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Introduction

Patrick-Yves Badillo and Jean-Baptiste Lesourd[1]

1.1 Information, information society, and the media

Information is a word which has a number of meanings. In a comparatively limited sense, it can be defined as any structured set of data that can be interpreted by human beings and is useful for human action.

From an economic standpoint, information, as defined in the above limited sense, is a scarce resource which is fundamental in market economies, for all economic agents, for businesses as well as for the general public. It can be decentralised and partly private information, but we are concerned here with public information (or information with the characteristics of public goods). Such public information is produced and transmitted by the media. But, as we shall see, information in this limited sense is far from being the only good to be produced, processed, or transmitted by the media.

In a much broader sense that includes the previous sense as a particular case, information can be defined (Shannon and Weaver, 1948) as any set of signs or data accessible to our senses. The transmission from one individual to another of such information generally involves a message, that is, a set of signs, going from an individual called the transmitter to one or more other individuals called receivers.

The occurrence of digitising allows for an equivalent definition of this broader definition of information, which is due to Shapiro and Varian (1999, p. 3): '*Anything that can be digitized – encoded as a stream of bits – is information*'.

A book, an article in a newspaper or in a magazine, a telephone conversation, a television programme, a film are examples of information in this generalised sense. The transmission and processing of information necessarily involve some kind of material data carrier, that is, a

device capable of containing this information (human memory, paper, computer disc…). In this instance we are discussing only meaningful information, that is, information which is understandable to human beings, only a particular case of the most general meaning of this term. In addition, any meaningful information is not necessarily useful for a given audience.

We will define a *content* (or the information contained in some material device) as information which is both meaningful and useful in the economic sense of the word, to some audience, that is, a group of receivers to which the information is directed as a message.

Finally, a *medium* can be defined as some kind of a transmission technology. Paper dailies, paper weekly magazines, radio and television, as well as the Internet, are examples of media. Marshall McLuhan (1964) considers that the information message cannot be dissociated from the media that carries it ('the medium is the message'). Following the emergence of the digital revolution, it is clear that the possible digitising of contents can lead to a technical and economic separation of the contents from the underlying media. This leads to a stand-alone existence of contents which raises new problems, especially from the economic point of view and from the point of view of media enterprises.

Having proceeded so far the concept of a *media enterprise* can now be defined. A media enterprise is an enterprise or firm that uses one or several media to distribute contents to a specific audience after having either purchased it from vendors (for example, a TV channel who buys a movie to a producer), or produced it. Media firms different from those found in most other sectors. More precisely, media companies products have two original characteristics. Firstly, these companies require a quick and constant renewal of their products; they rely on a high degree of creativity. Secondly, they fall within what can be described as project production, that is to say that their product is a single, non-repetitive product, and unique of its kind.

It is clear that media companies sell products that very rapidly become outdated, and whose novelty is an essential aspect of their attractiveness to their audiences, and thus to demand. Accordingly, one can talk in terms of a process of continuous innovation. For example, in the case of news printed in daily press articles, or broadcast by a television channel, novelty is an essential element, and any new information will remain in the news only for a certain period of time, and then will be outdated when more news take over. A television channel will generally broadcast either new films, or older films that are little known or forgotten. And what is true of news or films is also true of almost all content. The media industry

is an industry in which a product often loses virtually any interest as soon as it is out of date. Indeed, many industrial activities are characterised by the constant renewal of their products, but the life cycle of a product can very often be longer than is the case in the media industry (for example, in the case of the automotive industry, the lifetime of a particular brand of car is generally of the order of seven to 10 years, which is much longer than in the case of most contents sold by the media industries). Thus, the media industries, by the very nature of their products, require daily rapid innovation and a high degree of creativeness. Contents produced by the media share this feature with a certain number of goods and, in particular with artistic and cultural goods, many of which can in any event be produced and/or sold by the media industries. Artistic and cultural goods share these characteristics with virtually all other contents of media, whether such contents are knowledge-oriented, technical literature, advertising, or leisure-oriented contents.

As will be discussed in several parts of this book, the recent evolution of the media industry is related to the dynamics of the so-called *knowledge-information society*, or *information society*. As early as 1933 Machlup (1962) was developing some of the earliest analyses of this concept. More recent studies have been carried out by authors such as Downes (2000) and Webster (2006). Clearly, we are dealing with evolutions that can be rather different in various developed economies, emerging economies, and developing economies. Globally, a number of common features can be observed, as this evolution tends to be *global*. However, as will be discussed by Robert Picard in Chapter 2, there are obstacles to the establishment of a global information society, which leads to the formation of some kind of 'digital divide' between the comparatively affluent societies of the developed and emerging economies, and the less developed economies.

