



E-commerce use among digital TV subscribers: audiovisual abundance and virtual purchase - predictors of e-commerce use among digital television subscribers in Spain

CARMELO GARITAONANDIA

MAIALEN GARMENDIA

University of the Basque Country, Spain

Abstract

Assuming that internet purchasing is related to the amount and quality of technological equipment in a household, the aim of this study was to find some predictors which would help to explain the use of e-commerce in Spain. However, instead of discovering people's reasons for using internet shopping services, it discovered their reasons for not doing so. The use of e-commerce was low in digital households, as only 7.7 percent of those polled had used an internet shopping service on occasion, and only 6.8 percent had done so during the month prior to the poll. Users of e-commerce have a large amount of computer equipment at home and other equipment for leisure activities which is compatible with the former. The results of this study are based on a survey involving personal interviews with members of 560 households in five Spanish cities who subscribe to a TV digital package, by cable or satellite.

Key words

attitudes towards technology • audiovisual equipment • digital subscribers • e-commerce • purchase habits

INTRODUCTION

The subscribers to multi-channel pay television in Spain (cable and Digital+) are used to being able to choose from a wide range of channels. There are more than 70 channels available, and subscribers can use the interface of the television screen to look for the programmes that interest them (for example, via the interactive programme guide). While they are interacting, in search of the programmes offered by the basic and premium channels included in the multi-channel service, they can purchase programmes via the remote control by phoning a call centre or on the internet — principally soccer matches and movies — which means that they are introduced to the direct purchase of symbolic products at a distance. Moreover, the fact that since 1998 the cable industry in Spain has been offering multimedia services which combine traditional multi-channel television services with those of broadband internet services through the cable-modem (Fernandez Peña, 2002), suggests that digital subscribers are more familiar with interactive media. This convergence in the same service of television with access to the internet leads users to divide their leisure time between the two in a complementary way (Kang and Atkin, 1999).

Multi-channel television in general, and cable television in particular, constitute an ecosystem of the abundance of media, not only because of the variety of television channels available, but also as a consequence of the combination of television and access to the internet and the options which are provided by DVD, videotape or videodisc, in what some authors have called 'the hyper-world of abundance' (Neuendorf et al., 2000: 196).

By the beginning of 2008, multi-channel television was being received in more than 3 million Spanish households which subscribe to Digital+ or to a cable operator (LiderDigital, 2008), and more than half the households received digital terrestrial television. All these households have access to the purchase of movies, soccer matches and events (concerts and bullfighting *corridos*) via Pay-Per-View, which is one of the ways to buy programmes. Moreover, subscribers to Digital+ can buy goods, play games, do online banking and credit their mobile phones through the use of the remote control, meaning that the television itself becomes a device for electronic commerce (t-commerce). In 1999 multi-channel subscribers in Spain had more technological equipment in their homes in terms of television, DVD and video recorder, hi-fi music centre, computer and connection to the internet than the average Spanish household (Garitaonandia et al., 2001).

This research project was based on 'digital households' because the deadline for the switch-over to digital television in Spain is 3 April 2010, under the National Technological Plan of Digital Terrestrial TV passed by the Spanish government in 2005. From that date onwards all television sets in Spain will be digital, therefore, we wished to analyse the predictors of e-commerce among households which currently have digital television, as this analysis may enable policymakers and the industry to know which technological factors will influence the development of e-commerce over the next decade.

E-COMMERCE IN SPAIN

Electronic commerce (e-commerce) between companies and consumers (B2C) developed from the spread of webpages in the mid-1990s. Since then, the internet has provided a base for the commercialization of goods, of both a material and non-material nature (travel, software, music, games, etc.), although in the Spanish case it is perhaps necessary to point out two important limitations which also exist in other southern European markets and those of Latin American countries. The first limitation is the lack of access of a large proportion of Spanish consumers to the internet (two-thirds); the second consists of a deep-rooted shopping tradition among Latin people, who prefer to examine goods prior to purchase instead of shopping online via a catalogue (Palacios, 2003). Nevertheless, there are some positive factors: the relatively high level of education and information technology (IT) literacy, especially among the younger generation: 69.14 percent of teenagers (14—19-year-olds) use the internet, a percentage which is only comparable with that of young adults (20-24-year-olds) and is much higher than those of all other age groups, especially the over-45s. Without doubt, the development of e-commerce benefits from the fact that there is strong competition among the suppliers of broadband, therefore they tend to lower their prices. However, there is no evidence of the existence of a clear 'killer application' in order to favour the introduction of e-commerce, as has occurred in South Korea with online gambling (Lee et al., 2003). Moreover, some European countries such as Denmark have developed government initiatives in order to promote the diffusion of e-commerce. They have increased the acceptance and adoption of e-commerce in both the public and private sectors, increased e-commerce training and education, expanded the use of information and communication technologies (ICTs) by the public, promoted competition in telecommunications and improved public access to government services. The impact of these initiatives has been shaped largely by the environmental context in which they have been adopted (Andersen et al., 2003).

