T08P11 / Towards Digital Policy Research: Retrospective and Prospective Research Agendas

Topic : T08 / Policy Discourse and Critical Policy Research

Chair : Erik Bohlin (Chalmers University of Technology)

Second Chair : Khuong VU (LKY School of Public Policy, NUS)

Third Chair : Yu-li Liu (National Chengchi University)

GENERAL OBJECTIVES, RESEARCH QUESTIONS AND SCIENTIFIC RELEVANCE

Research field of telecommunications policy is starting to come of age, with several international research conference associations celebrating 30 and 40 years (such as ITS, PTC and TPRC), and the Journal of Telecommunications Policy turning 40 years in 2016. The research field has developed and expanded, becoming more interdisciplinary as well as contributing with increasingly precise policy implications. Research contributions have come from economic analysis, institutional theory and policy analysis, to name a few. Several thousands of researchers have interacted with the research area over the years, both as contributors and acting as reviewers for journals and conference proceedings.

This is a good time to take stock and reflect on the past developments of the research field, and consider future outlooks. In particular, the field of telecommunications policy is now really a field of Digital Policy, with increasing complex and encompassing issues.

This panel session is based on contributions from leading scholars in the field, joined by young and growing researchers in the field, addressing question such as:

- How would you define and scope the broad field of telecommunications policy, and the emerging field Digital Policy?

- What have been the major research issues in the past?

- What are the current major research issues?

- What are the most promising and relevant future research problems? And what are the most interesting theory domains to address these future problems? What should be the focus of the emerging field Digital Policy?

The session will include not only personal reflections of the contributors, but also time for cross-panel discussions and Q&A with the audience. The panel will include topical presentations that bear on the specific theme of the panel, plus presentations that analyze each of the questions raised in-depth. A mixture of perspectives from junior and senior researchers will be offered.

Conveners of the panel proposal are:

Prof. Erik Bohlin, Chalmers University of Technology, Sweden & Editor-in-Chief, Telecommunications Policy

Prof. Khuong Vu, National University of Singapore

Prof. Hitoshi Mitomo, Waseda University, Japan

Prof Yu-li Liu, National Chengchi University, Taiwan

CALL FOR PAPERS

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Session 1

Thursday, June 29th 13:30 to 15:30 (Manasseh Meyer MM 3 - 2)

Discussants

Erik Bohlin (Chalmers University of Technology)

TELECOMMUNICATIONS POLICY RESEARCH AGENDA OVER THE PAST FORTY YEARS

Erik Bohlin (Chalmers University of Technology)

This presentation investigates the evolution of the telecommunications policy agenda för forty years –from 1976 to 2016– of papers in the Journal of Telecommunications Policy. Key topics, the dominant combinations of concepts and the main areas of research within this multidisciplinary –technical, economic, social, policy– discipline are addressed. In addition the evolution of the policy agenda is discussed, suggesting a more nuanced development than the conventional public service, pre-competition and post-liberalization stages typical of telecommunications. Also, in combination with bibliometric information, the results display the relationships between areas of research and methodologies, countries and authors' background, all together providing a deeper understanding of the past, present and future avenues for research in telecommunications policy

Growth Drivers of the Cloud Computing Market: Empirical Evidence and Policy Implications

Khuong VU (LKY School of Public Policy, NUS)

Cloud computing represents a transformative development in the information technology landscape and has the potential to offer unprecedented benefits to adopters. This paper provides a comprehensive review of the development of the global cloud computing market between 2010 and 2015, and investigates factors underlying cross-country variations in the depth and growth of cloud computing

adoption. The paper concludes with policy implications drawn from the study's empirical findings.

Digital Preparedness in the Era of Online Social Services: an Australian case study

Siobhan O'Sullivan (UNSW)

Christopher Walker (Australia and New Zealand School of Government)

Social services are becoming increasingly digitalised across the OECD. This includes services once considered highly personalised, such as job search assistance. In the Netherlands, Dutch jobseekers receive their employment assistance online for the first 12 months. In the UK, starting in 2017, JobCentre Plus will deliver the first two years of jobseeker assistance via a digitalised system whereby jobseekers are encouraged to 'check in' online. Digitalisation is also increasingly informing Australian employment assistance practices. Centrelink, the Australian Government's client facing welfare agency, is already heavily reliant on call centres and big data, while Australian private, contracted, welfare-to-work agencies are increasingly digitalising their processes.

