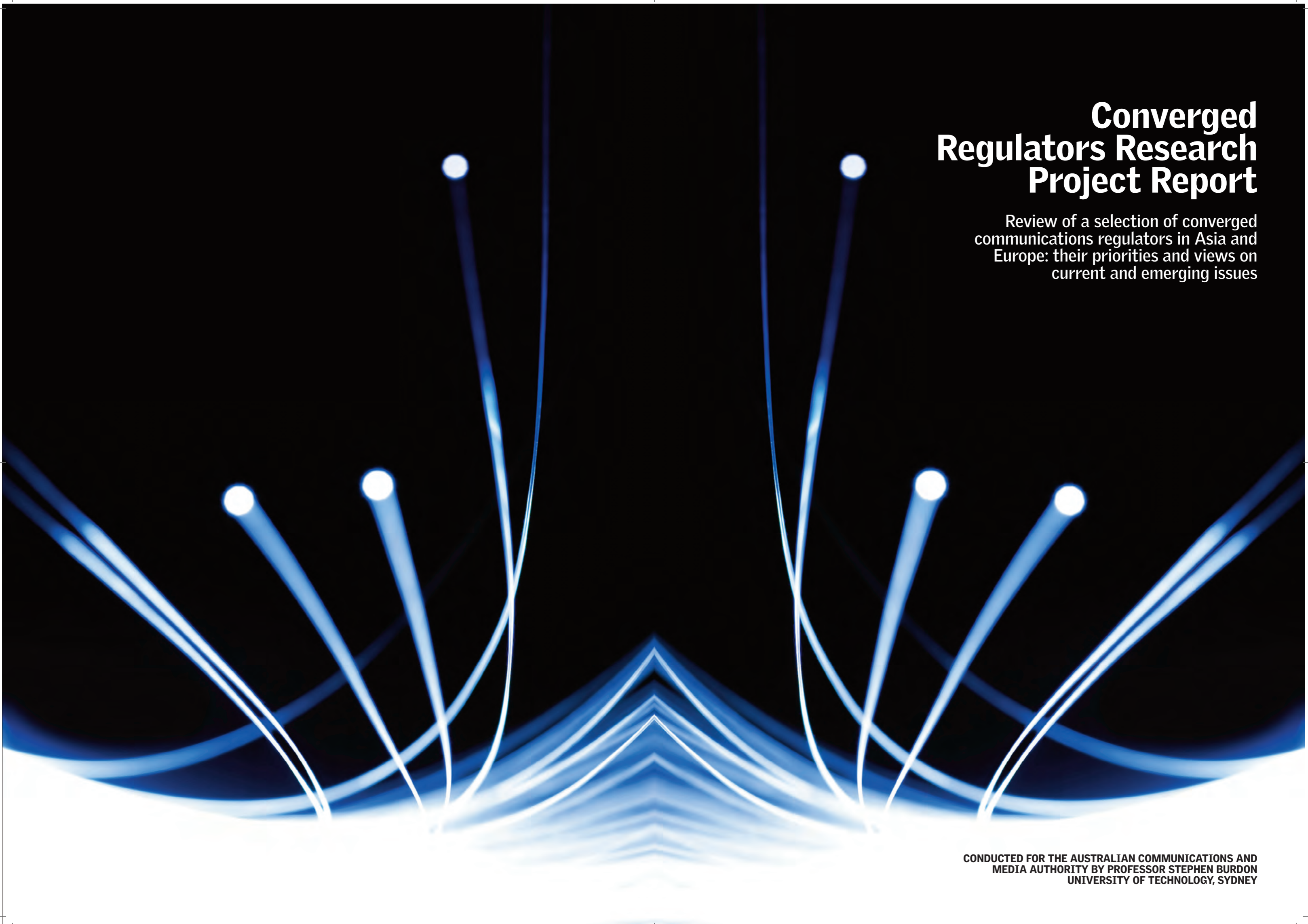




# Converged Regulators Research Project Report

Review of a selection of converged  
communications regulators in Asia and  
Europe: their priorities and views on  
current and emerging issues



CONDUCTED FOR THE AUSTRALIAN COMMUNICATIONS AND  
MEDIA AUTHORITY BY PROFESSOR STEPHEN BURDON  
UNIVERSITY OF TECHNOLOGY, SYDNEY



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Conducted for the Australian Communications and  
Media Authority by Professor Stephen Burdon,  
University of Technology, Sydney

October 2008

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## **Preface**

This report was prepared by Professor Stephen Burdon, Visiting Professor, Faculty of Engineering & IT, University of Technology, Sydney.

It is the result of an independent research study by the University of Technology, Sydney (UTS). It is written for the senior management of the Australian Communications and Media Authority (ACMA), with support from the Office of Communications, United Kingdom (Ofcom). The findings are based on 28 executive interviews and an online survey completed by 50 senior executives from six of the leading convergent national regulatory authorities (NRAs) in Asia and Europe: ACMA (Australia), Ofcom (United Kingdom), Communications Regulatory Authority of Italy (Agcom), Finnish Communications Regulatory Authority (FICORA), Malaysian Communications and Multimedia Commission (MCMC) and the Ministry of Internal Affairs and Communications in Japan (MIC). Desk research was also undertaken into the structures, policies and priorities of the NRAs.

Initially, this report will be circulated to the senior executives of the six regulators who were interviewed for this study. It is the first output of the research findings and the author plans to produce and publish an academic paper from the same database later this year. A synopsis of the research methodology is provided in the Introduction, with full details in Appendix 25.

## **Disclaimer**

The interpretations of the research findings presented in this report are the views and opinions of the researchers and do not necessarily represent the views and opinions of ACMA or other participating organisations. ACMA does not guarantee the accuracy, adequacy or completeness of any information contained in the report. While every reasonable effort has been made to ensure that the information is accurate, much of the data has been provided by participants or is the opinion of individuals participating in the study. ACMA and other participating organisations are not liable for any errors or omissions in the information.

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While the research team was based at UTS, Sydney, Dr Nigel Courtney of Cass Business School, City of London (Cass) was an essential member of the research team whose help and assistance was essential including conducting the interviews in Finland and Italy. Special thanks are also due to Grace Li of UTS, who is a lecturer and an expert in telecommunications regulation, for her invaluable work in coordinating the desk research and her contribution to some sections in the report. Jean Lei, a market research manager at UTS, provided specific expertise in coordinating and helping with the design and analysis of the online survey. Also thanks to Kay Ong, a senior researcher at UTS, for her editorial assistance, input and knowledge of some of the complex regulatory issues.

The research team would like to offer particular thanks to the project coordinators in each participating regulators. They all did a magnificent job in coordinating the data collection of the current situation, arranging the senior executives' interviews and coordinating the replies to the online survey.

Mr. Martin Andersson (FICORA)

Mr. Antonello De Tommaso (Agcom)

Ms. Patricia Galvin (Ofcom)

Ms. Sophie Killen (ACMA)

Mr. Harme Mohamed (MCMC)

Mr. Suguru Nishimura (MIC)

## **1.0 Introduction**

This report is the result of an independent research study by UTS conducted by the research team as identified in the glossary. The project was initiated by Professor Stephen Burdon from UTS, was funded by ACMA, and was designed in collaboration with Ofcom and Dr Nigel Courtney from CASS.

The research draws together the opinions, perspectives and predictions of senior executive managers from a selection of converged communications regulators in Europe and Asia on a set of common regulatory issues. It is intended to provide constructive insights into how communications regulators view and deal with issues in the converged communications environment. In doing so, the report explores how convergence is shaping the structure and priorities of regulators as well as how communications regulators might respond to convergence issues.

The primary audience of this report is the senior management of all the participating regulators. It is also a pilot attempt at obtaining and exchanging views of converged communications regulators on areas of mutual interest. Copies will be circulated to all the regulators who participated in the research. The consideration of issues presented provides a constructive basis upon which future collaboration and research, both formal and informal, might be undertaken.

### **1.1 RESEARCH CONTEXT**

In response to the increasing convergence of media and communications technologies, services and business models, a number of countries have created regulatory bodies that cover a range of media and communications issues previously handled by separate regulators. While having different functions and responsibilities, converged regulators around the world may be characterised as having remit over some or all of a range of issues, generally including broadcasting, telecommunications, internet and radiofrequency/spectrum regulation.

In many jurisdictions, telecommunications regulation and broadcast media regulation have traditionally been handled by distinct agencies under sector-specific legislation. With convergence, regulatory issues in one area of media and communications increasingly affect regulatory issues in another area. The availability of broadcast content on the internet, the provision of telephony and internet services in one mobile handset, or the need to manage spectrum for broadcasting, and internet requirements in totality, are all common examples of the sorts of issues that have led to the creation of converged regulators.

Converged regulators around the world face some common challenges and areas of interest. Exploring convergence from the perspective of these regulators provides the opportunity to share unique insights and develop understanding between regulators across a range of issues.

### **1.2 RESEARCH OBJECTIVES**

The objective of this study is to analyse and compare the operation, priorities and views on emerging issues of a selection of converged regulators in Asia and Europe.

The project is designed to provide a snapshot of the operational and strategic characteristics of converged regulators, with the aim of obtaining the insights of the senior executive managers of the six converged regulators. These insights are specifically focused on a range



of current and future priorities, for which the regulators may have common opportunities, challenges and issues.

### 1.3 METHODOLOGY

#### Participating regulators

Six regulators participated in the project:

1. ACMA;
2. Ofcom;
3. Agcom;
4. FICORA;
5. MCMC; and
6. MIC.

Each of these organisations is a ‘converged regulator’ for the purpose of this study and it was decided to select three from Europe and three from the Asia-Pacific region. Each of the regulators who participated in the study appointed a project coordinator to liaise with the UTS research team in coordinating the research.

#### Research instruments

The study comprised three phases:

1. desk research;
2. 28 face-to-face interviews with high-level decision-makers from the participating regulators (referred to here as ‘interviewees’); and
3. an online survey of 50 other executives (‘online respondents’) from the participating regulators.

Collectively, interviewees and online respondents are referred to as ‘participants’ in this report.

As Table 1 indicates, each research phase gathered information on two or more of the research themes, and informed the development and execution of the next.

**Table 1: Overview of research instruments and themes**

1. Desk research	2. Interview framework	3. Online survey
A. Operational and strategic characteristics of the regulator	A. Operational and strategic characteristics of the regulator	A. About the respondent
B. Priorities of the regulator	B. Priorities of the regulator	B. Priorities of the regulator
	C. Emerging issues	C. Emerging issues

### ***Desk research***

Desk research was conducted to obtain official foundation data on:

1. operational and strategic characteristics of the regulator, with particular focus on the current structure, activities and policies; and
2. the current top priorities of the regulator.

The UTS research team completed this section from publicly available information and then emailed their draft to the project coordinator of each regulator, inviting them to review and update Parts A and B of the desk research questionnaire as necessary.

Desk research questionnaires were distributed between August and September 2007 and were received by the UTS research team between November 2007 and January 2008. The desk research informed the development of the interviews and online survey instruments. The desk research instrument is attached in Appendix 25.

### ***Interviews***

Interviews were conducted to obtain professional opinions and insights on:

1. operational and strategic characteristics of the regulator (the strengths and weaknesses of organisational structure, role, policies and performance);
2. priorities of the regulator (views on what future priority issues for their converged regulator should be); and
3. emerging issues (views on a selection of emerging issues).

Each regulator was asked to nominate three key senior executives involved in strategic and high-level decision-making (e.g. Chairman) for a one-on-one interview of one-hour's duration. In most cases, four such representatives were made available and were interviewed. In total, 28 interviews were conducted, with all executives interviewed holding senior positions and the vast majority reporting directly to the most senior executive in their respective regulator.

Interviewees were briefed in advance with details of the research objectives and topics to be discussed. Participants were requested to provide their own professional insights and forecasts on issues in confidence. It was emphasised that the research project sought the executives' personal, professional views and predictions rather than the official organisational views of their NRA. Interviews were recorded and transcribed so that unassigned quotations could be used in the report, and all records have been kept under strict security at UTS.

The interviews were conducted by Professor Stephen Burdon and Dr Nigel Courtney at the offices of each regulator between July and September 2007. Since that time, changes in government and senior executives of the regulator have taken place in some countries.

The interview framework instrument is attached in Appendix 25.

### ***Online survey***

The participating regulators were asked to nominate ten executive officers representative of the scope of their organisation, but who had not participated in the interviews, to complete an online survey.

The online survey was conducted to obtain professional opinions and insights on:

- priorities of the regulator (views on what future priority issues for their converged regulator should be); and
- emerging issues (views on a selection of emerging issues).

The design of the online survey was finalised after the initial interviews of the ACMA and Ofcom senior executives. Basically, the findings from these interviews informed the development of the online survey. The online survey instrument is attached in Appendix 25.

Part A of the online survey ('About the respondent') obtained information about the professional responsibilities and expertise of survey respondents in order to contextualise responses to Parts B and C.

Survey respondents were requested to advance their personal professional opinion in response to questions in confidence. All online survey records have been kept under strict security at UTS. The online survey was distributed by email in November 2007 and was received via an automated database by the UTS research team in December 2007. The response rate to the online survey was eighty-three per cent overall.

***Quotations in research report***

The quotations included in the research report are taken from both the interviews and the online survey. No differentiation has been made between the two sources to ensure the confidentiality of the executives involved. In addition, in some instances where the executive has quoted their own NRA or country, this has been changed from the specific to the generic. For example, 'Japan' might be changed to 'country' or 'Ofcom' to 'NRA'.

## 2.0 Executive summary

Since the 1980s, convergence has had significant impacts on global economies, industries and consumers. It has transformed business models, consumption patterns, shared values and even challenged cultural norms. The challenge before policymakers and convergence regulators now is how to promote growth and innovation in a converged world and ensure universal access to high quality content, while safeguarding citizens' interests and ensuring consumers have choice and access to content and services wherever or whenever they want it.

This study has gathered the opinions, perspectives and predictions of the senior executives and managers from selected convergence regulators on a set of common priority issues within a three year (up to 2010) and seven year (up to 2014) time frame. It will attempt to provide constructive insights into their perspectives, how convergence is shaping the structure and priorities of regulatory institutions and frameworks, and how regulators respond to the convergence issues.

### The participating regulators:

- Australia—ACMA;
- United Kingdom—Ofcom;
- Italy—Communications Regulatory Authority (Agcom);
- Finland—Finnish Communications Regulatory Authority (FICORA);
- Malaysia—Malaysian Communications and Multimedia Commission (MCMC);
- Japan—Ministry of Internal Affairs and Communications (MIC).

## A NEW WORLD ORDER

There was widespread agreement from the research participants that the digital economy is a key driver of productivity and economic growth for developed countries. One interviewee indicated it was of the highest order of importance:

*The impact on the digital age and convergence in particular, is huge. It changes the relative order of industries and nations and will also change all our individual lives.*

The research findings suggest that over the next seven years, countries will emerge either as convergence leaders or late adopters, with significant impacts on their respective national wealth and communities. The Federal Communications Commission in the USA had once been viewed as the leading communications NRA during the telecommunications heyday. Some interviewees suggested that the mantle of thought leadership in convergence had since moved to other regulators, with Ofcom being mentioned most frequently. However, analysis of the data gathered indicates that over the next seven years, a fragmentation of 'best practice leadership' will occur, with some nations such as Japan and Korea establishing leadership in a specific priority area.

In the meantime, the number and complexity of critical issues involving digital convergence of communications and content will increase, escalating the pressure on NRAs to manage these challenges.

## THE NUMBER OF CONVERGENCE NRAs WILL GROW

Convergent markets are increasingly complex and competitive, and infrastructure for service delivery may change substantially in the near future. New bottlenecks may emerge for which there is no regulatory remedy. While there are substantial consumer benefits from a wide array of digital services, these will be unevenly understood and some consumers are likely to be increasingly vulnerable as technology changes. The existing regime in television and radio is already inappropriate for a converged world as broadcasters with public service content obligations struggle to deliver social outcomes.

Beyond 2010, many interviewees believed that their NRAs would have to deal with a greater number of more and more complicated issues. Such issues have to be analysed and resolved from a convergence perspective, with legislative and regulatory flexibility becoming critical. Consequently, the number of countries that are combining telecommunications, broadcasting and internet issues under one regulator is increasing. Taiwan (National Communications Commission), and South Korea (Korea Communications Commission (KCC) already have convergent regulators, while Hong Kong has recently committed to this path.

## PRIORITY ISSUES IN 2010 AND 2014

The study sought the participants' personal professional views on the relative importance of a given list of priorities which should be addressed by their regulator within a three year (2010) and seven year (2014) timeframe. These priorities are listed in Appendix 25. Figure 1 below provides a snapshot of the six highest ranking priority regulatory issues for 2010 and 2014 respectively. These were developed based on the online respondents' ratings.

**Figure 1: Top six ranked priorities for 2010 and 2014**

2010 top issues	Ranking	2014 top issues	Ranking
Broadband	1	Consumer protection	1
Updating consumer regulation/legislation	2	Economic growth	2
Spectrum	3	Updating consumer regulation/legislation	2
Consumer protection	4	Broadband	4
New media	5	Reducing regulation	4
Citizens' interests	6	Spectrum	6

There was a consensus across the NRAs that the current period to 2010 is a critical one for regulatory stewardship and bedding down the foundation issues. The participants' nominations of the key issues for 2010 were strongly consistent. As the forecasts were extended to 2014, the consensus was less clear and more variability emerged in these views.

More detailed analyses of online responses were also undertaken according to NRA, geographic region, and respondents' job function and expertise for each of 2010 and 2014.

These revealed that participants from the Asian NRAs expressed different views from their European and Australian counterparts on a number of issues. For example, they placed much higher priority on economic growth in 2010 and industry development in 2014.

Specialist staff tended to place a higher priority on issues directly associated with their job, and while there was a reasonable consistency across executives, the notable exceptions were economists, who gave a significantly lower priority to citizens’ interests relative to economic growth. Lawyers were also notable for giving much lower priority to both citizens’ interests and economic growth.

## FOUNDATION AND DIVIDEND ISSUES

It is important to understand and differentiate the range of regulatory priorities discussed in this study. In the ‘foundation era’ up to 2010, convergence priorities focus on issues which are widely accepted by business and society as essential infrastructure or constructs for the digital age—see Figure 2 below for examples of these issues.

While some interviewees said that their NRAs would have dealt with the majority of the foundation issues by 2010, others explained that their NRA’s progress might be slower, and therefore gave a higher priority to these issues in 2014.

**Figure 2: Examples of foundation and dividend issues**

Foundation issues	Dividend issues
Broadband	Economic growth
Spectrum	Advertising
Consumer protection	Artificial intelligence
Standards	Industry development
Network interoperability	Reducing regulation
Network neutrality	New media
Citizens’ issues	
Updating regulation/legislation	
Structural separation	

Essentially, if foundation issues are successfully implemented, they form the bedrock from which significant economic and social benefits can be achieved. By 2014, some interviewees thought their country would be among the global convergence leaders, and predicted their governments’ policy focus would shift from navigating and bedding down the foundation issues, to dividend issues such as economic growth.

Online respondents were also asked for more detailed views and comments on the importance of various regulatory approaches relating to each priority issue.

## TOP REGULATORY PRIORITIES

The following discussion of priorities is drawn from a combination of comments from the online survey responses and interview transcripts, and covers the foundation issues which were the highest priority in 2010.

## **A. Broadband**

Interviewees indicated that a well-managed broadband infrastructure roll-out and universal services provision would add an incremental GDP growth to their respective countries in the range 0.1 per cent to 1.31 per cent per annum. Eight of the eleven studies referenced were in the range from 0.5 per cent to 1.31 per cent.

Not surprisingly, many of the interviewees indicated that the first priority for their NRAs was to facilitate a price-effective broadband access services for all citizens. The Japanese and Malaysian governments had specific objectives for this.

A nationwide fibre-to-the-node network was seen as the primary requirement for achieving universal coverage by most of the senior executives interviewed. Other important requirements were local loop unbundling, ex ante and ex post regulatory remedies, and NGN inter-modal competition.

## **B. Updating convergence regulation and legislation**

It was widely agreed that updated legislation had significant benefits to offer; chiefly, enabling policy options and implementation plans to be more efficiently executed.

Developing a modern legislative framework was viewed as the catalyst for new policy discussions, improving cooperation between stakeholders and enabling more timely progress of goals and objectives. Regularly updating legislation also helps to shape public discourse and debate, and has considerable impact on accelerating progress towards goals.

Greater flexibility—that is, the ability to make minor modifications to regulation more frequently—is seen as important to progress the resolution of the complex foundation issues. Other issues like digital content and market spectrum are equally complex, and, having a legislative framework drawn up for guidance on such issues was seen as helpful by study participants.

Some interviewees saw major changes in legislation every seven to nine years as a better practice, provided minor legislative modifications can be dealt with via parliament on a regular basis. Most executives felt that such legislative review cycles were necessary and envisaged a major legislative review by 2010, even those with existing convergence regulation. The EU decision to review and update its own legislation in 2010 has encouraged its member countries to focus on review in the same period.

## **C. Spectrum**

Radio spectrum is viewed as a scarce resource, with its scarcity impacting on the viability of electronic communications services that may be offered. As mobile communications becomes critically important over the next seven years, effective spectrum management is viewed by executives as another key foundation issue.

Digital broadcasting is more efficient in the use of the radio spectrum than analogue. Consequently, a digital switchover would allow both a large expansion in the capacity of terrestrial broadcasting and the release of a significant amount of spectrum for potentially new and innovative uses.

Many participants thought the most effective way of optimising the value of spectrum would be to provide spectrum users with appropriate incentives and the flexibility to decide how these frequencies should be put to use. Spectrum trading was cited as one method of

achieving this. Flexible use within the same geography and relatively easy access to spectrum was also seen as important in encouraging entrepreneurial activity.

Some interviewees with specialist knowledge indicated that successful implementation of a flexible market-oriented regime for spectrum would add up to one per cent per annum to their respective country's annual GDP growth, accounting for twenty-five per cent of their country's annual economic growth.

Online respondents also nominated the key regulatory issues for spectrum as follows:

- access by all groups in society to broadband;
- effective use of media information and consumer technology;
- access for all groups in society to the mobile phone;
- promoting industry profitability and growth; and
- provision of local content in new media.

#### **D. Consumer protection**

In ranking consumer protection as the most important priority in 2014, online respondents signalled very clearly that their focus would be on end users. While convergence brings increased choice, innovation, convenience and lower prices, it can also lead to varying degrees of confusion and anxiety for some consumers as the range of products and services becomes more complicated. To this end, some NRA executives thought it was important to have updated consumer protection legislation which supported more reliance on self- and co-regulation through increased consumer education.

Participants were generally of the view that consumer protection was a key enabling issue for promoting wider use of business and consumer digital services. This is a key convergence issue, whether or not the NRA has primary or secondary responsibility over its resolution. In the current climate, the leading inhibitors were seen as concerns over security and increasingly complex privacy issues. For instance, resolving these issues on interactive government websites was cited by many interviewees as a key driver for developing online interaction and delivering consumer, social and efficiency dividends.

#### **E. New media**

The way consumers choose to access information and entertainment and communicate with each other is also rapidly changing. New media basically describes any digital media production that is interactive and digitally distributed. Consumer-generated content on social networking websites such as Facebook and MySpace, or traditional content delivered on new technology platforms such as internet protocol networks, are examples.

It was recognised that emerging business models in new media could potentially bring huge economic and social dividends. Some participants also felt that fostering new media growth over the next three years would have a significant impact on facilitating freedom of information, diversity of views and preservation of local culture.

The majority of the participating NRAs viewed the political power of the incumbent media organisations as an impediment to these new models. The introduction of internet protocol television (IPTV) services for instance, is complicated by the interests of incumbent



television and radio broadcasters which are vested in the status quo. Interviewees thought that it was important to resolve these incumbent competition issues sooner rather than later.

The participants indicated their focus on the following regulatory issues:

- technology-neutral content regulation;
- intellectual property rights;
- e-commerce regulation;
- content laws for new aggregators; and
- access to specific events.

## **F. Citizens' interests**

Many interviewees emphasised citizens' interests, or public interest, as a key consideration for policy development. Some of them stated that public interest should be the overriding requirement when considering all stakeholder views, including government, industry and consumers.

Online respondents provided some support for this view: citizens' interests changed very little in its overall rankings from sixth priority in 2010, to seventh priority in 2014. The key regulatory issues for citizens' interests were identified as follows:

- access by all groups in society to broadband;
- effective use of media information and consumer technology;
- access for all groups in society to the mobile phone;
- promoting industry profitability and growth; and
- provision of local content in new media.

## **OTHER KEY REGULATORY PRIORITIES**

A comparison of the 2010 priorities and 2014 priorities illustrated in Figure 10 indicates some significant shifts in priorities between these two periods. Up to 2010, NRA priorities were more focused on foundation issues; post-2010, they become more concerned with dividend, economic and social issues.

### **Economic growth**

Economic growth was the number seven priority in 2010 when the key considerations were those relating to the foundation issues. By 2014, economic growth had become the number two priority for the online respondents, reflecting a shift in the overall focus from the foundation issues to the economic and social benefits of the dividend issues.

The proactive approaches in Japan and Malaysia suggest an increasing role for NRAs in fostering economic growth, with the ICT sector remaining a major focus in the foreseeable future. For instance, Japan has recently devoted considerable resources to strengthening consumer protection, as a means of increasing the take up of online digital services.

## **Next generation technologies**

Artificial Intelligence (AI) moved its priority ranking from 16 to eight by 2014. This, and other developments such as radio frequency identification and machine-to-machine communications, was viewed as key drivers of future social and economic benefits that would eventually require more significant spectrum resources while raising new convergence regulatory issues.

## **Network interoperability, network neutrality**

Viewed overall as middle-ranking priority issues for 2010 and 2014, achieving any-to-any and end-to-end communications, and averting bottlenecks would continue to be complex challenges for NRAs. Rapidly increasing network traffic, next generation technologies, triple and quadruple play service bundles, and industry ‘walled gardens’ are developments that all place pressures on maintaining network interoperability and network neutrality.

## **Advertising**

Commercial digital content is driven by advertising revenues. While online respondents thought advertising was of relatively low priority, a number of interviewees flagged it as an important driver for new media and innovative business models, which in turn, could generate substantial economic and social benefits. New platforms and convergent applications and services are emerging as vehicles for advertising; making updating legislation and co- and self-regulatory approaches important regulatory considerations.

The range of regulatory approaches and the instruments available to NRAs are integral to their regulatory practices and responses to convergence issues. The interview discussions and supporting comments from the completed online surveys offered some interesting insights for future convergence regulation.

## **A CONCEPTUAL APPROACH TO CONVERGENCE REGULATION**

Historically, discussions about regulating communications and media have revolved around a market-driven approach versus the traditional prescriptive ‘command and control’ regulation. In this context, self- and co-regulation, consistency and market approaches were all frequently cited by participants.

In hindsight, some interviewees thought that neither a market-driven nor a prescriptive regulatory approach was the most successful for foundation priorities such as broadband or spectrum. The author believes that an approach which combines proactive regulation with competition or PRC, would enable NRAs to strike a balance between the advantages that regulation provides and the constraints that it imposes. In the longer term, better social and economic outcomes are likely to be achieved through PRC. Section 4.3 of this research report provides a more detailed description of PRC and its application to the regulatory priority issues.