This book is devoted to the econometric and quantitative analyses of the media industries and their markets from both an economic and a management point of view, a field that has apparently been investigated less extensively than more qualitative analyses. Following this introduction, our book is organised into three distinct parts, followed by some conclusions.

Firstly, we will discuss the general features that characterise the media industries, including their relation to the concept of an information society, and the original aspects of what might be called their business models.

Secondly, we will discuss the media industries from the point of view of supply. Since media enterprises are characterised by both economies

of scale and economies of scope, there are strong incentives towards increasing the levels of concentration in the media sector. Therefore, one important supply-related problem that will be discussed here is the problem of concentration in the media industries.

Thirdly, we will discuss the media industries from the point of view of demand. As far as demand is concerned, media enterprises are characterised by dual markets, meaning that they are operating on two markets that are complementary to one another: the markets for information, as well as the markets for advertising. Consequently, there are some media markets that are mainly dependent on audiences, and there also media markets that depend mainly on advertising.

Finally, we analyse the concluding remarks by Orhan Güvenen, which constitute the last chapter of the book.

1.2 The media industries: general economic environments, business models and strategies

One fundamental problem that has to be addressed in any media study is whether or not the information society is a global phnenomenon. In Chapter 2, Robert G. Picard shows that there are enormous impediments to the creation of a global information society. Because of the so-called *digital divide*, the information society is *not* a global phenomenon, and it concerns mostly developed economies. In less developed countries, the majority of the population have no access to the infrastructures that are essential for access to the new media such as the Internet, including electricity and fixed telephony, are lacking to a majority; the oldest media, such as the written press, radio and television, are not available to everybody. Among other factors contributing to this situation are illiteracy and the very low levels of income in these countries. Even in the most developed regions such as Europe, North America and the highly developed nations of Asia, such as Japan and South Korea, poverty excludes some people from the benefits of the information society. In emerging countries such as India and China, despite the fact that these are countries with high technological and scientific levels, people with very low incomes usually have less (or no) access to the newest developments of the information society. Finally, Robert G. Picard concludes by showing that, even if increasing numbers of people are participating fully in the global information society, 'social, economic and technical factors make global information society merely a dream, not a reality', even in developed nations. This is a problem that has to be taken into account in the strategy of many companies, such as

telecommunication and other high-technology companies, as well as by national governments and by international development institutions.

The remainder of this part of the book is devoted to some general economic, management and strategic questions. In chapter 3, Christophe Garonne and Félix Weygand discuss the adaptation of Internet-based companies' business models to changes in the global economic and technological environment after the so-called 'dot.com burst'. Their discussion concerns both companies that survived the Internet bubble of the decade from 1990 to 2000, and new companies, in particular start-ups and ventures that appeared after this time. Taking into account the specificities of E-Business models, the authors examine the evolution of business models using as a guideline a classification developed by authors such as Mahadevan (2000). From the empirical point of view, the study is conducted on the basis of several company surveys, including a survey of 10 E-business start-ups in Southern France, and an international survey of several companies that survived the 1998–2001 period and are included in the Top 10 list published by ComStore Inc. This second set of companies includes Internet giants such as Yahoo!, Google, eBay, Amazon, Ask Network and Wikipedia. The discussion shows that the business models of some of these companies, including Yahoo! and Google, still derive the majority of their revenues from advertising, while most start-ups have diversified their revenue acquisition schemes. The same is true in the case of Amazon, a company which has diversified from its initial service provider model to a more diversified model, including being a market-maker. This move towards the diversification of business models seems to be a response to a more risky, and more competitive environment, and, as will be discussed later, similar trends may be observed in the case of many media groups.

In chapter 4, Suzana Zilic Fiser also discusses some business model issues in the case of public service television companies. Many of these companies have both profit-maximising objectives and public service social responsibility objectives. This is true in the case of the UK company Channel 4, which is used as a case study. More precisely, Channel 4 is a public service television channel, but (in contrast to the BBC, which is also a British public service company) it has adopted a hybrid business model relying on both commercial incentives (especially on advertising), and also public service objectives. It is therefore an interesting case. Furthermore, Channel 4 competes with other British terrestrial television channels, including the BBC, ITV and Channel 5. Channel 4 has been given public service objectives such as supporting British independent production, together with developing educational and innovative

programmes. In the final analysis, Zilic Fiser concludes that Channel 4 has achieved a good compromise between its commercial and its public service objectives.