Unlike the Netherlands and UK, Australia is a vast country with a highly concentrated population located in

widely dispersed cities, towns, rural and regional centres. Many of the most vulnerable social service recipients live outside the large urban centres, which are also characterised by higher levels of youth and adult unemployment. Australia has some of the slowest internet speeds in the developed world, with residents of regional and remote locations reporting that their access to the internet is fundamentally inadequate and price preclusive. This means that social service digitalisation presents unique challenges in Australia and without a cautious approach could result in divergent social outcomes for service users across different locations. In short, while service digitalisation may be advantageous to the extent that it reduces costs on the part of delivery agencies, it may further exacerbate existing social inequalities amongst recipients in terms of capability, access and geographic location. It may also be the case that Australia's infrastructure simply fails once an extensive range of digitalised services come online.

This paper presents early findings. Using a mix of desktop reviews and interviews with elite policy makers, service delivery managers, and peak bodies representing welfare recipients, this paper will outline Australia's current level of digital preparedness. It will also identify vulnerabilities and policy challenges. The aim of this work is make some early recommendations as to where the Australian Government should focus it's digital resources in order to both allow for the smooth transition to social service digitalisation and to ensure that the move does not compromise the wellbeing of those already living with disadvantage.

Finding the Most Optimal Regulatory Model for the Convergence Laws: The Taiwan Perspective

Yu-li Liu (National Chengchi University)

In this digital age, heavily regulating newly-emerging media may result in stifled innovation, whereas not imposing any regulation risks there being an un-level playing field between the new media and the regulated broadcasters (Onay, 2009). Nowadays, the US still applies the Silo model, which means that different sectors apply different regulations. Therefore, some newly-emerging media such as non-linear OTT services are not regulated. In 2002, the EU adopted the Framework Directive, which classified electronic communications according to "electronic communications networks" (ECN) and "electronic communications services" (ECS). In 2004, the Audiovisual Media Services Directive (AVMSD) made a distinction between linear (television broadcasts) and non-linear (on-demand) services. When the OTT services appeared, there were criticisms that the current Directives were sometimes unable to cope with the problems brought by the new media (Geach, 2008). So, what should be the solution? The regulators of many countries have been trying to find the most optimal regulatory model for the convergence laws in the digital age.

In Taiwan, the regulatory paradigm has gradually shifted from the US model to the EU model. However, Japan's revised regulatory model is also applied. The reason for this is because all the models have their strengths and limitations. Although Japan had tried to integrate nine laws into one, in 2010, Japan decided to only merge four broadcasting-related Acts into one Broadcasting Act which classified broadcasting into two categories: basic broadcasting and general broadcasting. Basic Broadcasting means broadcasting using the radio waves of frequencies, such as terrestrial broadcasting, Broadcasting Satellite (BS) broadcasting, and 110°E Communication Satellite (CS) digital broadcasting. General broadcasting means broadcasting other than basic broadcasting, such as 124/128°E CS digital broadcasting, cable TV, and IPTV.

In 2003, the old media regulator, the Government Information Office of Taiwan, tried to integrate three broadcasting-related laws without success. In 2007, the new regulator, the National Communications Commission, tried to integrate three broadcasting-related laws and one telecom law into one convergence law. However, it was not accepted by the industry or the Executive Yuan. In 2016, the NCC announced that it was drafting five laws to cope with convergence. It failed again because most of the NCC Commissioners' terms expired at the end of July and the NCC did not have enough time to interact with the relevant industry and other stakeholders. At the end of 2016, the newly-appointed NCC commissioners announced different versions of the convergence laws to accommodate the convergence and problems brought about by the Internet. The NCC is soon going to hold public hearings to solicit public opinion.

In examining different drafts of the convergence law, one may ask the following questions: What issues cannot be solved by applying the US model? What issues cannot be solved by applying the EU model? Which regulatory model is the best fit for Taiwan when the regulator is facing newly-emerging media? This presentation aims to analyze the appropriate regulatory model for the newly-emerging media by taking Taiwan as an example. The research methods employed include a literature review and in-depth interviews.