Basically, PRC is founded on the view that careful consideration and clear criteria should be used to determine whether circumstances justify direct intervention in particular markets. It takes a more flexible, longer term view of regulation according to periodic assessments of regulatory objectives and competitive forces. If the market appears to lack the will and the dynamics to support critical national interest objectives, PRC calls for regulatory intervention to achieve clearly quantified goals. Subsequently, as the market matures over time and critical policy objectives are met, a market-oriented approach can be assumed.

Besides regulatory approaches, the research indicated that the effectiveness of regulatory practices for convergence issues is impacted by other factors and processes such as strategic planning, role and remit, organisational structure and management.

## **STRATEGIC PLANNING**

Published strategic plans appear to be beneficial for focusing public discourse and achieving stakeholder buy-in on the priorities and directions of the regulator. Where governments have issued strategic plans, the NRAs have published their own plans focusing on regulatory objectives which support the national interest goals. As a whole, the interviewees were very interested in learning more about other NRAs' approaches to strategic planning.

Ofcom has a three-year rolling strategic plan that specifically lists their priority areas for each year. This also includes planned program activities, and a formalised implementation and review mechanism with strong feedback loops from consumers and industry.

Interviewees also indicated that they thought scenario planning was important around citizens' interests across sectors impacted by digital convergence post-2010. The transport, health and education sectors were mentioned. Regulatory error in these sectors poses significant risks: governments could constrain development by throwing up unnecessary regulatory roadblocks, or alternatively, having misread the signals, legislate for a world that never comes to pass. Scenario planning can make an important contribution in this regard by helping to anticipate the future of rapidly evolving industries in the digital era of the future.

## **NRA ROLE AND REMIT**

The NRAs in this study varied considerably in their structure and reporting responsibilities, as well as their role in policy development and competition policy, reflecting the political, economic and cultural differences of their respective countries.

Only the European NRAs reported directly to their respective parliaments. The others basically report to, or through, their ministers. In all cases, the interviewees stated that the relationship between the ministry and the agency should be supportive as the two are governed by a common vision.

Other than Ofcom, the standard arrangement was to leave the development of the policy framework in the hands of the ministry while the NRA assumed responsibility for implementation. The NRAs' tasks would normally include developing and monitoring guidelines or regulations for industry governance, in support of goals articulated under the policy framework.

However, the line between policymaking and regulation is often blurred, particularly when NRAs participate in developing strategic alternatives for policy development. Consequently, strong relationships and role clarity with other agencies was important to the NRAs.

Some interviewees stressed that NRAs require a certain degree of autonomy to ensure that appropriate regulatory decisions are made independent of political pressures. They added that this should not come at the price of reduced co-ordination between the policymaker and the regulator, or conflicts with other agencies and stakeholder groups.

Some participants indicated that current interface issues with other government agencies include dealing with consumer protection and competition policy requirements. In the foreseeable future, developments in artificial intelligence, e-money and e-health will spawn a

new set of issues that will require a whole of government approach, involving a wider range of agencies responsible for health, safety, insurance, banking, to name a few.

### **Organisational structure and management**

Different economic, cultural and political systems shape and exert influence on the formation of new regulatory agencies. The NRAs in this study varied considerably in their structure and reporting responsibilities, as well as their role in policy development and competition policy.

Interviewees had particularly strong views on the best approach for governments to create an effective convergence regulator. Political will and strategic intent, organisational design, resources, and accountability and performance assessment were identified as key factors that will influence the effectiveness of regulatory institutions.

- Regulatory functions require the exercise of expert judgement, often based on incomplete and shifting information. The relationship between the state and the regulatory agency also depends on the type of people that are appointed at senior management and board levels. Appointing publicly-recognised experts to key positions within the NRA and appropriately devolving responsibility has several advantages, including dealing more quickly with complex issues.
- Organisational structures should be designed for convergent rather than legacy sectorial responsibilities. For many participants, siting NRA offices and functions in single geographic locations enhanced the communication flows and allowed organisational agility to deal with new challenges and issues.
- Interviewees from the European regulators cited Ofcom's framework for evaluation as the most developed system for measuring an NRA's accountability and performance. When performance assessments were made publicly available, it focused attention on progress towards national goals, achieving underlying objectives and market development.

The list is certainly not exhaustive and more practical research needs to go into determining the general applicability of these and other factors in structuring effective NRAs.

### **FUTURE COLLABORATION AND RESEARCH**

This paper identified a number of regulatory practices and key factors that would influence the effectiveness of convergence regulators. Some participants thought that their traditional NRA groupings were useful, but not necessarily ideal for gaining insights on convergence trends and regulatory practices. Many interviewees supported the idea of a collaborative association of leading convergence regulators to pursue further research and share insights, successful strategies, regulatory expertise and specialist skills.

Some of the interviewees indicated an active interest in further collective research by the convergent regulators in areas such as strategic planning, scenario planning, updating legislation, and the scope and powers of other convergence NRAs. The author will produce a separate paper to look at this opportunity.

### 3.0 Convergence issues in 2010 and 2014

*This section reviews comparative rankings of the top priorities for 2010 and 2014. It also explores the differences in the executives' personal perspectives across the participating NRAs, and the relative change in their views of the priorities between 2010 and 2014. The regulatory issues underlying these priorities were examined to test their relevance.*

#### 3.1 OVERVIEW OF RESULTS

Key executives involved in strategic and high-level decision making from each regulator were interviewed and asked to nominate the top future priorities for converged regulators to address. These are listed in Figure 3 below.

**Figure 3: List of future priorities for converged regulators to address**

Regulatory priority	<i>Exemplified by:</i>
Advertising	Adapting regulatory frameworks to new business models
Artificial intelligence	Robots, wireless, cognitive technologies
Broadband	Bandwidth, access, next generation networks
Citizens' interests	E-education, e-health, e-government
Consumer protection	Security and privacy
Digital devices	Technical standards for new technologies
Standards	Content codes in the new media environment
Economic growth	Increased GDP, stimulating competition, promoting innovation
Reducing regulation	Fewer regulatory developments or requirements
Industry development	
Network interoperability	
Network neutrality	
New media	IPTV (internet protocol television), mobile TV
Spectrum	Management, liberalization, trading, awards/allocation processes
Updating convergence regulation/legislation	

Respondents to the online survey were then provided with this list, and asked to nominate the top five priorities for their regulator in 2010 and 2014 respectively. The results were based on an overall ranking system.

First priority—5 points  
 Second priority—4 points  
 Third priority—3 points  
 Fourth priority—2 points

**Analysis of priority issues for 2010**

Overall, the scores allocated by the online respondents indicated that they had strongly focused views about the top issues. In order of importance, the top five issues were broadband, updating convergence regulation/legislation, spectrum, consumer protection and new media.

**Figure 4: Overall scores of 2010 top priority issues**



The issues ranked below the top five were more evenly grouped at a lower level. The respondents' views about these issues were congruent with the views of the interviewees.

**Rankings of 2010 priorities by NRA**

Figure 5 on the following page provides an analysis of the online respondents' views broken down by NRA. All online respondents were asked to give their personal views regardless of their agency's responsibilities and initiatives on these issues.

Both FICORA and ACMA gave broadband a ranking of 4, while the other NRAs all ranked this as 1. Updating convergence regulation was ranked within the top three by all NRAs, with the exception of Ofcom which ranked it at 7. Spectrum management was also a top three issue for most of the NRAs, except for MIC and MCMC.

There was little variation for the fourth ranked issue of consumer protection. However the fifth ranking issue, new media, appeared to be of lower priority for Agcom and FICORA,

which ranked it at 9. The sixth issue, citizens' interests, was ranked much higher by MCMC and Ofcom than the other NRAs.

**Figure 5: Ranking of 2010 priorities by NRA**

The top issues	RANKINGS						
	Overall	ACMA	MIC	MCMC	Ofcom	Agcom	FICORA
Broadband	1	4	1	1	1	1	4
Updating convergence regulation/legislation	2	1	3	2	7	2	2
Spectrum	3	2	6	4	3	1	1
Consumer protection	4	4	2	5	2	4	4
New media	5	7	4	7	5	9	9
Citizens' interests	6	9	8	6	4	9	13

Appendix 5 to this report lists the rankings for the full list of 2010 priorities. The major variations on relative priorities between the NRAs can be summarised as follows:

- standards—this was much more important to ACMA and Ofcom than the other NRAs.
- economic growth—MIC and MCMC prioritised this more highly.
- reducing regulation—more important to ACMA, Agcom and FICORA.
- network interoperability and network neutrality—significantly more important to Agcom and FICORA.

**Ranking of 2010 priorities by geographic grouping**

Interrogation of the online database of responses was also undertaken from a geographical perspective, with the following segmentations:

- Asia including Australia
- Asia excluding Australia
- Europe.

Figure 6 provides a snapshot of the results on the top five issues, while more detailed results can be found in Appendix 6 to this report.

**Figure 6: Top five issues in 2010 by geographic grouping**

Top 5 issues—2010	Asia incl. Australia	Asia excl. Australia	Europe
Broadband	2	1	1
Updating convergence regulation/legislation	1	2	4
Spectrum	3	3	2
Consumer protection	4	3	3
New media	5	5	5

Clearly, there was very strong commonality of views held on these issues across the NRAs. More detailed information in Appendix 6 indicates that the main differences between these groups were:

- Asia excluding Australia places greater emphasis on economic growth and industry development.
- Asia including Australia places higher importance on standards, but lower priority on network neutrality.
- Europe places more importance on network interoperability and reducing regulation, with much lower priority on economic growth and industry development.

***Ranking of 2010 priorities by job function***

While this analysis indicated there was still a fairly common view of the top six issues, it was apparent that the more specialist job functions clearly tended to rate issues associated with their job function more highly. The detailed results are set out in Appendix 7.

For example, those associated with spectrum management thought artificial intelligence more important; and those involved in networks and technology viewed network neutrality as a more important issue. In addition, the online respondents working in the areas of content and media judged new media to be more important.

***Ranking of 2010 priorities by skill base***

This analysis examined the relative priorities according to the participants' skill base or area of expertise. The detailed results are set out in Appendix 8.

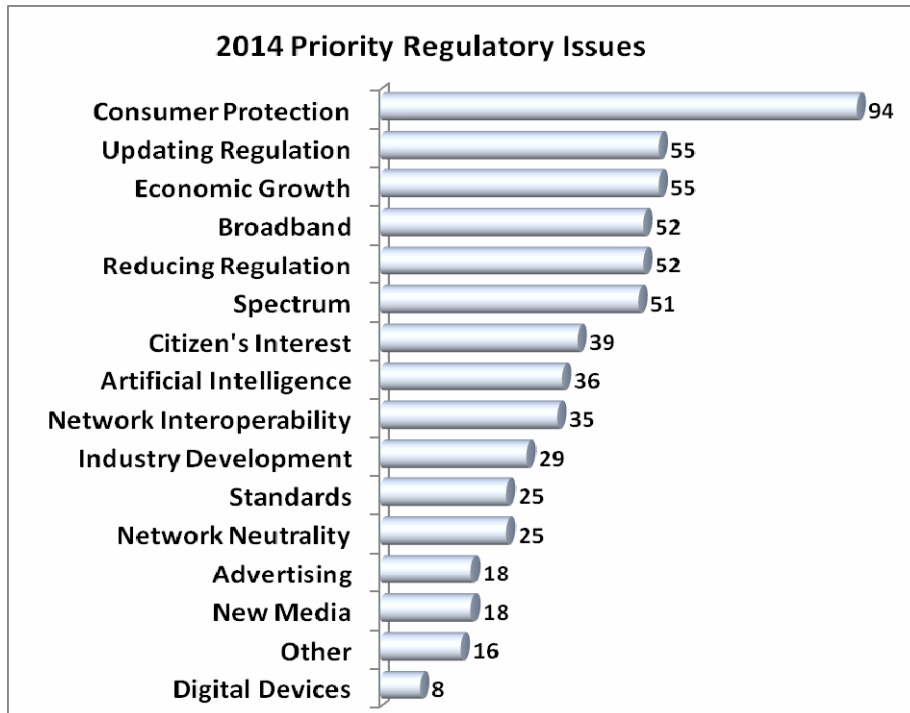
There was very little difference between the views of online respondents with international relations skills, compared with the overall view of all the NRA participants. Those with a policy or government background also tended to match the general view. The views of engineering- and IT-skilled respondents only differed from the overall view on the issue of network neutrality which they judged to be of much higher importance. Economists varied from the norm significantly on two issues: economic growth was very important to them while citizens' interests were of much lower priority. And finally, those with legal training rated highly the issues of citizens' interests and economic growth, relative to the overall view.



## Analysis of priority issues for 2014

Not surprisingly, online respondents were far less consistent in their views about regulatory priorities in 2014 relative to 2010. As illustrated in Figure 7, consumer protection was clearly the most important issue overall. However greater variability was obvious in the views about the next five issues—updating regulation, economic growth, broadband, reducing regulation and spectrum were quite evenly clustered with scores ranging from 51 to 55.

**Figure 7: Overall scores of 2014 top priority issues**



Some interviewees explained that their ranking of broadband and spectrum as priorities for 2014 reflected their personal view of the extent to which universal broadband service provision and a market-based spectrum management system would have been implemented. Thus, if they thought those objectives could not be achieved by the 2014, then those issues were given a higher priority.

### **Ranking of 2014 priorities by NRA**

Individual NRA rankings for consumer protection were very closely clustered. Figure 8 lists the top ranked issues for 2014 with their overall and individual NRA rankings.

**Figure 8: NRA rankings of 2014 priorities**

The top six issues	<u>RANKINGS</u>						
	Overall	ACMA	MIC	MCMC	Ofcom	Agcom	FICORA
Consumer protection	1	2	2	1	2	1	3
Economic growth	2	8	1	10	6	3	7
Updating consumer regulation/legislation	2	3	6	8	7	2	5
Broadband	4	13	2	6	1	6	10
Reducing regulation	4	4	14	3	7	4	1
Spectrum	6	1	9	5	15	12	4

However, views were more divided about the next two issues which took equal second ranking overall. Economic growth and updating convergence regulation/legislation received rankings ranging from 1 to 10, and 2 to 8 respectively, on an individual NRA basis. MCMC, FICORA and ACMA executives did not rank economic growth within the top six. A more detailed ranking of all the top issues is provided in Appendix 9.

As we proceed further down the 2014 priorities list, the divergence of views becomes more marked. Reducing regulation and broadband were equal fourth ranking issues with significant differences between the NRAs' views; the rankings for broadband ranged from 1 to 13, while that for reducing regulation ranged from 1 to 14. With broadband, both ACMA and FICORA respondents ranked the issue significantly lower. This disparity was also noted in the overall sixth issue; individual rankings for spectrum ranged from 1 to 15.

***Ranking of 2014 priorities by geographic grouping***

To reiterate, this analysis compares the NRAs priorities by grouping them as follows:

- Asia including Australia
- Asia excluding Australia
- Europe.

Figure 9 provides a snapshot of the results on the top five issues. The figures are congruent with the overall analysis illustrated by Figure 7. More detailed results on all of the priority issues can be found in Appendix 10.

**Figure 9: Top five issues in 2014 by geographic grouping**

<b>Top five issues—2014</b>	<b>Asia incl. Australia</b>	<b>Asia excl. Australia</b>	<b>Europe</b>
Consumer protection	1	1	1
Economic growth	3	2	7
Updating convergence regulation/legislation	5	6	4
Broadband	7	4	3
Reducing regulation	8	8	2

***Ranking of 2014 priorities by job function***

As might be expected, the online respondents’ personal views exhibited greater divergence and variation in 2014 relative to 2010.

Appendix 11 sets out an analysis of the respondents’ rankings for 2014 priorities grouped by their job function. With the exception of consumer protection and updating convergence regulation/legislation, there was a significantly wider spread of scores between the various job functions for each of the issues.

The author suggests that the alignment of executives’ views of priorities across organisational functions is an important issue that should be further considered by NRAs. Traditional management theory indicates that employee engagement and common alignment on priorities is a pre-requisite for innovation and superior performance. Where significant differences exist, it is suggested that constructive debate can facilitate the move to a common view on relative priorities so all employees are focused on the key issues.

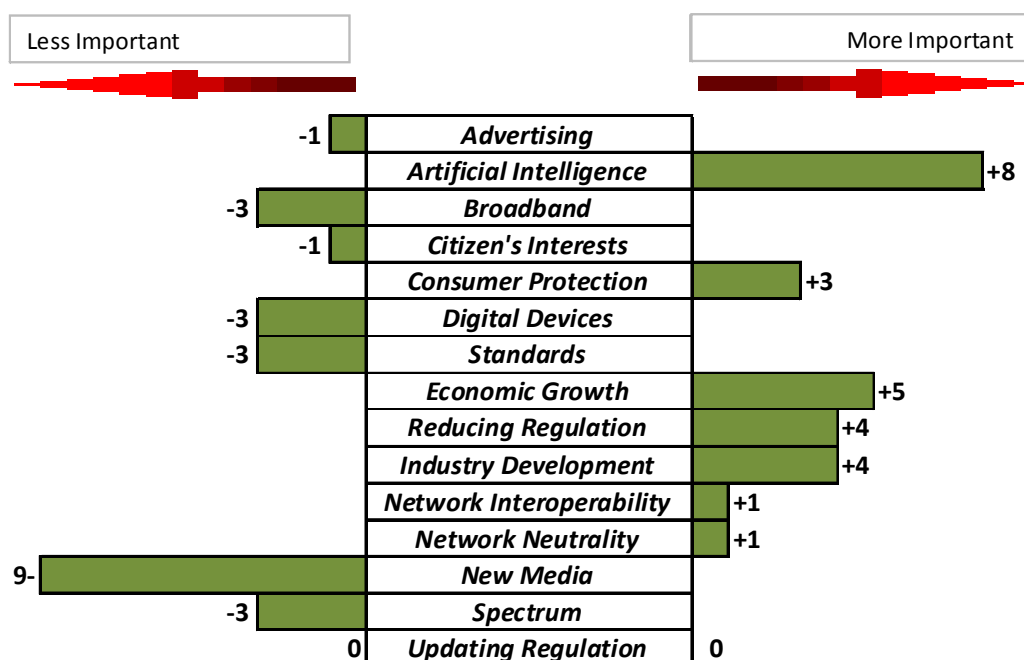
***Ranking of 2014 priorities by skill base***

Appendix 12 analyses the relative priorities of the respondents by their area of expertise. As with the previous analysis of priorities by job function, greater divergence and variation in views became evident over a longer timeline. Although there was some agreement between the areas of expertise on the relative priorities of consumer protection, such commonality was less clear in relation to economic growth, updating convergence regulation and the continuing importance of broadband.

**Comparison of 2010 priorities and 2014 priorities**

The relative change in priorities for 2010 and 2014 is set out in Appendix 4. This analysis combined the data from all respondents across the NRAs, and is summarised in Figure 10.

**Figure 10: Priorities from 2010 to 2014 (+ more important / - less important)**



#### Issues increasing in importance

- Artificial intelligence—increased its ranking the most (+8), moving from sixteenth in 2010 to eighth in 2014.
- Economic growth—the second highest increase in ranking (+5).
- Reducing regulation and industry development—both these issues increased ranking by (+4).

#### Issues declining in importance

- New media—largest drop in ranking of (-9).
- Digital devices, standards and spectrum management—each of these issues dropped in ranking by (-3).

Some interviewees suggested that a major paradigm shift was the likely key driver for the change in priorities between 2010 and 2014. This is discussed further in Section 4.0.

### 3.2 THE TOP SIX 2010 ISSUES

Respondents to the online survey were asked their views on the importance of various regulatory issues or approaches relating to each of six key priority/emerging issues: broadband, updating convergence legislation, spectrum management, consumer protection, new content services, and citizens' interests. Online survey responses are combined with interview findings in the following discussion of these issues.

Priority emerging regulatory issues were identified in the online survey, together with a number of regulatory sub-issues.

For each of the regulatory priorities, respondents rated each sub-issue with a relative score in terms of its importance in addressing the priority issues over the next three years. Respondents were also invited to list other issues they felt were important in addressing the particular priority.

1. Not Important
2. Not Very Important
3. Moderately Important
4. Important

## A. BROADBAND

Broadband was first-ranked amongst online respondents overall, with a score of 130 which was significantly higher than any other 2010 priority issue—see Figure 4. Numerous comments from both the online survey and interviews have reinforced this view:

*Broadband is the basis of development of communication services and innovation as well as a key condition for participation in any information society.*

A number of interviewees mentioned that their governments had developed specific objectives for broadband network infrastructure build and service provision. For example:

- In Japan, the government policy of being the number one IT country in the world included an objective of having all Japanese citizens connected to broadband services by 2010.
- The previous Blair administration in the UK had set an objective of being the leading broadband-connected country within the EU.
- In Australia, the new government's policy includes building a fibre-optic network with ninety-eight per cent population coverage.
- As one of the leading emerging economies, Malaysia was amongst the early adopters of the converged regulatory model, and it has a national target of connecting fifty per cent of the population by 2015.

Regardless of country size and GDP, there was a universal view that broadband access for industry and consumers was vital for economic growth and societal dividends:

*Getting broadband penetration to near universal levels will provide the platform for the delivery of a very large part of the future public service ... including some exciting telemedicine, and a huge impact on reducing costs for delivering public services which currently just don't work ... the population is increasingly disinclined to queue up and wait ... It has the potential to completely change the whole way we do public service.*

### Relative importance of broadband issues by NRA

There are significant differences between the NRAs' views on the relative importance of various broadband issues. This is detailed in Appendix 14.

**Figure 11: Relative importance of broadband issues**

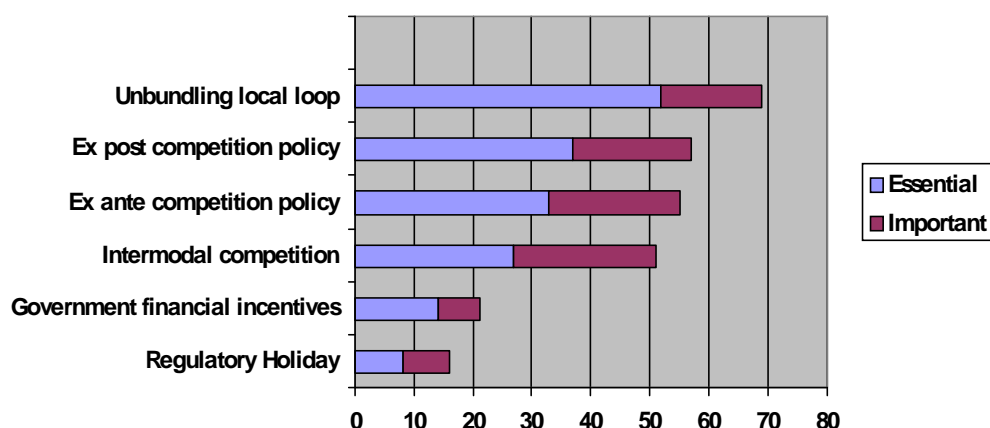


Figure 11 compares the combined scores for ‘Important’ or ‘Essential’ across all respondents. Appendix 13 provides more detailed information about this.

Of the issues specifically mentioned in the online survey, unbundling of the local loop drew the highest of these ratings with an overall score of sixty-nine per cent. The country variation ranged from fifty per cent of MIC respondents rating it as ‘Important’ or ‘Essential’, to eighty-nine per cent from Agcom. It was apparent from the interviews that the relative importance of an issue usually denoted its potential impact on the issue at hand, in this case broadband; often there was unfinished regulatory work to undertake. In the short term, pending fibre-to-the-node deployment to the majority of population, the availability of broadband services via DSL technology on the PSTN network remains an important issue for all NRAs. The key issue was seen as the delivery of cost-effective services via local loop unbundling.

In relation to ex post and ex ante regulatory remedies, the spread was significant, with MIC having much lower ‘Important’ or ‘Essential’ scores than FICORA. It ranged from forty per cent (MIC) to one hundred per cent (FICORA) for ex post competition management, and thirty-three per cent (MIC) to one hundred per cent (FICORA) for ex ante regulation.

There was noticeably closer overall agreement in the scores for inter-modal competition. The percentage of ‘Not Important’ was extremely low for this issue, indicating that for all respondents, this matter was not only of high importance but actively under consideration.

Government financial incentives and regulatory holidays are basically initiatives to encourage industry broadband service provision to the most remote or difficult households to reach. Many of the participants indicated their preference for providing government finance over granting regulatory holidays, because the latter can have the effect of reducing competition. In Malaysia, various options for industry incentives are currently being canvassed and evaluated by the MCMC.

### **Economic importance of broadband**

Interviewees also provided their views on the economic importance of broadband, citing various OECD country economic studies and a recent New Zealand government analysis. The various studies estimate the economic benefit and calculate GDP annual increase for a set time period. While the most common period was the 2007 to 2015, some estimates covered a longer period to 2025. In total, eleven studies were referenced, where the range of

annual GDP growth was from 0.1 per cent to 1.31 per cent. Eight of the studies were in the range 0.5 per cent to 1.31 per cent.

Interviewees added that this benefit would be achieved at the point where there was widespread broadband internet access coupled with active use of the services by the majority of consumers and industries. Further, there was universal agreement that this issue would become the key driver for optimising the total economic impact of ICTs over the next three years, which might only be rivaled by successfully implementing market-based spectrum management systems by 2014.

### **Unbundling of the local loop**

Unbundling of the local loop was rated ‘Important’ or ‘Essential’ by sixty-nine per cent of respondents. The interviewees cited the importance of terrestrial and wireless networks with single access to customers’ premises, in particular, DSL networks and unbundling the local loop to enable cost-effective competing services at the retail level.

One interviewee suggested that the efficiency of the regulator could be measured by how long it takes to achieve industry interconnect agreements. It was thought that incumbent telecommunications operators who retain ownership of the endemic PSTN networks endeavour to maintain their monopoly position for as long as possible. Many interviewees felt that even when the incumbents are encouraged or compelled to provide open access via regulation, they frequently game the regulatory process by causing long delays and negotiating for the highest price possible. However, non-price terms and conditions can also be inhibitors, and proactive management is needed before consumers can see the benefit.

*When we introduced local loop unbundling, it generated a new set of problems like migrating customers from one network to another or the ability to port email addresses and this is complicated and requires us to be market-oriented.*

### **Ex post competition policy**

Fifty-seven per cent of the respondents thought ex post competition policy was either ‘Important’ or ‘Essential’. It would appear that this is the second most important broadband regulatory issue for survey respondents. Where there is a high level of uncertainty in relation to new technologies, some interviewees expressed a preference for minimising regulation to encourage viable alternative technologies. Should bottlenecks occur as developments proceed, then it was thought that ex post regulation would be a useful tool.