A basic requirement for the development of e-commerce in any given country is a sufficient number of critical users of the internet. According to

figures from the National Institute of Statistics (2008), nearly 44 percent of the Spanish population used the internet frequently in 2007, whereas in the European Union the average percentage of users was 51 per cent. According to these data, the percentage of users in Spain is slightly lower than in Ireland (51%) and France (57%), much lower than the data corresponding to the UK (65%), Sweden (75%) or Finland (75%). However, the percentage of Spanish users is still higher than in Portugal (35%) and Greece (28%). The greatest number of buyers purchase plane tickets, and these sales accounted for 15.3 percent of total turnover, while travel agents came second with 14 percent, transactions involving direct marketing accounted for 6.3 percent and overland passenger transport, 5.8 percent. Even though these figures only take into account the purchases made via internet stores whose head office is in Spain (Comision del Mercado de las Telecomunicaciones, 2008), the amount spent on the internet outside the peninsula was €624.1 million, which meant 44.1 percent of the total amount spent on internet transactions.

Diffusion of innovations

Rogers defines diffusion as 'the process by which an innovation is communicated through certain channels over time among the members of a social system' (2003: 11). Therefore, innovation is a communication process through which its participants create and share information with each other with the aim of reaching a mutual understanding. In this process the two main channels are the means of communication and the change agents. Rogers highlights the fact that some technologies are complementary to others and creates the concept of a technology cluster, which 'consists of one or more distinguishable elements of technology that are perceived as being closely interrelated' (Rogers, 2003: 14). The concept of technology clusters shows that the experience of some technologies positively predisposes the adoption of new technologies with a similar function (Atkin, 1995; Jeffres and Atkin, 1996; Lin and Jeffres, 1998; Rogers, 2003). Following the theories of Rogers (2003) in the fieldwork for this study, two technology clusters that work separately were analysed (Morrison and Krugman, 2001): digital television and its interactive services; and the personal computer (PC), periphery technologies and internet access.

Rogers classifies the agents who adopt a technology according to the time when they begin to use it as follows:

- innovators (2.5%);
- early adopters (13.5%);
- early majority (34%);
- late majority (34%); and
- laggards (16%) (Rogers, 2003).

The criterion which marks the different stages in this process is innovativeness.

Subscribers to multi-channel television have acquired some of the necessary skills for using the internet already, so they are to some degree free of the limitations suffered by the inexpert surfer who is not a subscriber. As previously mentioned, they are used to interacting with the television to get programmes and to contracting pay-per-view services using the remote control. Therefore, they are not typical surfers, as they already have some experience of managing surfing systems which are quite similar to those of the internet and of purchasing services and paying for them by using television, both of which means that they are more likely to have a greater degree of confidence in transactions conducted on the internet. In short, the users of cable multimedia with access to the internet are familiar with interactivity and have the skills necessary for use of the internet which enables the latter to 'build on its own identity as a vehicle for satisfying new dimensions of psychological needs not previously met by traditional media' (Kang and Atkim, 1999: 71).

Adoption and predictors of e-commerce

Knowledge of the mechanisms that users employ to access the internet could prove to be decisive for the expansion of commercial transactions via webpages. E-commerce companies must be fully aware not only of the reasons why people use the internet and the gratification that they may obtain from doing so, but also of the mechanisms used to surf it, so that they can improve e-commerce services and increase their popularity (Stafford et al., 2004).