The final chapter in this part of the book, chapter 5 by Patrick-Yves Badillo and Dominique Bourgeois, discusses some more long-term and strategic issues in the management of media companies, especially in relation to the daily and periodical press industry. In particular, the authors examine the implications of the development of Internet media on the long-term evolution of the business models adopted by press companies. If a business model is defined as the management implications of the combination of activities and financial flows in a business company, it should be recognised that, historically, the business models of newspapers have undergone significant evolutions, resulting from technological advances and the development of advertising as one of the main sources of revenue for these companies. The evolution from comparatively high-cost newspapers with small readerships and with little or no advertising as a source of income to low-cost newspapers with large readerships was an essential long-term historical evolution over the nineteenth and most of the twentieth centuries, but it has now come to an end. Since the decade from 1990 to 2000, another long-term evolution appears to be taking place, with the development of new Internet-based media. These new media appear, in some respects, to be both competitors and substitutes to the written press, but, as is shown by Badillo and Bourgeois, they are also to some degree complements to the written press. They are characterised by several fundamental features. Firstly, Internet-based media have comparatively low variable costs, so that they are almost completely dependent on advertising as their main source of income. In the case of the written press companies, the authors find that the evolution of their business models will probably not result in the replacement of the older paper press media by the so-called new, Internet-based media. According to the authors, the written press media are more likely to a change towards blended or mixed business models in which the press companies will achieve an optimal combination of both their paper versions and their online versions.

1.3 Concentration in the media industries and supply studies

The second part of our book is devoted to supply studies of the media industries, which are characterised by a strong movement towards concentration. It opens with chapter 6 by Eli M. Noam, who is interested

in the dynamics of media concentration, focusing on the US experience. The author shows that concentration in the media industry is a global phenomenon, concerning a number of countries such as Australia, Brazil, Germany, Italy, Mexico, and, of course, the United States. However, views differ widely as far as the interpretations and implications of this phenomenon are concerned. In the US case, a distinction can be made between what one might call 'media-pessimistic' and 'media-optimistic' authors who hold conflicting views. According to 'media-pessimistic' authors, there is a cartel or a quasi-monopoly of media companies that is causing damage to diversity, and, hence, to democracy (Bagdikian, 2004). By contrast, according to 'media-optimistic' analyses, especially those advanced by free market advocates, libertarian circles, especially the libertarian Internet communities, free market forces and technological advances such as the Internet are essentially beneficial to our societies. Chapter 6 aims to provide a clearer picture of this situation through a detailed and quantitative analysis that is often absent from these conflicting analyses. The author shows that, firstly, as already noticed in the above general discussion, media enterprises are characterised by strong *economies of scale*, because of low variable costs, as compared to the costs of production of information. Secondly, *barriers to entry* in the media industries have been lowered because of new technologies that enable comparatively small innovative companies to enter the media industry. Thirdly, the digital revolution enhances economies of scale and also leads to economies of scope and to *digital convergence* between different media that were previously distinct industries. The effect as a result of lower barriers to entry is distinct from the economies of scale and economies of scope effects, and its effects on concentration are ambiguous. In some circumstances, the effect of lower entry barriers in the media and information industries can lead to more competitive markets, while under different circumstances, they can lead to more concentration in these industries. Consequently, concentration is not increasing steadily and cycles can take place with three stages: an early stage during which there is a decrease in the level of concentration resulting from lower entry barriers that introduce new competitors, an instability stage during which these antagonist forces are compensating each other, and a final consolidation stage during which concentration increases again. Quantitative analyses follow these theoretical considerations using quantitative data for the USA on the information sector, including the conducting of a survey into subsectors such as broadcast TV, cable TV, cinema and TV film production and distribution, the telecom and the Internet industries, and several other subsectors. These analyses lead to the determination of the usual concentration indicators such as

the total market shares of the largest firm and of the four largest firms, and the Herfindahl–Hirschman Index (HHI) in the US case. These calculations show that the 1983–2008 historical evolution of concentration in this aggregate information sector is clearly not one of steadily increasing concentration, and a cycle seems to take place along the lines previously discussed. As far as the various subsectors of this enlarged information sector are concerned (the mass media, telecom, information technology and the Internet), they seem to converge in terms of concentration measurement indexes since the beginning of the twenty-first century: their HHI, for instance, all converge to values between 1,000 and 2,000 with a decrease in concentration for some industries (telecom and mass media) and, by contrast, increased concentration for the two other industries (the information technology and Internet industries).