### **Ex ante regulatory intervention**

Fifty-five per cent of the respondents thought this issue was ‘Important’ or ‘Essential’. All interviewees shared the view that all NRAs should start from the perspective that networks should be owned by commercial organisations. Developing and deploying new technologies are high risk ventures which require heavy financial investment. Thus, NRAs are often challenged to devise appropriate regulatory regimes that meet national policy goals for citizens’ needs while balancing industry requirements for an acceptable return on their financial investments. Having the right regulatory settings in place to encourage industry investment in infrastructure build is seen as important, particularly before each new technology wave reaches a critical mass.

## **Inter-modal competition**

Fifty-one per cent of respondents indicated that inter-modal competition was ‘Important’ or ‘Essential’. While fibre and DSL networks were seen as the primary infrastructure in the short- to medium-term, there was also a universal belief that WiFi, satellites, mobile and other networks would continue to play an important role in providing broadband services to consumers where special geographic, building density and mobility requirements were involved.

While interviewees thought the regulatory framework was important, interestingly this topic received a ‘Not Important’ or ‘Not Very Important’ score of only two per cent from respondents—the lowest score for a broadband issue. Accordingly, no general conclusions can be drawn. A number of interviewees saw the need to oversee the technical and commercial aspects of next generation networks and their network interoperability as essential elements of a regulatory strategy. Apart from meeting different needs of society and consumers, the appropriate policy settings will also encourage newer or niche technologies to develop in response to market requirements.

## **Government financial incentives**

The issue of government financial incentives was rated by twenty-one per cent of respondents as ‘Important’ or ‘Essential’. Although some participants were negative about government financial incentives, others viewed such incentives as part of the mix of policy options. In these cases, financial incentives were considered necessary to enable universal broadband coverage for a small percentage of the population where industry networks would not be cost effective.

As with many questions of regulatory philosophy, some interviewees believed that there would be a need for some exceptions to the view that government money should not be used. As an alternative to declaring a USO for broadband access, some participants believed government funding might be part of the solution to ensure all citizens access to broadband services. Some interviewees believed that industry players would not be able to achieve an acceptable return for providing broadband access to a proportion of their country’s population. The figures put forward for that proportion varied between six per cent and twenty per cent.

## **Regulatory holidays**

The issue of regulatory holidays was rated as ‘Important’ or ‘Essential’ by sixteen per cent of respondents, but fifty per cent thought it was ‘Not Important’ or ‘Not Very Important’. In terms of strategies for providing universal service at cost effective rates, government financial assistance was seen as more effective than regulatory holidays. It was their view that regulatory holidays for assets usually lead to reduced services competition. Therefore regulatory holidays were seen as less targeted and potentially weakening the general competitive environment.

## **Other issues**

Respondents were also asked to list other issues of importance and give them a rating of 1 to 5, with 5 being the most important. From this feedback and other issues raised in executive interviews, three other note-worthy issues emerged.



### **Structural separation**

Ofcom's recent negotiations with British Telecom to separate network services and allow transparency of dealing with retail received much comment from the interviewees. In Japan, the incumbent telephone operator's network had been separated many years previously and this occurred years after its privatisation and public listing. This issue received significant attention from Agcom and FICORA as the EC regulator had expressed an intention to introduce functional separation as a possible regulatory remedy to be applied under the electronics regulatory framework (currently being reviewed at EU level). In addition, in Australia the previous government had imposed a regime of accounting separation on the incumbent telecommunications carrier Telstra.<sup>1</sup>

Several interviewees believed that the structural separation was increasingly being viewed as a necessary convergence requirement. For the PSTN and accompanying DSL broadband services, it was thought strong and fair competition at a retail level has to be real, and seen to be real, to foster new entrepreneurial network activity and ensure community benefits:

*From now on it's likely that all networks that are built will have to be separated from either the server offerings or from content ownership. Those of a legacy nature will gradually be addressed to ensure physical or virtual separation.*

### **Future demand for bandwidth**

The growth of bandwidth services for terrestrial and mobile devices is a fairly contentious issue for NRAs. Some interviewees felt that bandwidths of up to 5 Mbps were needed to facilitate B2B and B2C activities, while others felt 20 Mbps generated significantly more activity. As the number of consumers who download videos and music increases, their needs for bandwidth and speed are given significant publicity. On the other hand, a number of interviewees cited the importance of bandwidth for e-health and e-education applications. As forecasting future use is an important but difficult task, some interviewees believe scenario planning and other tools could help regulators understand the most likely outcomes.

### **Consideration of broadband as a USO**

As previously discussed, most interviewees felt that, in effect, broadband should be a universal service like water or electricity, but achieving this goal within a market economy is the challenge. Essentially, a market economy followed by government incentives, followed by regulatory holidays, and lastly, declaration of broadband as a USO, would appear to be the preferred path for many of the interviewees. The interviewees who believed a USO might ultimately be an appropriate regulatory policy were not sure what quantification of bandwidth to specify.

## **B. UPDATING CONVERGENCE REGULATION/LEGISLATION**

Overall, respondents ranked this issue as the second most important for 2010. Four of the six countries have already made a decision to completely update their convergence legislation by 2010:

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<sup>1</sup> This arrangement is not administered by ACMA.

*Current legislative frameworks are hindering media and communication dividends; the new legislation will force the development of new policy and focus government and industry on future-facing issues.*

European NRAs have already factored into their planning that change will occur in 2010:

*The EU regulatory framework will be updated in three years time, and these changes will need to be implemented into national legislation.*

In countries where there is currently no converged regulation, regular updates on specific issues are implemented by the government. The interviewees often saw this as a problem:

*Regulation in our country is now out of date, overly complex and becoming more and more inefficient.*

Because industry players make substantial long term investments, they often prefer ex ante regulation for the relative certainty it affords them. However, a number of executives believed that legislative framework that is too historically focused inhibits industry development:

*There is an increasingly urgent sense that the legislative framework based in legacy and analogue silos is not only lagging but in some respects confusing if not retarding the market place.*

The desk research has a number of insights to offer:

- **The convergence of regulatory bodies is emerging as a major trend.**

The ICT industry in each of the six countries in this review was regulated originally by different agencies. In recent years, there has been a shift to amalgamate the regulators in broadcasting and telecommunications.

For instance, ACMA was established on 1 July 2005 by a merger of the Australian Broadcasting Authority and the Australian Communications Authority. In the UK, Ofcom was established under the *Office of Communications Act 2002*, with statutory duties and responsibilities set out in the *Communications Act 2003*. As a new statutory body, Ofcom assumed the functions of five regulatory bodies including the Broadcasting Standards Commission, the Independent Television Commission, the Office of Telecommunications (OfTel), the Radio Authority, and the Radiocommunications Agency.

- **The convergence of laws in communications and broadcasting is a second major trend.**

The MIC in Japan is currently conducting a study on a comprehensive legal system governing communications and broadcasting. This was initiated in 2006 with a view to conclusion by 2010. MIC's framework of approach is detailed in Appendix 15. The purpose of this study is to develop 'a framework for a legal system that would address the convergences and connections between communications and broadcasting with a view to specifying the direction that should be pursued for a legal system that would address the convergences in telecommunications'.<sup>2</sup>

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<sup>2</sup> 'Study of a framework for a comprehensive legal system addressing the convergences and connections between communications and broadcasting', p.4.

In Malaysia, a new convergence regulation model was introduced in November 1998. A new regulatory body, the MCMC was established in 1999 and in the same year, both the *Telecommunications Act* (1950) and the *Broadcasting Act* (1988) were repealed. Subsequently in 2001, the MCMC also took over the regulatory functions of the *Postal Services Act 1991* and the *Digital Signature Act 1997*.

- **Some countries have established a converged regulator without supporting convergent legislation for the ICT sector.**

Australia is case in point, where ACMA has responsibilities under three distinct sets of broadcasting and telecommunications legislation, namely, the *Telecommunications Act 1997*, the *Radiocommunications Act 1992* and the *Broadcasting Services Act 1992*. The situation has drawn criticism both domestically and internationally.<sup>3</sup>

- **Legislation is an instrument which varies considerably according to jurisdiction.**

For example, in Malaysia's *Communications and Multimedia Act 1998*, the new spectrum licensing framework consists of four general and technology-neutral licences: Network Facilities Provider (NFP); Network Services Provider (NSP); Application Services Provider (ASP); and Content Application Services (CSP).<sup>4</sup> Other countries such as Japan and Australia have placed this issue into different legislation or regulations, using alternative terminology.

### **Benefits of updated convergence legislation**

It was widely agreed amongst participants that regularly updated legislation enabled policy options and implementation plans to be more efficiently executed. The governments of Malaysia, UK and Finland updated their legislation when their convergence regulators were established. Interviewees from MCMC, Ofcom and FICORA were of the opinion that although this had been a difficult process which created a lot of work, having the convergent legislative framework was undoubtedly beneficial. The interviewees from the other three regulators, MIC, ACMA and Agcom were also convinced that moving to convergence legislation would bring benefits; in fact, Japan and Italy have already begun the process:

*I think the need to review the legislation is really very high, for example, where do we begin to deal with the Skype issue?*

Interviewees from MCMC, Ofcom and FICORA also shared the view that notwithstanding the significant period required for change, new legislation around 2010 would be beneficial. Significantly, five regulators are either contemplating new convergence legislation, or having already commenced with completion plans focused on the same timeframe.

For most NRAs, self-regulation was seen as the philosophical starting point of dealing with an issue. If this did not deliver appropriate remedies, then regulatory intervention would be considered, but these should be kept to a minimum. Interviewees from the European NRAs in particular, appeared more reluctant to interfere with market-driven resolutions.

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<sup>3</sup> Niloufer Selvadurai, 'The Creation of the ACMA and the Next Necessary Step', (2006) 26 (2) *Adelaide Law Review* at pp 271–299.

<sup>4</sup> *Malaysia Communications and Multimedia Act 1998*, Act 588, available at [http://www.mcmc.gov.my/mcmc/the\\_law/ViewAct.asp?cc=4446055&lg=e&arid=900722](http://www.mcmc.gov.my/mcmc/the_law/ViewAct.asp?cc=4446055&lg=e&arid=900722).

Another key point raised by interviewees was the need to some extent, for ‘future-proofing’ the convergence legislative framework. Basically, the legislative design criteria should be a compass for the future direction, while allowing flexible capacity for minor changes so that the overall framework stays relevant over the average legislation cycle time of seven years.

### Frequency of major regulatory amendment

A key policy decision for both governments and regulators is how often a major update of legislation should be undertaken. This topic was addressed both in the interviews with executives and in the online survey. The online responses are summarized below.

**Figure 12: Preferred frequency of major regulatory amendment**

Category	Preferences	Percentage
1–3 years	13	27%
4–6 years	22	46%
7–9 years	7	15%
10+ years	6	13%
<b>Total responses</b>	<b>48</b>	

Participants who thought the frequency should be one to three years have suggested that:

*Since information technologies are generally fast moving communications methods, and with a constantly changing environment, it is very important for revision to be performed in short time frames of approximately every one to three years.*

Nearly half of the respondents felt the frequency should be between four and six years:

*The internet and other technology is changing every one to three years, but four to six years seems to be about right as it gives technology in society time to change.*

Those who preferred a cycle of seven to nine years tended to agree on the speed of technological and market change, but believed that:

*It takes three years to develop or introduce a cycle of major reform and continual change does not proved stability for the markets, however cycle times over ten years would be very outdated so seven to nine is a practical compromise.*

The NRA chairpersons in particular, who had greater experience of the complexity of government processes including industry level involvement, considered it impractical to have shorter cycles than seven to nine years for major legislative changes.

## C. SPECTRUM MANAGEMENT

Respondents ranked spectrum management the third most important issue overall. They cited broadcasters as major spectrum users with aspirations of obtaining more spectrum to expand their consumer services. In addition, a number of interviewees mentioned that, at some stage, their countries’ very high use of spectrum for defence purposes would need to be reviewed:

*Across Europe, even in the peace time of today, the military has sole use of over 40% of the high end spectrum available.*

In addition, there is substantial commercial use of spectrum for mobility and communications. Interviewees cited significant productivity improvements in terms of communication and process management that had been achieved following the explosion in use of digital handsets and PDAs. As mobile data costs decrease further, new applications and business models are emerging across a range of businesses. Artificial intelligence, M2M and RFIDs tags will play an increasing role in productivity and new service offerings for business. Citizens' rights was also a consideration for some interviewees who talked about the importance of using spectrum for wireless technology in new applications for improved services in the education and transport sectors.

Spectrum is also increasingly consumed for social interaction and entertainment. For consumers, the availability of these services 'anytime-anyplace' is rapidly becoming an important part of life. As the supply of bandwidth increases and data costs decline, unique new models and services are emerging and some interviewees felt that encouraging and facilitating this trend was an important objective for social communication and cohesion.

### **Spectrum allocation and price**

Most regulatory bodies have allocated spectrum for military and defence requirements as a block. For broadcasting, spectrum allocation is either made part of a broadcasting license or allocated to a broadcaster once a license has been awarded. For mobile operators, a range of regulatory approaches were taken, with those in the EU being based on an auction system. Billions of dollars were paid by European mobile operators to obtain 3G licenses and the accompanying spectrum to build networks. In many cases, the sums paid proved to be far in excess of the short-term service revenue, which caused considerable hardship for a number of operators. Interestingly the interviewees in Europe did not necessarily see this as a disadvantage or an imperfect regulatory approach; their view was that the value was entirely market-driven. Japan took a different approach by including a range of beauty contest requirements along with an ongoing royalty stream on the resulting commercial services sold.

This issue is one of the few foundation issues where interviewees differed on the best regulatory approach.

The economic significance of moving to a market approach for spectrum allocation and cost was seen as a very important issue. Some interviewees felt it could potentially have a greater impact on the economic development of a country than broadband, albeit not until the period post 2010.

*What we know is that the value of the radio spectrum to our economy is about three per cent to four per cent of the GDP at the moment ... as the system gets better, it further enhances productivity so the impact on GDP will just get larger probably by a further one per cent every four years. So in our hands is the ability to impact a quarter of our economic growth.*

With such importance vested in this issue, the need to ensure enough spectrum is available is seen as a high priority. Digital switchover is currently a high profile project for five of the NRAs, encouraged by speculation on how the spectrum dividend should be invested.

With that scenario in mind, consideration of various market mechanisms such as tradable spectrum and concepts of ‘use it or lose it’ are being openly discussed:

*Competing demand from different sectors coupled with an expansion of new services is increasingly justifying a more market-based approach to spectrum-based management.*

For the European regulators, the EU decision has meant they are being directed to focus on a market-driven spectrum regime:

*In the review of EU regulatory patterns of 2010 the focus is on the promotion of efficient use of spectrum through a more market-orientated regulation. This requires some fundamental changes in the national legislation and licensing system.*

Even though there was a sense of urgency from all interviewees about spectrum management, the timetable for achieving significant change was variable. While FICORA completed digital switchover in 2007, other NRAs have plans for 2010 and 2014, and have more recently instituted a stronger focus on spectrum management:

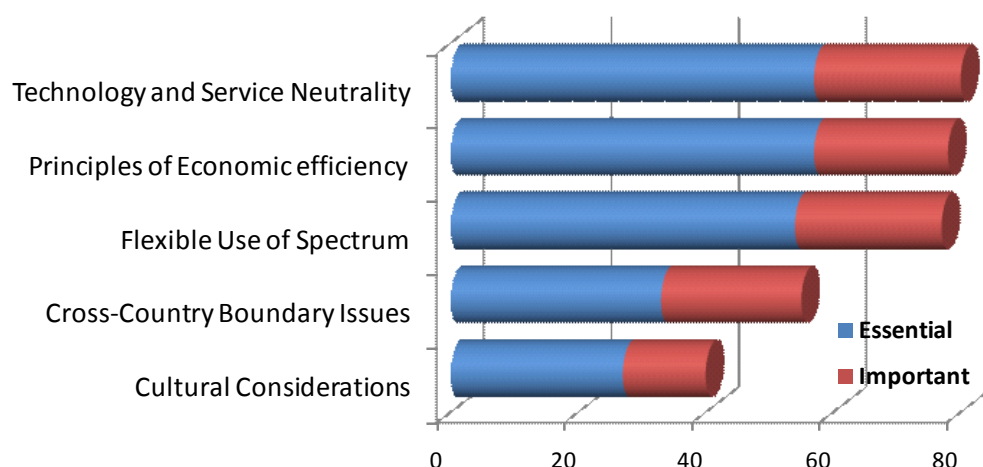
*Spectrum management in our country has not been a high priority but this is rapidly changing and our new converged legislation should advance our focus.*

### Analysis of spectrum regulatory issues

Following the initial interviews, it was decided to quantify five leading sub-issues in relation to spectrum management in the online survey. These were technical and service neutrality, principles of economic efficiency, flexible use of spectrum resources, cross country boundary issues, and cultural considerations. The relative importance of these issues is shown in Figure 13 below, with a more detailed analysis by regulator in Appendix 17.

Despite the interviewees emphasising the need for reduced regulation and taking a market approach to regulatory issues, there was an acceptance that the move to a market-based system of spectrum management would require new regulation.

**Figure 13: Spectrum regulatory issues—importance rankings**



### Technology and service neutrality

Three issues were very closely ranked: technology and service neutrality, principles of economic efficiency and flexible use of spectrum resources. Between seventy-seven to eighty per cent of respondents thought these issues were ‘Important’ or ‘Essential’.

Not only was spectrum seen as one of the highest priority issues, it is at the beginning of its life cycle, and there was a commonly held view that the issue will grow in importance and that new technology and applications developments are likely to take-off around 2010. This technology will have an impact throughout the total wireless service value chain and, as such, the issue of technology and service neutrality ideally should be dealt with in the ex ante regulatory way to ensure maximum opportunities for market innovation and avoidance of bottlenecks.

Interviewees held a common view that regulators should move from a command and control approach over spectrum allocation, to a market-oriented methodology. However, the usual tensions between market-driven approaches and specific policy objectives may delay progress.

*Spectrum management is another area that consumes untold resources—we can no longer afford long drawn out debates. For too long the high priests of spectrum management have got away with theoretical complication on the basis that no one else would understand.*

### **Principles of economic efficiency**

Seventy-eight per cent of respondents gave economic efficiency a score of ‘Important’ or ‘Essential’ and only two per cent indicated that it was ‘Not Important’ or ‘Not Very Important’. While these principles had wide appeal, their implementation can be tempered by practical realities:

*As the dividend from moving TV from analogue to digital gets nearer, the war of words between the mobile operators and the broadcasters is getting more intense.*

There were also many participants who believed broadcasting should be seen as just another service:

*Broadcasting should be dealt with as any other service offering.*

There are arguments that broadcasting has cultural value deserving of special consideration. However, the principles of economic efficiency are an important philosophical stance for moving to a market-based approach. A couple of the interviewees advanced the view that the argument for moving to a market-based approach is quite complex as it is factored on basic property regimes.

Another factor which received significant attention from interviewees was diminishing boundaries between fixed and mobile telecommunications services. This raises questions of access and technology efficiency, and increasingly requires not just dedicated voice services but also the convergence of voice, data and video services. Just as most participants thought license conditions needed to be changed, they also believed that intervention can be important.

However consensus is complicated by global and cross border considerations, military requirements, vertically integrated network and service operators. There is inequality in the current system; some television and radio broadcasters have ‘free’ use of spectrum, while mobile network operators have made significant financial investments. Clearly, without regulatory intervention, the path to an efficient market-based spectrum allocation regime would be a long and difficult journey:

*The regulators in spectrum management require the ability to intervene when necessary.*

### **Flexibility in the use of spectrum**

Seventy-seven per cent of respondents gave flexibility a score of 'Important' or 'Essential' with only two per cent believing this issue was 'Not Important' or 'Not Very Important' in relation to spectrum use. Most of the participants thought that regulatory policy should support a system where the market decides the best value of spectrum; thus it is important that regulatory policy allows for flexible use and the incorporation of 'use it or lose it' principles:

*The trick for us is to make as much spectrum available, as unfettered as possible, and allow people to play around with the wide range of standards. And find the ones that actually produced the best consumer attributes at the lowest cost.*

### **Cross-country boundary issues**

In the online survey, cross-country boundary issues were rated as 'Important' or 'Essential' by fifty-five per cent of respondents. Not surprisingly, there was a significant difference in the rating of this issue depending on the respondent's relative geographic positioning, and NRA membership of regional associations, for example, EU, ASEAN. The EC has already flagged that it intends to make spectrum management a holistic issue across the EU member countries to ensure that cross-country issues are dealt with effectively. FICORA and Ofcom both have geographic and regional associations to address and considered this topic to be of very high priority. ACMA respondents also considered this high priority.

Interestingly, some interviewees felt that While cooperative dialogue is essential, it can sometimes deteriorate into an unproductive 'talk-fest' which only serves to delay decision-making.

### **Cultural considerations**

Forty per cent of online respondents rated cultural considerations as 'Important' or 'Essential' for its significant social, cultural and political implications.

For all NRAs, ensuring that local cultural entertainment, information and news services provision is available is an important issue. In this regard, spectrum use and allocation decisions are key underlying factors. Public sector broadcasters may use spectrum that has been allocated for broadcasting use under international agreements. Sometimes these broadcasters do not pay for their spectrum use, as their services are provided free-to-air and have to be funded through other mechanisms. Commercial broadcasters, on the other hand, sometimes have to pay for their network delivery. Working through an equitable approach to deal with these disparate delivery mechanisms is therefore a significant issue for NRAs.

New government services for health and transport will have greater need of spectrum in future; traffic monitoring, toll collection and real time information services are likely to assume greater importance. Interviewees in Ofcom and Agcom were particularly interested in conducting research via scenario planning and other techniques to assess possible future demand of these sectors as an input into regulatory policy in the medium term.



## **Other issues**

The respondents were asked to list and prioritise other regulatory issues they thought were ‘Important’ or ‘Essential’ in relation to spectrum. Those rated as essential are listed in Appendix 18. Two of these issues most commonly mentioned by all participants are discussed below.

### ***Digital television transition***

Some of the interviewees advanced the view that a strong proactive regulatory stance was required to implement and achieve the digital switchover.

With the exception of Finland which completed switchover in 2007, take up rates for digital terrestrial television differed significantly between countries. Some countries have set targets of between 2010 and 2015 for the completion of this exercise.

One interviewee spoke of the significant ‘spectrum dividend’ from this exercise; apparently the same number of channels will use only between fifteen per cent and thirty-three per cent of the bandwidth. In addition to the higher image and sound quality, the switch to all-digital broadcasting will free up much of the valuable broadcast spectrum for public safety communications (for example, police, rescue squads, and fire departments). Other parts of the spectrum will be available for commercial wireless services like wireless broadband.

While some of this dividend could be used to meet increasing demands for more broadcasting channels and high definition services, there is also likely to be enough bandwidth available for other business usage.

Two interviewees supported the need for a proactive regulatory approach to hasten digital switchover, but they believed the required trade-offs would need considerable attention:

*The interplay between the relative importance of citizens’ rights and consumers interests will need to be tested to ensure the last few percentage of analogue users make the move.*

### ***Use of new technologies to expand capacity***

Some interviewees talked about the importance of emerging new technologies in achieving a market approach to spectrum management. One example given was smart antennas which increase spectrum efficiency by using frequencies more intensely. Software Defined Radio (SDR) and cognitive radio technology development can also enable a higher level of frequency re-use. Some NRAs were expected by their governments to coordinate research in industry and academia to ensure these new technologies would be available in their market sooner rather than later.

## **D. CONSUMER PROTECTION**

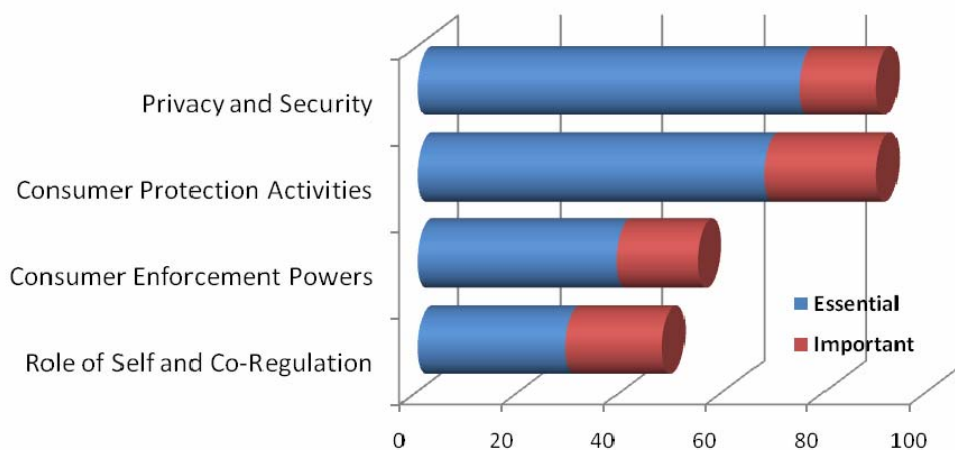
### **Introduction**

Interviewees saw consumer protection as an issue of growing importance; this was well supported by the respondents, who rated this issue as fourth priority overall for 2010, and the first order priority in 2014.

## Key regulatory issues

Ninety per cent of respondents gave both privacy and security, and consumer protection activities, a rating of ‘Important’ or ‘Essential’. The significance of these issues was recognised by respondents across the NRAs, with at least eighty per cent of each NRA’s respondents rating both these issues as ‘Important’ or ‘Essential’. A more detailed examination of each regulator’s views is set out in Appendix 20.

**Figure 14: Consumer protection regulatory issues—ranking of importance**



## Privacy and security

Overall, ninety per cent of respondents thought privacy and security issues were ‘Important’ or ‘Essential’. No one scored this issue as ‘Not Important’ or ‘Not Very Important’.

The concepts of citizens’ and consumers’ rights serve as public interest tests in this instance. Security is seen by the interviewees as being more easily addressed even though views on regulation and legislation differed. Some interviewees mentioned the importance of government services for citizens as being a key driver for the development of digital age activities. One of the interviewees mentioned that a recent research study of citizens’ views indicated a generalised distrust of government; privacy and security concerns were voiced particularly in relation to interactive transaction services (as opposed to one-way information services):

*The recent loss of some 20 million banking details of UK citizens ... [suggests] a need to review the responsibilities of government officials to records of the public.*

Other participants mentioned the need for governments to be subject to similar penalties such as those levied on corporations for privacy or security breaches. One executive said:

*It would help if the consumers’ information gathered by one department could not be used by another without consent of the individual concerned. Rather like the law for corporations’ use of private information.*

The debate over citizens’ and consumers’ needs has been widened by the terrorist threat to some societies with governments requiring more powers to collect information about individuals, and, in some cases, intercept telephone conversations and use immigration data to take action against an individual.

The question of privacy elicited more free-flowing discussions from interviewees. Essentially, many interviewees felt that public perceptions about privacy are very quickly changing as technology becomes more embedded in the population's personal lives via digital devices such as iPods or virtual worlds and social networking. As one executive put it, 'Private is the new public'. Many people upload personal data, photos and what was previously viewed as private information onto websites which is almost instantaneously viewed by potentially millions of people around the world. From a NRA perspective, some interviewees suggested that, while it is one thing for consumers to voluntarily make their personal information publicly available, its use, or misuse, by commercial organisations is quite another, and may be a cause for concern.

