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DIFFUSION AND USES OF INTERNET IN CATALONIA AND IN SPAIN
A Commented Summary of Available Evidence, as of 2001.

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WORKING PAPER

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KEYWORDS

Internet, Catalonia, Spain, statistics, diffusion, Internet uses, socio-demographic characteristics.

ABSTRACT

This working paper summarizes and analyzes the statistics provided by available studies on the spread and uses of Internet in Catalonia, in Spain, and in selected Spanish regions circa 2001. A data base was established by collecting and evaluating studies and surveys from various sources. Their methodology is described in the study. Relevant variables are identified, and tables are built for each variable bringing together data from various sources. An analytical commentary highlights the main findings concerning the relationships between Internet and society in Catalonia, in Spain, and in the Spanish Regions. A number of hypotheses on these relationship are suggested.

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1. INTRODUCTION

This paper presents an analytical summary of the available evidence concerning the spread of Internet, and its uses, in Catalonia, in Spain, and in some specific Regions of Spain, focusing on the data published in 1999, 2000, and 2001. When possible, statistical series are started in 1996/97, at the inception of the use of Internet in Spain beyond academic circles and specialized networks.

To collect the information summarized in this analysis, we have proceeded to an exhaustive search of sources published in the Internet, and then to a systematic data gathering effort from universities, public administrations, and private firms specialized in the area of information technology and information society. While we cannot pretend to have included every existing study in our data base, we would be surprised to see the main results of our summary substantially modified by additional sources. True, we have not spent money in purchasing commercial studies because we did not consider them necessary for the purpose of our effort: to identify and quantify the broad picture of Internet uses in Catalonia and Spain as a preliminary step to our own investigation on the matter. But we did send a letter, followed by additional requests by phone and email, to every Spanish university, asking for any empirical study or data base that they would have collected on the specific topic of Internet diffusion and uses in Spain. The number of positive answers is exactly zero, although in several instances, there was a polite response conveying the absence of such studies in their university. Rather than interpreting this disappointing result as lack of collegiality from the universities, we think that isolated research efforts from many colleagues are not visible enough, and not easily identifiable beyond small networks of collaboration. Particularly, we know that in several business schools important studies on e-commerce and the new economy have been conducted. Yet, since most of these studies are extremely focused on their field of research, we have not considered their contribution indispensable at this stage of our analysis. In short, while our data base cannot pretend to have exhausted all possible sources of information we feel confident that it represents the bulk of what is empirically known on the relationship between Internet and society in Catalonia and Spain.

To build our analysis, we have defined a set of variables on the basis of what has been studied, and we have constructed synthetic tables for each variable bringing together all available information for the variable under study.

We have differentiated the data base for Spain at large, for Catalonia, and for specific Regions of Spain. Because Catalonia is the main field of observation in the broader research project that frames this working paper, we have focused on Catalonia, bringing into the data base not only the studies on Catalonia, but the findings on Catalonia extracted from studies on Spain.

We present an analytical summary of our findings in each section, followed by the presentation of all tables supporting the analysis. Tables are constructed by variables. We have organized several groups of variables, differentiating on the one hand, variables on the uses of the Internet, and on the other hand socio-demographical variables concerning the users of the Internet.

Any attempt at bringing together data from a wide array of studies and statistical sources faces serious methodological problems in terms of compatibility between sources and statistical representativeness. We have tried to strengthen the quality of data by eliminating a number of sources that were clearly unreliable, by providing specific information on the source for each data in each table, and by giving a detailed explanation of the methodology and scope of each study in our methodological note. Furthermore, we invite those researchers who may know different sources of information to come out of the closet and present their data, which we will dutifully consider in our further research work.

We do not pretend to have solved all the issues of reliability of this data base, and we do not necessarily stand by the data we present in this paper as an accurate description or analysis of the practice of Internet in society. But we do feel confident that this summary presents in an orderly form most of what is known at this point in our field of inquiry in Spain and Catalonia. This, at the very least, will save time to other researchers. At best, it will give some empirical grounding to the tentative hypotheses we suggest in this working paper as the starting point of our research project on Internet in Catalonia.

2. The Catalan Network Society.

A commented summary of the evidence on the uses of Internet in Catalonia, 1999-2001.

Internet access has increased in Catalonia at a fast pace, similarly to other advanced countries, although with a late starting point, probably due to the high cost and low quality of connection until the late 1990s. In Catalonia the Observatori de la Secretaria per a la Societat de la Informació de la Generalitat de Catalunya (Estadístiques Societal Informació (ESI) study) shows a 18.5% penetration rate for households in 2000, which jumped to 27.1% in 2001, with an annual increase of 46.4%². Other sources estimate the penetration rate for persons in 2001 at 24.8% and 21.1%.³ In the Metropolitan Area of Barcelona, the Encuesta Metropolitana de Barcelona put the penetration rate for households in 2000 at 23.2%⁴. According to the Encuesta General de Medios the proportion of persons connected to Internet in Catalonia grew from 4.8% in 1997 to 24.8% in 2001, that is a cumulative growth rate of 416.6% (See Fig 1). For the city of Barcelona, the Omnibus Municipal survey showed an increase in the percentage of households connected to the Internet from 6.7% in 1997, to 11.3% in 1998, 14.7% in 1999, 26.8% in 2000, and 37.3% in 2001, with a cumulative growth rate for the period 1997-2001 of 489%⁵. Thus, it is safe to assume that there has been a fast diffusion of Internet, at a higher pace than in the rest of Spain, and similar, in terms of the rate of growth since the late 1990s, to the advanced countries in Northern Europe.