Confidence in the products and stores offered on the internet is one of the main requirements for the development and adoption of e-commerce by internet users (Gefen, 2000; Graebner-Kraeteur, 2002; Javenpaa and Tractinsky, 1999). The adoption of online shopping is predicted best by self-efficacy, followed by perceived financial benefits, previous adoption of telephone shopping and perceived convenience (Eastin and Matthew, 2002). However, when assessing the overall adoption of these e-commerce activities (shopping, banking, investing and electronic payment for an internet service, i.e. access to exclusive sites), perceived convenience was the strongest predictor, followed by perceived risk (which will have a negative relationship with the adoption of them), internet use, previous adoption of telephone shopping and self-efficacy. The most powerful predictor is related to having some knowledge of online shopping, so those people who know well the potential of this kind of shopping are the ones who make the most online purchases (Li et al., 1999).

While traditionally many company reports and consultants' studies on e-commerce have emphasized the importance of security as a *sine qua non* for

online purchases, some empirical studies have shown that customers are not so worried about the security of their transactions. On the one hand, over the last few years people have become less preoccupied by security, thanks to the improvements which have taken place in online pay systems. However, those who may be considered to be big buyers do show concern about questions related to privacy on the internet. On the other hand, consumers whose principal motivation for internet shopping is convenience are more likely to make purchases online (Swaminathan et al., 1999).

RESEARCH HYPOTHESIS

People who are subscribers to a digital TV service receive a type of training in the use of interactivity: an interactive programme guide, video-on-demand, t-commerce, playing games or banking, so it is assumed that these people are also able to interact with the internet. After the switchover takes place in 2010, these digital households will be the ordinary households in Spain, so this study attempted to analyse the relationship between the technological equipment in the household and the use of e-commerce, in order to be able to predict the factors influencing the use of e-commerce. Therefore, the present study will seek evidence on the following hypothesis:

H1: Digital subscribers who live in households that are technologically better equipped tend to purchase more goods using e-commerce than those who live in less equipped households.

It is assumed that it is possible to establish a typology of e-commerce users based on the equipment in their homes. So, depending on the equipment in a digital household, it should be possible to predict the probability of their use of e-commerce.

METHOD

Survey questionnaire

The results of this study come from a wider research project related to the habits of digital television subscribers, together with their use and consumption of this media. The research was carried out during 2004 and used a quantitative methodology of social research. Therefore, a survey of a representative sample of the population frame was conducted using a semi-structured personal questionnaire as the social research technique and information was obtained from households subscribing to digital television. The population frame was Spanish households which are subscribers to a digital TV service. In June 2004, when the fieldwork was carried out, a total of 2.7 million Spanish households had access to digital television (Comision del Mercado de las Telecomunicaciones, 2004a).

Sample

The survey was carried out in five Spanish cities (Barcelona, Bilbao, Madrid, Seville and Zaragoza) in May and June 2004, and the sample was selected through a simple stratified sampling procedure. The selection of these five Spanish cities was based on the geographical diversity of Spain. The country was divided into five zones:

- 1 northern Spain, Atlantic (Bilbao);
- 2 central Spain, Aragon (Zaragoza);
- 3 central Spain, Castille (Madrid);
- 4 southern Spain, Andalusia (Seville); and
- 5 eastern Spain, Catalonia—Mediterranean (Barcelona).

The sample consisted of 560 Spanish household subscribers to a digital and multi-channel television service: 50 percent by satellite and 50 percent by cable. The households were selected based on a random routes system previously fixed in the chosen cities. In a sample of these characteristics, the maximum sampling error was ± 4.14 percent and the confidence level was 95 percent ($p = q = 0.5$).

RESULTS

The use of e-commerce was found to be low in digital households. Only 7.7 percent of those polled had used an internet shopping service on some occasion (of whatever type), and only 6.8 percent had done so during the month prior to the poll. The latter group had purchased on average 2.24 times during this period. The data show that the products purchased the most using this service were tickets for travel and for shows and events (see Table 1), which coincides with the findings of the Comision previously cited (Comision del Mercado de las Telecomunicaciones, 2004a).

The reasons given by the participants in the survey for using e-commerce services were principally the ease and convenience of this type of shopping

Table 1 Products purchased using e-commerce

PRODUCTS PURCHASED	%
Travel tickets	44.7
Tickets for shows, etc.	42.1
Books	15.8
Music	10.5
Software	10.5
Clothes	5.3

• Table 2 Reasons for using e-commerce

REASONS FOR USING E-COMMERCE	%
Because I can easily shop in this way whenever I want.	47.4
It is easier and more convenient to buy certain things through the internet.	28.9
The prices are better.	15.8
I prefer to use the internet because it provides the fastest service.	5.3
There is a great variety of products.	2.6

(see Table 2), which reinforces the findings of previous studies (Swaminath et al., 1999), although obtaining a better price was also an important factor.