### **Consumer protection activities**

Consumer protection activities were rated as 'Important' or 'Essential' by ninety per cent of online survey respondents. Only two per cent of respondents voted this issue 'Not Important' or 'Not Very Important'.

Security in particular was viewed as an area where even more legislation and regulation would be needed. Basically, consumer protection issues were seen as having a very high level of importance by all respondents. However, there was debate about whether co- or self-regulation could or should deal with these issues.

Interviewees discussed issues such as duration and volume of advertisements, and representations of violence and sex in broadcasting. It would appear that regulators only intervened if and when necessary, using ex post tools, as most of these activities were more often than not resolved on a self-regulatory basis with established industry codes and standards. While most participants were comfortable with how these issues were dealt with, new media and the growing importance of the internet were the areas where most of the debate took place. In many countries, the issue of child protection was also a focal point of consumer concerns. However, the NRAs in Malaysia, the UK and Australia, in particular, still favoured dealing with these issues from a self-regulating perspective. A full analysis of the differences between the regulators is shown in Appendix 20.

### **Consumer enforcement powers**

The issue of consumer enforcement powers was rated 'Important' or 'Essential' by fifty-five per cent of respondents. There was a high level of variation on this issue; with eighty-nine per cent of Agcom respondents rating it 'Important' or 'Essential' but only twenty per cent of MCMC respondents. Some interviewees thought enforcement powers was a necessary last resort:

*These are huge issues that can only get more critical as technology gets cleverer. They will need to be addressed as crucial aspects of preserving our community, economy and democracy.*

Many interviewees reinforced the view that this issue would assume greater importance over time:

*More and more people are using the internet from children to elderly. At the same time, the number of crimes over the internet using PCs and mobiles has increased. Our country has to ensure the safe and secure*

*internet use environment in order that they can enjoy the great merits of the internet.*

The trade-off between privacy and consumer protection was seen as a necessary evil when intervening via enforcement powers. Some executives thought this was a common dilemma:

*Whilst promotion of innovation in new technologies is important for economic growth and welfare, in the long run, community benefits will not occur if consumer protection is not achieved.*

### **Role of self- and co-regulation**

The role of self and co-regulation was rated ‘Important’ or ‘Essential’ by forty-eight per cent of respondents overall. Interviewees from ACMA, MCMC, Ofcom and FICORA commented on the ongoing need to seek a self- or co-regulatory solution where possible. Proactive policies were seen as necessary to avoid the challenges and problems of expanding rules and regulations. While many interviewees were comfortable with the historic co- and self-regulation of content for traditional broadcasting, opinions on other issues were more mixed. A number of interviewees believed that the telecommunications sectors in Malaysia, Australia and Finland had not dealt with these issues successfully; thus the regulator was forced to become more involved. Others mentioned that stronger initiatives need to be taken by the telecommunications carriers. The issue of self-regulation of content on the internet drew considerable comment. Some participants were sceptical that the various sectors in the total value chain could together provide an effective self-regulatory body. However, supporters of self-regulation, notably Ofcom and ACMA, believe such an approach could work and would have significant upsides for the economy and consumer choice.

### **E. NEW MEDIA**

New media or new content services was ranked as the fifth most important issue in 2010. However, by 2014, its ranking had dropped to thirteenth. This issue has an impact on consumers in terms of new models for accessing entertainment, and the increasing desire for access any time and in any place.

The strong growth rate of new media services is the reason some participants believed this issue would be a high priority in the short term:

*The services are becoming more and more popular, they are assumed to grow to 1.8 million users in our country by 2010. The issue of access to content and premium services is going to become hot.*

In other jurisdictions, a focus on obtaining regulatory certainty in the short term was seen as necessary to ensure business innovation:

*These industries are just emerging in our country and there is considerable uncertainty whether they fit under existing broadcasting or internet content regulatory frameworks and if not, how they should be regulated. This uncertainty may impede development in these new industries.*

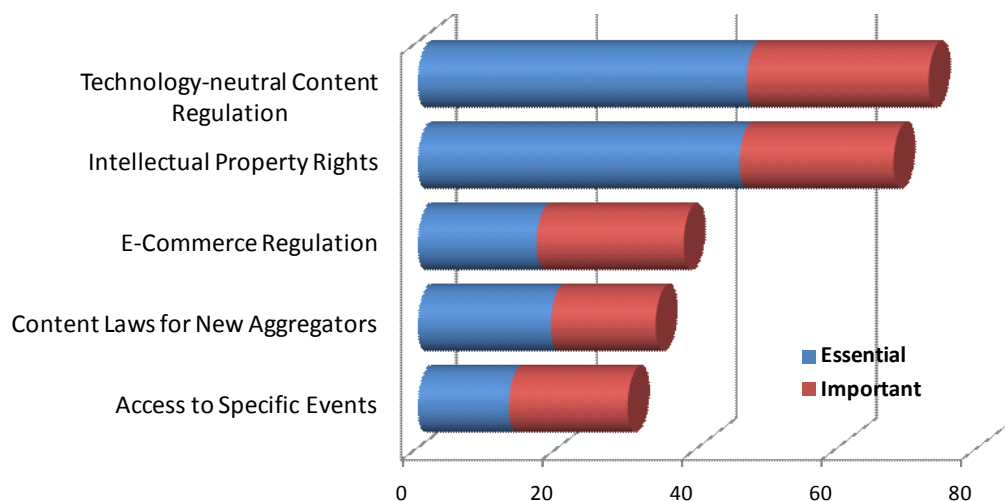
Many participants were strong advocates of self regulation, particularly in relation to issues covering advertising standards, and categorisation of broadcasting and movie content

appropriate to age and community standards. The two areas where regulation is seen to be important were technology neutral content regulation and intellectual property rights.

### The five key issues for new media regulation

Figure 15 below indicates the relative importance of five sub-issues in relation to new media regulation that were canvassed in the online survey. A more detailed analysis of the relative importance of the key issues can be seen in Appendix 21.

**Figure 15: New media regulatory issues—ranking of importance**



### Technologically-neutral content regulation

This was ranked as the most important of the five issues identified in relation to new media, with seventy-three per cent of respondents viewing it as ‘Important’ or ‘Essential’. Only six per cent thought the issue ‘Not Important’ or ‘Not Very Important’. Although there was widespread agreement with this principle, its implementation is unlikely to be straight forward. One interviewee said:

*I see the classification/censorship across various platforms as important but I think at least until 2010 there will continue to be arguments for regulating certain media differently.*

Some interviewees suggested that it is also likely that the legacy owners of traditional media such as free-to-air TV, pay TV, radio stations and film studios will fight to maintain their protected positions. In some cases, it was thought that these industry players would also seek to link ownership of content with carriage.

*Rights to content can be used to create significant barriers to competition. The extent to which this happened needs to be monitored and regulatory intervention may be required.*

The fact that the delivery mode of TV and radio content may change will further complicate this issue.

*Broadcasting will move from terrestrial TV and radio networks to other means of delivery using IP-based data flow and internet based networks; mobility will come also to TV reception one way or another.*

### **Intellectual property rights**

Intellectual property rights (IPR) were rated as ‘Important’ or ‘Essential’ by sixty-eight per cent of respondents. Only six per cent of respondents thought this issue ‘Not Important’ or ‘Not Very Important’. Appendix 22 groups respondents’ importance rankings by NRA; there was an interesting mix of views with significant proportions of Ofcom, MIC and MCMC respondents, rating the issue ‘Important’ or ‘Essential’, (in a range from seventy-five per cent to eighty-four per cent) while fewer FICORA, Agcom and ACMA respondents agreed (with proportions in the range forty to sixty-three per cent).

While IPR have a wider application, those that relate to new content services and new media issues are often about movie, television and radio content, and advertising. The introduction of social networking websites such as Facebook and MySpace have also spawned IPR issues where the content hosted can be partially newly created and sometimes ‘borrowed’.

One of the interviewees noted that particularly in the USA, IPR is being extended for longer periods, citing by the extension granted to Disney for the Mickey Mouse franchise. The emerging IPTV services have introduced another element of complexity to recent trends in the growth of music and movie content piracy.

The traditional media companies’ response of encrypting anti-piracy technology into their content and aggressive legal actions against infringers has had relatively little impact. Instead, according to some interviewees, alternate new models of cheaper carriage delivery such as iTunes are having more success in targeting users by offering significantly reduced prices for legitimate music content.

### **E-commerce regulation**

Thirty-eight per cent of respondents rated e-commerce regulation as ‘Important’ or ‘Essential’. ACMA and Ofcom were most interested in this topic, particularly the resolution of how IPTV and internet video services will be regulated—see Appendix 22. Most of the interviewees strongly favoured a self-regulatory approach, and predicted a growing need to educate a population in ‘media literacy’ as a means of promulgating child protection on the internet. Interestingly, moves to strengthen and embed child protection are growing at the same time as the community voice for less restriction on adults. One interviewee also mentioned terrorism as a new issue for content and e-commerce regulation:

*There is a need to review the relationship between freedom and expression.*

### **Content rules for new aggregators**

Content rules for new aggregators were rated ‘Important’ or ‘Essential’ by thirty-four per cent of respondents. Interviewees from Ofcom and ACMA cited the future need to consider how powerful aggregators like Google would deal with new content. Apart from traditional movie, television and radio content, the availability of print media content online is fast becoming an issue:

*Even if YouTube put all the compliance people on in the world, if you approach them and say this is grossly offensive, it will take five days for them to take it down.*

The shift away from a centralised determination of content rules has already begun with television:

*The balance is moving away from a central committee deciding content regulation on TV and its becoming endemic through the culture ... it started with quizzes and other forms of interactive relationships which is building customer relationship not an audience relationship.*

### **Access to special events**

Access to special events, which includes events of cultural, political or sporting interest, was rated as ‘Important’ or ‘Essential’ by thirty per cent of respondents. A greater proportion of MCMC (fifty per cent) and FICORA (sixty-seven per cent) respondents thought this was important.

Traditionally, such content has been delivered by radio broadcasters, and free-to-air or pay-TV providers. Today however, new delivery mechanisms for this content via mobile devices are already being debated:

*[An example of] how new media challenges our current regulation is the fact that during an election the political parties have equal access to media but this is borne from the era of old media. We now have convergence of media and operators and IP communications which gives us an interesting dilemma ...*

Online survey respondents were asked to list other significant regulatory issues which had not been raised in relation to new media. Two of the issues raised involve proactively resolving the issues of illegal internet content and regulating IPTV and internet video services.

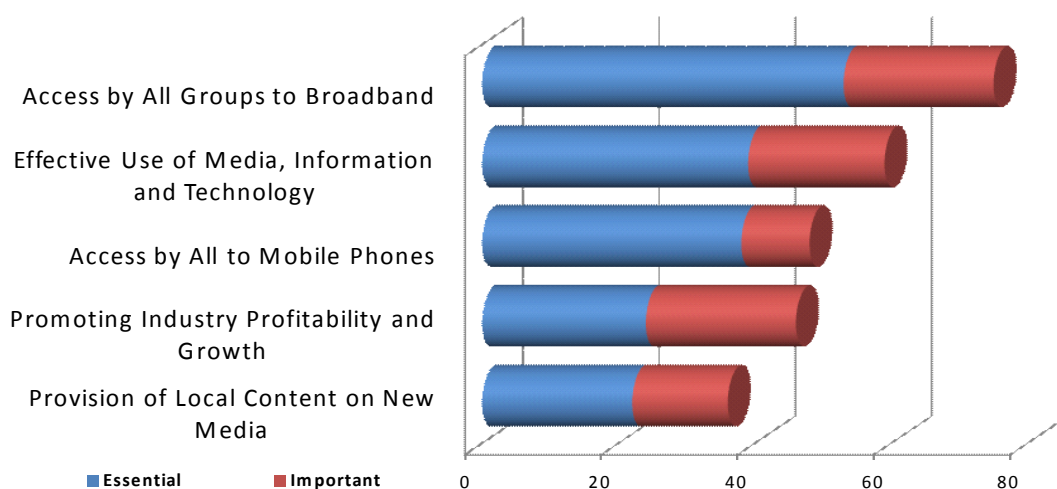
## **F. CITIZENS’ INTERESTS**

This research study has been careful to separate, in discussions with all the participants, citizens’ interests and consumer protection, so as to preserve the notion of citizens and consumers as two separate entities. Basically, from a public policy perspective, where there is a conflict between the two, the interest of citizens should have primacy over those of consumers or the marketplace.

Online respondents ranked this as sixth priority in 2010, and seventh priority in 2014. The relative positioning of its ranking as a regulatory priority suggests the convergence NRAs do not believe that implementing most of the foundation issues and having ubiquitous convergent services is sufficient surety for the public interest to prevail.

Respondents were also asked to nominate key regulatory issues associated with citizens’ interests. Figure 16 identifies and ranks these in order of importance. A more detailed analysis is shown in Appendix 23.

**Figure 16: Citizens' interests regulatory issues—ranking of importance**



### **Access by all groups in society to broadband**

Respondents from ACMA, MIC, Ofcom and Agcom viewed broadband access as a priority issue for all citizens and groups in society. The relative importance of citizens' rights according to NRA is shown in Appendix 24. All NRAs saw the primary method of providing access through industry provision of terrestrial networks, with the remaining, 'non-profitable' percentage of the population provided by means of other technologies, and possibly subsidised by government. Some mentioned USOs, but this was often done as a last resort. Scores from MCMC and FICORA respondents were slightly lower but still significant. During discussions with MCMC, interviewees mentioned the difficulty of affordability, as many of their consumers would find even world best practice pricing expensive. For FICORA interviewees, the last five per cent of the population located in extremely isolated areas posed serious problems for service delivery in Finland. However, it is important to note that the concept of access to all of society was not questioned by interviewees, and the discussions highlighted the challenges of providing universal access.

### **Effective use of media information and consumer technology**

Effective use of media information and consumer technology was rated as 'Important' or 'Essential' by fifty-nine per cent of respondents. The increasing importance of economic growth and industry development as priority regulatory issues may explain the relatively high support for this issue. All governments and NRAs are actively pursuing the provision of broadband networks and access as a priority issue. This is likely to involve regulators in significantly more activities to raise awareness of these developments:

*I predict we will just have a television system in the home which downloads material from various sources and the idea of controlling the content in any way is going to go. We will need to educate people on what we call media literacy to make people aware of what they are getting ...*

Regulators will continue to be more involved in undertaking research and discussions with consumer and industry groups to ensure their governments' policy objectives deliver effective consumer technology and information about media and communications. Interestingly, the respondents most likely to rate this issue as 'Important' or 'Essential' were from Australia (seventy-six per cent of respondents), UK (seventy-eight per cent), and



Malaysia (sixty-seven per cent). By comparison, the Japanese, Italian and Finnish respondents placed less importance on media literacy.

### **Access for all groups in society to the mobile phone**

Access for all groups in society to the mobile phone was rated as ‘Important’ or ‘Essential’ by forty-eight per cent of all respondents.

The policy decisions surrounding essential services for citizens is an interesting area. With increasing GDP and national wealth across the world, the list of essential infrastructure and services has extended from health and education to roads, electricity and water. More recently, communications services has been added to the list. While most historic USOs refer to PSTN telephony services, interviewees from all the six NRAs in this study flagged that eventually broadband access should be an essential service for all groups in society.

While seventy-five per cent of respondents rated the access by all groups to broadband as ‘Important’ or ‘Essential’, compared with forty-eight per cent for access to a mobile phone, the results highlight a difference in scale and possibly timing. According to one interviewee, developments in Finland may be indicative of future policy trends in that regard; only forty per cent of the Finnish population currently use PSTN services, whereas mobile subscribers were measured at 101 per hundred population. As future technology developments, M2M and AI could add further importance to mobile devices, elevating the importance of access to mobile services as a citizens’ right.

### **Promoting industry profitability and growth**

Promoting industry profitability and growth was rated as ‘Important’ or ‘Essential’ by forty-six per cent of respondents. Economic growth was ranked seven and industry development was ranked fourteen overall in the top priorities for 2010. By 2014, economic growth was ranked two and industry development, ten.

A number of comments were made in the interviews, that for the next three years, the key issues of updating legislation, achieving broadband services and market-based spectrum were in a sense foundation services for nations who wished to be at the forefront of the digital age. Once these issues had been developed to critical mass rather than completion, a number of executives believed governments and their regulators would need to pay more attention to economic growth and industry development:

*Once the development of broadband has reached an acceptable rate, more research and development studies will be needed to assist discussions with industry to help sustain and grow development.*

*Our country is facing an ageing society and birth rate has been decreasing. In order to keep enjoying the current quality of life our country has to make the most of ICT. We need to work on increasing ICT’s contribution to higher productivity and as a facilitator to innovation which will lead to higher economic growth.*

### **Provision of local content in new media**

Provision of local content in new media was rated ‘Important’ or ‘Essential’ by only thirty-six per cent of respondents. Interviewees tended to think that the relatively strong local content rules applying to traditional media sources would, in theory, create regulatory issues

as new media gained wider acceptance. However, a number of interviewees believed that with expanding diversity, local content levels would actually increase as a natural consequence:

*In Hong Kong TV licenses are available to anyone and over 60 stations exist. No requirements are made for local content but as the number of stations has expanded, local content has grown.*

The issue is seen slightly differently in the UK where some participants expressed the view that the significant taxpayer funds allocated to public service broadcasters, and to some extent, local movie makers, would not necessarily need to be increased in the future. Instead, distribution of the content would need to change. For instance, the BBC currently has a monopoly on public money for television content; it is possible that using these funds in a contestable way, perhaps more focused on local content, might be an alternative for the future.

Some interviewees thought that new media would widen the debate:

*I think we get our knickers in a twist about regional local content because while I think it's important, we've got to actually distinguish between what people want to see, and what to have produced ... the change in technology means the regional local content can be more effectively delivered via website, and I think we've got to re-think what we're trying to do.*

Others believe that radio serves as a good model:

*Another important issue is localism. People are pushing against aggregation but local TV has never worked in this country. The economics just don't make sense ... Local radio works well and it's an obvious place for broadband to go ... to serve micro-communities.*

Some participants argued against local content as a destructive force of fragmentation, while others saw this as an advantage:

*The flip side of niche micro-community needs is fragmentation and this is a concern, because you'd be sucked into defending legacy models and you'd have to be careful not to inadvertently block the creative disruptive stuff.*

### **3.3 REVIEW OF OTHER PRIORITY ISSUES**

As the timeframe for forecasting future priorities increases, variations in views are likely to increase, and there were some significant shifts in priorities between 2010 and 2014 as indicated in Figure 10. Up to 2010, NRA priorities were more focused on foundation issues such as rolling out infrastructure services. Post-2010, they become more concerned with consumer issues and usage, and ensuring the achievement of economic and social benefits from the successful implementation of foundation issues.

#### **Economic growth**

This issue was ranked seventh overall in 2010, and second in 2014. The apparent successes of the more proactive approach to regulation in Japan and Malaysia suggests to the author that an increasing role for the regulator in fostering economic growth has benefits that the other NRAs may wish to consider:

*Regulators must be able to follow the development of markets and adjust operations to relevant issues, fostering economic growth.*

*Our country has to make the most of ICT as it will contribute to increased productivity and promote innovation which will lead to higher economic growth.*

There was agreement from other jurisdictions:

*By 2014 hopefully our country will have completed the transition to digital television and take up of high speed broadband. We can then focus on playing a role in innovation, and the use of new technologies.*

Although the NRAs felt strongly about the focus on economic growth for 2014, some interviewees felt there were issues which needed to be dealt with prior to this period, in particular, the difficulty of getting government services to citizens online:

*Whilst the provision of one-way information had proved successful, online transactions had limited success with issues of privacy and security being a strong impediment.*

When it comes to security and privacy issues, some interviewees felt that citizens were more suspicious, and less trusting of government departments and of state control than of commercial organisations. For example, Japan has recently expended considerable time putting safeguards around these issues, as a means of increasing the online use of government and commercial services.

### **Artificial intelligence**

This issue was ranked sixteenth overall in 2010, and eighth in 2014. Some countries saw AI as an important solution to an ageing population. A number of participants believed that AI would be playing a major role in society by 2014:

*Technology should be sufficiently developed by 2014 to operationalise AI developments.*

Many participants felt a number of cutting edge technologies such as AI, M2M and nano-technology would grow in importance with accompanying needs for significant spectrum. Some interviewees felt the regulators will need to address the new complexities of these technologies sooner rather than later:

*These new technologies will raise serious health, safety and security issues for the regulators.*

Other interviewees thought that these developments would create complex registration and licensing issues:

*Any developments in physical robotics are likely to be spectrum intensive and their mobility will presumably overlap other agencies' governance responsibilities in usages such as a transport mode (motor vehicles) and also pedestrian activity. Perhaps invoking a whole new dimension of legislation and licensing.*

However deciding which technologies will have the biggest impact will not be easy:

*New technologies such as Artificial Intelligence will have significant impact five years out. The difficulty is understanding which technologies will have the economics to change from a niche proposition to a mass market.*

### **Network interoperability**

This issue was ranked tenth overall in 2010, and ninth in 2014. One interviewee summed up the NRA view of this issue:

*Any-to-any, end-to-end connectivity is at the core of a successful national communications network- in terms of social and economic outcomes.*

In reality, individual market players often prefer ‘walled gardens’. The forces that lead to ‘any to any’ connectivity are very often complicated and seldom frictionless. Some interviewees felt that the issue for regulators is to push industry participants towards this end:

*Unfortunately in telecommunications, asymmetric relations between the historic incumbent and new entrants make some incumbents believe that the walled garden approach is a better one for their shareholders. Whilst this isn’t always a proven fact, because of the complex relationship between price and service improvements and market stimulation, intervention is sometimes needed.*

Different types of bottlenecks are involved. Some are very specific and others more broad-based, such as mobile portability and fixed mobile pricing. A number of interviewees believed that self-regulation in general had been less successful within the telecommunications sector relative to the broadcasting sector. While many telecommunications operators frequently call for reduced regulation, in some instances, they could increase the likelihood of this occurring by early resolution of stakeholder issues via self regulation.

*Regulators need to be vigilant for instances where there is a clear public interest in intervening to accelerate the market towards openness.*

### **Industry development**

This issue was ranked fourteenth overall in 2010, and tenth in 2014. Industry development as a priority was seen to increase in importance by 2014, as part of a collection of issues around economic and social growth; in other words, enhancing the dividend from the foundation priorities of 2010. A number of participants thought this issue was very important for national well being, for example:

*Our country still has strengths in technology but we need to know how to utilize these strengths. In our country, ICT industry contributes to about forty per cent of the GDP growth.*

Other participants mentioned that ICT either directly or indirectly affected between forty and sixty per cent of GDP growth in their country. In some countries, a strong local industry is seen as essential ‘to lead to country competitiveness and economic growth in the long term’. The link between a strong local media and telecommunications technology industry and

economic growth was identified by some participants. Others believed it was necessary for local industries to work ‘at a global level in areas where our country’s media and communication companies can excel’.

### **Network neutrality**

This issue was ranked twelfth overall in 2010, and eleventh in 2014. Some participants believed that increasing convergence and NGN developments will create issues of network neutrality with complex legal regulations and obligations:

*Major ISPs offering their own video on VOD services and bundled triple play. There is a danger that ISPs will increasingly control these with which consumers can access services on the internet which could create new barriers.*

The issues of service bundles posed by triple and quadruple play, and the price differential inside and outside the bundle have a tendency to impact network neutrality and competition. As electronic communications traffic continues to grow at very fast rate, some interviewees felt it would place pressure on equitable cost sharing and the need to ensure fairness of network use.

### **Standards**

This issue was ranked eighth overall in 2010, and eleventh in 2014. There was a common view amongst participants that standards would play an increasingly important role in the digital age: ‘Increased convergence will require a greater focus on interoperability and standards issues.’ Interestingly this view did not lead to the thought that it would be an increasingly important issue for individual countries’ regulation. This will not be easy, as: ‘it raises issues of copyright protection’. Obviously, ‘common groups of standards across distribution system make regulation simpler.’ Standards were usually discussed in terms of technology standards but they were also raised in relation to content: ‘X- or R-rated content might be appropriate for subscription services but not for freely available services.’

For those nations with high expectations of producing technology and digital devices for the home and export market, establishing local technology as a global standard is seen by some as in the national interest. As one interviewee put it: ‘it’s important that our country’s technology be accepted and in line with global standards.’

While standards were a national interest issue, a number of regulators felt their impact and role in this sector was limited and it should be left to industry:

*The situation is moving very quickly for example now in the area of standards industry sets the standards—previously the governments made standards. In fact we are working to a law that was written in 1997 that makes very little sense today on this and many subjects.*

Most interviewees felt regulatory selection of industry standards was not a good practice, although like most philosophies, there are always exceptions. One interviewee gave the example where the policy decision to mandate GSM technology for mobile networks in his country turned out to be the correct strategy.

## Advertising

This issue was ranked fifteenth overall in 2010, and thirteenth in 2014. A few interviewees, particularly from Ofcom and ACMA, viewed advertising as a key issue as new media and operators such as Google expand their operations. Availability of digital content is often driven by advertising revenues, without which Google and many online information, search and pay TV organisations would be severely restricted in their operations. Thus, updating self regulatory and mandatory rules earlier rather than later was seen as important: ‘People talk a lot about the future of broadcasting, but really what is more important is the future of advertising.’ The early development of information and entertainment content was also regarded as important for building economic growth and social benefits:

*Responsibility for the regulation of advertising in our country is split between industry and NRA and is therefore partly self regulatory, and partly mandatory. Thought should be given to updating and reforming the current system.*

IPTV services and mobile commerce are already posing questions about advertising to support fully converged services.

Interviewees who believed this issue was an important change agent for new media also cited management complexities not confined to national boundaries:

*You know increasingly a significant proportion of advertising has been re-directed to new media platforms. Google are you know—what’s that Hindu goddess of destruction, Kali—basically just goes around laying waste to people’s business models ... because you know YouTube is basically a great place to go to and get loads of stuff for free ... And this trend cannot be contained by national borders—it’s inherently international.*

Others saw it as a significant change agent for one of their major industries of their country;

*Historically our country has taken a large share of global advertising, but I am not sure anymore with the likes of Google whether they will continue to be able to in the future ... so regulators need to think very hard about the evolution of the advertising market.*

## Digital devices

This issue was ranked thirteenth overall in 2010, and sixteenth in 2014. Some countries have national policies which encourage the production of digital devices. Interviewees cited South Korea as the most proactive in this regard with their IT389 strategic plan. Some participants believed that digital device convergence and new technologies were change agents which would have significant impacts by 2014. Others see a strategy concerning digital devices today as important:

*Our country’s communications market is traditionally dominated by analog TV and by two main players. Digitisation will help to improve pluralism and the growth of the market. The development of new digital standards is therefore a high priority.*

The availability of advanced digital devices within a market is seen as a key factor for a leading digital economy. Having new technologies available at competitive prices is part of

the issue. In addition, ensuring ‘consistency, quality, technologically-neutral and future-proofed devices are also important.’

There were different views about the best way to achieve that. Some favored prescriptive measures: ‘there’s a need to provide regulatory certainty that allows the adoption of new devices that have significant productivity benefits for the economy.’ Others favored a system driven more by industry self-regulation.