Even considering a significant slow down of the growth rate as Internet diffuses into less educated, poorer and older segments of the population, it is reasonable to expect that around 2005, about two thirds of the Barcelona households, and well over 50% of the households in Catalonia will be connected to the Internet. Within the first decade of the 21st century, Internet is likely to become a quasi-universal medium of communication in Catalonia, particularly counting on the development of wireless Internet access of various modes. Indeed, in 2001, 77.3% of the Catalan population were users of mobile phones⁶, and over 64% of households had at least one mobile phone⁷. Mobile phone use grew by 80.7% between 1999 and 2001⁸. Because mobile Internet access is the new frontier of expansion of Internet use, particularly in Europe, the convergence between widespread mobile phone use and growth of the Internet is likely to substantially increase the uses of network communication in all domains of Catalan society.

Fig 1 - Evolution of percentage of persons connected to the Internet in Catalonia (1997 – 2001)

EGM (2001)		
	% of Internet users	Yearly growth rate (%)
1997	4.8	-
1998	8.2	70.8
1999	11.5	40.2
2000	18.6	61.7
2001	24.8	33.3
Total 1997-2001		416.6

² See V.2 and Fig 2

³ See V.3

⁴ See V.1

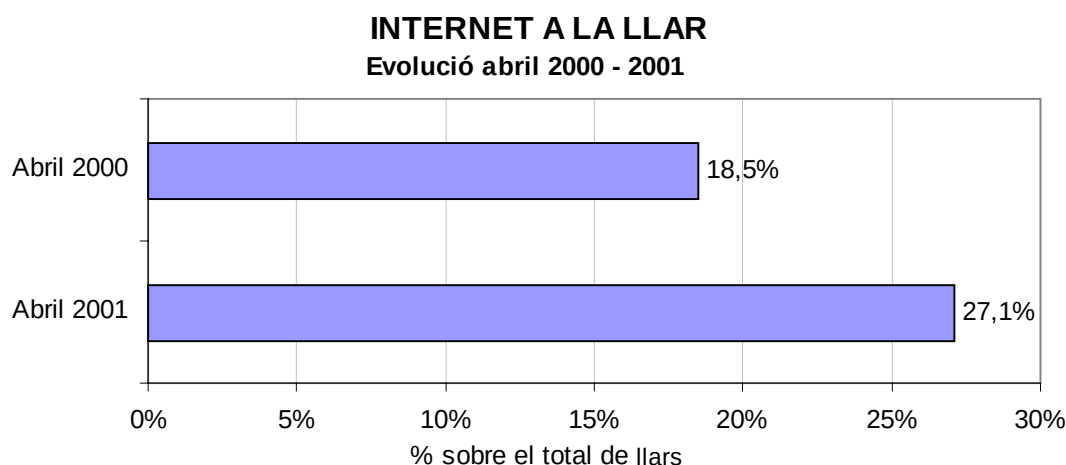
⁵ See V.2

⁶ See V.14

⁷ See V.12

⁸ See V.15

Fig 2 - Evolution of percentage of households connected to the Internet in Catalonia (2000 – 2001)

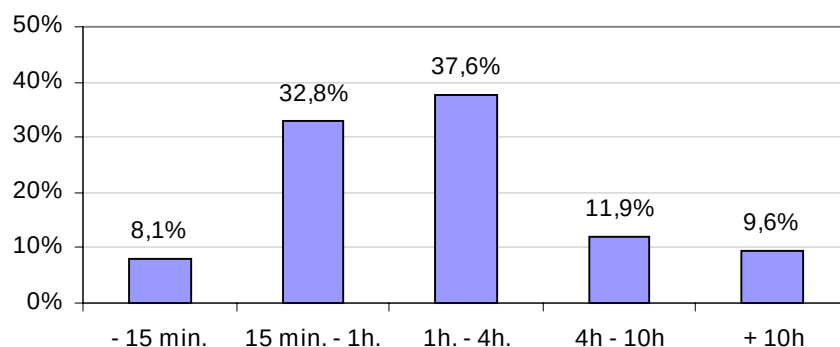


Font: Secretaria per a la Societat de la informació a partir de dades de l'INDESCAT. Abril 2001.

However, frequency of Internet use among Internet users, according to ESI's 2001 data, is still limited: 33.7% of users connect daily, and another 35.8% at least weekly. But considering that these percentages apply only to the Internet users, the result is that, in 2001, only 14.4% of the Catalan population connect to the Internet daily. Nonetheless, the growth of daily connections (27.6% annually⁹) is much higher than the growth of Internet use in the other frequency groups, thus underscoring the trend towards greater use of the medium. Yet, the intensity of the use, even among the weekly users is moderate: in 2001 43.5% of users connecting from home spent between 1 and 4 hours, and only 24.8% were on-line more than 4 hours a week¹⁰. The time spent on the Internet is even lower among those connecting from their work place: respective percentages are 37.6% and 21.5%. (See Fig 3)

Fig 3 – Average time of connection to the internet from the workplace

Temps mitjà setmanal dedicat a Internet al treball
%sobre els usuaris setmanals d'Internet al centre de treball



These average percentages, however, **hide an extraordinary gap in the frequency and intensity of Internet use depending on age of the user**. Thus, while among the group of age 15-24 almost 65% use

⁹ See V.17

¹⁰ See V.21

Internet weekly, in the population over 55 years of age the proportion is only 3.4%, and only 5% have used at least once in their lives. Moreover, among the key age group in society in terms of holding positions of decision making, the one between 40 and 54 years, only 20.6% use the Internet weekly. The group 25-39 is closer to the younger group in terms of frequency use, with 44.4% being weekly users of Internet (source: ESI 2001)

This observation must be qualified. The difference of Internet use according to the age group must be placed in the social context. The data on the city of Barcelona (Omnibus Municipal) offer an interesting perspective in this regard. The younger age groups show much higher percentage of Internet use than the Catalan population at large, but so do the older groups. So, the group between 55 and 64 years of age in Barcelona shows a percentage of 19.4% of Internet use, in contrast with the 3.4% of the Catalans over 55. Only those over 65 in Barcelona show a similarly low percentage to the Catalan population at large (3.5%). Thus, there is a systematic correlation between age and the use of the Internet. But in Barcelona, in all age groups below 54 years of age, there is a significant percentage of Internet users (See Fig 4). This is certainly associated with the higher educational level of the population and with the directional functions of the capital city, but it may also be a function of the local context, of the telecommunications infrastructure, and of the personal networks and social milieux that favor the diffusion of Internet. This is to say that the more a locality is advanced as an information-based society, and the wider the diffusion of Internet. This is confirmed by the significant difference in the percentage of households with access to the Internet in towns with less than 10,000 inhabitants (19.3%) and Barcelona (29.9%). Yet, the difference between Barcelona and the medium sized towns is very small, since the percentage for towns between 10,000 and 500,000 is 28.6%¹¹. This may be due to the excessively broad bracket of this category, and also to the fact that the largest of these towns are merged with Barcelona in the same metropolitan area.

