
1

INTRODUCTION

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Aims, objectives and audience

The Internet has established itself with remarkable, perhaps unprecedented, speed as an integral part of everyday life for many people all over the world at work and in the home. This book offers a comprehensive analysis of the impact of the Internet on the production and consumption of the mass media. It explores and discusses the changes this evolving communications platform is bringing about in the media and mediated content industries, and the implications of those changes. The book is written by a group of experts who have been involved in research and analysis of these issues over a period of five years.

During this period perceptions and experience of the Internet have changed considerably. To take the example of the music industry, five years ago P2P and MP3 had only just become established. At that point, the music industry perceived file-sharing as something likely to precipitate a crisis for the industry – customers would be reluctant ever to pay for music again, artists would not get paid, the industry would not survive, and so forth. Now online licence fees are growing faster than sales revenue streams. In the meantime, copyright law has been changed to counteract the effects of the Internet.

Five years ago, it was predicted that electronic books would displace paper book sales but barely anything has materialised in that sector (yet). Indeed there are dozens of examples to be found that illustrate the effect of the Internet on the mass media, but examples quickly date: what is attempted in this book is an overview not so much of the outcomes of the use of the Internet but more of how social scientists set about analysing the processes involved in the adoption of, adaptation to and acceptance of the Internet in the context of the media industries.

When technological changes take place, they are exciting, they are destructive, they are confusing and they alter the status quo. Young people adopt them faster than old people, richer people and countries have access to them before poorer people and countries. There are many dimensions to these changes and they have to be considered from many points of view – as economic, political and social opportunities and threats. These changes impact on the whole of society both within a country and in the international context. They have had a particularly significant effect impact on the media, affecting consumers and producers, users and non-users, and influencing the content of and access to information, the ways it is produced and how the firms within the industries adapt strategically and re-orientate themselves. Governments have to respond to these changes, perhaps without understanding them fully, since information about emergent developments and consumer responses to them is inevitably incomplete. Although the Internet itself is not regulated, the media industries are and governments have had to realign regulations and law to the new platform.

The authors of this book are social scientists from all over Europe doing research in the field of the media industries who specialise in a range of disciplines – media and business economics, communications, cultural economics, cultural studies, media management, media technology, political science and sociology, and who share an interest in the impact of the Internet on the mass media. That interest is both ‘academic’ in the sense that we want to know the what, why and how of its impact, but we also share a concern to provide a basis from which to objectively assess policy. Each of the disciplines represented by the researchers who have contributed to this book offers a different perspective on the developments under review. We are not, however, concerned with attributing the analysis to any particular one. Some of the topics covered in the book fall naturally into one field or another but the main point is that they all have a contribution to make: how media firms have reacted to the Internet can be looked at by analysing the change in content and how users (viewers, listeners, buyers) respond, how firms have changed their business practices in terms of organization, business models, management and strategies, and by reacting to the external environment, including regulation. This is a short book and it is not intended to provide all the answers so much as to set an agenda for how to go about looking for them. This is important as there has been inordinate hype and over-excitement about the power of Internet and related technology to change our lives.

The book draws together what the authors have jointly concluded about the impact of the Internet on the media industries. Given their varied backgrounds, the book’s standpoint is simultaneously multi-lens, interdisciplinary, and cross-national. By approaching a common topic and single sector from a number of different theoretical and geographical

standpoints, it generates comprehensive and universal insights, and thus provides scholars, policymakers, media practitioners and social observers with a strong explanatory and interpretive overview of how the Internet and mobile media has, and is, affecting media and the implications of those effects. Thus the aim of the book is to present, as far as is possible, a contemporaneous account of these researches arising out of objective academic investigation.

What is the Internet?

One of the points that will be frequently made throughout this book is that the Internet is a catch-all phrase for a number of technological developments that relate to economic and social change. At the time the Internet was developing, other changes were taking place in the world of the media industries that also influenced the eventual outcome, central among these are the World Wide Web and digitalisation, as well as the development of cable and satellite television and of coaxial cable enabling broadband delivery. An account of the historical development of the Internet is to be found in Chapter 3.