However, not all of those polled behaved in the same way in relation to their use of the e-commerce service. Therefore, by comparing this variable with groups of variables related to the availability of equipment in the home, it was established that there is a significant relationship between some of these variables and the use of internet shopping services.

Availability of equipment in the home

Through the use of a Chi-square bivariate statistical analysis, it was detected that there are several variables related to whether or not subscribers of digital television use e-commerce (see Table 3).

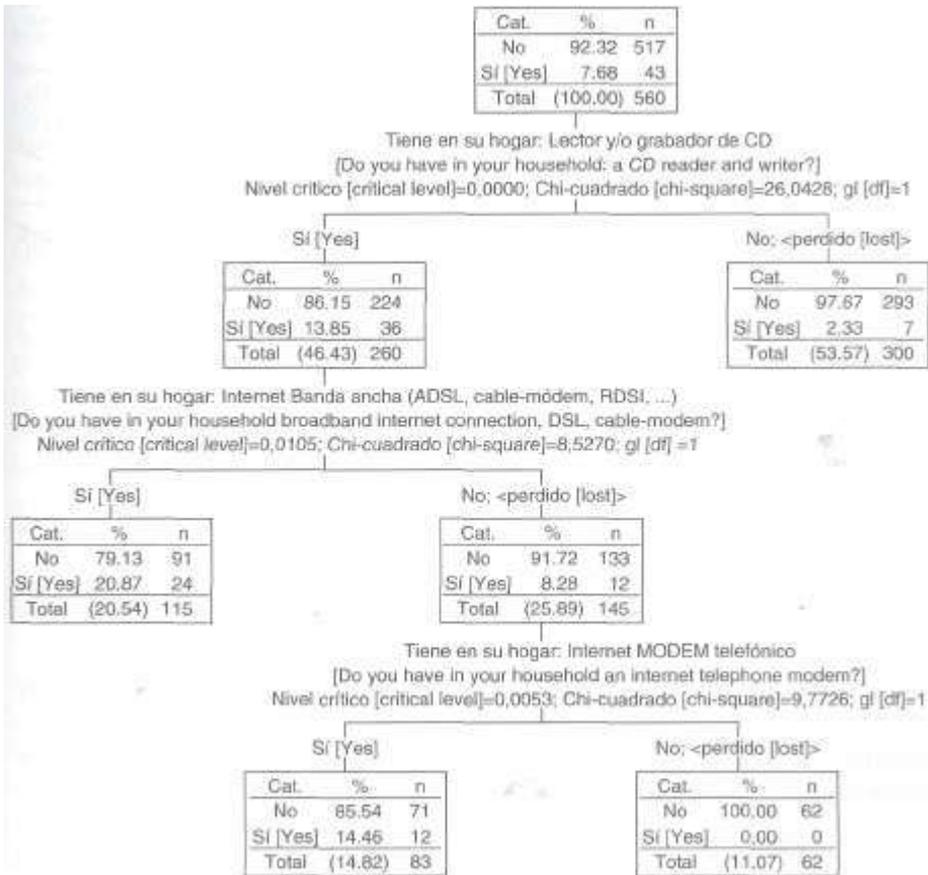
It is interesting to remark that there is no relation between the use of e-commerce and whether or not subscribers have certain other equipment in their homes, i.e. a videocassette recorder (VCR), home cinema equipment, mobile phone, hi-fi music centre or videogame console.

The Chi-Square Automatic Interactions Detection (CHAID) methodology, which is a multivariate technique for data analysis, was very suitable for the purposes of the research: there was a dependent variable (the use of e-commerce) and some independent variables (technological equipment). The study wanted to detect independent variables which can discriminate behaviour related to the dependent variable, consequently to be

• Table 3 Use of e-commerce service in relation to equipment in the home

GREATER USE OF E-COMMERCE		SIG.	LESSER USE OF E-COMMERCE	
Have widescreen television 16:9	13.8%	.031	6.8%	Have conventional television
Have DVD player	9.2%	.022	3.4%	Do not have DVD player
Have CD player/recorder	13.8%	.000	2.4%	Do not have CD player/recorder
Have digital camera	10.4%	.030	5.5%	Do not have digital camera
Have computer	10.4%	.000	0.0%	Do not have computer
Have telephone modem	11.4%	.015	5.7%	Do not have telephone modem
Have broadband internet	16.0%	.000	4.4%	Do not have broadband internet