Fig. 4 - % of Internet users by their age (% over total population)

	Estadístiques SI (2001)*
Between 15 –24 years old	64.8%
Between 25 – 39 years old	44.4%
Between 40 – 54 years old	20.6%
>55 years old	3.4%

	Ómnibus municipal (2001)
Between 16 –24 years old	73.9%
Between 25 – 34 years old	66.1%
Between 35 – 44 years old	53.6%
Between 45 – 54 years old	44.2%
Between 55 – 64 years old	19.4%
> 65 years old	3.5%

* The data refer to weekly Internet users

Indeed, the comparison between the 4 Catalan provinces shows a significant difference between the percentage of users in Barcelona (32.4%) and the others: 18% for Girona, 21.3% for Lleida, and 24.9% for Tarragona¹². These differences are probably not due to differences in income and education. Girona is a rich province, and Lleida and Tarragona as a whole are better off than some of the working class peripheries in the metropolitan area of Barcelona, accounting for about one half of the Barcelona province. Yet, networks of information, and information processing activities are based in the capital and its immediate hinterland, inducing higher demand for Internet use.

So, Internet, as in the rest of the world, is predominantly a metropolitan phenomenon, and within this metropolitan context, the rate of diffusion penetrates most of the population, including people until 50 years old. The average diffusion rate is lowered by the sudden decline of Internet use above 55 and particularly above 65. Given the aging of the Catalan population, these older groups weigh decisively in the overall statistic, actually providing a misleading picture of the diffusion of the Internet. Younger groups are fully in

¹¹ See V.129

¹² See V.144

the Internet, the proportion of users in the mature groups is roughly fifty/fifty, while above the age of 55 years, even in Barcelona, Internet users are a small minority.

The implications are that the new Catalan generation is already fully involved in the Internet as a privileged communication medium, in sharp contrast with the older generations. This is a phenomenon full of implications. On the one hand, natural succession of age cohorts will diffuse the Internet among society at large in a few years perspective. On the other hand, since the older groups are those in power positions, including the power to decide on the infrastructure and uses of the Internet, there is a clear gap of experience and knowledge between those deciding over Internet and those using it.

There is also a gender gap. In 2001, in Catalonia only 21.8% of women were Internet users, in contrast to 38.3% of men. In Barcelona, respective percentages were 31.4% and 48.7%¹³. However, in both contexts the annual growth rate of Internet users is significantly higher for women than for men, so it can be hypothesized that, over time, the gender gap in terms of Internet use may fade away, as it has in the United States and Scandinavia. There are no available statistics of Internet use by gender and age, but it is plausible than in the younger age groups the gender gap is considerably lower.

The education gap is substantial, as in other countries. In 2001, while over 60% of the population with a University degree are Internet users, only 10.8% of those with primary education are, and only 5.3% of the population without primary education are. Interestingly enough, context also interacts here with education. Thus, in Catalonia as a whole, almost 51% with secondary education are Internet users, a lower percentage than those with University education, but not dramatically lower. Yet, a survey conducted in the industrial town of Terrassa in 1999, shows a sharp contrast between the 52% diffusion rate for university graduates and the low 23% found among those with secondary education. In other words, working class secondary education may not be the same than secondary education at large: context matters¹⁴.

And of course, income distribution greatly influences the use of the Internet: while 60.9% of households with income between 420,000 and 675,000 pts/month use the Internet, only 5.4% of those under 125,000 pts/month do so. In the middle, 20.4% of those between 125,000 and 210,000 use it, while among those between 210,000 and 420,000 pts/month 46% are users. However, interestingly enough, at the top of the income scale the relationship reverses: among those earning over 675,000 pts/month the percentage declines to 56.2%¹⁵. We have two hypotheses to explain this oddity. The first, that the wealthiest group is also the oldest, on average, and we know the negative correlation between age and the uses of Internet. The second may be more interesting. The higher the income level, all other factors being equal, the lower the number of children, and the greater the likelihood of a smaller household. And we observe that the size of the household tends to be inversely related to the use of the Internet, albeit with some qualification that we will state below. This is because the presence of children and young people in the household maximizes the interest of the household for the Internet, both because the young persons want it and know how to use it, and because the parents want the connection for the education of their children, eventually becoming interested themselves.

Let us check the data on the matter. While the proportion of Internet users among households with 1 person is 7%, and among those with 2 persons is 23.5%, it increases to 34.5% for 3 persons households and to 44.1% for households with 44.1%. However, for the largest households (5 people or more) it drops again to 39.1%¹⁶. This is probably due to the fact that the largest households tend to be of lower educational and income level. It is in the professional middle class (with a married couple and two children still living at home in their mid-twenties) where we may find the largest incidence of Internet use.

This hypothesis may also find support from a different statistic. Comparing percentage of Internet users by work status, there is little difference between those working for a firm or organization, and those working in their own business: in both cases the percentage is close to 40%. It drops to 20.5% among those unemployed, usually among the least educated of the population. But it jumps to 70.4% among students,

¹³ See V.131

¹⁴ See V.139

¹⁵ See V.127

¹⁶ See V.125

those who are now entering a new society and economy based on the ability to manage information¹⁷. In other words, we could suggest the idea that Internet appears to diffuse as an educational tool, and as an instrument of self-development, particularly among the younger groups of the population and, by extension, their parents while they still live in the same household.