It is also important to make the distinction between the terms 'digital' and 'Internet' because in common usage these are often, falsely, used interchangeably. The term 'digital' refers to a technology that stores data in binary form. This can be information allowing the storage of text, photography, graphics, video, and audio. The term 'Internet' refers to a distribution system for information. Data transmitted through the Internet and other distribution systems including telephones, television, radio, and computers can be either analogue or digital depending upon the architecture of the system.

'Digitalization' means mathematically reducing all types of information (video, still pictures, audio, text, conversations, games or graphics) into binary form. Once in this format, it can be understood, manipulated and stored by computers, transmitted by networks in perfect fidelity to the original, and used immediately by another party on the network or stored for later use. In recent years information has been increasingly converted into digital formats, from consumer entertainment products to corporate knowledge to the money supply. Once information is digitized, new possibilities for new products and services result. Different forms of information – pictures, sound, text – can be combined to produce new multi-media products. When combined with the Internet, such complex information products can be compressed, stored, transmitted and retrieved instantly from any point on the globe irrespective of physical distance.

The Internet refers to telephony-based system that links computers and computer networks worldwide to permit distribution of data, e-mail,

messages, and visual and audio materials to individuals, groups of individuals, and the public. What has driven many of the developments of the last ten years has been the development of the World Wide Web. 'World Wide Web' is a term indicating an Internet-based system accessed using browsers to access information, graphics, photography, video, and audio materials made available to specific individuals or the public.

For many observers it is digitalization, rather than the Internet, which is the true enabler of convergence. 'Convergence' is one of the developments of particular interest to media scholars, however, the term can be understood in a number of different ways. In this book, convergence is understood as the technologically-driven fusing of the content (that is, media), computing (information technology) and communications (telecoms and broadcast distribution) industries (Chakravarthy, 1997; Bradley and Nolan, 1988). Another use of the term convergence, this time at industry level, is 'corporate convergence' whereby companies from one sector acquire or start new ones in another of the converging industries. However, it should be noted that other scholars have defined convergence in relation to the delivery platforms used for media products, or in terms of the convergence of the devices used to 'receive' or use media products.

Previous technological advancements in the media and communications industries prior to digitalization tended to mimic and optimise existing processes or products without altering the underlying concepts: thus early television programmes were radio shows with pictures, and the word-processor offered enhancements to electronic typewriters. Digitalization differs from these because it allows the development of fundamentally new products, services and processes. One might conclude, therefore, that digitalization has had a more profound impact on economic and social change than the Internet itself.

'Cross currents' from other changes in the world of media

As is so often the case with research in the social sciences, laboratory conditions do not exist and it is almost impossible to isolate changes due to one cause or another that are not connected with the phenomenon being investigated. At the time of the development of the Internet, other changes were taking place in the world of the media industries that set up their own influence on the eventual outcome. Besides digitalization, the development of cable and satellite television and of coaxial cable enabling broadband delivery strongly influenced the structure of the television broadcasting industry. These developments triggered off the discussion about the role of public service broadcasters and the use of taxes to finance them. On the other hand, developments in home copying equipment for time-shifting television

programmes that enabled eliminating the advertisements raised doubts about the role of advertising as a source of finance for television. Trying to eliminate these cross currents and to ascribe correctly to the Internet what its impact has been is the main aim of this book.

Facts about the Internet

Because the Internet is not owned or regulated, there is no responsible body that can provide information about it. In the early stages, it was hard to find reliable data on the features of the Internet of the sort that are of interest to social scientists. This state of affairs has now changed radically, with various public and private bodies collecting Internet data for a range of purposes: governments collect statistics on 'connectivity' to monitor their IT policies, international data are collected for purposes of inter-country comparison and trade, and private firms are supplying market research and business information to organisations, which they make public. However, it is still difficult to establish trends over more than a few years relating to its use and content. Further, a substantial element of content is illegal – comprising categories such as pornography, gambling and pirated media products – and data concerning this type of activity are hard to collect. For some purposes, therefore, we have to resort to indirect measures of the scope and growth of the Internet.