## **Other issues**

The initial interviews were instrumental for gathering a broad list of fifteen likely priorities for use in the online survey, however, an open ‘other’ section was also included to prompt suggestions from the respondents. These other issues ranked eleventh for 2010 future priority and fifteenth in the priority issues for 2014, and are briefly discussed below.

### **Other 2010 issues**

#### **Structural separation**

The Ofcom agreement with British Telecom on functional network separation drew some interesting comments by interviewees. The EC regulator has signaled its desire to move forward in a similar direction. Japan had seen this as an issue much earlier and even though their incumbent operator NTT was already partially privatised, had negotiated a structural separation agreement with NTT. A number of participants believed that consumers and the wider community have benefited from this. Others are also addressing the problem:

*Our NRA wants to bring the functional separation of the incumbent’s telecommunications network to a conclusion. In an era of convergence this network will have a strategic role and will also be used to provide audio visual services like television broadcasting on personal computers.*

#### **Diversity of media source**

There is a theoretical view that as new media becomes more available and more television channels emerge, a free market will guarantee the diversity of information. While there is some evidence for this view, a few interviewees suggested that the current wave of deregulation that stimulates different sources of media outlets might actually reduce the diversity of views in the short term, particularly in news and current affairs:

*Although some media ownership laws have been removed, our NRA has a significant role to ensure that the providers of new services are not also the providers of existing television services.*

### **Other 2014 priority issues**

Out of the 2014 issues, there was only one significant issue raised which had not already been identified in the online survey: electronic money.

#### **Electronic money**

Three interviewees flagged the emergence of electronic currency as a potential issue that would require proactive regulatory oversight. Already, digital devices such as mobile phones enable cash and credit provision to users. In addition, some websites have been set up offering new currency or coupons which could be exchanged for legal tender, or products and services:

*Perhaps by 2014, convergence will have changed the face of retail banking and built a new business model of credit and cash providers possibly using a new form of global currency.*

The interviewee admitted this was a fairly revolutionary thought, but he believed that convergence regulators will need to be involved together with other parts of government such as Treasury and Finance, on the appropriate rules and regulations for these emerging services.

The interviews with senior executives frequently drew references to various regulatory approaches and instruments available to their NRAs for managing the convergence issues. These are discussed in the next section, together with relevant comments from survey respondents.



## 4.0 A conceptual approach to convergence regulation

*Following the quantification of the most important priorities for 2010 and 2014, this section tests a number of tools and remedies the NRAs have available. These range from authoritarian and prescriptive, to light-touch and market-led. The participants cited a broad range of approaches that had been applied, and discussed the relative success of each of these. The evidence and discussions suggest to the author that a proactive regulation with competition approach is likely to be most effective for implementing the foundation convergence priorities before NRAs can focus on the economic and social dividend issues.*

There was a range of conceptual approaches to regulation cited by the participants in the research study, but none of these were nominated as a panacea for managing convergence:

*Our regulator's approach is light touch, somewhere between the more prescriptive European approach and the free market of the USA.*

Some interviewees referred to different regulatory approaches for broadband services delivery, noting that historically, the majority of industry and academic experts argued for a market-orientated approach as the best way to ensure investment in network infrastructure. However, other interviewees pointed out that countries with strongly market-orientated regimes for broadband services, such as USA and New Zealand, have relatively mediocre broadband penetration statistics on various international league tables. In addition, some interviewees felt that the Canadian and Scandinavian successes in achieving high broadband penetration have diluted traditional regulatory arguments about inhibitory geographic factors.

The growing evidence has suggested to some interviewees that when the benefits of convergence for national interest are more clearly visible and universally accepted, a proactive regulatory approach becomes the appropriate choice rather than a market-based regime.

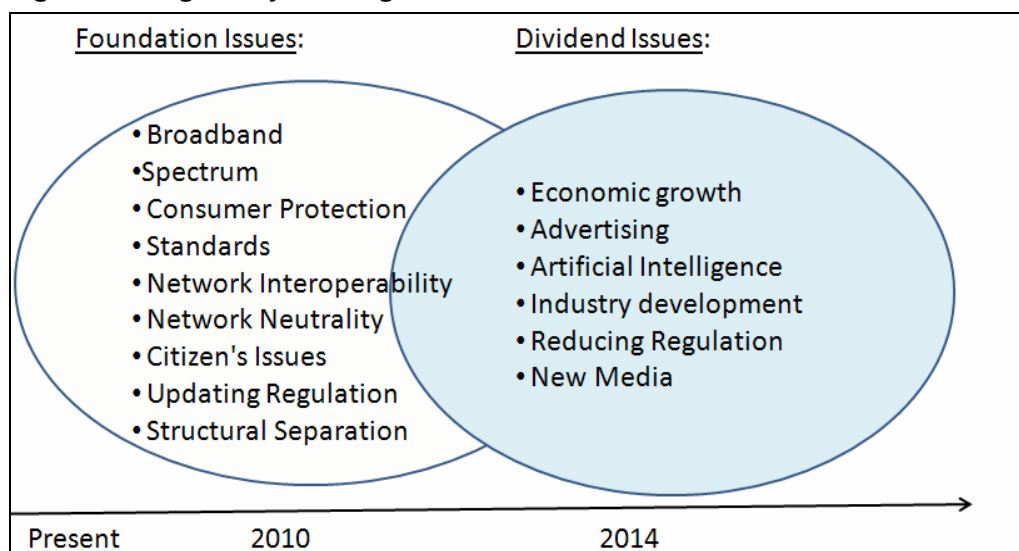
In this section, it is also important to understand and differentiate the nature of the regulatory issues discussed previously in terms of foundation and dividend issues.

### 4.1 FOUNDATION AND DIVIDEND ISSUES

Out of the overall top ranked priorities for 2010, broadband, updating convergence regulation, spectrum management, consumer protection and citizens' interests were widely viewed as the foundation policy pre-requisites for achieving global leadership in the digital age. Thus, the risks of regulatory error from adopting a deterministic approach for achieving national objectives was generally considered to be minimal, particularly when the broader public interest benefits was taken into account.

Figure 17 illustrates an overview of the foundation and dividend issues, and their relative positions in the convergence regulation time frame. If successfully implemented, foundation issues form the bedrock from which significant economic and social benefits can be achieved.

**Figure 17: Regulatory convergence—foundation and dividend issues**



Individual views on how to progress these issues varied; some interviewees thought it was likely their NRA would still be grappling with outstanding work on the foundation issues in 2014. Others thought that at the very least, most of their objectives and goals on those issues would have been achieved in this timeframe.

Two interviewees said that their NRAs would have dealt with the majority of the foundation issues by 2010. They envisaged the emergence of three divisions—global digital leader countries would occupy the first division, with advanced followers in the second division, and late adopters emerging in the third division. It should be stressed that the six participating NRAs in this research project are all early adopters of a convergence regulatory model, so most of the interviewees were optimistic that their country would be at the forefront of convergence.

By 2014, the interviewees who thought their country would be a global leader in division one predicted that their governments' policy objectives would shift from navigating and bedding down the foundation issues, to focus strongly on economic growth and social dividends. During these discussions, a common theme emerged; namely, continuing technological change with digital developments such as artificial intelligence, RFIDs and M2M being seen as likely change drivers requiring proactive regulatory oversight.

### **Approach to regulation**

Participants frequently drew an analogy between the significance of broadband services and transport infrastructure or other utilities such as electricity and water. These comparisons were usually accompanied by the expressed conviction that broadband infrastructure should lead rather than follow demand. Although there was strong debate on the amount of bandwidth required, there did appear to be consensus that 20 Mbps to the customer would be needed in the medium term, with less certainty about 100 Mbps in the longer term. Fibre-to-the-node network deployment was viewed as a pre-requisite for population-wide 20 Mbps broadband services provision to achieve cost-effective tariffs.

Participants also noted the need to deploy other network technologies (such as WiFi) for service delivery to remote or high density areas:

*Our NRA has its strategic plan to eliminate all gaps in availability and all areas and every house will have services by 2010 and thus we have to deploy broadband network infrastructure both fixed and wireless throughout the nation.*

While the interviewees who endorsed a market regime sometimes spoke of building broadband networks only when the demand had reached a critical mass, most of them believed that the preferred option was to build a network slightly ahead of the demand:

*Building a network slightly before usage requires helps develop applications and stronger usage and no-one is arguing that broadband is not a key ingredient to a successful economy in the 21st century.*

Most interviewees clearly believed it would be overly simplistic to apply one conceptual approach to all emerging issues in the convergence spectrum.

## **4.2 COMMON REGULATORY APPROACHES**

### **Consistency**

A few interviewees mentioned the concept of consistency as part of the overall approach to convergence regulation, acknowledging the importance of developing and maintaining a broad similarity between regulatory frameworks. Like most other issues, while consistency remains an important element in practice, NRAs and policymakers can have difficulty being completely faithful to this approach because of the trade-offs:

*Consistency is an important concept. In the end it is about equity for business and investors. The theory is easy, in practice it is more difficult. Take broadcasting regulation—the fact that the age of scarcity of channels is no longer with us does not appear to be pushing the Government into sensible policies. In fact, broadcasting cries out for a convergent regulatory approach.*

### **Market approach**

Essentially this approach is based on the assumption that market forces should be relied upon to the greatest extent possible to achieve policy and regulatory goals. While most of the interviewees favoured a regulatory framework which facilitated and supported market-oriented regime, a few were more measured in their support, suggesting that it would not be the best approach across the board for all applications and issues:

*There are a number of cases where the market economy does not work. A good example would be satellite communications ... they operate under an international system more of a command and control but are now looking at offering cellular type services on a very unequal basis.*

However, an assessment of the effectiveness of market forces must take into consideration whether or not the conditions for effective competition are in place.

## Co- and self-regulation

All the NRAs in this study endorsed co- and self-regulation as a principal regulatory approach. This does however require substantial preparatory work to establish functional consumer and industry bodies capable of effective self-monitoring. A few interviewees mentioned that whenever the self-regulatory process had fallen over, they had intervened to deal with the issues.

In an open question, the online respondents were asked to list the areas where their NRA might place greater, less or the same emphasis on self- and co-regulation in 2010. The results are set out in Figures 18, 19 and 20 below. Basically, 41 areas were identified where there would be increased emphasis, 25 areas where there will be less and 35 areas with no change. It is possible that these results are indicative of a positive view about self-regulation as an increasing force in regulation in general, and content regulation in particular.

**Figure 18: Areas your regulator might place greater emphasis on self- and co-regulation in 2010**

Issue	Frequency of mention
Content regulation	13
Consumer protection	7
Internet regulation	5
Standards	3
Wholesale and retail tariffs	2
Complaints handling	2
Spectrum assignment	2
Other	7
Total responses	41

**Figure 19: Areas your regulator might place less emphasis on self- and co-regulation in 2010**

Issue	Frequency of mention
Access disputes/competition	6
Consumer protection	5
Content regulation	2
User content	2
Privacy and security	2
Billing issues	2
Other	4
Total responses	25

**Figure 20: Areas your regulator might place equal emphasis on self- and co-regulation in 2010**

Issue	Frequency of mention
Consumer protection	5
Complaints	5
Content regulation	5
Spectrum regulation	3
Access/competition	3
Standards	3
Advertising	3
Other	8
Total responses	35

Thirteen respondents indicated that there would be a greater emphasis on self- or co-regulation of content regulation, two indicated less emphasis and five the same. In contrast, the executive interviews revealed a less positive view, with interviewees often citing the difficulty of using self-regulation for content, and particularly, for new media.

Consumer protection was also an area where some online respondents saw a greater role for self- or co-regulation. However, similar numbers of respondents indicated there would be less or the same emphasis on self-regulation in relation to consumer protection (five mentions respectively).

Interestingly, access disputes and competition were the areas where respondents considered there would be less emphasis on self- and co-regulation. This is consistent with the views of a number of interviewees who were critical of telecommunications operators—in particular, the incumbent operators—who they said frequently gamed the regulatory process with serial access disputes to perpetuate their monopoly positions.

### **Recent developments in content regulation**

European and Australian NRA executives spoke at length on the general trend of a conservative public morality increasingly impacting media standards with new urgency, driven by the content on the internet and the emerging IPTV services. In one example, the wave of public opinion in what was seen as a sexually indecent act ‘broadcast’ on the internet transcended industry groups. While the internet streaming did not constitute a breach of broadcast rules, the minister instructed the NRA to investigate the regulation of related kinds of television programs

Many participants felt that While public standards for adults have become more liberal, there is a rising trend sometimes referred to as the ‘nanny state’. As one example of this, across a number of countries, governments and NRAs are under public pressure to assume responsibility for the content and programs that children may access on traditional and new media, for example, YouTube, Myspace and Flickr. Generally, there appear to be increasing public expectations that the state should take responsibility for difficult choices over the airing and publication of content pertaining to violence, sex, and religious and national symbols.

While the executives interviewed generally preferred a self-regulatory approach, there was also an underlying view that public pressures often led to reactive policing of content, particularly on the internet. In Asia (without Australia), this tended to manifest itself as nationalism and protection of religious or cultural sensitivities.

There was widespread support from interviewees for the development of a more effective self-regulatory methodology that placed the onus and judgment back on consumers. This would require a self-labeling ‘no surprises’ approach which would mirror standards setting for traditional TV media:

*You would not expect nude bodies on a government broadcaster’s TV children’s program however if you subscribe to the pornographic channel on pay TV, you would expect to see nude bodies.*

Appendix 1 illustrates the overview of a value chain concept which has been adapted from Ofcom publications. This value chain consists of participants each playing a role in the production and distribution of content, where the content providers provide a content classification system akin to that used for movies, and abide by it. Some experts call this the ‘top shelf’ methodology, which uses the analogy of retail newsagents. At the other end of the value chain, the search and navigation provider would need to take on the responsibility of building an image for its customers reflecting a set of expected standards for the relevant consumer segment.

## **4.3 PROACTIVE REGULATION WITH COMPETITION**

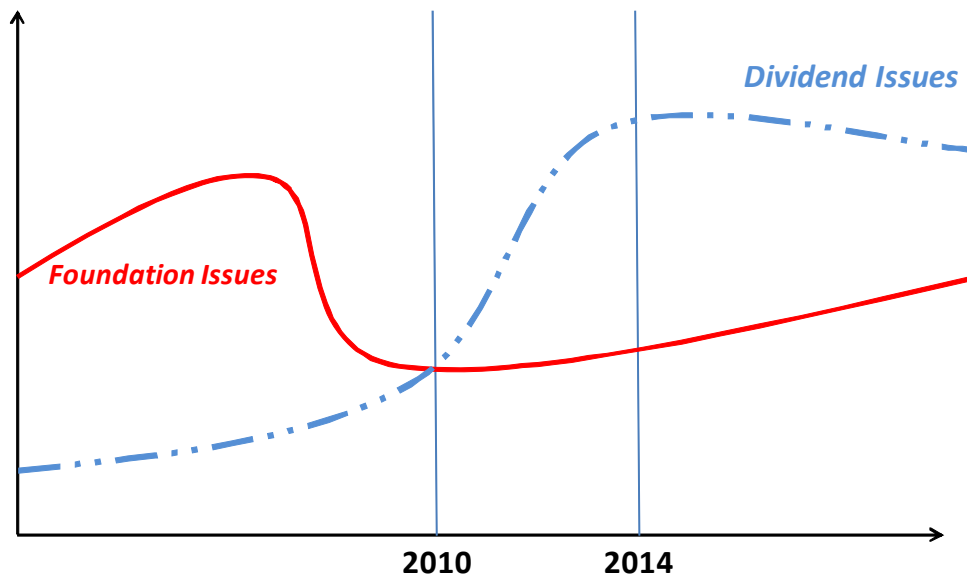
The author believes that an analysis of the interviewees’ collective views indicates that a Proactive Regulation with Competition (PRC) approach would be particularly effective for foundation issues such as spectrum and broadband management. While this approach favors

competition at a network and service level and prefers a market approach with self regulation, it is not strictly bound by such concepts. Where market forces are insufficient or lead to outcomes that are not in the public interest, enlightened policy intervention, including regulation, will be needed.

MIC and MCMC’s approaches more closely linked economic growth targets with regulatory policy and strategy, and involved mapping the resulting impacts. This deterministic approach, with quantified targets embedded in national plans, appeared to be facilitating progress towards the goals in those Asian jurisdictions.

The author believes that the Asian NRA successes with broadband suggest an alternative approach to convergence regulation, best described as PRC. This approach should be considered for wider applications of foundation issues such as spectrum management.

**Figure 21: A hypothesis for proactive regulation with competition in convergence communications markets**



The views of interviewees on spectrum and broadband illustrate the application of the PRC approach:

- Spectrum management—there was near universal agreement that a prescriptive approach would be initially required on an interventionist basis before a market-based system could be established. The government will need to be proactive and negotiate changes to licenses, and introduce new legislation for the market-based system to work.
- Broadband—the majority view was shifting towards more proactive regulatory intervention. This might involve using the tender process with government funding or in other instances, a mix of the market approach for connecting households to fibre-to-the-node networks, with a directly interventionist approach for the remainder. The latter usually involves rural or remote consumers and typically up to five per cent of the population. Most of the NRAs were monitoring their country’s broadband penetration, and those interviewees who supported a proactive or interventionist approach all associated the leading broadband countries of Japan and South Korea with a proactive regulatory approach. This was compared to the market-based approach of the relatively slow broadband developers, for example USA and New Zealand.

On the other hand, issues like new media have significantly different characteristics from broadband and spectrum. At this point for most of the regulatory priorities, it is difficult to predict which markets, business models or technology will eventually emerge as dominant or commercially successful. Consequently, many interviewees felt that moving too quickly to achieve desired national objectives could be detrimental and ran the risk of regulatory error. Instead, a market-led approach was universally seen as the best way forward once the foundation requirements of network and services have been provided. As one interviewee stated:

*A command and control approach such as that in China poses problems for convergence issues and how to regulate it because it is all about power and relinquishing the power ... They can handle the rapid transformation assembling the building blocks, but then what? How can they license for creativity and innovation and do this in a top down approach?*

There were differences of opinion on how the overall conceptual approach to regulation would change in the next three years. The online survey indicated strong agreement by the NRAs on the top issues for 2010 as judged by their scores (see Figure 4) for which the NRAs have ambitious and complex end objectives. Many interviewees felt that successful implementation requires speed and flexibility in the NRA, which may well be an opposing force to a purely market-oriented approach. However the online survey results indicated that the 2014 priority issues are less certain—these involve new technologies and services and require the encouragement of entrepreneurial options in support of a market oriented approach.



## 5.0 Strategic planning

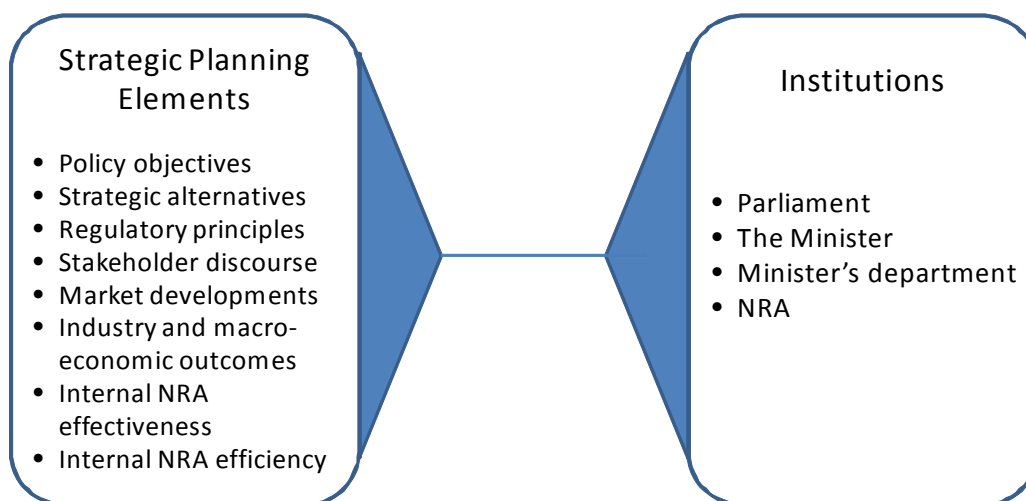
*Once the relative importance of longer-term issues is understood, the regulatory approach is selected. Governments and their regulators can then assess how convergence objectives should be achieved through strategic planning. The different strategic options can be discussed with all stakeholders through public discourse. The strategic planning process varied and could be outcomes- or process-oriented, led by ministerial or regulatory authority. However, a majority of NRAs believed a well-developed strategic planning process will advance the achievement of national objectives.*

The topic of strategic planning generated a lot of interest, particularly during the interviews with the chairpersons and executives responsible for planning. The NRAs had diverse views about strategic planning which was impacted by their respective role and remit. A framework is presented in Figure 22 below for the purposes of analysing these diverse views about strategic planning for convergence regulation.

### 5.1 STRATEGIC PLANNING AND GOVERNMENT

The author has identified eight elements which may be considered essential considerations in the strategic planning process for NRAs. For each of those, there are interactions, information flows, and influences operating between the responsible government institutions that come together to shape the strategic plan. The list is certainly not exhaustive and more practical research needs to go into determining the general applicability of these and other criteria.

**Figure 22: Strategic planning and government institutions**



The governments that produced national plans and objectives for ICT and convergence matters appeared to focus strongly on the first six elements in their plans. For example:

- The Malaysian government's national strategy: 'My ICMS886 Strategy',<sup>5</sup> was introduced in 2003 and is currently being updated.
- Likewise in Japan, the MIC has published a number of strategic planning documents and white papers, such as *Information Communication 2007*.<sup>6</sup> Each year it also updates an ICT policy outline paper.
- Executives from MCMC and MIC also mentioned South Korea's IT 839 strategy<sup>7</sup> as a leading example of a deterministic national strategic plan. Appendix 2 illustrates the integrated approach and how government and industry are interlinked. Appendix 3 illustrates how the key objectives are specified in South Korea's strategic plan.

For MCMC and MIC, their own planning and priorities are closely linked to the national plan and specific government priorities which are often quantified. In Japan, goals include being the leading broadband country in terms of coverage, speed and price, together with specific published targets for all Japanese having broadband internet access by 2010. The regulatory function would then usually identify its priorities and approach to reaching these national objectives.

It is the author's opinion that Japan's deterministic approach, which is also favoured by Malaysia and Finland, offers significant advantages which are worthy of consideration in other jurisdictions, albeit allowing for different cultures and values, and regulatory and legislative frameworks. A deterministic national strategic plan for at least the next three to five years could accelerate progress towards accepted regulatory goals.

Indeed, the broadband achievements in South Korea and Japan make a strong case for this. Today, the coverage, bandwidth speeds and service values in those two countries are superior to that in the European Union. This was achieved through the efforts of publicly-owned companies and by maintaining competition imperatives, without government investment. Industry and consumer and citizens groups were consulted in producing the plan, and are more accepting of the national goals. When all stakeholder groups accept the stance of proactive regulation for achieving these national goals, self-serving views and unproductive debate tend to be minimised, and more emphasis is placed on win-win approaches.

The advantage of greater certainty was also mentioned by some interviewees: these plans have five-year horizons which tend to overlap periods of different governments, and can provide industry players with relatively more certainty on regulatory direction.

### **Ofcom's framework for regulator performance evaluation**

Amongst the other regulators—Agcom and ACMA—Ofcom was seen by interviewees as having the most developed three-year strategic planning process.

There are four component areas to Ofcom's framework for reviewing its effectiveness:

1. achieving objectives and applying regulatory principles;
2. internal efficiency and effectiveness;

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<sup>5</sup> <http://www.mcmc.gov.my/>

<sup>6</sup> [http://www.soumu.go.jp/menu\\_02/ict/u-japan\\_en/index.html](http://www.soumu.go.jp/menu_02/ict/u-japan_en/index.html)

<sup>7</sup> [www.eng.mic.go.kr](http://www.eng.mic.go.kr)

3. market developments; and
4. stakeholder perceptions.

Ofcom’s plan lists areas of focus across the three-year planning cycle, together with issues that will be addressed. This reflects its involvement in the development of policy options and factual research. Ofcom also publishes yearly performance and evaluation reports on their website.

The question of socialising a strategic plan externally was mentioned by a number of executives. Their approaches vary from making it publicly available for comment, to using it as an interactive process with the major stakeholders of industry, consumers and citizens:

*If you’re going to have external interaction, I would have thought that you undertake the planning process in conjunction with the external stakeholders, and the Minister’s department ...*

Transparency around priorities and project milestones was also important:

*One of the big advantages to strategic planning is that we become transparent with our priorities and the status of future projects.*

Linking strategic plans with yearly targets and budgets was also an important exercise:

*Every year in our country, we review our long-term plans. And we are just commencing the next update which covers the time from 2009 to 2012 ... for our yearly plan, we use the balanced scorecard method.*

Interviewees from MIC and MCMC believed that South Korea had the most effective strategic planning process, while participants from ACMA and the European NRAs nominated Ofcom. Some interviewees claimed that a more detailed plan would help to attract global corporate investment to their country. In addition, a detailed plan would assist their own staff and other government agencies and departments to focus their attention on priorities and upcoming issues.

## 5.2 SCENARIO PLANNING

The online survey also asked respondents to indicate how useful they felt scenario planning would be to their operations. Figure 23 indicates that sixty-six per cent thought this process would be useful or very useful.

**Figure 23: Relative importance of scenario planning to online respondents**

Category	Frequency	% Frequency
Not useful	0	0%
Of limited usefulness	5	10%
Somewhat useful	10	20%
Useful	18	36%
Very useful	15	30%
Not sure	2	4%

At Ofcom, the strategy group and technology department have established a planning process to research and study topics such as e-health and transportation. Using scenario planning, they forecast the outlook for these sectors ten and twenty years out, and how that may affect the magnitude and importance of some of the current issues for broadband and spectrum management.

Agcom and MIC are planning to undertake research on core public interest issues, and work through the impact emerging trends may have on their three- to five-year priorities and objectives. Forecasting the growing market need for broadband services is one example of this. This could be approached by looking at a number of key market sectors such as health, transport and artificial intelligence, and working through a process to estimate likely future usage:

*A converged regulator has got to define his scenario planning in order to make its action more effective and at the same time to be able to change its road map and meet the demands of future technological markets and industry sectors.*

While acknowledging the challenges, many executives felt that scenario planning of industry and market developments would be helpful:

*It helps to understand and prepare for a range of industry development outcomes in an environment which is changing rapidly.*

Other executives believed a combination of market and technology knowledge underlying scenario planning would assist and inform their strategic planning:

*In my view scenario planning is preparing for alternative futures. The technological development makes it difficult to predict what will happen and at what pace. Building different scenarios is one way to 'open eyes' for different possible paths.*

The study indicated significant support for scenario planning for market and technology topics. The majority of the executives interviewed were supportive of developing a collaborative approach to scenario planning between leading convergence regulators. They believed that allocated studies within a common framework would be more effective at generating the most predictive scenarios with learnings for all.