From where do people connect to the Internet? Predominantly from home. This is one of the most intriguing observations from the studies of early Internet development in Catalonia. And it is consistent among the different sources. In Catalonia at large, according to ESI's study 55.9 % connect from home, while only 36.6% do so from work, and a meager 21.4% do it from universities and schools. Administration sites account for 12.5% and "other places" (probably libraries, community centers, and some cibercafes) for 23.9% (of course the percentages refer to overlapping categories). The Barcelona study shows the same trend, with a higher percentage of Internet use both from home and work, but, surprisingly, a lower percentage (14.7%) of people connecting from schools and universities (See Fig 5). The Terrassa study confirms this profile. So, Internet is part of the home, sweet digital home. Part of the explanation seems to be related to the limited access to Internet facilities in the work place. Of course between 80% and 100% of business firms declare to have an Internet connection¹⁸. But this does not appear to be integrated in the working process of most of the work force. Furthermore, of all business firms connected to the Internet in 2001 over 50% did not even have a web site¹⁹, only about 20% performed transactions on line and only about 39% interacted with their customers via the Internet²⁰. And among those with web sites, 54% of them registered less than 50 visits per month to their web site²¹. According to other various sources, the percentage of business firms doing some form of e-commerce in Catalonia was somewhere in between 10% and 14%²², and revenues from on-line operations for 91% of the firms amounted to less than 5% of their annual sales²³.

Fig 5 - % of Internet users by place of Internet connection (over total Internet users)*

	Estadístiques SI (2001)	Òmnibus Municipal (2001)	Terrassa (1999)
Household	55.9%	77.7%	46%
Work	36.6%	42.6%	23%
University / Centre of studies	21.4%	14.7%	13%
Public places /Administration	12.5%		
Other places	23.9%	3.6%	

* The total sum of percentages is higher than 100% because many of the surveyed persons marked two or more answers

Therefore, according to the few studies available on the matter, it appears that, as late as 2001, the uses of Internet in Catalan business firms were extremely limited, in their sales, in their internal management, and in their relationships to customers and suppliers. Their Internet connection was more often than not an external mean of communication, and their web site a publicity poster rather than an operational tool. Under such conditions it is little wonder that people could not often connect to the Internet from their work place.

Concerning public services, about 90% of administrations do have a web site²⁴, about 75% of city halls are provided with a web site, and over 90% of them use email²⁵. This is in correspondence with the interest of the users, as almost two thirds of Internet users visit public administration websites weekly. On the other hand, interestingly enough, over 25% of health services organizations were still not connected to the Internet²⁶, and the kind of services and information provided on line is probably very limited, as only 17.5% of

¹⁷ See V.146

¹⁸ See V.53

¹⁹ See V.59

²⁰ See V.60

²¹ See V.64

²² See V.65

²³ See V.95

²⁴ See V.97

²⁵ See V.103

²⁶ See V.108

weekly Internet users visit the web sites of health institutions²⁷. Of course, public services are usually consulted on-line from home.

As for schools, 100% of schools in Catalonia stated in 2000 that they were connected to the Internet²⁸, but this is probably concentrated in the administration or in specialized classrooms, because the median of computers with Internet access per school was limited to 4.8 in the primary schools and to 18.6 in the secondary schools. The number of students per computer connected to the Internet was of 44.1 in the primary schools²⁹ and 28.2 in the secondary schools³⁰. The ratio is not excessively low, but it appears that the use of Internet is largely external to the normal curriculum. Thus the Astrolabi project conducted in 2001 by the Universitat Oberta de Catalunya's EduLab, based on a survey of 6,000 children in 30 schools, showed that only a tiny minority of children used any kind of information technology more than one day per week. Even in 2nd of Bachillerato, in the higher level of secondary education, less than 16% of the children used computers more than 2 days a week³¹.

Thus, the picture that emerges in Catalonia is one of a home-based network society, built around the young persons and their eager parents. The diffusion of Internet is rather limited in the daily practice of the business world, in the public services, and in the school system. In spite of persistent problems with quality of infrastructure and communication costs, in most cases this low level of utilization of Internet is probably not a matter of lack of equipment, as schools, for instance seem to be reasonably provided, and most administrations, and almost all businesses, are present in the web. Our hypothesis is that organizational routine, lack of knowledge and interest from the decision makers and from the persons in charge of the service, are fundamental obstacles to the diffusion of the actual use of Internet beyond the private sphere. Internet, that is fundamentally a tool for professional activity and personal expression, is still largely confined to the initiative of the people. So people connect from home, in increasing numbers and with stepped up intensity. To do what?

The uses of Internet in Catalonia are to some extent similar to those observed in other contexts, but only to some extent. They are similar in the overwhelming dominance of email over other uses (81.3% of users do email). Email means communication for all kind of reasons. So, networking and relation-making are, also in Catalonia, the main purpose for using the Internet. Internet as an extension of people's lives and minds. Instrumental uses are also present (over 30% do e-banking because Catalan banks have been pioneers in providing this service; 7% of users do some form of non exclusive telecommuting; 6.6 % take courses on-line). Then, almost 72% practice multi-purpose surfing, exploring the web with aims and desires beyond the sight of the researcher, although we vow to find out some day. And 37.5% practice some kind of chat, a proportion higher than the proportion found in most international studies³². It may be an extension of the Catalan favorite pastime of talking to each other, but in any case, it emphasizes that, in this context, Internet is as expressive as instrumental in people's practice. It remains to be seen if this is associated to the early stages of Internet development, to its relatively slow diffusion in the work place or, else, it is a cultural attribute, typical of Catalonia and of Spain.