In terms of sheer numbers, the most Internet users in 2007 were to be found in Asia (389 million), then Europe (313 million), North America (232 million), Latin America (89 million), Middle East (19 million) and Australia/Oceania (19 million). However, when these figures are standardised according to the size of population, the picture concerning the penetration of the Internet, that is, users in a country expressed as a percentage of its population, change. Then we find North America (69 per cent), Australia/Oceania (54 per cent), Europe (39 per cent), Latin America (16 per cent), Asia (11 per cent), Middle East (10 per cent) and Africa (4 per cent) www.internetworldstats.com (January 11, 2007).

Looking at figures on the growth of Internet penetration for a selection of OECD (Organisation for Economic Co-operation and Development) countries, Table 1.1 shows how uneven development has been. Some countries (Australia, Canada, S.Korea and USA) already had over 40 per cent of households with access to the Internet in 2000 whereas others (France, Germany, Italy, UK) had less than 20 per cent. Some 'slow starters', especially Germany, have reached very high penetration while others (Italy) have grown only modestly. The highest flier of all is Korea with a head start in 2000 and nearly 93 per cent penetration by 2005. The relatively high figures for the Netherlands reflect that country's determined effort to develop IT.

Table 1.1 Households with access to the Internet as a percentage of all households

Country/year	2000	2001/2	2003	2004	2005
Australia	41.5	42	53	56	
Canada	42.3	49.9	56.9	59.8	
Finland	30	39.5	47.4	50.9	54.1
France	11.9	18.1	31	33.6	
Germany	16.4	36	60	61.6	84.4
Italy	18.8		32.1	34.1	38.6
Japan			53.6	55.8	57
Korea	49.8	63.2	68.8	86	92.7
Netherlands	41		60.5		78.3
Spain		40	27.5	33.6	35.5
UK	19		55.1	55.9	60.2
USA	41.5	50.3	54.6		

Source: OECD Key ICT indicators

Similar country differences can be seen in access to broadband: in 2006, the average penetration was 15 per cent of all households for all OECD countries and this figure had doubled since 2003. Germany, Spain and Italy were below that average, with Finland, Netherlands and South Korea being over 25 per cent (1 in 4 households). The growth of access to broadband is an indicator of greater potential use of the Internet for uses such as downloading images and films.

Growth in the number of Internet hosts worldwide is an indicator of the expansion of the Internet: in 1990 there were 0.3 million Internet hosts and in 1995, 6.6 million; by 2000, there were 93.0 million and by 2006 439.2 million Internet hosts. The Internet Domain Survey, <http://www.isc.org/index.pl?/ops/ds/> provides data on the per centage of domain names worldwide: dot com 75.9%, dot net 11.2%, dot org 6.7%, dot info 4.0%, dot biz 2.0% and dot edu 11.6%. (Zooknic, Domain Name Counts <http://www.zooknic.com/Domains/counts.html>).

To assess the economic significance of the Internet we have to resort to several indirect indicators. In 2006, worldwide e-commerce was estimated to be 7 trillion US\$, with the bulk of the sales being wholesale sales. In the US, according to the the US Census Bureau, e-commerce represented 2 per cent of total retail sales and 17 per cent of total wholesale sales: in terms of content, personals/dating, business/investment and entertainment/lifestyle represented 65 per cent of the dollars spent. In Europe the numbers were about 1 per cent for retail and 7 per cent for total wholesale sales; France, Germany, and UK account for 70 per cent of European online sales.