Ha usado alguna vez a través de Internet alguno de estos servicios? Compra (del tipo que sea)
 [Have you ever used the internet for any of these services? A purchase (of whatever type)]



• Figure 1 Answer-tree showing different types of e-commerce users

able to establish household types with a greater or lesser probability of using e-commerce. If all the variables are taken into consideration as independent variables, in terms of the availability of technological equipment in the home (predictors, i.e. flatscreen, plasma screen or widescreen television, VCR, DVD player, home cinema equipment, digital camera, digital camcorder, mobile telephone, hi-fi music centre, videogame console, computer, compact disc (CD) player and/or recorder, internet telephone modem and broadband internet), and a dependent variable is used at the same time (i.e. having or not having made a purchase through the internet on some occasion; e-commerce), while applying CHAID, we are able to speak about four types of consumers who are more or less likely to shop using the internet. The four types are based on three independent variables: CD player, broadband and modem, because these are the only predictor variables that

• Table 4 Typologies of users of the internet shopping service

TYPE	CD PLAY/ RECORDER	BROADBAND	MODEM	INTERNET PURCHASE	SAMPLE %
1	Yes	Yes	—	20.87%	20.54%
2	Yes	No	Yes	14.46%	14.82%
3	No	—	—	2.33%	53.57%
4	Yes	No	No	0.00%	11.07%

Types of users related to household equipment: Online purchase percentage of every type and its importance on the whole sample surveyed

significantly discriminate behaviour related to the dependent variable, the use of e-commerce:

- first variable of the first level: CD player, significance Chi-square 0.0000
- first variable of the second level: broadband, significance Chi-square 0.0105
- first variable of the third level: modem, significance Chi-square 0.0053.

The majority of the people belonging to all four types have not used the e-commerce service, but some have more probability of doing so than others. When placed in order from those with the greatest probability of using the internet for shopping to those with the least probability, the characteristics of these types are as follows (see Table 4):

- Type 1 — subscribers who have a CD player or recorder; they also have broadband internet. Of the people belonging to this type, 20.87 percent buy products through the internet. This segment represents 20.54 percent of the sample;
- Type 2 — subscribers who have a CD player or recorder. They do not have broadband internet, but they do have an internet telephone modem. Of the people in this group 14.46 percent use the e-commerce service. This segment represents 14.82 percent of the sample;
- Type 3 — subscribers who do not have a CD player or recorder. Only 2.33 percent of the people belonging to this group make purchases using the internet. This segment represents 53.57 percent of the sample; and
- Type 4 — subscribers who have a CD player or recorder, but do not have broadband internet or an internet telephone modem. None of the people belonging to this group use the e-commerce service. This segment represents 11.07 percent of the sample.

Although it may seem rather obvious that those who do not have an internet connection in their household cannot purchase anything online, we must consider that in Spain it is very common for many people to connect to the internet from work, universities or cybercafes, so having an internet connection in one's household is not necessarily a prerequisite for connecting. Some recent data show that almost 40 percent of internet users connect from work, universities or other places (Estudio General de Medios, 2008).

DISCUSSION AND CONCLUSION

At the beginning of the present research, it was thought that as digital TV subscribers were able to use interactive services on TV (interactive programme guide or TV-shop, for example), they may have a predisposition to interactivity on the internet. However, if the use of e-commerce among subscribers to digital television is still very limited (only 7.7% stated that they had used this service on some occasion, and 6.8 percent had done so in the month prior to being polled), the use of t-commerce is even lower, with only 1.15 percent of the sample having used it (although it must be pointed out that half of the sample, households which subscribe to cable television, do not have this interactive shopping facility).

As previously mentioned, we must consider the fact that in Spain there is no tradition of catalogue purchasing, either by post or telephone. Moreover, going shopping remains much preferred to interactive forms of shopping, as had been anticipated already by some authors (Palacios, 2003). In qualitative research carried out in the UK, Haddon pointed out that 'some shoppers, in relation to some goods, take pleasure in physically shopping, and people still liked to get out of the house at times' (Haddon, 2004: 104). Another factor that reinforces the act of shopping in Spain is the ever-growing number of shopping centres which offer not only the opportunity to purchase goods but also to take part in various leisure activities (cinema, restaurants, etc.). So, as Brauner and Brickmann (1996) predicted, shopping at these places becomes a free-time pleasure. However, we also should consider that a great part of the Spanish population remains distrustful of the security on the internet. In summary, instead of discovering people's reasons for using internet shopping services, this study discovered their reasons for *not* doing so.