It is significant to observe that, in a Catalan context, in which Catalan is the predominant language in the schools, and in which the young age groups are the main users, 82% of the visited webs are in Spanish, in contrast to 48.9% in Catalan and 44.5% in English³³. This belies two notions: the rapid acculturation of the young generation in Catalan, and the dominance of English in the web. We can only speculate about the reasons, but the simplest interpretation would be that English literacy is still very limited in Catalonia, and that the supply of Spanish language sites is incomparably larger than the supply of Catalan sites. Since netizens tend to be little ideological, whatever fits their needs for information and communication is selected. Indirectly, this shows the potential of Spanish language in the Internet in bilingual contexts. It also shows that the specificity of Catalan sites either goes beyond linguistic specificity to fit into the uses and habits of the Catalan society or will always be sided by the diversity and broad range of Spanish language sources.

²⁷ See V.47

²⁸ See V.109

²⁹ See V.113

³⁰ See V.114

³¹ See V.115

³² See V.26

³³ See V.29

Language is one of the sources of self-identification in Internet communication, but cannot be the only one or, for that matter, the prevailing one.

In sum, the rapid diffusion of Internet in the Catalan society is biased towards personal and social uses, as business and public services are still dominated by routine and run by a generation that does not know well the Internet and may be reluctant to it. Thus, the Catalan network society is largely split in terms of age, education, and social class, and seems to evolve along different technological and social cultures that may transform the generation gap into an informational gap. The ideology of modernity pervasive in public administration and among business leaders seems to be belied by the rigidity of organizations and the inability of middle management to adapt to the new socio-technical paradigm.

2.1. Tables on Catalonia (*)

(Organized by Variables)

(*) We have organized the tables according to the variables we have studied on the basis of available data. We have numbered the variables, given one number to each variable, as per the list of variables shown in the appendice of this working paper.

Thus, tables do not have numbers, variables do. **Each number is unique for each variable.** All data concerning the variable from various sources are included in the table characterizing each variable. However, since our study concerns three different contexts: Catalonia, Spain, and Spanish Regions, **tables are presented in three different blocks at the end of each section of the paper.** For each context, we continue to identify the variables by their unique number, but naturally the data for the same variable are different in each one of the three contexts, and so are the tables that share the same number of the end of the three sections.

In each table we have indicated the specific source for each one of the statistics displayed in the table. Statistics may differ and usually do. This is exactly the purpose of our study: to show the diversity of estimates for the same variable, referring the reader to the methodological note in appendice for her/him to evaluate the reliability of each one of the sources presented.

2.1.1. Internet use variables (Catalonia)

Access to Internet and use of Internet by households and persons in Catalonia

1. % Households connected to the Internet

	Estadístiques SI (2001)	Òmnibus Municipal ³⁴ (2001)	Encuesta metropolitana (2000)
% Households connected to the Internet	27.1%	37.1%	23.2%

2. Evolution of percentage of households connected to the Internet (1997 – 2001)

	Estadístiques SI (2001)		Òmnibus Municipal (2001)	
	% households connected to the Internet	Yearly growth rate (%)	% households connected to the Internet	Yearly growth rate (%)
1997			6.4%	-
1998			11.3%	76.5
1999			14.7%	30
2000	18.5%	-	26.8%	82.3
2001	27.1%	46.4	37.3%	39.1
Total 1997 – 2001 ³⁵		46.4		489

3. % Persons connected to the Internet

	EGM (2001) ³⁶	AIMC (2001)
% Persons connected to the Internet	24.8%	21.1%

4. % Persons connected to the Internet³⁷ (distributed by frequency of use.) (% of population)

Estadístiques SI (2001)	
Occasionally	42.9%
Once or more times per month	35.4%
Once or more times per week	29.8%
Daily	14.4%

5. Evolution of percentage of persons connected to the Internet (1997 – 2001)

EGM (2001)		
	% of Internet users	Yearly growth rate (%)
1997	4.8	-
1998	8.2	70.8
1999	11.5	40.2
2000	18.6	61.7
2001	24.8	33.3
Total 1997-2001		416.6

³⁵ Except in Estadístiques SI (2001) survey, in which the data are only available from the year 2000, so the value is in that case "Total 2000-2001"

³⁶ % over total population

³⁷ Population aged 15 or more

6. Evolution of percentage of persons connected to the Internet³⁸ (distributed by frequency of use.) (2000-2001)

Estadístiques SI (2001)								
	Occasionally		Once or more times per month		Once or more times per week		Daily	
	% of persons connected to the Internet over total population	Growth rate (%)	% of persons connected to the Internet over total population	Growth rate (%)	% of persons connected to the Internet over total population	Growth rate (%)	% of persons connected to the Internet over total population	Growth rate (%)
2000	33.3%	-	24.8%	-	20.6%	-	10%	-
2001	42.9%	28.8	35.4%	42.7	29.8%	44.6	14.4%	44
Total 2000-2001		28.8		42.7		44.6		44

9. % Households with a computer

	Estadístiques SI (2001)	Ómnibus Municipal (2001)	Encuesta metropolitana (2000)
% Households with a computer	45.7%	57.9%	49.1%

10. Evolution of percentage of households with a computer (1995 – 2001)

	Estadístiques SI (2001)		Ómnibus Municipal (2001)		Encuesta metropolitana (2000)	
	% households with a computer	Yearly growth rate (%)	% households with a computer	Yearly growth rate (%)	% households with a computer	Yearly growth rate (%)
1995					32.7%	
1996						
1997			43.4%	-		
1998			46.3%	6.6		
1999			50.4%	8.8		
2000	44.8%	-	54%	7.1	49.1%	
2001	45.7%	2	57.9%	7.2		
Total 1997 - 2001 ³⁹		2		33.4		50.1

11. % Internet connected persons among persons with access to a computer (% over the whole population)

	Ómnibus Municipal (2001)	Metrica SI (SEDISI)(2000) ⁴⁰
Internet connected persons among persons with access to a computer	39.4%	41.6%

12. Distribution of households with mobile phone according to the number of phones

Estadístiques SI (2001)	
Households with 1 mobile phone	29%
Households with 2 mobile phones	22.4%

³⁸ Over total population aged 15 or more

³⁹ Except in Estadístiques SI (2001) survey, in which the data are only available from the year 2000, so the value is in that case "Total 2000-2001". In the Encuesta Metropolitana the data are only available for 1995 and 2000, so in that case the value is "Total 1995-2000".