Initially, debate raged concerning how Internet activities would be financed. It is still the case that a great deal of Internet traffic is funded by non-commercial users. However, as with other media platforms, advertising has established itself as a source of finance. Internet advertising expenditures were \$18.3 billion globally in 2005 and increasing at a rate above 30 per cent each year, with North America accounting for 62 per cent of expenditures and Europe for 22 per cent (according to *World Advertising Trends* (2006)). The leading countries by expenditures are USA, UK, Japan, France, Australia, Germany, Canada, South Korea, Sweden, and Italy. As this book shows, these trends are of considerable importance to the media industries.

What are the media industries?

Media is a term that refers to technologies (print, radio, television, sound recording and such like) through which content created for groups of consumers is moved and organized. Firms in the media industries act as packagers of materials that utilize those technologies. Thus radio stations, magazines, television broadcaster, Internet content aggregators, and mobile content services are media firms. By their very nature media affect the forms of content that can be conveyed through them. Content industries are closely related to media because they create material that can be conveyed through media. 'Content industries' is a term that is often used to characterize those industries whose primary activities are the creation of original content material for use in media, information and communication products. These include industries creating motion pictures, television and radio programming, games, music, books, magazines, newspapers and other non-personal content. Enterprises in the content industries also include firms for which creating media content may not be the primary goal. Thus, for example, a symphony orchestra or theatre group whose primary activity is live performance may record those performances as audio or video recordings and make them available for sale or for downloading over the Internet. The recordings are thus content and such activities are included within the content industries. Similarly, museums and other collectors of art, graphics, etc. become content producers when they produce images of their art for use by consumers. The distinction between the production of content and the medium by which it is delivered is, therefore, crucial. Internet content is the subject of Chapter 4 of this book. How it is used is analyzed is discussed in Chapter 5.

Another aspect of the media industries is 'cross media'. The term cross-media refers to communication (or media) products that are designed and intended for use in more than one medium, or on more than one media platform. The term also covers the organisational activities involved

in coordinating and moving content into more than one medium. Cross-media activities are typically regulated by the state in situations where large corporations dominate the production and distribution of information, such as news, that is regarded as vital for societal health. Chapter 6 discusses these issues in relation to the Internet.

An aspect of the media industries that has to be taken into account, especially in generalising across many countries, is that in most, the media industries are privately-owned, for-profit enterprises. Even before digitalization, the economic and political environment in which they functioned was changing (or had only recently changed). The way media organisations adapt is discussed in detail in Chapter 7 of this book. However, especially in the smaller countries, there are also subsidised areas, such as film production or popular music in the national or even a regional language, meaning that there can be a clash between the goals of preserving cultural diversity and pluralism, and free trade objectives. Even in those countries in which private enterprise is the adopted model, the industries are regulated by national law on aspects such as cultural diversity provision, respect for minorities, decency laws and such like, as well as by policy on cultural content in the European Union (EU) and elsewhere, for example, Canada (see Chapter 6).

A name for the Internet era?

One issue that has yet to be agreed upon by social scientists is what we should call this new era, if such it is, that is characterised by the spread of the Internet. Is the term 'Information society' used by the EU the most appropriate and what are the alternatives? Despite the focus on the Internet as the driver of these changes, the term the 'Internet era' has not been adopted to characterize the advent of a new age. However, several other terms are frequently used: the 'knowledge economy', the 'knowledge society', the 'digital economy', the 'information economy' and the 'information society', the 'information age', the 'network economy' and the 'network society', 'new economy' and so on. These terms (which are discussed in greater depth in Chapter 2) all relate to wider developments than the Internet alone but it is clear that the Internet has played an important part in them. They also apparently make a significant distinction between 'knowledge' and 'information', though that distinction is far from clear even in dictionaries and has been much debated by philosophers and others. 'Knowledge' is typically defined in terms of intellectual perception of information, facts, ideas, and so on, while 'information' is defined as 'the communication of facts and knowledge'. On the fact of it, therefore, these terms are not particularly helpful and we need to delve beneath the surface for any deeper meaning.