By applying the classifications used in Rogers' (2003) studies, we can say that Spanish digital television users are in the early stage of adoption of e-commerce. This leads us to believe that the development of e-commerce in Spain will be similar to that described by Li (2004) for Taiwan. The fact that only 7.7 percent of subscribers to digital TV are e-commerce users does not allow us to conclude that they have a greater predisposition to adopt this form of purchase than the general population.

The fundamental reasons given for the use of e-commerce is the ease with which one may shop at any time (47.4% of e-commerce users) and the convenience of shopping in this way (28.9%), which is in agreement with the thesis of Eastin and Matthew (2002), Mokhtarian (2004) and Swaminathan et al. (1999). Moreover, the principal reason given by those who do not use e-commerce is that they prefer to go out shopping, which coincides with what Palacios (2003) points out about the Mexicans.

This study shows that the use of e-commerce has a significant relationship with a series of variables related to the availability of certain equipment in the home. In general, it seems that greater use of e-commerce is related to the availability at home of a large amount of computer equipment and equipment related to leisure which, at the same time, is compatible with the former. These findings support the concept of the PC as a multidimensional communication centre which combines the functions of entertainment, communication and information (Morrison and Krugman, 2001).

It could be said that the users of e-commerce are, in all senses, the vanguard in the experimentation and discovery of new technological horizons. The findings of the present study agree with those of Jeffres and Atkin (1996) related to the internet, that adopters of e-commerce are not great consumers of mass media. These results contradict some studies that find a relationship between adopters of new technologies and high consumption of the mass media (Atkin, 1995; Kang, 2002; Lin and Jeffres, 1998; Rogers, 2003). In the Spanish case, TV consumption is not a significant predictor of subscription to a multi-channel pay service (Garitaonandia et al., 2000). There appears to be no correlation between high consumption of the mass media and certain internet phenomena such as e-commerce. Perhaps future studies should concentrate on the new opportunities available on the internet (for example, weblogs and virtual communities) and their relationship with the adoption of the use of new technologies.

When the typologies obtained were analysed, the aim was to identify only the variables which, in the different levels of the answer tree, state significant Chi Square values and consequently would be the variables which best discriminate the dependent variable. CHAID was applied to 13 independent variables about technological equipment in the household. Some variables are better predictors of the use of e-commerce than others, but no independent variable has a perfect predictive capability. Therefore, a household's use of e-commerce does not depend exclusively on one independent variable; rather, it is related to a greater or lesser degree to several variables. On examining all the variables together, we may state that at present, the profile of e-commerce users is as follows:

- 1 they have a large amount of computer equipment in their homes, and other equipment for leisure activities which is compatible with the former; and
- 2 they have a positive, open-minded attitude to new technology and are anxious to continually try out and add the latest novelties to their equipment.

The first factor differs from Li's (2004) data analysis, which shows that there is a positive correlation between the intention to adopt internet shopping in Taiwan and the ownership of information and entertainment-oriented technologies, and is not related to the ownership of interpersonal technologies. The second factor coincides with the studies by Busselle (1999) and Lin (1998), in which the intention to adopt internet shopping is positively correlated with the variable for innovativeness.

The high percentage of non-users (92.3%) of e-commerce could be explained from a marketing perspective, as the internet's presence in Spain is still modest, there are few pedagogic marketing initiatives aimed at explaining the advantages of this type of shopping, and there is no tradition of telephone or mail order shopping. The adoption of online shopping is best predicted, amid others, by previous adoption of telephone shopping (Eastin and Matthew, 2002).

In reality, we are dealing with two types of technology whose rate of development is different. On the one hand, digital television has reached a stage of development that Rogers (2003) calls 'early majority', with 20.7 percent of households subscribing to it. On the other hand, the use of e-commerce is in the early adopters phase. The concept of the technology cluster still cannot be applied to these two types of technology, probably because there is no complete convergence between digital television and the internet.

