilities of intelligent telecommunications networks to gather, display, and use 'calling line identification' led to international public debate, policy, and regulatory responses. Typically, these invoked privacy frameworks, which have a long-established, if still well-debated, set of concepts, rules, and laws. Yet these frameworks are under increasing strain from the phenomenal intensification of personal and real-time data collection at the heart of locational technologies, which span online, mobile, and social media technologies.

Locative technologies that detect, store, and transmit information about a device and user's location are now integrated into a wide range of commercial mobile Internet softwares and systems. These include online maps, social networking, and media applications. They also include location-based services connected with advertising and resource tracking. It is clear that these technologies and the cultures of use associated with them are resulting in what we might think of as pervasive, new informational 'ecologies'. These ecologies or cultural environments are raising new issues about privacy, use, and the disclosure of user location information.

Traditional media and communications regulators have not been especially well positioned to grasp and respond to privacy concerns involving these new kinds of media arrangements. This is partly because privacy has typically been dealt with by a combination of regulatory strategies featuring, in the Australian context, overarching social provisions like the national Privacy Act and Privacy Commissioner, alongside industry sector-wide legal, regulatory, co- and self-regulatory approaches. An existing difficulty is that prior to the 1990s, the focus of this apparatus was to protect the privacy and personal information of citizens in relation to the State. The growing threat to privacy from large corporations, especially transnational corporations, was only reluctantly and inadequately addressed by governments, not least because of the power of such vested interests to block regulation.

Now there is an additional demand for an adequate response because of the scale, influence, and pervasiveness of Internet media entities such as Google and weibo. These dominate contemporary media landscapes but are only partially, at best, covered by existing national privacy protections and may be slow to respond to requests to delete data or to address potential breaches of codes or laws. In this sense, social media spaces, although they are popular channels for public media engagement and event promotions, present serious problems in terms of managing the publication and potential redistribution of private data. Lack of state or user control over

transnational social media is one driver for the European Commission's recent data-protection reforms. These attempt to give citizens greater rights to access and delete personal information held on them by companies like Facebook, regardless of their geographic location.

If reconceptualising and extending privacy protections to the contemporary mobile Internet is only now seriously commencing, the countervailing issue of access to these ecologies and infrastructures is even more benighted.

Currently, media companies are rolling out locative media technologies commercially on a mass scale without any debate about what rights citizens and users might have to use these infrastructures or what their informational 'commons' aspects might be. This is a considerable irony. Users are being strongly encouraged, if not compelled, to share their locational information; indeed, such sharing of user data, like user-generated content generally, makes locative media possible. Yet other, more radical kinds of sharing of information, such as P2P and mesh networks, which individuals or groups of users initiate, are not being contemplated.

Clearly access to mobile Internet and real-time information sharing is already fundamentally altering policy processes, as we have seen in the 2012 global mobilization of online dissent to block the proposed U.S. Protect Intellectual Property Act (PIPA) and Stop Online Piracy Act (SOPA) legislation (Weatherall, 2012). The graphic impact of the public energies that can be aroused through timely, customised, multiplatform communications underscores the need for regulators and public media managers themselves to try new forms of citizen engagement. This is something to which we will briefly turn in considering how regulators might use the Internet to encourage citizens to raise concerns, to coordinate responses to proposals, and to influence policy.

Engage.Acma

An interesting case of participative policy approaches can be found in the online development initiatives of the Australian Communications and Media Authority, a successor body to earlier regulatory agencies in telecommunications, broadcasting, and spectrum management. It was reformed as a national convergent regulator in 2006 — with the joining of the former telecommunications regulator (AUSTEL) and the Australian Communications Authority — and so is similar to its British counterpart, Ofcom, the independent regulator and competition authority for the UK communications industries. Indeed, there is an ongoing exchange of views and experience between the two, as Australians often look to their British counterparts for regulatory lessons and models, a legacy of the history of colonial political relations between the two countries. However, the ACMA's stated ambition is to become "the world's leading convergent regulator" (2010).