Besides its contribution to national income and output, the Internet has also enabled the globalization of international trade. Globalization is

understood in this context as the emergence of global markets, a phenomenon which is closely linked both to the development of the media and communications industries, in particular the information goods they produce and the revolution in production and distribution they have precipitated. Indeed in some respects globalisation can be viewed as the development of one large global network for trade and business. Markets are globalising too, as customers become increasingly accustomed on the one hand to sourcing goods from all over the world and on the other demanding access to the same brands and goods from any point on the globe. Organisations active in these markets must compete across geographic divides and meet the needs of customers, where ever they are, this in turn has created a highly competitive environment which has forced the pace for the development and adoption of digital technologies. These trends affect firms' management and business models as well as labour markets everywhere and have had structural effects on the economies of both developed and developing countries.

Theoretical perspectives employed in this book

This book uses three major theoretical perspectives as focal points from which to examine and analyze the developments taking place in the media industries that are ascribed to the Internet: economic perspectives, regulatory perspectives, and managerial/strategic/organizational perspectives. The reason for this is that the changes taking place in the media and content industries as a result of the Internet are extremely complex with many different dimensions. The employment of a single theoretical lens, while allowing a clearer focus, would not accommodate the richness and subtlety of developments, nor provide an adequate tool for analysing and discussing their implications. Thus, for example, new business models that are currently emerging in many sectors of the media industry can be viewed as primarily driven by the emergence of the Internet and other technological developments as industry by industry in Chapter 8. But these new business models also reflect the business strategies adopted by organizations in response to technological change. And the scope of those strategies is determined to a large extent by the policy and regulatory framework that regulators have established in response to technological change. The three perspectives adopted are outlined below with a full analysis in Chapter 2.

Economic perspectives

Studying how the Internet has affected the media industries requires that economic perspectives be used to answer questions regarding industry structure, consolidation and concentration, demand for the original media

products and materials online, financing available for media operations, company costs and organizational decisions, quality and diversity of content. Economic questions are at the heart of industry and market studies, company studies, and policy studies regarding the Internet and new media. Economic analysis is important because economic and financial pressures affect choices about the kinds of media and means of communications available in society, the kinds of content in the media, the way media organisations behave and operate, the implications of these factors on culture, politics, and society as a whole, and the roles of media and information in economic and social development. The perspectives used to understand developments come from theoretical economics, political economy and business economics and offer ways of understanding what is changed because of the development of the Internet and how the business dynamics of the media industries have been affected.

Entrepreneurship is recognised as the driver of industrial change, especially in industries dominated by private ownership. Entrepreneurship drives innovation motivated by the desire for profit and the result in economic growth. That is the essence of the capitalist economy. Moreover, by its nature, innovation is messy, fraught with uncertainty and costly. Many investments do not pay off and many inventions are not successfully exploited by their inventors but by other entrepreneurs who are better able to do so. An example in the media industries is supplying track-by-track titles over the Internet: this is not done by the sound recording industry but by companies like iTunes that recognised the demand and met it.

Over the last ten years, basic questions concerning the 'Internet economy' have been asked: is it very different from its predecessors? What is its likely economic organisation (or industrial structure)? What type of regulation is required? Do we need a new kind of economic analysis to analyze a 'new economy'? On balance, it is fair to say that economists do not believe any revolution in modes of either thinking or trading are required. Production and consumption, supply and demand, incentives and rewards, costs and prices are all features of the economy with or without the Internet. Firms that adapt to technological changes will succeed and those that do not will fail, but that is the order of capitalism. Markets are markets online or offline. Price discrimination might be much more common but as long as customers can be made to pay and producers can turn in a profit, markets will go on working. It may well be asked if this is not a complacent outlook: are there not some vital areas of change with the potential to radically alter the way economists think about these questions? The possible prevalence of public goods, for example – that is, products that are non-rival (meaning that there is no diminution of consumption for one user no matter how many other consumers there are) and non-excludable (meaning that they cannot be 'privatised' and the whole potential revenue captured by a producer) – raises

some doubts about this complacency. The excessive cost and difficulty of controlling illegal downloading of music, which threatens to become a de facto public good, are a case study in this respect.