There is a huge field of research about interactivity on the internet and interactivity with other means. At the outset of this research, this study intended to compare e-commerce and t-commerce, but the survey results showed that only one percent of those questioned used t-commerce. Consequently, this original intention was no longer feasible. Therefore, it was decided that it would be better to study the use of e-commerce amid TV digital subscribers, who are already accustomed to interactivity through use of a remote control. However, in the future (or in fact even in the present), we will be able to interact using very different means. Why does a person who is able to play on the internet, on a digital TV channel, with a 3G mobile phone, with a computer or a video console choose one of them and not the others? What circumstances influence that choice? Perhaps it would be necessary to redefine the theory of technology clusters in the new system of

convergence. In the future we will be able to do whatever we want using very different means. Why will we choose one of these means, and will this signify that we will reject the use of others? Will the use of one interactive technology exclude the use of others, or increase their use? These questions will be answered finally in Europe after the complete switchover to digital television takes place. This is proposed by the European Union for 2012, although some European countries have set an earlier date, with Finland, Italy and Sweden switching over in 2006—8 and Germany and Spain in 2010.

References

- Andersen, K.V., N.B. Andersen and J. Dedrick (2003) 'Governance Initiatives Creating a Demand-driven e-Commerce Approach: the Case of Denmark', *The Information Society* 19(1): 95-105.
- Atkin, D. (1995) 'Audio Information Services and the Electronic Media Environment', *Journal of Broadcasting and Electronic Media* 11(1): 75-83.
- Brauner, J. and R. Brickmann (1996) *La sociedad multimedia. Las futuras aplicaciones del audio-video, la informatica y las telecomunicaciones [The Multimedia Society. Future Applications of Audio-Video, Informatics and Telecommunications]*. Barcelona: Gedisa.
- Busselle, R.J. (1999) 'Factors Affecting Internet Use in a Saturated-access Population', *Telematics and Informatics* 16(1): 45-58.
- Comision del Mercado de las Telecomunicaciones (2004a) *Informe sobre el comercio electronico a traves de entidades de medios de pago [Report About Electronic Commerce Through Payment Institutions]*. Madrid: Comision del Mercado de las Telecomunicaciones.
- Comision del Mercado de las Telecomunicaciones (2004b) *Informe Anual 2003 [Annual Report]*. Madrid: Comision del Mercado de las Telecomunicaciones.
- Comision del Mercado de las Telecomunicaciones (2008) *Informe sobre el comercio electronico a través de entidades de medios de pago: el trimestre 2008 [General Summary of Results of the General Media Study. February to November 2008]*. Madrid: Comision del Mercado de las Telecomunicaciones.
- Eastin, M.S. and S. Matthew (2002) 'Diffusion of e-Commerce: An Analysis of the Adoption of Four e-Commerce', *Telematics and Informatics* 19(3): 251-67.
- Estudio General De Medios (2008) 'Resumen General de Resultados EGM. Febrero a Noviembre de 2008', URL (consulted 18 December): http://www.aimc.es/aimc.php?izq=egm.swf&pag_html=si&op=cuatro&dch=02egm/24.html
- Fernandez Pena, E. (2002) *Las Telecomunicaciones por Cable: El Negocio de la Convergencia Digital [Cable Telecommunication: the Digital Convergence Business]*. Oviedo: Ediciones Nobel.
- Garitaonandia, C., E. Fernández Pena and J. Oleaga (2000) 'La Gestión de la Abundancia: Tiempo del Consume y Uso del Mando a Distancia en la Television Multicanal' [Development of Abundance: Time of Consumption and Use of the Remote Control in Multichannel Television], *ZER: Revista de Estudios de Comunicacion* 9: 94—114.
- Garitaonandia, C., E. Fernandez Pena and J. Oleaga (2001) 'Relationships between the Use of Pay Per View, Levels of Television Consumption, and the Communication Technology Equipment of Spanish Households', *European Journal of Communication Research* 26(3): 297-309.
- Gefen, D. (2000) 'E-commerce: The Role of Familiarity and Trust', *Omega* 28(6): 725-35.
- Grabner-Kraeuter, S. (2002) 'The Role of Consumers' Trust in Online Shopping', *Journal of Business Ethics* 28(1): 43-50.