⁴⁰ Data for 1998

Households with 3 or more mobile phones	12.8%
Total households with mobile phone	64.2%

13. Evolution of percentage of households with mobile phone by the number of phones (2000 – 2001)

Estadístiques SI (2001)								
	Households with 1 mobile phone		Households with 2 mobile phones		Households with 3 or more mobile phones		Total households with mobile phone	
	% of households with 1 mobile phone over total households	Growth rate (%)	% of households with 2 mobile phones over total households	Growth rate (%)	% of households with 3 or more mobile phones over total households	Growth rate (%)	% of households with mobile phone over total households	Growth rate (%)
2000	32.4%	-	18%	-	7.7%	-	58.3%	-
2001	29%	-10.4	22.4%	24.4	12.8%	66.2	64.2%	10.1
Total 2000-2001		-10.4		24.4		66.2		10.1

14. % of mobile phone users over population

Estadístiques SI (2001)	
% of mobile phone users over Catalan population	77.3%

15. Evolution of mobile phone users (1999– 2001)

Estadístiques SI (2001)		
	Number of mobile phone users	Yearly growth rate (%)
1999	2,600,000	-
2000	3,400,000	30.7
2001	4,700,000	38.2
Total 1999 - 2001		80.7

16. Distribution of Internet users according to their frequency of connection to the Internet (% of Internet users over total Internet users)

Estadístiques SI (2001)	
Daily	33.7%
Weekly	35.8%
Monthly	13%
Less frequency	17.5%

17. Evolution of percentage of Internet users by frequency of connection to the Internet (% of Internet users over total Internet users) (2000 – 2001)

Estadístiques SI (2001)								
	Daily		Weekly		Monthly		Less frequency	
	% of Internet users over total Internet users	Yearly growth rate (%)	% of Internet users over total Internet users	Yearly growth rate (%)	% of Internet users over total Internet users	Yearly growth rate (%)	% of Internet users over total Internet users	Yearly growth rate (%)
2000	26.4%	-	32.2%	-	14.9%	-	26.5%	-

2001	33.7%	27.6	35.8%	11.1	13%	-12.7	17.5%	-33.9
Total 2000- 2001		27.6		11.1		-12.7		-33.9

19. % of Internet users by place of Internet connection (over total Internet users)⁴¹

	Estadístiques SI (2001)	Òmnibus Municipal (2001)	Terrassa (1999)
Household	55.9%	77.7%	46%
Work	36.6%	42.6%	23%
University / Centre of studies	21.4%	14.7%	13%
Public places /Administration	12.5%		
Other places	23.9%	3.6%	

20. Evolution of percentage of Internet users by place of Internet connection (over total Internet users) (2000 – 2001)

Estadístiques SI (2001)										
	Household		Work ⁴²		University / Centre of studies		Public places /Administration		Other places	
	% of Internet users over total Internet users	Yearly growth rate (%)	% of Internet users over total Internet users	Yearly growth rate (%)	% of Internet users over total Internet users	Yearly growth rate (%)	% of Internet users over total Internet users	Yearly growth rate (%)	% of Internet users over total Internet users	Yearly growth rate (%)
1999										
2000	44.4%						3.9%		8.1%	
2001	55.9%	25.9	36.6%		21.4%		12.5%	220.5	23.9%	195
Total 2000- 2001		25.9						220.5		195

Òmnibus Municipal (2001)										
	Household		Work		University / Centre of studies		Public places /Administration		Other places	
	% of Internet users over total Internet users	Yearly growth rate (%)	% of Internet users over total Internet users	Yearly growth rate (%)	% of Internet users over total Internet users	Yearly growth rate (%)	% of Internet users over total Internet users	Yearly growth rate (%)	% of Internet users over total Internet users	Yearly growth rate (%)
1999	51.3%	-	40.9%	-	19.7%	-				
2000	66.4%	29.4	46.6%	13.9	20.5%	4				
2001	77.7%	17	42.6%	-8.5	14.7%	-28.2				
Total 2000- 2001		51.4		4.1		-25.3				

⁴¹ The total sum of percentages is higher than 100% because many of the surveyed persons marked two or more answers

⁴² It's not possible to calculate the yearly growth rate in the case of "work" and "centre of studies" due to the fact that in the previous study (Estadístiques SI 2000) these two variables were one, being thek, value 53,3% of Internet users who connect to the Internet from work or centre of studies.

21. Distribution of households connected to the Internet according to their weekly average time of connection to the Internet (% over weekly Internet users in households)

	Estadístiques SI (2001)
Connected to the Internet less than 15 minutes	3.2%
Connected to the Internet between 15 minutes – 1 hour	28.4%
Connected to the Internet between 1 – 4 hours	43.5%
Connected to the Internet between 4 – 10 hours	18.2%
More than 10 hours	6.6%

26. Distribution of Internet users according to their kind of activity in the Internet⁴³

	Estadístiques SI (2001)
e-mail	81.3%
Spare time	71.8%
Chat	37.5%
e-bank	30.9%
On-line courses	6.6%
Telecommuting	7%

29. Distribution of Internet users according to the language of visited webs⁴⁴

	Estadístiques SI (2001)
Catalan	48.9%
Spanish	82.7%
English	44.5%
Other languages	7.6%

E-business related uses by persons and households in Catalonia

47. % of weekly Internet users visiting Health and Public Administration websites

	Estadístiques SI (2001)
% of weekly Internet users visiting Health websites	17.5%
% of weekly Internet users visiting Public Administration websites	62.5%

48. % of weekly Internet users who deal with Health organisations and Public Administration by the Internet

	Estadístiques SI (2001)
% of weekly Internet users who deal with Health organisations by the Internet	2.2%
% of weekly Internet users who deal with Public Administration by the Internet	19.8%