Regulatory perspectives

Regulation of the media sector is achieved in several different ways. First, like any other sector of the economy, the media industries are subject to anti-monopoly legislation/competition law (in the US called Anti-trust). The European Union (as well as the constituent individual nation states) has become active in controlling merger activity and firm growth in this as in other areas of economic endeavour; the treatment of Microsoft is a case in point. Some of the media industries, namely, press and broadcasting, are subject to more specific ownership rules that relate to both concentration or integration within one industry (such as newspapers or television broadcasting) and to cross-media ownership rules (ownership of both newspapers and TV stations) that are designed to protect or promote diversity of content and points of view. In addition, broadcasting is specifically regulated under the terms of the licence it must acquire from the government and required to comply with rules on content in addition to laws on decency, defamation, etc. The impact of Internet on content diversity and on ownership in media industries is a much discussed topic as is the separate question whether the Internet should be specifically regulated, and if so how and by what regulatory body. There are many difficult issues here: media industries typically require individual regulatory regimes but the Internet carries a mixture of content from all these industries; moreover, the Internet is global and evasion of regulation within one country is obviously extremely easy. Only an international regulatory body could take on such a task using international law and sanctions.

Another strand of regulation is specifically targeted on the media industries in some countries, and particularly throughout Europe, and is concerned with promoting European cultural diversity. Its aim is to promote and protect European cultural identity and to prevent excessive 'invasion' of non-European programmes and films. Other countries have similar rules and they are much disputed, especially by the USA, in trade negotiations in the World Trade Organization (WTO) and General Agreement on Trade in Services (GATS).

A second means of regulation is intellectual property (IP) law, mainly copyright law, and in many ways this has become a universal regulatory force. Copyright law (while still national law) has become increasingly globalized over the last decade through international treaties setting minimum standards for rights and their enforcement (and subject to sanctions in the case of the WTO's treaties). Copyright law has become progressively stronger as its scope and duration have been increased as well as the penalties

for non-compliance. This global agenda reflects the globalization of the media industries themselves and to a considerable extent has been set by US interests. It requires conformity on the part of the EU, which in turn sets the agenda for national copyright legislation within its boundaries. The development of digitisation and the Internet have caused copyright law to be updated to take in the effects of the new technologies, something that has become increasingly controversial.

Management perspectives

The field of research covered by management complements the other two perspectives outlined above by focusing on media organisations and their host industry sectors. The methodologies employed are drawn from theories of management, strategy and organisational change. Taken together, these bodies of knowledge provide insights into the relationship between media organizations and their strategic environments, and the activities they must undertake to align organisations and their available resources with changes in its environment.

That environment is unstable and complex, due in large part to the emergence of the Internet as a new media platform, but also as a result of inter-related changes in regulatory and policy frameworks, and in consumer behaviour and lifestyle. This perspective provides insights into the impact of these environmental changes on strategies, for example, on business models and product portfolios, on organisational structures – looking where Internet-based activities are housed, and on life inside media firms – in terms of changes to job design, work processes, employment patterns, organisational culture, and so on.

Organization of the book

The book is organized as follows: Chapter 2 Theoretical perspectives on the impact of the Internet on the mass media industries, by Lucy Küng, Robert Picard and Ruth Towse: reviews the concepts and theories that are used by researchers to understand the phenomenon of the Internet. The first of these are economic theories which are applied to the understand the impact of the Internet as a technological innovation that has had an impact on the wider economy, market structures, value chains, business strategies, and company structures and operations.

The second set of theories concern policy and regulation which are used to analyze and understand what policy measures might be necessary as a result of the emergence of the Internet and, as indicated above, these include competition law (anti-trust), copyright law, and media regulation.