- Haddon, L. (2004) *Information and Communication Technologies in Everyday Life. A Concise Introduction and Research Guide*. Oxford: Berg.
- Jarvenpaa, S.L. and N. Tractinsky (1999) 'Consumer Trust in an Internet Store: A Cross-cultural Validation', *Journal of Computer-Mediated Communication* 5(2), URL (consulted December 2005): <http://jcmc.indiana.edu/vol5/issue2/jarvenpaa.html>
- Jeffres, L. and D. Atkin (1996) 'Predicting Use of Technologies for Communication and Consumers Needs', *Journal of Broadcasting and Electronic Media* 40(3): 318-30.
- Kang, M.H. (2002) 'Exploring Factors Associated with Early Adoption', *Journal of Media Economics* 15(3): 193-207.
- Kang, M. and D.J. Atkin (1999) 'Exploring the Role of Media Use and Gratification in Multimedia Cable Adoption', *Telematics and Informatics* 16(1): 59-74.
- Lee, H., R. O'Keefe and K. Yun (2003) 'The Growth of Broadband and Electronic Commerce in South Korea', *The Information Society* 19(1): 81-93.
- Li, H., C. Kuo and M.G. Russell (1999) 'The Impact of Perceived Channel Utilities, Shopping Orientations, and Demographics on the Consumer's Online Buying Behaviour', *Journal of Computer-Mediated Communication* 5(2): URL (consulted September 2004): <http://jcmc.indiana.edu/vol5/issue2/hairong.html>
- Li, S.S. (2004) 'Examining the Factors that Influence the Intentions to Adopt Internet Shopping and Cable Television Shopping in Taiwan', *New Media & Society* 6(2): 173-93.
- LiderDigital (2008) 'LiderDigital: Meeting Point de los Lideres de la Economia Digital', URL (consulted 15 December): http://www.liderdigital.com/noticias/detalle_noticia.php?id_noticia=66228
- Lin, C.A. (1998) 'Exploring Personal Computer Adoption Dynamics', *Journal of Broadcasting and Electronic Media* 42(1): 95-102.
- Lin, C.A. and L.W. Jeffres (1998) 'Factors Influencing the Adoption of Multimedia Cable Technology', *Journalism and Mass Communication Quarterly* 75(2): 341-52.
- Mokhtarian, P.L. (2004) 'A Conceptual Analysis of the Transportation Impacts of B2C E-commerce', *Journal of Transportation Collation* 31: 257-84.
- Morrison, M. and D.M. Krugman (2001) 'A Look at Mass and Computer Mediated Technologies: Understanding the Roles of Television and Computers in the Home', *Journal of Broadcasting and Electronic Media* 45(1): 135-61.
- National Institute of Statistics (2008) 'Press release', 2 October.
- Neuendorf, K., L. Jeffres and D. Atkin (2000) 'The Television of Abundance Arrives: Cable Choices and Interest Maximization', *Telematics and Informatics* 17: 169-97.
- Palacios, J.J. (2003) 'The Development of E-commerce in Mexico: A Business-led Passing Boom or a Step Toward the Emergence of a Digital Economy?', *The Information Society* 19(1): 69-79.
- Rogers, E.M. (2003) *Diffusion of Innovation* (5th edn). New York: Free Press.
- Stafford, T.F., L. Stafford and L. Schkade (2004) 'Determining Uses and Gratifications for the Internet', *Decision Sciences* 35(2): 259-88.
- Swaminathan, V., E. Lepkowska-White and B. Rao (1999) 'Browsers or Buyers in Cyberspace? An Investigation of Factors Influencing Electronic Exchange', *Journal of Computer-Mediated Communication* 5(2), URL (consulted February 2006): <http://jcmc.indiana.edu/vol5/issue2/swaminathan.htm>

CARMELO GARITAONANDIA is a professor of journalism at the University of the Basque Country. He has written many articles and books, and has participated in a large number of international conferences about communication and mass media. Among his publications are:

Decentralisation in the Global Era (with Miquel Moragas, John Libbey, 1995) and *TV on Your Doorstep* (with Miquel Moragas and Bernat Lopez, University of Luton Press, 1999).

Address: Faculty of Social Sciences and Communication, University of the Basque Country, Barrio Sarriena s/n, 48940 Leioa (Vizcaya), Spain, [email: carmelo.garitaonandia@ehu.es]

MAIALEN GARMENDIA is a lecturer at the University of the Basque Country. Her subjects are connected with applied research: social research techniques, statistics and audience research. Her main research interests are related to media and the audiences of new communication technologies.

Address: Department of Sociology, Faculty of Social Sciences and Communication, University of the Basque Country, Barrio Sarriena s/n, 48940 Leioa (Vizcaya) Spain. [email: maialen.garmendia@ehu.es]

A utilização deste artigo é exclusiva para fins educacionais