Chapter 7 by Petros Iosifidis offers a discussion of various measures of concentration and diversity for the purposes of assessing pluralism and democracy, which is a public concern and therefore requires quantitative indicators. With Hoffmann-Riem (1987) the author distinguishes four dimensions in pluralism that are media-specific and that complete the economic concept of concentration on a given market: *diversity of formats and issues*, meaning that all the various sorts of contents (information, entertainment, education and culture), are present in the media; *plurality of contents*, meaning that the various opinions that prevail are factually covered; *person and group diversity*, meaning that contents take into account the various interests of various groups existing in the audience, and, finally, *geographical diversity*, meaning that local, regional, national and international contents are present. Other classifications of diversity are also discussed. The methodologies for measuring these diversity concepts are discussed and several concentration and diversity indicators are presented. Concentration indicators are first presented, including the sum of market shares of the four largest firms present on a given market, and the Herfindahl–Hirschman Index (HHI), which is defined as the sum of the squares of the above market shares). Measurements of the shares of political and cultural contents are also discussed. The relationships between economic market power and diversity is discussed. The positions of the UK government, and of the European Union, are also presented.

In chapter 8, Patrick-Yves Badillo and Jean-Baptiste Lesourd aim to analyse the drivers and the indicators for concentration in the media industry. After describing the economic and technological environments which are driving concentration phenomena in the media industry, we

survey the various indicators of concentration in a media-specific context. More precisely, we apply these indicators to the case of the concentration of the French press using various measurements, including the traditional Herfindahl–Hirschman Index (HHI), and a new concentration index proposed by Eli Noam, which is specific to the media industry. It appears that HHI as calculated for the entire French daily press industry is equal to 791.4, leading to the conclusion that the concentration in the whole French press industry is still low. In the case of French national dailies, we find a much higher figure of 2,365.4 as the mean value of HHI over the period from 1997 to 2008, which corresponds to a high level of concentration. Finally, as far as provincial daily newspapers are concerned, we find very high HHI figures, because of local monopoly or quasi-monopoly situations. Diversity Indexes, and the new Noam index are also calculated for all these cases, and are found to increase significantly over the 1997–2008 period, showing that diversity decreased significantly in the case of the French daily press, which is, however, a declining sector.

Finally, this second part of the analyses reported in our book ends with chapter 9 by Juan Pablo Artero, Cristina Etayo, Mónica Herrero, Mercedes Medina and Alfonso Sánchez-Tabernero. These authors are concerned with the effects of competition on the levels of profitability of European TV channels. The authors show that quantitative studies of television economics in Europe can be of great interest from several points of view, including markets for ideas and cultural diversity, the management of advertising, the management of public service television channels as well as pay television channels, and technological aspects of the economics of TV channels. Their study is an econometric study of the profitability of 11 TV channels drawn from five European countries: Spain, France, the United Kingdom, Germany and Portugal. The dependent variables are essentially profitability indicators, including the profitability margin on sales, the return on equity (ROE), and the return on assets (ROA), while the explanatory variables are audiences, the number of channels per household, the average daily TV viewing time for the inhabitants of a given country, and the seniority of the network. As expected, audiences are a very important positive determinant of the profitability of the industry, while the number of channels available has, as might also be expected, a negative effect, a quite logical conclusion that highlights the competition between channels. The average watching time is not very significant as an explanatory variable, and seniority of the network negatively impacts on profitability.

1.4 Media markets and demand studies

The third part of our volume is focused on media markets and demand studies. It begins with chapter 10 by Hitoshi Mitomo and Tokio Otsuka, who investigate, from the point of view of experimental and behavioural economics, the demand for mobile phone and Internet access. More precisely, the authors investigate the existence of users' preference for flat-rate media access fees and identify the factors that influence such preferences. The authors explore consumer preference for flat-rate pricing plans, defined as 'flat-rate preference'; such a preference for flat-rate tariffs contradicts traditional expected-utility theories and is more in line with general theories such as the behavioural economics approach of Kahneman and Tversky (1979). Consumers' psychological factors employed from behavioural economics are used to explain the preference for flat rates and measured rates. The result from statistical tests based on the questionnaire survey strongly suggests the existence of flat-rate preferences in both Internet access and mobile access services. The survey was conducted on a sample of 400 mobile phone users aged between their teens and their forties. Several preference factors are found to be statistically significant, including choice by habit, aversion for ambiguity, a misunderstanding of tariff schemes, the level of usage, the aversion to loss and the overvaluation of low probabilities, mental accounting, and, finally, 'other' external factors.