⁴³ The total sum of percentages is higher than 100% because many of the surveyed persons marked two or more answers. The users are weekly users

⁴⁴ The total sum of percentages is higher than 100% because many of the surveyed persons marked two or more answers

Internet access and uses by business firms in Catalonia

53. % of business firms with Internet access⁴⁵

	Estadístiques SI (2001) ⁴⁶	Tecnologías SI (SEDISI) (2000)	Terrassa 1999
Access to the Internet	83.8%	64%	40.9%
Not access to the Internet	16.2%	36%	59.1%

54. Distribution of business firms connected to the Internet by year of connection

Bellmore Consulting (2000)	
Less than a year	25.1%
Between 1 year and 3 years	39.3%
More than 3 years	35.4%

59. % of business firms connected to the Internet with a website

	Estadístiques SI (2001)	Terrassa 1999
With a website	49.9%	17.5%
Without a website	50.1%	82.5%

60. Distribution of business firms with a website according to the kind of use of their webpage

Bellmore Consulting (2000)	
Give information of their products / services	81.6%
Interact with the customer	39.3%
Transactions	20.9%

64. Distribution of websites of business firms according the monthly traffic of the website

Bellmore Consulting (2000)	
% of websites of business firms with less than 50 visits per month	54%
% of websites of business firms with 50-200 visits per month	8%
% of websites of business firms with 300 –1000 visits per month	32%
Doesn't know or doesn't answer	6%

65. % of business firms with e-commerce

	eEspaña 2001 ⁴⁷		Tecnologías SSI (SEDISI) (2000)
	% of business firms with e-commerce over firms with Internet presence	% of business firms with e-commerce over the total of business firms	% of business firms with e-commerce over the total of business firms
Catalonia	33%	10.9%	14%

66. Distribution best sold products on the Internet in Catalonia (% of business firms which sale every kind of product)

eEspaña 2001 ⁴⁸	
Learning	25.8%
Books	25.8%

⁴⁵ In the Bellmore Consulting (2000) study the percentage is 100% because this study is made to business firms with e-commerce

⁴⁶ The data refer to business firms of 10 or more employees

⁴⁷ Original Source: AECE (2000)

⁴⁸ Original Source: AECE (2000)

68. Distribution of business firms on the Internet according to their kind of e-commerce (B2B, B2C, B2B/C)

Bellmore Consulting (2000)	
Business firms with B2B e-commerce	56.2%
Business firms with B2C e-commerce	12.5%
Business firms with B2B/C e-commerce	31.2%

95. Percent distribution of business firms with a website according to the annual sale of products /services on-line income

Bellmore Consulting (2000)	
Less than 5% of the annual sale of products /services on-line income	91.4%
More than 5% of the annual sale of products /services on-line income	8.6%

Internet uses of Public Administration & Health Organizations in Catalonia

97. % of Public Administration institutions with an accessible website

eEspaña 2001			
	Total Public Administration organizations	Total Public Administration organizations with an accessible website	% of Public Administration organizations with an accessible website (% over the total)
% of Public Administration institutions with an accessible website	86	77	89.5%

103. % of town halls with email

Estadístiques SI (2000)	
With email	90.5%
Without email	9.5%

104. Percent distribution of town halls according to their website presence

Estadístiques SI (2000)	
With website	74.4%
Without website	25.6%

106. % of town halls of towns with more than 20.000 inhabitants according to the accessibility of their webpage

eEspaña 2001			
	Total town halls	Total town halls with an accessible website	% of town halls with an accessible website (% over the total)
% of town halls	45	39	86.7%

108. % of health organisations connected to the Internet⁴⁹

Estadístiques SI (2000)	
Connected to the Internet	74.4%
Not connected to the Internet	25.6%

Access and use of on-line education by Internet users in Catalonia

109. % schools connected to the Internet⁵⁰

⁴⁹ The data refer to 1998

⁵⁰ The data refer to public schools

Estadístiques SI (2000)	
Connected to the Internet	100%
Not connected to the Internet	0%

113. Median of computers with Internet access per school (Distributed by kind of school)

Estadístiques SI (2000)			
	Primary	Secondary	Total
Median of computers with Internet access per school	4.8	18.6	8.3

114. Number of students per computer connected to the Internet

Estadístiques SI (2000)			
	Primary	Secondary	Total
Number of students per computer connected to the Internet	44.1	28.2	35.0

115. Distribution of primary and secondary students according to the IT use frequency at schools (Distributed by courses)

Astrolabi (2001)										
	Primary courses				Secondary courses					
	3 rd of Primary	4 th of Primary	5 th of Primary	6 th of Primary	1 st of ESO	2 nd of ESO	3 rd of ESO	4 th of ESO	1 st of Bachillerato	2 nd of Bachillerato
Never	1.1%	5.4%	1.1%	1.2%	38.4%	43.9%	50.6%	32.4%	39.1%	56.3%
1 day /week	83%	83.9%	75.7%	70%	40.9%	28.2%	36.4%	36.7%	22%	26.6%
2 days / week	8.6%	8.6%	13.2%	18.2%	7.1%	5.7%	4.8%	12%	26.4%	9.4%
3 days / week	2.1%	0.6%	5.5%	4.5%	9.3%	14.6%	5%	10.9%	6.4%	5.9%
4 days/week	4.3%	0%	4.1%	5.4%	2.8%	4.6%	1.3%	4.4%	0.2%	0%
5 days/week	0.8%	1.6%	0.4%	0.5%	0.3%	0.2%	0%	0.4%	2.3%	0%
More than 5 days/week	0%	0%	0%	0%	0.1%	0.2%	0.3%	0.2%	1.8%	0%
Doesn't know or doesn't answer	0.1%	0%	0%	0.1%	1.4%	2.6%	1.6%	3%	1.7%	1.8%

116. Number of IT PhD , IT masters degrees and IT professional degrees

eEspaña 2001			
Number of institutions	Number of PhD	Number of Masters	Number of professional degrees
13	8	41	71