From 2009, as part of a new open government information policy, styled by former Labor Prime Minister Kevin Rudd as 'Gov 2.0', ACMA promoted the use of online technologies in engagement and consultation. It adopted the slogan 'communicating | facilitating | regulating', redesigned its website, and improved its plain–English documentation. It also rethought its communications strategy, encouraging online feedback and offering RSS (really simple syndication) feeds and Twitter updates. It produced online video of interviews and roundtable conversations on hot-button policy issues, which could be downloaded and viewed as a complement to or substitute for briefing, discussion, or 'green' papers.

In 2011, ACMA initiated a more systematic approach to its Gov 2.0 ambitions with the launch of its engage.acma website and a social media strategy:

> Welcome to engage.acma. This is our beta space for engaging with our users. The ACMA is committed to genuine interaction with our wide array of stakeholders. New technologies have created opportunities for the ACMA to directly communicate with citizens and consumers. Tools like Twitter, Facebook and YouTube reach large communities and through engage.acma we want to collaborate with these audiences, to hear their views, engage in discussions and hopefully gain insight. By feeding these understandings back into our decision-making we aim to better inform our many public interest judgments. As a beta platform we want to best understand what constitutes an effective engagement. (ACMA, 2009)

At the time of writing, the platform included Buzz, a social media issues aggregation page featuring in-house blog posts and a Twitter live feed; webinars of consultations for remote participants; and FAQs and Q&A submissions on ongoing processes. The platform also facilitated the 2012 launch of a complaints and investigations initiative, acma-i.

The ACMA's online engagement is a work in progress. Indeed, the future of the ACMA hangs in the balance with the federal *Convergence Review* recommendations for the formation of new cross-media regulatory bodies (DBCDE, 2012). Nonetheless, it is our view that its Internet engagement has provided clearer, more detailed, incremental information on policy process and new opportunities for citizens to have their views noted and taken into account. As with analysis of other experiments in online government, it is a more complex business to then evaluate whether engage.acma has assisted the regulator to 'better inform' its 'public-interest judgments' or to bring about a more democratic media policy and regulatory process (however, we might define such an elusive concept).

Conclusions

In this chapter, we have sought to explore challenges in contemporary media management posed by the mobile Internet. As we argue, the mobile Internet is a complex set of media and communications ecologies and arrangements. It involves convergence across mobile phones, the Internet, and broadcasting, as well as the array of new technologies and social practices that constitute locative media. Moving beyond the oft-cited policy problem of spectrum allocation for public media uses, we have shown that there are new and serious problems regarding the future of state-funded mobile media, including research and development prioritisation, platform operation, and content distribution costs. We have also noted the need for research on the public's role in production, co-creation, and the control of mobile online content, particularly in relation to data access, management, and privacy standards.

In responding to the entwined socio-technical transformations of the mobile Internet, legislators, policymakers, and regulators around the world have sought to find new frameworks and concepts to deal with emerging problems. This includes (not least) the shaping of convergent media policy and the diversification of the actors and relationships that now constitute digital media markets.

Our view is that older media policy objectives should not be lightly discarded in this process and that many, such as news media diversity, still have an important place once they are rethought for the present circumstances. However, we also believe that important challenges have emerged for which new concepts have been devised—such as access and participation—that require further development, critical consideration, and integration with older approaches. There are new modes of governance and orientations to policy making being shaped by international,

cross-media, and cross-industry interactions. Those associated with the Internet have at least a two-decade history now, but in terms of locative media, we are only at the beginning of understanding the integration required between, for instance, urban planning on the one hand and media and communication policy on the other.

Regulators are now using mobile Internet technologies and cultures to find innovative ways to engage with publics. We have provided a brief evaluation of one such experiment, the Australian regulator's 'engage' initiative, which seeks to amplify the effective use of digital platforms to inform and engage with stakeholders and citizens. A fuller, comparative assessment of such efforts is necessary in order to evaluate public participation, the degree of democratisation of policy making, and the fairness and effectiveness of the outcomes—work that clearly lies ahead.

The case of the mobile Internet, as we hope we have indicated, shows that the stakes in public media management are high indeed as a new era of media and communications opens up, one that is more ubiquitous, visible, and global—and so more 'public'—than any before it. The speed, scope, and diversity of change are overwhelming. Even insiders are yet to fully grasp and respond to the new actors, challenges, and modes of engagement that the mobile Internet represents. It is timely, then, that all stakeholders, especially users and citizens whose resources and expertise are much more limited, are carefully and thoughtfully involved in policy making and regulatory processes as they develop.