Chapter 11, by W. Wayne Fu, Hairong Li, and Steven S. Wildman, is concerned with the demand for TV advertising time, and in particular with providing an explanation of the prices for TV advertising time. Measures of the demographic composition of media audiences have been used traditionally to explain prices paid for ad time in broadcast programmes as well as the advertising possibilities available in other media. Advertisers, on the other hand, are not interested in an audience's demographic composition per se. Rather, they combine demographic measures with information from other sources to estimate the numbers of potential customers in an audience generated by television programmes and other media products. The results presented here use the model in Wildman (2003) which introduces an economic model showing how markets aggregate individual advertisers' demands for television advertising time. This study introduces the purchasing profile, a measure of the mix of products purchased by the members of a programme's audience, as a variable that can be used to construct empirical models that incorporate the critical elements of the above model. Using data on prices paid for network commercial time in

the USA in 1997, we show that regression models incorporating two variables related to purchasing profiles, a measure of the profitability of ad-generated sales for different types of advertisers, and a proxy for the effectiveness of television ads for promoting different type of products, do about as good a job of explaining observed variation in prices paid for ad time in prime time programmes as do traditional demographics-based models. They also reveal how variation in the sets of products purchased by programmes' viewers interacts with heterogeneous advertiser demands to determine the process of ad time.

Chapter 12, by Caroline Elliott and Rob Simmons, is devoted to the demand for another product of an important media industry – film production. It is devoted to advertising for films in various media in the context of the UK film production industry. The primary aim of the authors is to identify statistically the multiple determinants of film advertising expenditures in four important media, namely television, press, outdoor and radio, using the seemingly unrelated regression estimation (SURE) method. Prior to this they have also conducted an analysis of the factors that determine the total amounts spent on advertising films when they are first released in the UK. The results highlight the importance of potential film quality signals in determining advertising expenditures, with major distribution companies having differing preferences for the use of the alternative advertising media. The results indicate that additional factors, such as production inputs and the genre of film, have differing impacts on the choice of advertising media used to market films.

Finally, Chapter 13, by Orietta Dessy and Marco Gambaro, is also devoted to the movie industry, but from the point of view of film distribution in public movie theatre venues. Cinema is still a very important medium, but public movie film attendance in the USA as well as in other developed countries reached a peak some time after the Second World War, and declined sharply thereafter, as a result of competition with TV film watching and, more recently, with home cinema viewing in the form of DVDs. In this context, a comparatively recent innovation in the context of public movie theatre film distribution has been, since 1957, the development of multiple-screen facilities such as multiplex and megaplex movie theatres. It is important to assess the effect of multiplex diffusion on the demand for films, and therefore the authors of this chapter aim to achieve an assessment of the role of multiplex facilities on the demand for movie films in Europe. The authors conduct an econometric study of the demand for public theatre movie film, and, more precisely, for public movie theatre attendance in 15 European countries

(Austria, Belgium, Denmark, France, Finland, Germany, Greece, Ireland, Italy, Luxembourg, Norway, the Netherlands, Portugal, Sweden and the UK) over a 15-year period (1989–2003). GDP per capita appears, as expected, to be a significantly positive determinant of demand, while the price elasticity of demand is negative as expected, but small. Finally, multiplex facilities appear not only to attract demand for movie theatre watching from traditional theatres, but also to be a positive determinant for the growth of overall demand.

1.5 Concluding analyses

Chapter 14 by Orhan Güvenen offers some concluding comments. This final chapter stress technological advances, and the dynamics of the changes driven by advances in information and communication technologies, which are considered by the author as leading to a second industrial revolution. This chapter shows that the quantitative statistical and econometric studies developed in this volume are an invaluable tool for both applied and theoretical research of all aspects of the economics of the media industries, as well as for applications in the management of media enterprises.

Note

1. Patrick Badillo is a Professor at Aix-Marseille University, France; formerly Director of the School of Journalism and Communication of Marseille; Director and Founder of the Research Institute on Information and Communication; Project Manager, French National Research Agency; Jean-Baptiste Lesourd is a Professor at Aix-Marseille University, France.

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