## 6.0 NRA role and remit

*Following the government’s decision on a strategic plan and objectives for implementing the key medium- and longer-term convergence priorities, a decision on the role and remit of the regulator can be made. The role and remit of the NRA covers their scope, powers and key areas of responsibility.*

Each of the regulators was asked to complete details of their current role and remit, and a summary of their responsibilities and powers in generic form is shown in Figure 24 below. It would have been interesting to know the rationale for each government’s choice of responsibilities and powers of their NRA. It is the author’s view that this issue deserves further exploration and research as the decision appears to have a significant impact on whether a nation was a convergence leader.

**Figure 24: Range of scope and powers of NRAs**

Scope	Powers
Telecommunications services	Setting national objectives
Broadcasting services	Deciding policy
Consumer affairs	Producing policy alternatives
Internet content	Conceptual approach to regulation
Competition policy	Implementation of policy decisions
Postal services	Stakeholder relations
	Benchmarking of outcomes

### 6.1 SCOPE AND POWERS

All the convergence NRAs in this study are responsible for implementing laws set by their minister and parliament, overseeing industry self-regulation, and promoting consumer education.

Although the historical context varied, data from the interviews indicated that the key differences between the NRAs were in the following areas:

- the interface with the ministers department and their respective roles;
- the role of the regulator in developing strategic alternatives;
- the extent to which the regulator links policy options with industry and consumer bodies;
- the extent to which the regulator undertakes research on stakeholder needs.

In the UK, Ofcom appears to have responsibility for much of the strategic policy and regulatory options, and interactions with the various stakeholders. It is also well-resourced with skilled staff. The situation is almost the opposite in Australia, with the ministerial department taking primary responsibility for policy development. In Japan, the NRA and the

minister's staff are integrated, but for the other regulators in this study, the balance of responsibility between the regulator and the minister's staff appeared to lie between the UK and Australian alternatives.

Many interviewees suggested that it was important for NRAs to play a significant role in regulatory policy development to ensure that appropriate regulatory decisions are made independent of political pressures:

*The disadvantage of the Minister's department having too much regulatory power is that they are too close to the Government, and therefore far more politically-disposed than an agency ... this dynamic means the department is risk-averse on the big politically-contentious issues.*

Interviewees recognised there were different cultural approaches, particularly in relation to content issues. The increasing trend towards what has been termed the 'nanny state' was the most frequently cited, with child protection being the single most commonly mentioned issue. Other issues included pornography and violence in content. The sanctity of the national flag, religious icons and symbols were also mentioned. Some interviewees thought that strong political pressure or influence could result in over-regulation, which might not be in the best interests of all stakeholders in the long run:

*On self-regulation, the current risk is that we will over-regulate ... unfortunately, this will not make us exposed politically, the exposure is for under-regulation and not protecting children.*

While the Malaysian and Japanese governments produced high level strategic plans and objectives for ICT issues, their NRAs undertook research and convergence policy options development work with stakeholders which contributed to government decision- and law-making. In some instances, NRA staff also had input to updating national policy plans.

During the interviews, some senior executives mentioned their governments' requirements for NRAs to build national expertise in convergence issues, both at a management and technical level. In some countries this was specifically itemised in their national plans. One strategy for achieving this was to proactively build bridges between the NRA, academia and industry. One interviewee mentioned specific examples from the UK where academic experts Martin Cave (Warwick University)<sup>8</sup> and William Webb (University of Surrey and Ofcom)<sup>9</sup> have built up a significant body of knowledge together with Vodafone,<sup>10</sup> as evidenced by their published papers on these issues.

In relation to competition policy, other than ACMA, all the NRAs hold responsibility for decisions on access pricing, mergers and acquisitions, and competition policy issues. In Australia, competition policy issues and pricing decisions are dealt with by a separate competition regulator, the Australian Consumer and Competition Commission (ACCC). Most interviewees were of the view that creating a convergence NRA without a strong competition role would limit its capacity to gain credibility and respect from industry and consumer stakeholders.

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<sup>8</sup> Cave, M. and Crowther, P. (2006), 'Driving forward spectrum liberalization', *Vodafone policy paper series no.5*

<sup>9</sup> Cave, M. & Webb, W. (2003), 'Spectrum licensing and spectrum commons—where to draw the line', *Warwick business school, papers in spectrum trading no. 2*

<sup>10</sup> Cave, M. and Crowther, P. (2006), 'Driving forward spectrum liberalization', *Vodafone policy paper series no.5*

## 6.2 REPORTING LINES AND INTERFACES WITH OTHER AGENCIES AND STAKEHOLDER GROUPS

Creating and achieving the right balance of power between the regulator, minister (and ministerial department) and parliament was seen as a key strategic issue for the effectiveness of NRAs. As one executive commented:

*The balance between the skills with the Minister, the Department and the regulator is important. If anything, the skills at the Minister's level are not strong enough. We rarely have a knowledgeable Minister, and therefore he/she needs to have two or three advisors at least of the highest expert level to give advice and network effectively.*

The Japanese model houses its ministerial, personal, departmental and regulatory staff within the same organisation. Consequently, although departmental interface issues were mentioned, MIC experienced fewer interface issues compared to the other NRAs in this study.

The chairpersons of the six NRAs involved in the research, either report directly to their respected parliament, or alternatively to or through their minister. Role clarity can sometimes be an issue for all NRAs, but the path for those not reporting directly to parliament is more complex:

*Our relationship with parliament, government and other agencies is fairly complex, and is quite difficult to sort out.*

While the relative balance between these parties is important for the Westminster style democracies, some executives thought the minister and the minister's advisers should acquire a greater skill base and knowledge of the issues that would assist them in making more informed judgments and decisions on policy. Others cited the importance of awareness of the processes of regulatory policy and decision-making.

Many participants felt that good relationships with the ministers and their departments and other agencies have a significant impact on the NRA's flexibility and ability to respond quickly to regulatory issues. While many interviewees believed their relationships were reasonably strong, some observations suggested there was room for improvement:

*Although relationships are good, in general the department there is an underlying power play, which does slow down changes.*

Developing strong stakeholder relations with consumer and industry groups was seen as a key role for all regulators, as it facilitated essential functions such as testing policy options, discussing implementation plans, or overseeing co-regulation processes. In this regard, the relative power and influence of the NRA over these stakeholder groups is very important. Clearly, the power and prestige of the NRA was enhanced by their role in the development of policy options and by having responsibility for competition policy issues. These were viewed as important leverage capabilities for NRAs.

High-profile 'political issues' that were the subject of episodic public controversy could also divert NRAs' focus away from more meaningful regulatory issues. Examples were given by the interviewees of timed telephone local calls, switching off analogue TV transmissions, and internet and TV content issues. As one executive said:

*Some of these issues clearly have regulatory decisions, but others do not. Although sometimes government finds it expedient to ask the regulator to address these issues.*

### **6.3 RELATIONSHIPS WITH STAKEHOLDER GROUPS**

Many of the interviewees placed a high priority on establishing strong relationships with the major stakeholders, namely consumers, industry and community. Other than Ofcom, most of the interviewees believed there was considerable room for building better relationships with the stakeholder representative groups. They cited the perceived influence of the regulator as a major requirement for a constructive dialogue. Specific specialist expertise held by their executives was also very helpful in this regard.

#### **Consumer groups**

Consumer needs pertaining to convergence issues can be difficult to categorise. The issues of privacy, choice and access for the disadvantaged and disabled are complex and transcend the NRAs' remits, and also overlap with other ministers' responsibilities. Nevertheless, there was a strong view that building up a group or mechanism to facilitate exploring and developing the consumers' views is an important pre-requisite for success:

*One of our NRA's central duties is to take consumer views on board—the interests of consumers and citizens is central to our role. Our consumer panel has rightly defined their role as a type of audit function to check that we are indeed safeguarding for our consumers' and citizens' interests.*

Ofcom's senior executives have an explicit responsibility to represent the interest of consumers and citizens, and so have put considerable effort into joint research of consumer needs with third parties to build a databank that could be used for future regulatory policy options.

#### **Industry groups**

Government policy has important implications for industry players. The question of competition policy, for example fibre optic networks, spectrum policy changes and new rules for emerging IP services, are all issues in which telecommunications, media and IT companies have a fiercely strong interest. Establishing panels and boards of industry representatives who have the respect of their peers, ideally in a non-parochial way, was mentioned as challenging, but essential, by a number of executives:

*Most of our panel members too often take their own organisational view rather than the industry as a whole.*

NRA executives across the project also indicated it was often difficult to maintain a balance between consumer and industry needs because the industry groups are better funded, more well-organised, more influential and well-informed. Basically, they are able to pay for skilled experts, knowledge and lobbyists at a level far beyond that of consumer groups.

*The broadcasting interests and associations are very self-industry focused, and traditionally, almost anti-consumer. They have a reputation of being very close to the regulator.*

*We have about 100 organisations identified as stakeholders ... The quality of people in those organisations representing consumers in total are remarkably*



*poor in their ability to make a difference. Because of their weakness in stakeholder groups, industry has a disproportion of influence. For example, in broadcasting and market spectrum, vested industry players make the running...*

### **Citizens' interests groups**

Many of the interviewees did not feel strongly about having groups dedicated to representing citizens' interests. Rather, citizens' interests appeared to be more of an abstract theoretical concept, as one interviewee put it:

*The public interest test is enshrined in our legislation and requires our NRA to investigate any matters from a broad public interest.*

Another interviewee added:

*In the digital age the public interest issue will be ever more important and we cannot believe in the world of digital plenty the market alone will provide.*

Citizens' interests seemed to be a broad concept for some interviewees, incorporating convergence foundation services such as broadband, new media, and cultural issues of local content and diversity. One of the views put forward was:

*That the public interest test or citizens' rights should predominate over consumers or industry requirements if there is a conflict.*

Other interviewees believed citizens' interests to be an area justifying research by the regulator and possibly the production of research papers for general discussion. The individual quote below gives a flavour of these comments:

*I believe our role as a convergent regulator requires us to research future industry needs that are essential to public life such as e-education and e-health and ensure that the convergent networks and services are available to provide the best services for all citizens.*

## 7.0 Organisational structure and management

*Establishing a convergence NRA is a policy decision taken by a national government. Once the strategic intent is established, the research found that the appropriate organisation structure and management are very important for the efficiency and effectiveness of the regulator. This topic drew significant interest from the interviewees, who viewed decisions about organisational structure and management as key for NRA success.*

Different economic, cultural and political systems shape and exert influences on the formation of new regulatory agencies. ACMA, Ofcom, Agcom and MCMC are organisations amalgamated from previous independent government regulators, usually those regulating telecommunications and broadcasting. Ofcom was created from the integration of five separate regulators. In contrast, FICORA was set up independent of any such integration. In Japan, the MIC incorporates all its responsibilities and functions within its own organisation—their convergence regulatory function is not the domain of a separate entity.

Essentially, the main organisational differences are where national policy, regulatory policy, objectives and implementation are decided and the level of responsibility and input the NRA has on these issues.

### 7.1 OVERVIEW OF CURRENT NRA STRUCTURES

#### Ofcom

The Ofcom structure is overseen by a Board with both executive and non-executive members and a presiding Chairman. The Executive members run the organisation and report to the Board, while the work of both the Board and the Executive is informed by contributions from a number of advisory bodies. The Ofcom Board also provides strategic direction for Ofcom. It is the main statutory instrument of regulation with a fundamental role in the effective implementation of the Communications Act of 2003.<sup>11</sup> The senior executives who were interviewed stated that the Ofcom Board reports directly to the Parliament.

#### ACMA

In Australia, ACMA is governed by an Authority comprised of the Chair, the Deputy Chair, one full-time member, and a number of part-time members. Its day-to-day activities are managed by an executive team comprising the Chair, the Deputy Chair, the full-time member, five General Managers and twelve Executive Managers.<sup>12</sup> ACMA reports through the Minister to the parliament for the tabling of its Annual Report, while the Minister is responsible for the development of national regulatory policy. ACMA is also subject to direction on certain matters from the Minister. The Chair of ACMA is solely responsible for the allocation of resources within ACMA's operations and reports to the Minister for Finance on ACMA's finances. In terms of ACMA Board members, the Minister may make a binding recommendation to the Governor-General that any of ACMA's Board appointments be terminated in certain circumstances.

<sup>11</sup> [http://www.ofcom.org.uk/about/csg/ofcom\\_board/role/](http://www.ofcom.org.uk/about/csg/ofcom_board/role/)

<sup>12</sup> [http://www.acma.gov.au/WEB/STANDARD/pc=ACMA\\_ORG\\_OVIEW](http://www.acma.gov.au/WEB/STANDARD/pc=ACMA_ORG_OVIEW)

## **FICORA**

In Finland, the Director-General who reports to the Government is the Senior Executive of FICORA, which is organised into seven profit areas plus two units of International Affairs and Development function respectively.<sup>13</sup>

## **MCMC**

Malaysia uses a similar structure with a Chairperson presiding over MCMC with various departments and divisions reporting directly to him. The Chairperson in turn reports to the Minister.

## **Agcom**

Agcom was established in Italy in February 2006.<sup>14</sup> Their model follows closely the new EU guidelines which are intended to help speed up the decision making process. Under this model, a General Secretariat has a key role between the collegial bodies and the structure. The General Secretariat is responsible to the Council for managing the structure and efficiency of its services. The role of General Secretary is to verify formal completeness of all decisions and ascertain that they correspond to Agcom's policy; this role must also plan and monitor all inquiries and is responsible for the official information and the annual report to the Parliament. There are six different directorates directly under the General Secretary which are responsible for regulating various aspects of their ICT industry such as e-communication and competition.<sup>15</sup>

## **MIC**

Japan's current regulatory regime contrasts with that of other countries in this study: the regulator is not totally separated from the government. The Japanese Ministry of International Affairs and Communications (MIC) encompasses two external agencies, four regional bureaus and offices, two special councils, three institutions, twelve councils, and twelve internal bureaus and departments. MIC is a larger organisation compared to the other NRAs in this study because of its much larger remit, and consequently it also has one of the largest budgets.<sup>16</sup>

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<sup>13</sup> [http://www.ficora.fi/2006/eng/02\\_vision\\_mission\\_values/index.html](http://www.ficora.fi/2006/eng/02_vision_mission_values/index.html)

<sup>14</sup> [http://www.mcmc.gov.my/about\\_us/structure\\_files/skmmorg.pdf](http://www.mcmc.gov.my/about_us/structure_files/skmmorg.pdf)

<sup>15</sup> [http://www.agcom.it/eng/e\\_intro/e\\_orga\\_htm](http://www.agcom.it/eng/e_intro/e_orga_htm)

<sup>16</sup> The desk research revealed that MIC's budget was 16.2 trillion Yen in 2007 fiscal year, which is roughly about AUD150M. Ofcom's budget was AUD 207M in the same year. In comparison, the FICORA and Agcom budgets in 2006 were about AUD2.67M and AUD6.7M respectively.

## 7.2 STRATEGIC INTENT

An organisation exhibits strategic intent when it relentlessly pursues an ambitious strategic objective and concentrates its resources on achieving that objective. It can be gleaned from the sense of urgency and degree of change that is expected of the NRA by its government.

There was a universal view amongst interviewees that convergence is having a significant impact on economies and societies. All participants placed its importance in the highest level category. For example:

*In Asia, for both developed and developing countries we see convergence as the next critical step in the digital age. In many ways, we were late in catching the wave of prosperity from the Industrial Revolution, and we do not intend to make the same mistake again. We see convergence as the next most critical issue, since the commercialisation of the web.*

Some interviewees extended the discussion on the importance of convergence to global competition over the longer term, pointing out how some developing countries were building skills in ICT very quickly:

*The creative industry contributes something like fifty per cent of the GDP contribution of ICT taken together in [our country]. So a lot of people talk about creativity as India and China move up the value chain in ICT ... On this scenario [our country] will survive on its ability to network and produce services and applications. And convergence is important in creating new markets and business opportunities. So being a leader is important.*

During the interviews the question was posed: is the digital economy the key driver of productivity and economic growth for developed countries? There was universal agreement that it was a major impact, but opinions and estimates on the volume of that impact varied:

*The EC [European Commission] sees digital technology as producing over fifty per cent of the productivity and economic growth of the EC.*

Some interviewees provided specific estimates on the economic impact of broadband and moving to a market-based spectrum management regime on economic growth. These interviewees estimated an incremental GDP impact from being a leader on these issues in the range 1.0 per cent to 2.2 per cent.

While there was a consensus on the high importance of these two issues and the scale of their economic impact, there were significant differences of approach in strategic intent between the Asian, European and Australian regulators.

Amongst the European interviewees, the critical importance of broadband availability and takeup was accepted. However, the link between specific growth targets and regulation was infrequently discussed. Overall, the European interviewees compared their regulatory performance against their USA and EC counterparts, and felt relatively comfortable with their achievements. However, one senior European NRA executive commented that:

*With economic growth and productivity linked to broadband and market spectrum initiatives amounting to some one per cent of GDP growth per annum, each year we delay has an enormous impact on the creation of jobs and wealth.*

While discussing effective regulatory strategies for accelerating economic growth, organisational culture within NRAs was cited as an issue:

*We have a strong risk aversion, with the result that we deal with things very slowly—there is no incentive to take risks. In the private sector it's payback but in our case we don't get more money; we just get told off for getting it wrong.*

Some interviewees mentioned in passing that the FCC (USA) had once been viewed as a leading best practice NRA during the telecommunications heyday. It was now thought by those interviewees that the mantle of thought leadership in convergence had moved to other regulators, with Ofcom being mentioned most frequently. The researchers believe, based on the interviews, that over the next seven years, a fragmentation of 'best practice leadership' will occur, with some nations such as Japan and Korea establishing leadership in a specific priority area. The Asian governments and NRAs made it clear that they place a very high priority on achieving an early lead:

*In many ways, we see the provision of broadband services and the availability of spectrum for industry experimentation as the modern equivalent of roads and electricity. In other words, early delivery is a better strategy than late delivery from a national perspective.*

### **7.3 ORGANISATIONAL DESIGN**

Determining the ideal organisational structure for a regulatory authority requires a comprehensive assessment of various factors including the country's needs and objectives, political environment, legal requirements, and available expertise in the labour market. These are particularly important considerations for a converged regulator resulting from a merger of previous regulatory bodies. Concerns include the risk that larger organisations may be less transparent, the challenges of bringing together different (and possibly conflicting) organisational cultures, and managing potential conflicts between the new objectives and the divergent viewpoints of legacy telecommunications and broadcasting perspectives.

From the interviews, the regulators who had experienced and managed the change stressed the difficulties in harmonising approaches to regulation, the problems of managing large and complex organisations, and the fact that content regulation becomes less central compared to access regulation.

#### **The advantages of a single location**

Locating staff within a single geographic site enhances organisational agility, as well as learning and development. Agcom operates out of two locations (Milan and Naples), and ACMA out of three locations (Canberra, Melbourne and Sydney). Both Ofcom and MCMC have a single headquarters, and some interviewees cited speed, flexibility and efficiency as the advantage of a single location arrangement:

*We currently have multiple geographic locations, and whilst there are always tensions in organisations, having multiple locations does create more trauma and exacerbate the situation.*

*You ask what is the value of being a convergent regulator: the answer is that by having our people cross-fertilising ideas and having full mobility within the*

*same structure and one location we get multiple viewpoints and a convergent culture is established that creates greater efficiency.*

## **Restructuring**

MCMC and Ofcom were reorganised around convergent issues rather than the conventional sectoral divisions of telecommunications, broadcasting and separate functional support teams of lawyers, economists, engineers, and so on. ACMA's Inputs/Outputs structure was also intended to replace conventional sectoral divisions between telecommunications, broadcasting and internet content. Senior executives saw merit in taking a radical approach:

*My view is that, organisationally speaking, if you take a gradual approach to convergence you will never get there as the old barriers will remain.*

Other executives emphasised the advantages of speed and efficiency:

*The new organisational model changed the focus from a model based on functions to a model based on subjects. This has reduced the time necessary for regulatory intervention and makes our actions more effective.*

Following the establishment of a new convergence organisation, most NRAs were making significant organisational changes. Most of these were done on an annual basis to deal with the NRAs' changing priorities. For example, MIC's recent restructure was motivated by the need for stronger strategic coordination, while MCMC was reorganised to emphasise focus on competition issues.

## **Building skills and experience**

Most interviewees were of the view that the task of promoting and achieving competitive markets requires a balance of skill sets, expert knowledge and understanding of current and future market dynamics, and the judicious application of various regulatory instruments. Not surprisingly, the question of what skills and experience are needed to set up and staff a convergence regulator drew strong discussions during the executive interviews. The majority felt that recruiting senior people with industry-based skills was necessary:

*When we became a converged regulator, I think you'll find something like seventy-five per cent of the senior team were not from legacy regulators. And that proved to be a successful change agent.*

Others cited the need to recruit more talented people with higher levels of skill and experience:

*We've actually picked up more duties since we became a convergence regulator, but we've done more with a smaller headcount by employing a lot of bright people and although they cost more they are able to punch well above their weight, and in particular, get through issues much faster.*

There was also an emphasis on skills in demand for the next three years:

*What we need is a different type of people and I am not sure where we can get these people. We need people who are policy-astute but practical implementers at the same time.*

Others suggested that it would be useful to have staff who could understand the new technologies and business drivers:

*We've got a lot of experts in radiocommunications and broadcasting and lots of lawyers ... but the problem is with new challenges, they're real and big and different, like the emerging mobile phone services—if I have a credit I can run down every time I go past a vending machine, I'll dial for a packet of chips, etc. What is our role, and do we have the right expertise?*

## **Workload**

There was some interesting debate over whether or not the volume of regulatory issues would expand in the future. Many interviewees agreed that the number of critical issues up to 2010 was already well defined and is unlikely to increase. However, the degree of complexity could easily grow over this period because of the challenges of dealing with an increasing number of stakeholders, with corresponding pressure on the NRA workload.

Post-2010, many interviewees believed that their NRAs would have to deal with a greater number of an increasingly complex range of issues which would also cross traditional industry/sectoral boundaries:

*In the future, the number of issues that would need to be addressed in convergence will grow. In particular into the fields of banking, advertising, and consumer privacy, which will increase the degree of complexity.*

Other interviewees suggested that emerging technologies would spawn even more issues requiring regulatory oversight:

*There will definitely be a need for more issues to review. If nothing else, from technology, things like IP television, quadruple play, second life, Web 2.0, Web 3.0, etc.*

## **Resources**

While data was collected on budgets and staffing numbers, a direct comparison of the information would not be meaningful because of the different organisational structures and responsibilities.

MIC, Ofcom and ACMA were under continuing government pressure to reduce their budgets each year while achieving greater efficiencies. They rose to the challenge:

*When we combined the previous agencies, we had a [high] headcount. And now it's been reduced ... with fewer, better people.*

*I think we are more efficient, and though it is difficult to measure workload, three or four years since the merger, regulatory costs were rising by something like six per cent per year, and we've got them down in real terms by something like five per cent ... you can squeeze five per cent efficiency gains from an organisation for a while.*

Participants from other NRAs such as Agcom were concerned that they were under-resourced for a growing work load of regulatory issues. At the time of the executive interviews, Agcom had plans for further recruitment to increase their staffing levels from 280 to 380.

Other interviewees were concerned that continuing pressure for headcount reductions post-2010 could jeopardise their NRA's aspirations for regulatory leadership:

*Some people feel we should be continuing to decrease our headcount ... by removing specific regulation. With the end scenario being that we would become a competition authority and a media-rich authority ... We will move to a land of plenty, with no spectrum scarcity and many new platforms to provide a veritable cornucopia of opportunities ... alternatively new issues will arise including new technology, advertising and new monopolies to deal with and therefore, in my opinion, in the medium- to long-term, there will be no prospect of reducing numbers of issues.*

A few executives also expressed strong interest in understanding how the other NRAs were approaching the resource allocation issues.

It was also suggested that NRAs could reap further efficiency gains from regular updates to the legislative framework to streamline regulatory processes, and also from reducing the number of regulations. This is not without its obstacles:

*Whilst people cry out for reduced regulation because spectrum should be auctioned and a market established, the concept at least on this subject is likely to be unmet—it is so desperately hard to end up with less regulation than when we started.*

## **7.4 ACCOUNTABILITY AND PERFORMANCE ASSESSMENT**

In general, there were some common regional approaches to issues of accountability and performance assessment between NRA's from Asia, Europe and Australia, but there were also some clear variations.

MCMC and MIC share some commonalities with both of these citing the South Korean NRA as a regulator of significant interest to them. The governments in Japan, Malaysia and Finland have published national plans with policies and objectives, while the NRA function includes collecting data on progress towards these stated objectives. For example, Japan has a specific target of becoming the most advanced IT nation in the world. A subsidiary objective of this target is having the most developed broadband network in terms of coverage and capacity and price. Thus, the MIC's regulatory function includes developing policy options that will move Japan towards reaching this objective. Similarly in Malaysia, MCMC is required to put up regulatory policy options and strategies to achieve a government objective of fifty per cent of the population having broadband access by 2015. This is a particularly ambitious target for an emerging economy with a GDP per head of population of around US\$5,000, and where there is likely to be affordability issues for a significant proportion of the population.

The UK, Italian and Australian governments' approaches to this sector are very different. While the government may set specific goals like improving broadband availability or setting a target for digital switchover, the researchers are not aware of any framework linking ICT or convergent issues into a national plan. Nevertheless, some interviewees felt specific objectives and key performance indicators (KPIs) were important:

*It is important as a public organisation that we keep KPIs—we tend to set very high level objectives, for example, take-up of new technologies, and then try*



*and get these high level objectives translated into more specific indicators and goals that we set and we call these long-term objectives.*

Most of the regulators produced annual reports which list the projects for each year, often including staffing and financial budgets, and key indices on transactions. In this regard, Ofcom is seen by the majority of the interviewees as a leader; their annual report and statistical approach, and three-year strategic plan of priorities have a wide audience amongst the other NRAs.

One authority also mentioned it was important for them to be perceived as a leader in the regulatory sector, and their own informal method measuring this was to check whether their approach was also adopted by other regulators, via peer review:

*To be perceived to be the leader of a regulatory approach is one method of accountability. I think our approach is now accepted pretty much as the standard and other countries are taking a similar approach.*

Another interviewee described how they measured the impacts of new regulatory developments:

*It's hard to measure these things but one key outcome of the regulation is new development and impacts we have had. These can be measured in terms of local loop unbundling, and more recently, in the audit of spectrum and identifying idle spectrum and evolving methods of using it.*

Where progress of regulatory initiatives and operational performance benchmarking are undertaken, the NRAs in this study compare themselves with the leading countries. These usually include the UK and the USA, as well as individual leaders for specific issues such as South Korea for broadband. In Japan, the NRA has a wider range of issues to address. This includes the number of graduates of ICT, exports and productivity impacts of ICT, and measures on digital developments such as artificial intelligence.