Public-service media has a vital role to play here, having a presence in the mobile Internet amongst the commercial players who are predominating in the development of this area. Public-service media are well placed to parlay their traditional role as foil to commercial media, representing and supporting citizens to engage with this complex yet enormously important area of contemporary media. In doing so, public-service media will need to confront the issue of being tied to nations while activating new investments, presence, and audience reach and interaction in the global realm of the mobile Internet. This will be one step further still than 15 years of projection into global media, realized through the provision of online content and services.

References

Australian Broadcasting Corporation (ABC) (2012) *Australian Broadcasting Corporation Submission in Response to the Convergence Review Interim Report.* February 2012. Available at http://about.abc.net.au/reports-publications/convergence-review-interim-report-february-2012/ (Accessed 30 June 2012).

Australian Communications and Media Authority (ACMA) (2009) *About the ACMA's role.* Available at http://www.acma.gov.au/WEB/STANDARD/pc = ACMA_ROLE_OVIEW (Accessed 7 June 2012).

ACMA (2010) "*Citizens*" *and the ACMA: Exploring the Concepts within Australian Media and Communications Regulation.* Sydney, NSW: ACMA. Available at http://www.acma.gov.au/WEB/STANDARD/pc = PC_312186 (Accessed 30 June 2012).

ACMA (2011) *Enduring Concepts: Communications and Media in Australia.* Sydney, NSW: ACMA. Available at http://engage.acma.gov.au/enduring-concepts/ (Accessed 30 June 2012).

Budde, P. (2011) *Australia – Mobile Data – Mobile TV*, Bucketty, NSW,

Australia: BuddeComm.

Burgess, J., and Green, J. (2013) *The Uses of YouTube.* 2nd edition, Cambridge, UK: Polity.

Cisco (2012). *Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2012–2017*. Available at http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-520862.html(Accessed 11 June 2013).

Cunningham, S. (2013) *Hidden Innovation: Policy, Industry and the Creative Sector,* Brisbane, QLD: University of Queensland Press.

Curtis, R., Given, J., and McCutcheon, M. (2012) *Online Video in Australia: Exploring Audiovisual Fiction Sites.* Melbourne, VIC: Swinburne Institute, Swinburne Institute of Technology. Available at http://hdl.handle.net/1959.3/217188 (Accessed 11 June 2013).

Department of Broadband, Communications and the Digital Economy (DBCDE) (2012) *Convergence Review: Final Report.* Canberra, ACT: Commonwealth of Australia. Available at http://www.dbcde.gov.au/__data/assets/pdf_file/0007/147733/Convergence_Review_Final_Report.pdf (Accessed 31 May 2012).

Ducheneaut, N., Moore, R.J., Oehlberg, L., Thornton, J.D., and Nickell, E. (2008) 'Social TV: Designing for distributed, social television viewing', *International Journal of Human-Computer Interaction,* 24 (2): 136–154.

Dwyer, T. (2010) *Media Convergence.* Maidenhead, Berkshire: McGraw Hill and Open University Press.

Dwyer, T., and Martin, F. (2010) 'Updating diversity of voice arguments for online news media', *Global Media Journal,* 4 (1). Available at http://www.commarts.uws.edu.au/gmjau/v4_2010_1/dwyer_martin_RA.html (Accessed 30 June 2012).

Dwyer, T., Martin, F., and Goggin, G. (2011) 'News diversity and broadband applications: Challenges for content and distribution', *Telecommunications Journal of Australia,* 61 (4): 65.1–65.11.

European Commission (EC) (2009) *Independent Study on Indicators for Media Pluralism in the Member States — Towards a Risk-Based Approach.* Final Report. Prepared for the European Commission Directorate-General Information Society and Media by Katholieke Universiteit Leuven et al. Brussels, Belgium: EC. Available at http://ec.europa.eu/information_society/media_taskforce/pluralism/study/index_en.htm (Accessed 30 June 2012).

EC (2012) *EU Media Futures Forum: Final report. September 2012.* Available at http://ec.europa.eu/information_society/media_taskforce/doc/pluralism/forum/report.pdf (Accessed 13 November 2012).