The third set of theories comprises approaches from the discipline of management. One focus is on theories exploring the inter-relationship between scientific advance and organisations, and particularly the implications of technological change for incumbent organisations. Concepts discussed include theories of organisational technology, the dominant design and technology transitions. Another focus is a range of concepts from the general management and business press which were viewed as likely to transform industrial structures and society, and which received much attention during the first Internet era, these include convergence, the network, Internet or new economy, the knowledge economy/society, an the information economy/society.

Chapter 3 Media Technology, Platforms, and Innovation, by Anders Henten and Reza Tadayoni: examines the Internet as a production and distribution tool for video, audio and text media. From a production perspective, the Internet enables changes in the production flows and structures of the media and content industries, for example, the presentation of media products on different communication platforms. On the distribution side, the Internet creates new distribution possibilities for the media and content industries, as well as the potential for interactivity, and also the self-organised distribution and exchange of material, as in peer-to-peer communications and blogs.

Digitalization is one of the fundamental technological developments in the communication and media areas. The transformation from analogue to digital is potentially a radical change within the broadcast sector, but this chapter's focus is on digitalisation as the technological driving force for convergence (and divergence) and the synergies obtained between the Internet evolution and media developments. This applies to video as well as audio and text-based media.

Chapter 3 includes a brief historical account of the development of the Internet. The purpose is to avoid conceptualising the Internet as a fixed and finite 'entity'. The Internet has developed over time with different implications for the media, and it will keep on developing technologically with new consequences for media developments. This can be important when pointing at future implications for the media. Chapter 3, therefore, examines the different technologies which are part of what we understand as Internet today, with an emphasis is on the Internet Protocol (IP) as the basis for the Internet as a network as well as for managed IP networks.

Chapter 4 Impact of the Internet on media content, by Richard van der Wurff: analyzes the impact of the Internet on content. It starts from the dual observation that the Internet minimizes the costs of content reproduction and distribution but not of content production. Changes in content follow from the opportunities that these changes in cost structure create, and from the way in which different types of actors use these opportunities in ways they

see fit. The Chapter discusses several 'impacts' of the Internet on content: with existing content being increasingly made available via the Internet, it results not only in a tremendous increase in the amount of available content, but also in fragmentation of content and audiences and this creates opportunities for companies that organize access to content, especially for those that serve large numbers of users. Compared with the amount of existing information that is for the first time or additionally distributed via the Internet, a relatively small amount of content is specifically developed for the Internet. That type of content illustrates the different ways in which Internet content might develop in the near future. Traditional offline content in response borrows design items from Internet webpages, such as the use of hyperlinks (or pointers) and frames. Finally, the changes in available content raise considerable regulatory questions, in particular on the protection of minors and necessary guarantees for diversity.

Chapter 5 Impact of the Internet on audiences and users, by Piet Bakker and Charo Sádaba: takes as a starting point the 'user-perspective' – how technologies are used in their social context. The focus is on the use of the Internet and the impact this technology has had on audiences in different countries. The authors concentrate on the ownership and use of computers with Internet connection, and other devices related to the Internet including mobile phones, game computers, satellite television, mobile music players, and digital cameras. The issues included in Chapter 5 are: penetration and consumption and how these change over time; differences between groups; connectivity to the Internet and how households are connected; applications, uses and time spent, and in particular, what young people are doing. A more qualitative analysis considers what the results are of these changes of media use: why these technologies attract so much of audiences' interest, time and money; the impact on societal change; whether there is fragmentation or individualization; what the consequences are for other media consumption and new interactive forms of those media; what the impact is on language and/or frontiers on the Internet and consequently on culture. Finally the Chapter deals with questions of control, the way people work with media (actors in content creation) and future media use.