## 8.0 Future collaboration and research

### INTRODUCTION

During the interviews, some of the executives were also asked their opinion about which NRAs were best in class regulators, how they chose who to benchmark against on specific issues, and which groups they met with on a regular basis to compare policies and approaches. For most NRAs, their primary circle for collaboration outside of the ITU was geographically based. For example, in Europe, the EU members met regularly on regulatory issues. In Asia, MCMC was part of an ASEAN group of regulators. MIC as an observer of the ASEAN group and also regularly met with Chinese and Korean regulators. Australia also was part of the APEC group. Some executives flagged that they were also interested in alternative regulatory methodologies and approaches outside of those regional groupings:

*Recently, we've been trying to get to best practice. Traditionally, we have been looking at rich countries round the world, but recently we want networks around other regulators and we are currently spending a lot of time looking at China and India ... We're particularly interested in looking at what China is doing on media regulation. Another country we are looking at closely is South Korea.*

Generally, the participants who were consulted thought that their traditional NRA groupings were useful but not ideal, for gaining insights on leading edge policy options and research:

*The idea of getting a group of leading convergent regulators is a good one. There would be a lot of merit in getting a relatively small class of regulators together on some of these issues.*

The USA was seen as the historical leader in regulation and remains a very important centre for regulation in the total ICT industry. It retains a reputation for its innovative approach to a number of priority regulatory issues:

*The US is less important today because of their policy direction which can be very eccentric. However, they are undertaking some interesting work on liberalisation and market-based spectrum management.*

Some NRAs believed it was now unlikely that a single NRA will be the leader in convergence regulation. With the establishment of a number of convergence regulators across the world, it is more likely that excellence in convergence regulation will tend to be fragmented.

Some executives were also asked whether a grouping of world leading convergent regulators would be useful for collaboration and interaction. This idea received enthusiastic support from the majority:

*Setting up a world best practice forum sounds a very good idea. I suspect your report will stimulate its development.*

*I think such a grouping will help the new guard if you like, stimulate discussions with the old guard, for example, France where currently they think the spectrum issues do not need attention as everything is fine. Whereas Australia is very much part of the new guard.*

## **AREAS OF INTEREST FOR FUTURE RESEARCH**

Interviewees identified areas they felt could benefit from further research amongst grouping of converged regulators. The list included:

- A detailed review of the setting of national policy and the role of strategic planning.
- Collaborative research on future scenarios, for example, transportation and e-health.
- A comparison of the scope of responsibilities and powers of regulators.
- A comparison of the framework and approaches for updating convergence legislation.
- A comparison of consumer protection regulation frameworks and approaches.

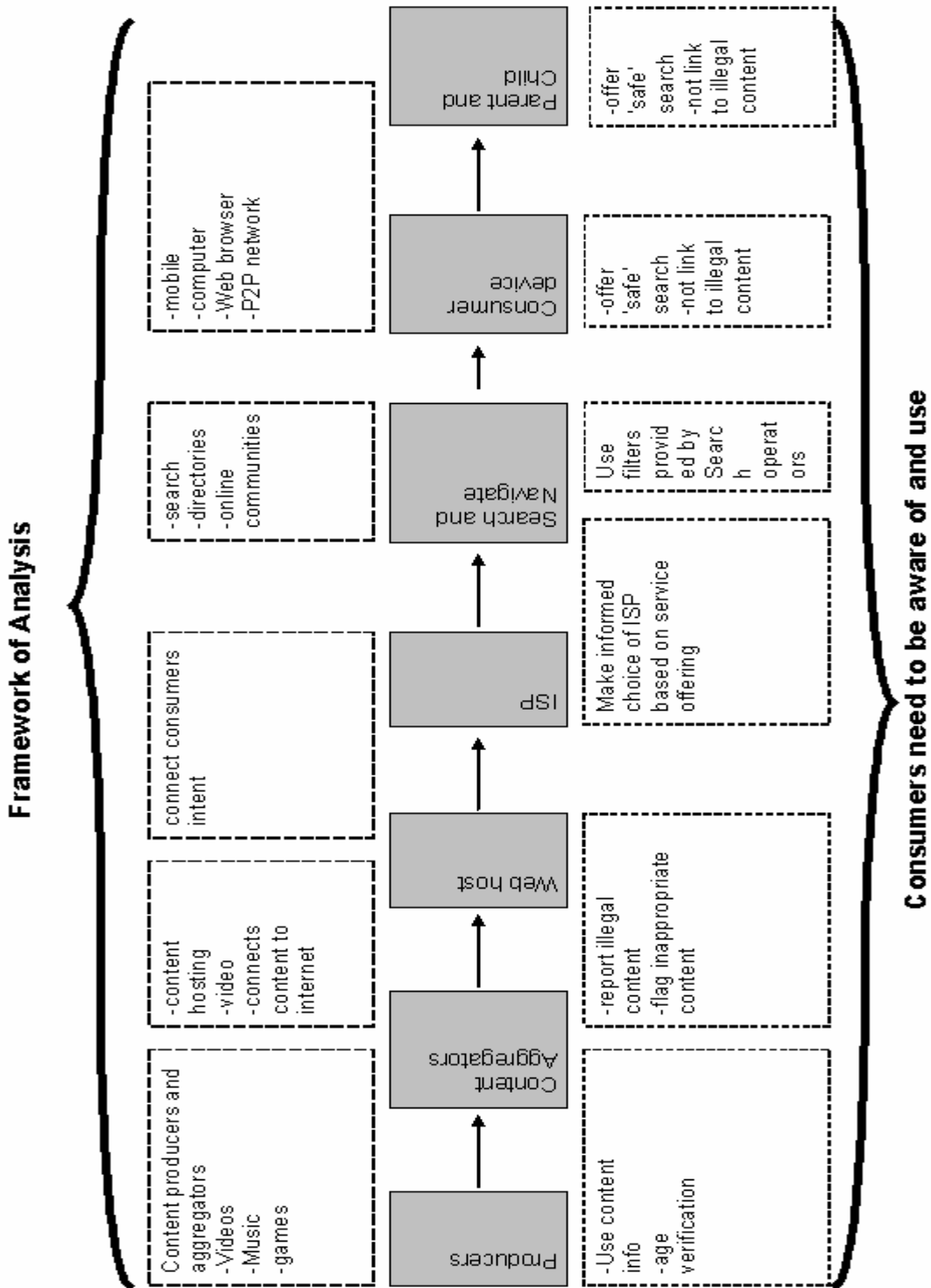
### **The concept**

Many of the interviewees thought that a group consisting of up to eight foundation convergent regulators could provide a critical mass of divergent views, while still being small enough to be flexible and decisive.

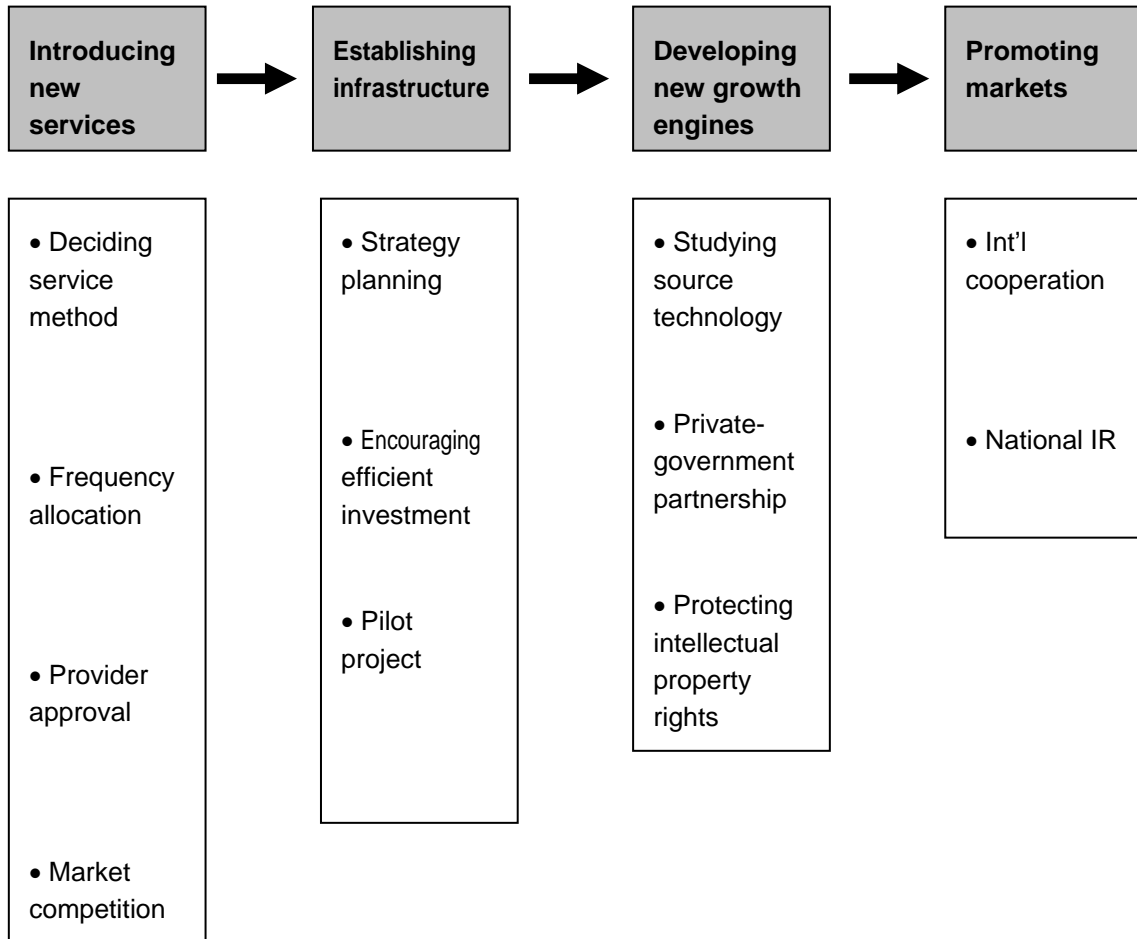
Initially it was thought it would probably be best to contain membership to the foundation members for the first twelve months, in order to establish priorities, working groups and a communication website. Once those milestones were achieved, membership could be opened to other interested regulators, with associate status to other interested parties such as technology, media and telecommunications organisations.

## Appendixes

**APPENDIX 1:  
VALUE CHAIN FOR SELF-REGULATION OF NEW MEDIA**



**APPENDIX 2:  
STRATEGIC PLANS—VALUE CHAIN OF THE IT INDUSTRY AND  
THE ROLE OF GOVERNMENT**



**APPENDIX 3:  
STRATEGIC PLANS—ITEMS INCLUDED IN KOREA’S U-IT839  
STRATEGY**

8 new services	3 infrastructures	9 growth engines
<ul style="list-style-type: none"> <li>• HSDPAA/W-CDMA</li> <li>• WiBro</li> <li>• Broadband convergence service</li> <li>• DMB/DTV service</li> <li>• U-Home service</li> <li>• Telematics/location-based service</li> <li>• RFID/USN application service</li> <li>• IT service</li> </ul>	<ul style="list-style-type: none"> <li>• Broadband convergence network (BcN)</li> <li>• U-sensor network (USN)</li> <li>• Soft infraware</li> </ul>	<ul style="list-style-type: none"> <li>• Mobile communication/telematics devises</li> <li>• Broadband/home network devices</li> <li>• Digital TV/broadcasting</li> <li>• Next-generation computing/peripherals</li> <li>• Intelligent robot</li> <li>• RFID/USN devices</li> <li>• IT SoC/Convergence parts</li> <li>• Embedded software</li> <li>• Digital content/software solution</li> </ul>

**APPENDIX 4:  
RELATIVE CHANGE IN PRIORITIES BETWEEN 2010 AND 2014**

Issue	Ranked position 2010	Ranked position 2014	Relative movement + increase - decrease
Advertising	15	14	-1
Artificial intelligence	16	8	+8
Broadband	1	4	-3
Citizens' interests	6	7	-1
Consumer protection	4	1	+3
Digital devices	13	16	-3
Standards	8	11	-3
Economic growth	7	2	+5
Reducing regulation	8	4	+4
Industry development	14	10	+4
Network interoperability	10	9	+1
Network neutrality	12	11	+1
New media	5	14	-9
Spectrum	3	6	-3
Updating convergence regulation/ legislation	2	2	0
Other	11	13	-2



**APPENDIX 5:  
PRIORITY ISSUES IN 2010 RANKED BY NRA**

<b>Issue</b>	<b>ACMA</b>	<b>MIC</b>	<b>MCMC</b>	<b>Ofcom</b>	<b>Agcom</b>	<b>FICORA</b>	<b>Overall</b>
<b>Advertising</b>	13	14	12	9	12	11	15
<b>Artificial intelligence</b>	13	14	12	15	13	13	16
<b>Broadband</b>	4	1	1	1	1	4	1
<b>Citizens' interests</b>	9	8	6	4	9	13	6
<b>Consumer protection</b>	4	2	5	2	4	4	4
<b>Digital devices</b>	8	12	10	15	9	9	13
<b>Standards</b>	4	7	8	5	13	13	8
<b>Economic growth</b>	11	5	3	11	12	12	7
<b>Reducing regulation</b>	3	14	10	12	6	6	8
<b>Industry development</b>	13	9	9	9	13	13	14
<b>Network interoperability</b>	9	9	12	12	3	3	10
<b>Network neutrality</b>	13	11	12	8	6	6	12
<b>New media</b>	7	4	7	5	9	9	5
<b>Spectrum</b>	2	6	4	3	1	1	3
<b>Updating convergence regulation/ legislation</b>	1	3	2	7	2	2	2
<b>Other</b>	11	12	12	12	8	8	11

**APPENDIX 6:  
PRIORITY ISSUES IN 2010 RANKED BY REGION**

Issue	Regional and overall rankings			
	Europe	Asia + Australia	Asia without Australia	Overall
Advertising	13	15	15	15
Artificial intelligence	16	15	15	16
Broadband	1	2	1	1
Citizens' interests	7	8	7	6
Consumer protection	3	4	3	4
Digital devices	12	10	11	13
Standards	11	7	8	8
Economic growth	14	6	4	7
Reducing regulation	8	9	13	8
Industry development	15	10	9	14
Network interoperability	6	10	10	10
Network neutrality	10	14	11	12
New media	5	5	5	5
Spectrum	2	3	3	3
Updating convergence regulation/ legislation	4	1	2	2
Other	9	13	11	11

**APPENDIX 7:  
PRIORITY ISSUES IN 2010 RANKED BY RESPONDENTS' JOB  
FUNCTION**

Issue	Job function					Overall
	Corporate services	Strategy	Spectrum Management	Network & technology	Content & New Media	
<b>Advertising</b>	15	8	12	14	12	<b>15</b>
<b>Artificial intelligence</b>	15	15	12	16	14	<b>16</b>
<b>Broadband</b>	3	1	2	1	6	<b>1</b>
<b>Citizens' interests</b>	7	6	7	8	10	<b>6</b>
<b>Consumer protection</b>	2	4	3	3	5	<b>4</b>
<b>Digital devices</b>	13	11	10	10	10	<b>13</b>
<b>Standards</b>	10	11	7	10	3	<b>8</b>
<b>Economic growth</b>	8	8	9	6	8	<b>7</b>
<b>Reducing regulation</b>	9	8	6	7	9	<b>8</b>
<b>Industry development</b>	11	14	12	10	14	<b>14</b>
<b>Network interoperability</b>	6	11	10	9	13	<b>10</b>
<b>Network neutrality</b>	13	15	12	3	14	<b>12</b>
<b>New media</b>	5	3	4	10	2	<b>5</b>
<b>Spectrum</b>	4	2	1	5	3	<b>3</b>
<b>Updating convergence regulation/legislation</b>	1	5	4	2	1	<b>2</b>
<b>Other</b>	11	7	12	15	7	<b>11</b>

**APPENDIX 8:  
PRIORITY ISSUES IN 2010 RANKED BY RESPONDENTS' EXPERTISE**

<b>ISSUE</b>	<b>International relations</b>	<b>Engineering &amp; IT</b>	<b>Economics</b>	<b>Politics/ Government</b>	<b>Law</b>	<b>Overall</b>
<b>Advertising</b>	10	13	13	9	14	<b>15</b>
<b>Artificial intelligence</b>	10	16	13	13	15	<b>16</b>
<b>Broadband</b>	1	1	1	1	2	<b>1</b>
<b>Citizens' interests</b>	6	5	11	5	11	<b>6</b>
<b>Consumer protection</b>	4	4	4	2	4	<b>4</b>
<b>Digital devices</b>	10	10	13	10	11	<b>13</b>
<b>Standards</b>	10	14	6	6	6	<b>8</b>
<b>Economic growth</b>	8	10	5	8	10	<b>7</b>
<b>Reducing regulation</b>	9	7	9	13	6	<b>8</b>
<b>Industry development</b>	10	12	6	12	15	<b>14</b>
<b>Network Interoperability</b>	6	9	6	13	9	<b>10</b>
<b>Network neutrality</b>	10	7	12	13	13	<b>12</b>
<b>New media</b>	3	5	2	6	5	<b>5</b>
<b>Spectrum</b>	1	3	10	4	1	<b>3</b>
<b>Updating convergence regulation/ legislation</b>	4	2	3	2	3	<b>2</b>
<b>Other</b>	10	14	13	11	6	<b>11</b>

**APPENDIX 9:  
PRIORITY ISSUES IN 2014 RANKED BY NRA**

Issue	ACMA	MIC	MCMC	Ofcom	Agcom	FICORA	Overall
Advertising	11	12	6	7	13	10	14
Artificial intelligence	4	6	8	3	14	10	8
Broadband	13	2	6	1	6	10	4
Citizens' interests	8	14	4	4	4	9	7
Consumer protection	2	2	1	2	1	3	1
Digital devices	8	13	13	14	14	10	16
Standards	13	6	12	4	10	10	11
Economic growth	8	1	10	6	3	7	2
Reducing regulation	4	14	3	7	4	1	4
Industry development	11	4	2	15	10	10	10
Network interoperability	6	14	13	11	7	1	9
Network neutrality	13	10	10	11	7	6	11
New media	13	5	13	7	9	10	14
Spectrum	1	9	5	15	12	4	6
Updating convergence regulation/ legislation	3	6	8	7	2	5	2
Other	6	10	13	13	14	8	13

**APPENDIX 10:  
PRIORITY ISSUES IN 2014 RANKED BY REGION**

Issue	Region			Overall
	Europe	Asia with Australia	Asia without Australia	
<b>Advertising</b>	14	11	10	<b>14</b>
<b>Artificial intelligence</b>	10	6	6	<b>8</b>
<b>Broadband</b>	3	7	4	<b>4</b>
<b>Citizens' interests</b>	5	10	10	<b>7</b>
<b>Consumer protection</b>	1	1	1	<b>1</b>
<b>Digital devices</b>	16	16	15	<b>16</b>
<b>Standards</b>	9	12	8	<b>11</b>
<b>Economic growth</b>	7	3	2	<b>2</b>
<b>Reducing regulation</b>	2	8	8	<b>4</b>
<b>Industry development</b>	15	4	3	<b>10</b>
<b>Network interoperability</b>	5	13	16	<b>9</b>
<b>Network neutrality</b>	8	13	10	<b>11</b>
<b>New media</b>	12	13	10	<b>14</b>
<b>Spectrum</b>	11	2	5	<b>6</b>
<b>Updating convergence regulation/ legislation</b>	4	5	6	<b>2</b>
<b>Other</b>	3	9	14	<b>13</b>

**APPENDIX 11:  
PRIORITY ISSUES IN 2014 RANKED BY RESPONDENTS' JOB  
FUNCTION**

Issue	Job function					Overall
	Corporate Services	Strategy	Spectrum Management	Network & Technology	Content & New Media	
<b>Advertising</b>	16	12	12	12	5	<b>14</b>
<b>Artificial intelligence</b>	7	4	8	9	12	<b>8</b>
<b>Broadband</b>	5	9	5	1	3	<b>4</b>
<b>Citizens' interests</b>	13	8	8	2	5	<b>7</b>
<b>Consumer protection</b>	1	5	1	2	1	<b>1</b>
<b>Digital devices</b>	15	14	13	16	14	<b>16</b>
<b>Standards</b>	10	6	13	14	11	<b>11</b>
<b>Economic growth</b>	9	6	2	6	2	<b>2</b>
<b>Reducing regulation</b>	3	1	11	7	9	<b>4</b>
<b>Industry development</b>	6	11	5	9	15	<b>10</b>
<b>Network interoperability</b>	7	9	5	7	9	<b>9</b>
<b>Network neutrality</b>	11	12	8	15	5	<b>11</b>
<b>New media</b>	13	15	13	5	12	<b>14</b>
<b>Spectrum</b>	4	2	4	12	4	<b>6</b>
<b>Updating convergence regulation/ legislation</b>	2	3	3	9	5	<b>2</b>
<b>Other</b>	12	15	13	4	15	<b>13</b>

**APPENDIX 12:  
PRIORITY ISSUES IN 2014 RANKED BY RESPONDENTS' EXPERTISE**

<b>ISSUE</b>	<b>International Relations</b>	<b>Engineering &amp; IT</b>	<b>Economics</b>	<b>Politics &amp; Government</b>	<b>Law</b>	<b>Overall</b>
<b>Advertising</b>	7	12	7	10	16	<b>14</b>
<b>Artificial intelligence</b>	10	4	11	2	7	<b>8</b>
<b>Broadband</b>	5	10	2	4	7	<b>4</b>
<b>Citizens' interests</b>	9	7	11	1	10	<b>7</b>
<b>Consumer protection</b>	11	1	1	2	1	<b>1</b>
<b>Digital devices</b>	11	16	9	14	14	<b>16</b>
<b>Standards</b>	3	14	11	7	7	<b>11</b>
<b>Economic growth</b>	1	9	3	10	3	<b>2</b>
<b>Reducing regulation</b>	1	3	6	15	4	<b>4</b>
<b>Industry development</b>	11	14	5	5	11	<b>10</b>
<b>Network inter-operability</b>	7	4	15	10	6	<b>9</b>
<b>Network neutrality</b>	11	12	4	13	12	<b>11</b>
<b>New media</b>	11	11	11	7	14	<b>14</b>
<b>Spectrum</b>	3	8	7	5	5	<b>6</b>
<b>Updating convergence regulation/ legislation</b>	5	2	15	9	2	<b>2</b>
<b>Other</b>	11	4	9	16	13	<b>13</b>



**APPENDIX 13:  
RELATIVE IMPORTANCE OF BROADBAND ISSUES**

<b>Category</b>	<b>Unbundling of local loop</b>	<b>Ex post competition policy</b>	<b>Ex ante regulation</b>	<b>Intermodal competition</b>	<b>Government financial incentives</b>	<b>Reg holiday</b>
<b>Not important (1)</b>	4%	4%	11%	2%	18%	30%
<b>Not very important (2)</b>	7%	7%	9%	0%	18%	20%
<b>Moderately important (3)</b>	20%	33%	24%	46%	43%	35%
<b>Important (4)</b>	17%	20%	22%	24%	7%	8%
<b>Essential (5)</b>	52%	37%	33%	27%	14%	8%
<b>Analysis</b>						
<b>Important or essential</b>	69%	57%	55%	51%	21%	16%
<b>Mean</b>	4.07	3.78	3.58	3.73	2.80	2.43
<b>Standard deviation</b>	1.18	1.15	1.34	.95	1.23	1.22

**APPENDIX 14:  
RELATIVE IMPORTANCE OF BROADBAND ISSUES BY NRA**

Issue	Percentage ranked 'Important' or 'Essential'						
	ACMA	MIC	MCMC	Ofcom	Agcom	FICORA	Overall
<b>Unbundling local loop</b>	71%	50%	67%	63%	89%	83%	<b>69%</b>
<b>Ex post competition policy</b>	57%	40%	67%	50%	44%	100%	<b>57%</b>
<b>Ex ante regulation</b>	43%	33%	50%	25%	89%	100%	<b>55%</b>
<b>Intermodal competition</b>	67%	50%	50%	43%	58%	40%	<b>51%</b>
<b>Government finance incentives</b>	14%	10%	84%	14%	11%	0%	<b>21%</b>
<b>Regulatory holiday</b>	17%	0%	50%	0%	17%	20%	<b>16%</b>

**APPENDIX 15:  
 FORMAT OF NEW LEGISLATION 2010—MIC’S PROPOSED  
 FUTURE PLAN**

<p><b>Fundamental principle</b></p>	<ul style="list-style-type: none"> <li>• Unrestricted distribution of information</li> <li>• Benefit of information and communications technology to everyone</li> <li>• Establishing the safe and secure network society</li> </ul>
<p style="text-align: center;"><b>Content</b></p> <p>Reconfiguration of rules for content, with emphasis on social functions and impacts</p>	
<p style="text-align: center;"><b>Platform</b></p> <p>Study on rules to ensure openness, including the necessity of such rules</p>	
<p style="text-align: center;"><b>Transmission infrastructure</b></p>	
<p style="text-align: center;"><b>Transmission services</b></p> <p>Integration of rules for transmission services of communications and broadcasting</p>	<p style="text-align: center;"><b>Transmission facilities</b></p> <p>Ensuring flexible use of radio waves by making the classification of services broader, etc.</p>

**APPENDIX 16:  
RELATIVE IMPORTANCE OF SPECTRUM MANAGEMENT REGULATORY  
ISSUES**

<b>Category</b>	<b>Tech &amp; service neutrality</b>	<b>Principles of economic efficiency</b>	<b>Flexible use of spectrum resources</b>	<b>Cross country boundary issues</b>	<b>Cultural considerations</b>
<b>Not important (1)</b>	2%	0%	0%	9%	7%
<b>Not very important (2)</b>	2%	2%	2%	4%	11%
<b>Moderately important (3)</b>	15%	19%	21%	31%	42%
<b>Important (4)</b>	23%	21%	23%	22%	13%
<b>Essential (5)</b>	57%	57%	54%	33%	27%
<b>Analysis</b>					
<b>Important or essential</b>	80%	78%	77%	55%	40%
<b>Mean</b>	4.23	4.34	4.29	3.67	3.42
<b>Standard deviation</b>	.96	0.87	.87	1.24	1.20

## APPENDIX 17: RELATIVE IMPORTANCE OF SPECTRUM MANAGEMENT ISSUES BY NRA

Issues	Ranked 'Important' or 'Essential'						Overall
	ACMA	MIC	MCMC	Ofcom	Agcom	FICORA	
<b>Tech service neutrality</b>	88%	77%	50%	78%	89%	100%	<b>80%</b>
<b>Principles of economic efficiency</b>	88%	55%	67%	89%	100%	66%	<b>78%</b>
<b>Flexible use of Spectrum</b>	88%	40%	66%	100%	78%	100%	<b>77%</b>
<b>Cross-country boundary Issues</b>	50%	38%	84%	77%	22%	80%	<b>55%</b>
<b>Cultural considerations</b>	50%	22%	50%	55%	50%	0%	<b>40%</b>

## APPENDIX 18: OTHER ESSENTIAL SPECTRUM MANAGEMENT ISSUES

### *No. of mentions*

Interface issues (3)

Proper planning for allocation and assignment (2)

Speed of moving TV to digital (completed by target date) (2)

Use of new technologies to expand capacity (2)

Broadcasting should have the same system of allocated resources as everyone else (1)

R & D targeted at next generation Broadband wireless services (1)

Legend (3)—indicates that this issue was raised by three Respondents, in addition to the individual issues that were listed for comment. These additions were given the highest rating, namely, 'Essential'.