Data Network Effects and the Dominance over Artificial Intelligence Services: A Policy Perspective

Hitoshi Mitomo (Graduate School of Asia-Pacific Studies, Waseda University)

This paper aims to investigate the emergence of Data Network Effects in Internet-of –Things (IoT) and Artificial Intelligence (AI) services and their influence on the diffusion of the services. The existence of dependencies of the demand for and the benefit from interactive telecommunications service on the number of the users, which is defined as demand externalities or consumption externalities, was first pointed by Squire (1973) and Littlechild (1975), and has been repeatedly investigated by many scholars. Katz and Shapiro (1985) termed it “network effects” without a rigorous definition. Since then, the concept has been extensively applied to explain similar dependencies. The theory of two-sided markets is an extension of the concept, which deals with interdependencies between two or more inter-related markets.

Recent advancement of sensor and network technologies has enabled non-human centric use of the Internet, i.e., IoT. In addition, cutting-edge data processing technologies has reached a level high enough to call them AI. Both IoT and AI are expected to increase efficiencies, reduce costs, improve convenience, and make possible what has been impossible in our society.

It is obvious that the accumulation of data enhances the advantage in providing IoT and AI services. As compared to the dependency on the number of users, this dependency can be defined as Data Network Effects. Matt Turck (2016) defined it in such a way that “data network effects occur when your product, generally powered by machine learning, becomes smarter as it gets more data from your users. In other words: the more users use your product, the more data they contribute; the more data they contribute, the smarter your product becomes”. Market dominance originated from data dominance has been widely recognized in data business. For rapid diffusion of AI services, it is efficient to make the most of Data Network Effects. On the other hand, it will result in market concentration.

Governments may want to support further diffusion and utilization of data and AI services while it may decrease competition in the market. Governments face a trade-off between the promotion of AI services and anti-monopoly policies.

This paper is intended to focus on the phenomenon of Data Network Effects and make a preliminary formal analysis on them. Policy implications will be discussed in terms of competition and the diffusion of the services.

Firstly, Data Network Effects are defined after a brief review of network effects. Then, some formal approaches are proposed to represent the impact of Data Network Effects on the diffusion of the service and dominance in the market. Finally, the impact of the Effects on the competition policy is discussed.

Simulcast television over the Internet in Japan – public acceptance and its policy implications

John Cheng (Waseda University)

The convergence of ICT has enabled traditional television broadcasters to simulcast their programmes over the Internet not only in real time, but also in high definition, and to mobile devices. That being said, the future of simulcast television over the Internet in many countries is still uncertain because of policy and commercial issues.

In Japan, the positive feedback by the public to the emergency simulcast of television news over the Internet during the 2016 Kumamoto Earthquake has prompted the government to further promote simulcast television. The Ministry of Internal Affairs and Communications is now revising the relevant policy aiming to motivate the terrestrial television broadcasters to provide nationwide simulcast service by 2019 in order to be ready for the 2020 Tokyo Olympics. This initiative, however, has been met with mixed receptions and triggered many debates in the industry. On the one hand, some broadcasters see this as a welcoming opportunity to tackle some of the issues that have been plaguing them for years such as competitions emerged from new media and continuously shrinking audiences. One the other hand, some are struggling to see a valid business case for simulcast television with issues such as cross-platform advertising agreements and competition between regional broadcasters.

Currently, most of the debates are being carried out from the industry view and few studies have been conducted from the audience perspective. After all, one of the main functions of mass media is to serve the mass public, and the success of simulcast television will also depend on its public acceptance. For instance, while it is useful for the public to be able to receive live television broadcast from different sources during disasters, will they also adopt this service in their daily lives?

The aim of this study is to fill this gap by exploring what are the factors that will affect the public acceptance

of simulcast television over the Internet and to discuss their policy implications. Specifically, it will focus on factors such as audience needs, gratifications, and

perceived image of media. The data will be collected from a questionnaire survey to be conducted in Japan and analysed with a factor analysis. It is anticipated that the finding will add the audience perspective of simulcast television to the current debates.