Chapter 6 Impact of the Internet on policy, regulation and intellectual property rights, by Des Freedman, Anders Henten, Ruth Towse and Roger Wallis: discusses how for some time now, the Internet has been the spectre haunting the corridors of media policy-making and regulation in Europe: ever-present and ominous, but perhaps more disturbing in theory than in reality. The Internet has had an uneven impact on actual policy development and has affected some industries (for example, music) far more than others (for example, television). Chapter 6 distinguishes between the rhetorical and the material impact of the Internet, between the ways in which it has been used prescriptively to justify particular policy and regulatory positions

and how it has forced specific media industries to respond to the challenges posed by the growth of broadband. In particular, the Chapter examines how the Internet has affected policy and regulatory initiatives concerning media pluralism, cultural diversity, intellectual property rights, competition issues and the emergence of new digital platforms. The Chapter attempts to capture the complex dynamics of the Internet's impact on European media policy and regulation.

Chapter 7 The impact of the Internet on media organisation strategies and structures by Lucy Küng, Nikos Leandros, Robert Picard, Roland Schroeder, and Richard van der Wurff, explores the effect of the Internet on the media organisations, specifically from the perspective of the inter-related issues of strategy, structure, processes and business models. In order to do this it draws two important distinctions. The first is between incumbent and new organisations. To respond to a development such as the Internet, incumbent firms face a challenge that is an order of magnitude greater than those of start up firms. They must not only develop an appropriate response to a changing strategic environment, but implement this despite the hurdles presented by 'legacy' systems and processes. As this book explores the impact of the Internet on the existing mass media, the focus is inevitably on its effect on the established media firm.

The second, and related, distinction is between the first and second Internet eras. The first Internet era was one of hype and hyperbole, where Internet-related businesses carried extraordinarily high stock market valuations, and the established mass media industries found themselves under intense pressure to move into the Internet arena, and with it into a very new type of strategic arena, an unpredictable emergent context. This chapter reviews the established media firms' responses to the first Internet era, and explores the surprising failures of the largest companies' strategies. It explores the nature of the strategic environment of the second Internet era, and discusses typical strategic responses to it, particularly cooptation and cross-media strategies. Survival in a complex and uncertain environment involves changes to a firm's core processes. A key tool employed by actors and observers of the media industry to understand the impact of the Internet on industry processes has been the value chain. Chapter 7 reviews the transformations taking place in firm value chains including disintermediation or unbundling, fragmentation, extension, and non-linear or reverse value chain arrangements, as well as exploring how the Internet has affected journalistic work processes. That the Internet is changing the structure of media firms is indisputable but the ongoing changes display a wide variation; the chapter reviews these, in particular, developments such as alliances, networks, mergers and acquisitions, spin-offs, new media investment funds, and the location of Internet activities by established media firms.

Chapter 8, The impact of the Internet on the sectors of the media industries, by Marko Ala-Fossi, Piet Bakker, Lucy Küng, Stephen Lax, Charo Sadaba, Richard van der Wurff: provides a segment by segment overview of the new medium's effect on the various constituent sectors of the media industries. It complements the theoretical approach taken in Chapter 7 by giving numerous examples of business models that have been applied in the media in response to the threats and opportunities offered by the Internet. Each section has been contributed by an expert in that sector medium and, therefore, represents the state of the art at the time of writing.

Chapter 9 Conclusions, by Lucy Küng, Robert Picard and Ruth Towse: summarises the main findings of the research and considers what future research is needed. At the turn of the Millennium, the starting point of the research, it was widely believed that the Internet would profoundly change the way mass media are produced and consumed. It has certainly done so in the music industry and may soon also impact on the film industry but it has not so far had much effect on books publishing and television broadcasting. However, it has changed the editorial and marketing processes of all these products.

What we see now with the value of some limited hindsight is that the Internet became emblematic of and has come to stand for a whole range of issues which each have an impact on the media as well as on other industries. In a wider sense the Internet is only one aspect of a reorientation of thinking in social sciences about our economy and society and the role of the mass media. It is obvious that there are many technological, economic, social and managerial changes already underway now and that they will persist into the future. We do not attempt to foresee that future but instead we have provided a framework from which to assess its meaning for the economy and for society.

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