Feijóo, C., Maghiros, I., Abadie, F., and Gomez-Barroso, J. (2009) 'Exploring a heterogeneous and fragmented digital ecosystem: Mobile content', *Telematics &Informatics,* 26 (3): 282–292.

Feijóo, C., Pascu, G., Misuraca, G., and Lusoli, W. (2009) 'The next paradigm shift in the mobile ecosystem: Mobile social computing and the increasing relevance of users', *Communications & Strategies,* (75): 57–78.

Frau-Meigs, D. (2007) 'Convergence, Internet governance and cultural diversity', in T. Storsul, and D. Stuedahl (eds) *Ambivalence towards convergence: digitalization and media change,* Gothenburg, Sweden: Nordicom.

Gibson, J. J. (1977) 'The theory of affordances', in R.E. Shaw, and J. Bransford (eds) *Perceiving, Acting, and Knowing,* Hillsdale, NJ: Lawrence Erlbaum.

Given, J. (2010) 'Take your partners: Public private interplay in Australian and New Zealand plans for next generation broadband', *Telecommunications Policy,* 34: 540–549.

Goggin, G. (2011a) *Global Mobile Media,* London and New York: Routledge.

Goggin, G. (2011b) 'Ubiquitous apps: Politics of openness in global mobile cultures', *Digital Creativity,* 22 (3): 147–157.

Google (2012) *Our Mobile Planet: Global Smartphone Users. Google and Ipsos OTX CT Media.* Available at http://www.thinkwithgoogle.com/insights/emea/library/infographics/our-mobile-planet-us-infographic/ (Accessed 30 June 2012).

Gordon, E., and de Souza e Silva, A. (2011) *Net Locality: Why Location Matters in a Networked World,* Boston: Blackwell-Wiley.

Hjorth, L. (2009) *Mobile Media in the Asia-Pacific,* London and New York: Routledge.

International Telecommunications Union (ITU) (2011) *Mobile broadband subscriptions per 100 inhabitants, 2007–2011.* ICT Indicators database, ITU World Telecommunications. Available at http://www.itu.int/ict/statistics (Accessed 30 June 2012).

Lobato, R. (2012) *Shadow Economies of Cinema: Mapping Informal Film Distribution,* London, UK: Palgrave Macmillan.

Lupton, D. (2012) 'M-health and health promotion: the digital cyborg and surveillance society', *Social Theory & Health,* 10 (3): 229–44.

Marcus, A., Roibás, A.C., and Sala, R. (eds) (2010) *Mobile TV: Customizing Content and Experience,* London, UK: Springer.

Meikle, G., and Young, S. (2008) 'Beyond Broadcasting: Television for the Twenty-First Century', Special issue of *Media International Australia,* 128: 67-70.

Middleton, C., and Given, J. (2011) 'The next broadband challenge: Wireless', *Journal of Information Policy,* 1 (1): 36–56.

Moe, H., and Donders, K. (eds) (2011) *Exporting the Public Value Test. The Regulation of Public Broadcasters' New Media Services Across Europe,* Gothenburg, Sweden: Nordicom.

Nielsen Company (2010) *Asia Pacific Social Media Trends.* Available at http://www.nielsen.com/us/en/insights/events-webinars/2010/webinar-asia-pacific-social-media-trends.html (Accessed 9 July 2012).

Øie, K.V. (2012) 'Sensing the News: User Experiences when Reading Locative News', *Future Internet,* 4 (1): 161–178.

Raboy, M. (2002) *Global Media Policy in the New Millennium,* Luton, UK: University of Luton Press.

Rao, M. (2011) *Mobile Africa Report 2011: Regional Hubs of Excellence and Innovation.* Mobile Monday. Available at http://mobileactive.org/research/mobile-africa-report-2011-regional-hubs-excellence-and-innovation (Accessed 10 December 2012).

Sicker, D.C., and Mindel, J. (2002) 'Refinements on a Layered Model for telecommunications policy', *Journal of Telecommunications and High Technology Law,* 1: 69–94.

Turner, G., and Tay, J. (eds) (2009) *Television Studies After TV,* London and New York: Routledge.

Weatherall, K. (2012) 'The New (Old) War on Copyright Infringement, and how Context is Opening New Regulatory Possibilities', *Media International Australia,* (134): 110–121.