**APPENDIX 19:  
RELATIVE IMPORTANCE OF CONSUMER PROTECTION ISSUES**

	<b>Consumer protection</b>			
	Privacy and security	Consumer Protection activities	Consumer enforcement powers	Role of self and co-regulation
<b>Not Important</b>	0	2%	2%	0
<b>Not Very Important</b>	0	0	14%	8%
<b>Moderately Important</b>	10%	8%	29%	44%
<b>Important</b>	15%	22%	16%	19%
<b>Essential</b>	75%	68%	39%	29%
<b>Analysis</b>				
<b>Important or Essential</b>	90%	90%	55%	48%
<b>Mean</b>	4.64	4.54	3.76	3.69
<b>Standard Deviation</b>	.67	.81	1.81	.99

**APPENDIX 20:  
RELATIVE IMPORTANCE OF CONSUMER PROTECTION ISSUES  
BY NRA**

Issue	Percentage ranked 'Important' or 'Essential'—consumer protection						
	ACMA	MIC	MCMC	Ofcom	Agcom	FICORA	Overall
<b>Privacy and security</b>	92%	80%	84%	88%	100%	100%	<b>90%</b>
<b>Consumer protection activities</b>	76%	80%	84%	100%	100%	100%	<b>90%</b>
<b>Consumer enforcement powers</b>	63%	20%	50%	78%	89%	28%	<b>50%</b>
<b>Role of self- and co-regulation</b>	63%	30%	67%	55%	38%	43%	<b>48%</b>

**APPENDIX 21:  
RELATIVE IMPORTANCE OF NEW MEDIA REGULATORY ISSUES**

	<b>Technical neutral content regulation</b>	<b>Intellectual property rights</b>	<b>E-commerce regulation</b>	<b>Content rules for new aggregators</b>	<b>Access to specific events</b>
<b>Not important</b>	2%	2%	13%	6%	8%
<b>Not very important</b>	4%	4%	13%	17%	21%
<b>Moderately important</b>	21%	26%	36%	43%	42%
<b>Important</b>	26%	22%	21%	15%	17%
<b>Essential</b>	47%	46%	17%	19%	13%
<b>Analysis</b>					
<b>Important or essential</b>	73%	68%	38%	34%	30%
<b>Mean</b>	4.11	4.04	3.17	3.23	3.04
<b>Standard deviation</b>	1.03	1.05	1.24	1.17	1.11



**APPENDIX 22:  
RELATIVE IMPORTANCE OF NEW MEDIA SERVICES BY NRA**

Issue	Percentage ranked 'Important' or 'Essential'						Overall
	ACMA	MIC	MCMC	Ofcom	Agcom	FICORA	
<b>Technical neutral content</b>	63%	33%	67%	78%	100%	100%	<b>73%</b>
<b>Intellectual property rights</b>	63%	80%	84%	75%	55%	40%	<b>68%</b>
<b>E-Commerce regulation</b>	63%	20%	50%	53%	33%	17%	<b>38%</b>
<b>Content rules new aggregators</b>	37%	40%	34%	44%	38%	0	<b>34%</b>
<b>Access to specific events</b>	26%	10%	50%	33%	11%	67%	<b>30%</b>

**APPENDIX 23:  
RELATIVE IMPORTANCE OF CITIZENS' INTERESTS**

	Percentage rankings for citizens' interest issues				
	Access by all groups in society to broadband	Effective use of media, information and consumer technology	Access all groups in society to mobile phones	Promoting industry profitability and growth	Provision of local content on new media
<b>Not Important</b>	0%	2%	10%	2%	10%
<b>Not Very Important</b>	6%	6%	15%	16%	14%
<b>Moderately Important</b>	18%	33%	27%	36%	39%
<b>Important</b>	22%	20%	10%	22%	14%
<b>Essential</b>	53%	39%	38%	24%	22%
<b>Analysis</b>					
<b>Important or Essential</b>	75%	59%	48%	46%	36%
<b>Mean</b>	4.22	3.88	3.5	3.50	3.24
<b>Standard Deviation</b>	.96	1.07	1.40	1.10	1.25

**APPENDIX 24:  
RELATIVE IMPORTANCE OF CITIZENS' INTERESTS BY NRA**

Issue	Percentage ranked 'Important' or 'Essential'—citizens' interests						
	ACMA	MIC	MCMC	Ofcom	Agcom	FICORA	Overall
<b>Access by all groups in society to broadband</b>	76%	70%	67%	89%	78%	72%	<b>75%</b>
<b>Effective use media/information &amp; consumer technology</b>	76%	30%	67%	78%	55%	58%	<b>59%</b>
<b>Access for all groups in society to mobile phone</b>	50%	40%	50%	55%	25%	71%	<b>48%</b>
<b>Promoting industry profitability &amp; growth</b>	43%	30%	50%	55%	17%	86%	<b>46%</b>
<b>Provision of local content on new media</b>	38%	30%	84%	44%	33%	0	<b>36%</b>

**APPENDIX 25:  
DETAILED RESEARCH FRAMEWORK**

**Section A: Desk research**

**Section B: Interviews**

**Section C: Online survey**

## **SECTION A: DESK RESEARCH**

The project coordinator of each regulator participating in the research project is invited to complete Parts A and B of this section. The desk research will provide official foundation data and will inform the interviews and online survey.

### **A. OPERATIONAL CHARACTERISTICS OF THE REGULATOR**

Please provide the following information about the current structure, activities and policies of the regulator:

#### **Role and Remit**

Key legislative functions and objectives, powers and responsibilities and other objectives of the regulator (whether set by parliament, government or the regulator itself).

#### **Organisational information**

Organisational structure, governance and resources (including budget and employees).

#### **Accountability and Performance Assessment**

Reporting and accountability commitments, other transparency commitments (both mandatory and voluntary) and measurement of progress against objectives.

### **B. PRIORITIES OF THE REGULATOR**

Q1. Does your regulatory organisation have a list of priority issues for the regulator to pursue?

- If yes, please indicate below the priority issues your regulator is pursuing currently.
- If no, please indicate the top issues your regulator is dealing with currently.

Issue no.	ISSUE (Brief description of issue)
--------------	---------------------------------------

1

2

3

4

5

6

7

8

9

10

## **SECTION B: INTERVIEW FRAMEWORK**

Three leading executives from each regulator are invited to participate in a one hour interview each with the project coordinator to discuss the topics in the three series of questions at A, B and C below.

The questions are designed to obtain fresh insights into the range of opportunities and challenges faced by converged regulators, in particular:

- strengths and weaknesses of current operational and strategic characteristics of converged regulators (e.g. organisational structures and regulatory policies);
- priority issues for converged regulators; and
- views on emerging issues.

The interviews seek the insights and forecasts of leading executives involved in strategic planning and high-level decision-making.

Information provided by Interviewees will remain confidential to the research team of the project coordinator. In the report, responses will be aggregated and no comments will be attributed to individuals.

It is requested that Interviewees advance their professional opinion in response to questions, as official and institutional answers on topic have already been obtained via desk research. The opinions of Interviewees, as experts in the field, will provide valuable data for analysis and sharing amongst regulators participating in the project.

Questions on issues three and seven years into the future are intended to capture views within, as well as beyond, the ambit of current business thinking and planning. The interview

questions have been drafted to ascertain personal predictions and forecasts outside what is planned formally by each regulator. That is, Interviewees are encouraged to advance their own views about the future (there are no incorrect answers).

## **A. OPERATIONAL CHARACTERISTICS OF THE REGULATOR**

The following questions examine the impact of convergence on the regulator's structure, role and performance.

### **Organisational Structure**

There are a range of perspectives on what convergence is and how convergence is best responded to:

#### **Q1. How is the structure of your regulator being shaped by convergence?**

- Is convergence the reason your organisation was created, or adapted?
- What structural paradigm underpins your organisation?

#### **Q2. Does the current structure of your regulator enable it to deal with legacy (or 'silo') persistence as well as confront convergence effectively?**

- How could the structure be improved?
- Are post-convergence phenomena dealt with effectively by the current structure?

#### **Q3. Has convergence had a significant impact on resources?**

- Has your workforce increased or decreased in number to respond to convergence? Have a greater number of external consultants been hired to deal with convergence issues?
- Has being a converged regulator delivered economic efficiencies?
- What will the impact on resources be in 3 years (2010) and in 7 years (2014)?

### **Role and Remit**

Thinking about your current regulatory responsibilities in terms of convergence:

#### **Q4. To what degree does the legislation you administer enable you to deal effectively with the challenges presented by convergence?**

- What legislative changes have been made in response to convergence that have increased or decreased your regulatory responsibilities?
- In what key ways does the legislation you administer assist or impede the discharge of your responsibilities in the converging communications environment? What are some examples of this?

**Q5. How could your responsibilities be changed to enable the regulator to better deal with convergence?**

- Are changes to the legislation you administer envisaged or proposed in the next three years (by 2010)?
- How urgently is change required?

**Q6. What are the major advantages and disadvantages of your organisation's relationship with government, parliament and other regulatory agencies for dealing with convergence?**

- How would you like to see these relationships changing in 3 years (2010) and in 7 years (2014)?

**Q7. In the next 3 years (2010) how will the work of your regulator change in terms of quantity and complexity?**

- Will regulatory responses, in turn, become more or less complex?

Regulators may respond to the challenges and opportunities of the converging communications environment in a number of ways:

**Q8. What is your overall approach to regulating in a time of convergence?**

- Would you describe your current approach to regulation as prescriptive or market driven or somewhere in the middle, say light touch? Why has such approach been adopted?
- In what ways do you envisage the approach changing in the next 3 years (2010) and in the next 7 years (2014)?

**Q9. How has convergence affected your use of regulatory tools and processes?**

- Is greater reliance being placed on co- and self-regulation, media literacy or international exchange and cooperation; or are licensing requirements being relaxed?
- Do you place an emphasis on reducing administration and minimising regulatory requirements (particularly regulation that may no longer required to meet interests and objectives)?
- What regulatory tools or processes do you think will be more useful in 3 years (2010) and in 7 years (2014)?

**Accountability and Performance Assessment**

Thinking about the impact of convergence on the performance of your regulator:



**Q10. How do you measure your performance as against your objectives?**

- What benchmarks and indicators do you use?
- How do you quantify and record your progress?
- In what ways do you measure effectiveness as a converged regulator?

**B. PRIORITIES OF THE REGULATOR**

This section investigates the priority issues and strategic planning of converged regulators.

There are a range of factors which may affect what the priorities of a regulator are at any given time:

**Priority Issues**

**Q11. What are the top priorities for your regulator in 2007?**

- Are any priorities strategic in nature?
- Are any priorities to do with internal, operational issues (such as workforce issues or strategic planning)?

**Q12. How, or to what extent, are current priorities being shaped by convergence?**

- Do the priority issues arise out of convergence or not?

**Q13. In your opinion, how will the top priorities of your regulator change in the next 3 years (2010)?**

**Strategic Planning**

**Q14. What kind of strategic planning is undertaken by your regulator?**

- For example, environmental scanning, economic modeling or scenario forecasting?
- What is your planning cycle and how far in advance do you plan?

**Q15. To what degree do you think a regulator can plan, or prepare, strategically for the future?**

## C. EMERGING ISSUES

This section seeks your views on evolving issues which you may or may not have a role in regulating at present. In particular we hope to learn what you expect the real regulatory challenges to be in light of convergence.

### Spectrum

Regulators have a range of views on efficiency in Spectrum Management:

**Q16. What approaches are being considered by your regulator in relation to economic efficiency in Spectrum Management and convergence?**

- For example, tradable spectrum.

**Q17. How important is flexibility in the use of spectrum?**

- How do you balance principles of technology and service neutrality and service diversity?

### Broadband

Broadband technologies, such as ADSL, HFC cable and WiFi, may deliver substantial economic and social benefits:

**Q18. What is your regulatory approach in relation to Broadband deployment in your jurisdiction?**

- For example, is it market driven or prescriptive?
- How do you balance competing interests in a converging environment?

**Q19. What are the key regulatory drivers to achieving widespread coverage and competitive pricing of Broadband services?**

- For example, competition at the retail level, regulatory holidays, declaration of services, USOs, etc.
- What inhibitors, if any, are there to universal Broadband availability in your jurisdiction?

### Audio Visual Services

New services such as IPTV and DVB-H technologies enable the delivery of audio visual services:

**Q20. What is the challenge for the regulator in licensing and regulating content with respect to new services?**

**Q21. What are the challenges for the regulator in ensuring local production requirements and children's programming interests are met with respect to new services?**

### **Consumer Protection**

There are a range of new types of services, such as internet banking, VoIP and interactive Advertising services made possible by convergence:

**Q22. What new and distinct Consumer Protection challenges have these types of services presented your regulator with?**

- How have you dealt with them?

### **Major convergence issue**

**Q23. Finally, what is the key challenge faced by your regulator at present?**

- Is this challenge related to convergence?
- If no, what is the biggest challenge faced by your regulator that does relate to convergence?
- How is this being managed?

## **SECTION C: ONLINE SURVEY**

### **Background**

This online survey forms the third phase of the ACMA/Ofcom Convergence Research Project. The project was initiated by Professor Stephen Burdon from the University of Technology, Sydney (UTS), is funded by the Australian Communications and Media Authority (ACMA) and was designed in collaboration with the Office of Communications (Ofcom) and Dr Nigel Courtney from the London CASS Business School.

The object of the project is to conduct a comparative analysis of the operations, priorities and views on emerging issues of a selection of the leading converged regulators in Asia and Europe. A report on the project findings will be produced in early 2008 and made available to participating regulators only.

Six converged regulators are participating in the project:

- Australia—ACMA;
- United Kingdom—Ofcom;

- Italy—The Communications Regulatory Authority (Agcom);
- Finland—Finnish Communications Regulatory Authority (FICORA);
- Malaysia—Malaysian Communications and Multimedia Commission (MCMC); and
- Japan—Ministry of Internal Affairs and Communications (MIC).

## **Research**

The research for the project is comprised of three phases: 1) desk research; 2) interviews; and 3) online survey. Phases one and two, the desk research and interviews, have been completed:

- Desk research was conducted to obtain official foundation data on operational characteristics of each regulator (role, remit, structure, governance, resources and accountability and performance assessment) as well as current priorities being pursued.
- The interview phase consisted of one hour interviews with three key executives involved in strategic and high-level decision-making from each regulator. Views on a range of opportunities and challenges faced by converged regulators were obtained, in particular:
  - the strengths and weaknesses of current operational and strategic characteristics (organisational structures and regulatory policies);
  - priority issues for converged regulators; and
  - views on emerging issues.

## **Online survey**

This online survey forms the third phase of the research project. Up to ten executive officers from each regulator are invited to participate in the online survey to answer questions on issues facing their regulator now and in the future.

There are three series of questions in the online survey:

- Series A focuses on the responsibilities and expertise of the survey respondent;
- Series B examines priorities of the regulator; and
- Series C explores the relative importance of particular emerging issues.

## ***How to respond***

The survey has been designed to allow executive officers to put forward the issues they personally consider to be relevant for their regulator. It is requested that survey respondents advance their own, professional, opinion in response to questions, as official or institutional answers on topic have already been obtained via desk research.

Questions on issues three years into the future (2010) are intended to capture views within the ambit of current business thinking and planning. Questions on issues seven years into the future (2014) are intended to capture views outside what is planned formally by each regulator. Respondents are encouraged to advance their own views about the future (that is, there are no incorrect answers).

Each respondent is encouraged to answer all the questions, but if there is a question where the respondent does not have a view, it is suggested that it is left blank.

## ***Confidentiality***

Information provided by respondents to the online survey will remain confidential to the university research team of the project coordinator, Professor Stephen Burdon. In the report of the research

project, personal views will remain confidential as responses will be aggregated and no comments will be attributed to individuals (you will not be linked personally to your comments).

## **A. ABOUT THE RESPONDENT**

Series A asks for information about survey respondents so that answers to questions in Series B and C can be contextualised. As the online survey is confidential, three general questions about the location and expertise of survey respondents are put.

### **Q.1 Which converged regulator do you work for?**

- Australia—Australian Communications and Media Authority (ACMA)
- Finland—Finnish Communications Regulatory Authority (FICORA)
- Italy—Communications Regulatory Authority (Agcom)
- Japan—Ministry of Internal Affairs and Communications (MIC)
- Malaysia—Malaysian Communications and Multimedia Commission (MCMC)
- United Kingdom—Office of Communications (Ofcom)

### **Q.2 Please list your areas of responsibility at your converged communications regulator (eg. Networks, spectrum management, licensing, content regulation, consumer protection, research and analysis) .**

*<free text>*

**Q.3 Please list any expertise you have that is relevant to your converged communications regulator (eg. Relevant work experience in other areas, relevant education in the fields of engineering, economics, law, social sciences).**

*<free text>*

## **B. PRIORITIES OF THE REGULATOR**

### **Future priorities**

In an earlier phase of this research project, key executives involved in strategic and high-level decision making from each regulator were interviewed. When asked what the top future priorities for converged regulators to address are, some of the issues put forward were:

- Advertising (For example, adapting regulatory frameworks to new business models)
- Artificial Intelligence (For example, robots, wireless, cognitive technologies)
- Broadband (For example, bandwidth, access, next generation networks)
- Citizens' Interests (For example, e-education, e-health, e-government)
- Consumer Protection (For example, security and privacy)
- Digital Devices (For example, technical Standards for new technologies)
- Standards (For example, content codes in the New Media environment)
- Economic Growth (For example, increased GDP, stimulating competition, promoting innovation)
- Reducing Regulation (For example, fewer regulatory developments or requirements)
- Industry Development
- Network Interoperability
- Network Neutrality
- New Media (For example, IPTV\*, mobile TV)
- Spectrum (For example, management, liberalisation, trading, awards/allocation processes)
- Updating convergence regulation / legislation

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\* Internet Protocol Television.

**Q.4 In your view which of these, or any other, issues should be the top five priorities to be addressed by your regulator in three years time (2010) and why?**

*(Please list in order of priority and provide reasons in the tables below. You may specify issues not included in the list above)*

**Top priorities to be addressed by your regulator in 2010**

<b>Priority no.</b>	<b>Issue</b>	<b>Reason why this issue should be a priority to be addressed by your regulator in 2010</b>
---------------------	--------------	---

(For example, social, technological, commercial or economic pressures such as e-health bandwidth requirements or the growth of mobile commerce)

1	<free text>	<free text>
---	-------------	-------------

2	<free text>	<free text>
---	-------------	-------------

3	<free text>	<free text>
---	-------------	-------------

4	<free text>	<free text>
---	-------------	-------------

5	<free text>	<free text>
---	-------------	-------------

**Q.5 In your view which of these, or any other, issues should be the top five priorities to be addressed by your regulator in three years time (2014) and why?**

*(Please list in order of priority and provide reasons in the tables below. You may specify issues not included in the list above)*

**Top priorities to be addressed by your regulator in 2014**

<b>Priority no.</b>	<b>Issue</b>	<b>Reason why this issue should be a priority to be addressed by your regulator in 2014</b>
---------------------	--------------	---

1	<free text>	<free text>
---	-------------	-------------





**Legislation**

**Q.7** The challenges and opportunities posed by convergence mean that the nature and form of broadcasting and communications regulation may need to adapt.

**a)** In your view, how urgent is the need for legislative amendment to broadcasting and communications regulation in your country now?

- |                       |                        |                       |                       |                       |
|-----------------------|------------------------|-----------------------|-----------------------|-----------------------|
| <i>Not necessary</i>  | <i>Not very urgent</i> | <i>Urgent</i>         | <i>Very urgent</i>    | <i>Critical</i>       |
| <input type="radio"/> | <input type="radio"/>  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

**b)** Comments on current need for legislative amendment:

<free text>

**Q.8** In order to deal with new developments in broadcasting and communications in your country, what should the cycle of major legislative amendment to broadcasting and communications regulation be?

- |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|
| <i>1-3 years</i>      | <i>4-6years</i>       | <i>7-9 years</i>      | <i>10+ years</i>      |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Comments on frequency of major regulatory amendment required:

<free text>

**Q.9** Thinking about your regulator's ability to address key issues in the communications environment, do you think that current policy or legislation acts as an impediment to economic growth in your country?

(Please provide an example within your area of expertise if possible)

<free text>

### **Emphasis on self- and co-regulation in 2010**

**Various forms of self-regulation and co-regulation are utilised across the broadcasting and communications sectors (for example, in content regulation, in telecommunications call charging and billing and in complaints handling). Over the next two to three years the emphasis on these forms of regulation may alter as technologies and markets develop.**

**Q.10** In which areas or sectors do you think your regulator might place *greater* emphasis on self- and co-regulation in 2010?

<free text>

Q.11 In which areas or sectors do you think your regulator might place *the same* emphasis on self- and co-regulation in 2010?

<free text>

Q.12 In which areas or sectors do you think your regulator might place *less* emphasis on self- and co-regulation in 2010?

<free text>

## **C. EMERGING ISSUES**

Emerging issues that may pose a challenge for regulators in the next two to three years include Spectrum Management, Broadband, new content services (such as IPTV\*) and consumer and Citizens' Interests.

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\* Internet Protocol Television.

## Spectrum Management

**Q.13** Thinking about Spectrum Management, please indicate how you view the importance of each of the following:

	<i>Not Important</i>	<i>Not Very Important</i>	<i>Moderately Important</i>	<i>Important</i>	<i>Essential</i>
Principals of economic efficiency (For example, tradable spectrum)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cultural considerations (For example, community broadcasting, not for profit or public broadcasting)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flexibility in the use of spectrum resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Technology and service neutrality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cross country boundary issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

List any other issues that you believe are noteworthy and indicate importance:

*Issue 1*

<free text>

*Issue 2*

<free text>

If you have further comments about Spectrum Management please provide them here:

<free text>

## Broadband

**Q.14** In your view, how important is/are each of the following in addressing broadband over the next three years (2007-2010)? Please indicate in the scale below.

	<i>Not Important</i>	<i>Not Very Important</i>	<i>Moderately Important</i>	<i>Important</i>	<i>Essential</i>
Ex ante regulatory intervention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ex post competition policy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intermodal competition	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unbundling of the local loop	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
‘Regulatory holidays’ (exemption from competition regulation) for new networks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Government financial incentives (For example, grants, accelerated depreciation, share ownership)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

List any other issues that you believe are noteworthy and indicate importance:

*Issue 1*

<free text>

Issue 2

<free text>

If you have further comments about Broadband please provide them here:

<free text>

### New content services

**Q.15 In your view, how important is/are each of the following in addressing broadband over the next three years (2007-2010)? Please indicate in the scale below.**

	<i>Not important</i>	<i>Not Very Important</i>	<i>Moderately Important</i>	<i>Important</i>	<i>Essential</i>
Technology-neutral content regulation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intellectual property rights (For example, DRM*)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E-commerce regulation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to events of special significance or public importance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Content rules for new aggregators (For example, Google, EPGs* or triple play providers)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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\* Digital Rights Management.

\* Electronic Program Guides.

List any other issues that you believe are noteworthy and indicate importance:

*Issue 1*

<free text>

*Issue 2*

<free text>

If you have further comments about new content services please provide them here:

<free text>

### Consumer and Citizens' Interests

**Q.16 In your view, how important is/are each of the following in addressing broadband over the next three years (2007-2010)? Please indicate in the scale below.**

	<i>Not important</i>	<i>Not Very important</i>	<i>Moderately Important</i>	<i>Important</i>	<i>Essential</i>
Provision of local content on New Media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Promoting industry profitability and growth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Consumer Protection activities (For	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

example, price transparency, consumer information guidelines)

Consumer enforcement powers	○	○	○	○	○
-----------------------------	---	---	---	---	---

(For example, powers to investigate, dawn raid, sanctions and fines)

Effective use of media, information and communications technology	○	○	○	○	○
---	---	---	---	---	---

(For example, media literacy)

Access by all groups in society to Broadband	○	○	○	○	○
--	---	---	---	---	---

(For example, digital divide, USO\*)

Access by all groups in society to mobile telephones	○	○	○	○	○
--	---	---	---	---	---

Privacy and security	○	○	○	○	○
----------------------	---	---	---	---	---

(For example, data and network security)

Role of self- and co-regulation	○	○	○	○	○
---------------------------------	---	---	---	---	---

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\* Universal Service Obligation.

List any other issues that you believe are noteworthy and indicate importance:

*Issue 1*

<free text>

*Issue 2*

<free text>

If you have further comments about consumer and Citizens' Interests please provide them here:

<free text>



## **APPENDIX 26: GLOSSARY**

### **Participating regulators**

ACMA	Australian Communications and Media Authority (Australia)
Ofcom	Office of Communications (United Kingdom)
FICORA	Finnish Communications Regulatory Authority (Finland)
Agcom	The Communications Regulatory Authority (Italy)
MIC	Ministry of Internal Affairs and Communications (Japan)
MCMC	Malaysian Communications and Multimedia Commission (Malaysia)

### **Research team**

Visiting Professor Stephen Burdon, University of Technology, Sydney  
Dr Nigel Courtney, Visiting Fellow, Cass Business School, City of London  
Grace Li, Lecturer, University of Technology, Sydney  
Jean Lei, Market Researcher, University of Technology, Sydney  
Kay Ong, Senior Researcher, University of Technology, Sydney

### **Research sources**

Interviewees	Senior executives and high level decision makers from the Participating Regulators who participated in face-to-face interviews
Online Respondents	Other executives from the Participating Regulators who completed an online survey
Participants	Interviewees and Online Respondents

### **Comparative importance of comments**

Some	Less than 50% of all Interviewees / Online respondents / Participants
Many	More than 50% (but less than 100%) of all Interviewees / Online respondents / Participants
All	100% of all Interviewees / Online respondents / Participants

### **Regional groupings**

Initially geographic segmentation analysis was agreed for Europe and Asia (including Australia). However it was evident from a review of the online database that for some issues, including those associated with culture, Australia might be closer to Europe, and therefore three segmentations were chosen for analysis.

Europe	Regulators from UK, Italy and Finland
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Asia	Regulators from Japan, Malaysia and Australia
Asia without Australia	Regulators from Malaysia and Japan

### Online survey legend

#### Relative Importance of Issues

During the online survey, a comparison of relative importance was calculated using the following scale:

Not Relevant	0
Not important	1
Not very important	2
Moderately Important	3
Important	4
Essential	5

A mean and standard deviation was calculated from sample taken. In addition, comparisons between different categories of regulatory issue often undertaken using the addition of important and essential scores.

AI	Artificial Intelligence
Chairman	A generic term used to describe the most senior executive position in a regulator
GDP	Gross Domestic Product
ICT	Information, Communications & Technology
M2M	Machine to Machine
Nanny state	The notion that the <a href="#">state</a> has a comprehensive duty to control and protect (" <a href="#">nanny</a> ") its citizens from their own harmful behaviors, and that the state knows best what constitutes harmful behavior.
NRA	National Regulatory Authority
PRC	Proactive Regulation with Competition
RFIDs	Radio Frequency Identification
UTS	University of Technology, Sydney
Walled Gardens	A closed set or exclusive set of information services provided for users (a method of creating a <a href="#">monopoly</a> or securing an <a href="#">information system</a> ). This is in contrast to providing consumers access to the open Internet for content and <a href="#">e-commerce</a> .