2.1.2. Demographical and sociological variables of Internet users (Catalonia)

Persons and households

125. % of households with access to the Internet according to the household dimension (% over all households)

Estadístiques SI (2001)	
Households with 1 person	7%
Households with 2 persons	23.5%
Households with 3 persons	34.5%
Households with 4 persons	44.1%
Households with 5 persons	39.1%

127. % of households with access to the Internet according to their monthly income levels (% over all households)

Estadístiques SI (2001)	
Households with income levels of less than 125.000 ptas/month	5.4%
Households with income levels of 125.001-210.000 ptas./month	20.4%
Households with income levels of 210.001-420.000 ptas./month	46%
Households with income levels of 420.001-675.000 ptas/month	60.9%
Households with income levels of more than 675.000 ptas/month	56.2%

129. % of households with access to the Internet according to city / town dimension (% over all households)

Estadístiques SI (2001)	
Barcelona (City)	29.9%
Between 10.000 and 500.000 inhabitants	28.6%
Less than 10.000 inhabitants	19.3%

131. % of Internet users according to their gender (% over total population)

	Estadístiques SI (2001)	Ómnibus municipal (2001)
Male	38.3%	48.7%
Female	21.8%	31.4%

132. Evolution of percentage of Internet users according to their gender⁵¹ (1999 – 2001) (% over total population)

	Estadístiques SI (2001) ⁵²				Ómnibus municipal (2001)			
	% of male Internet users	Yearly growth rate of male Internet users (%)	% of female Internet users	Yearly growth rate of female Internet users (%)	% of male Internet users	Yearly growth rate of male Internet users (%)	% of female Internet users	Yearly growth rate of female Internet users (%)
1999					25.9%	-	13.7%	-
2000	26.9%	-	14.7%	-	34.6%	33.5	20.2%	47.4
2001	38.3%	42.3	21.8%	48.2	48.7%	40.7	31.4%	55.4
Total 1999 - 2001 ⁵³		42.3		48.2		88		129.1

⁵¹ % over total population

⁵² The data refer to weekly Internet users

⁵³ Except in Estadístiques SI (2001) survey, in which the data are only available from the year 2000, so the value in that case is "Total 2000-2001"

135. % of Internet users by their age (% over total population)

	Estadístiques SI (2001) ⁵⁴
Between 15 –24 years old	64.8%
Between 25 – 39 years old	44.4%
Between 40 – 54 years old	20.6%
>55 years old	3.4%

Barcelona Only	Òmnibus municipal (2001)
Between 16 –24 years old	73.9%
Between 25 – 34 years old	66.1%
Between 35 – 44 years old	53.6%
Between 45 – 54 years old	44.2%
Between 55 – 64 years old	19.4%
> 65 years old	3.5%

136. Evolution of percentage of Internet users by their age (1999 – 2001) (Barcelona Only)

Òmnibus municipal (2001)												
	% of 16-24 years old Internet users	% of 25-34 years old Internet users	% of 35-44 years old Internet users	% of 45-54 years old Internet users	% of 55-64 years old Internet users	% of >65 years old Internet users	Yearly growth rate of 16-24 Internet users (%)	Yearly growth rate of 25-34 Internet users (%)	Yearly growth rate of 35-44 Internet users (%)	Yearly growth rate of 45-54 Internet users (%)	Yearly growth rate of 55-64 Internet users (%)	Yearly growth rate of >65 Internet users (%)
1999	40%	34.5%				2.1%						
2000	54.7%	47.9%	37.9%	21.5%	9.2%	0.8%	36.7	38.8				-61.9
2001	73.9%	66.1%	53.6%	44.2%	19.4%	3.5%	35.1	37.9	41.4	105.5	110.8	337.5
Total 1999 - 2001							84.7	91.5	41.4	105.5	110.8	66.6

139. % Internet users according to their educational level (% over total population)

	Estadístiques SI (2001) ⁵⁵	Terrassa 1999
No studies	5.3%	0%
Primary education (EGB / ESO)	10.8%	7%
Secondary education (BUP / FP)	50.9%	23%
University degree	60.5%	52%

144. % of weekly Internet users according to their cultural / geographical origin (% over total population)

Estadístiques SI (2001)	
Barcelona	32.4%
Girona	18%
Lleida	21.3%
Tarragona	24.9%

146. % of weekly Internet users according to their job (% over total population)

Estadístiques SI (2001)	
Work in his /her own business	39.9%
Work for a firm / organisation	39.9%
Student	70.4%

⁵⁴ The data refer to weekly Internet users

⁵⁵ In the Estadístiques SI (2001) study the Internet users are weekly Internet users

Unemployed	20.5%
Housewife	
Retired	

Business firms

147. % of business firms connected to the Internet according to their dimension (over the total of business firms of 10 or more workers)

Estadístiques SI (2001)	
Between 10-99 employees	100%
Between 100-249 employees	100%
More than 250 employees	82.4%

149. % of business firms with connection to the Internet according to their activity (over the total of business firms of 10 or more workers)

Estadístiques SI (2001)	
IT and contents	95.2%
Food	80.2%
Automotive	93.9%
Chemistry	90.2%
Shopping / Accommodation / Transport	79.1%
Rest of industry and construction	82.9%
Financial and insurance services	89%
Rest of services	87.8%

3. THE SPANISH NETWORK SOCIETY

A commented summary of the evidence on the uses of Internet in Spain, 2000-2001.

The Internet, as it has happened in most of the developed countries all over the world, has had a gradual introduction in Spain during the last 90's. In the early stage it was a technology mainly available at universities and research centres. It was also an expensive technology. This is why there were few people were using Internet in the mid-1990s: only 0.8% of Spanish population in 1996 used the Internet (Estudio General de Medios, EGM). But, in only five years time there has been a significant increase in the growth rate of Internet users, probably due to decrease in cost. In 2001, according to EGM; 20.3% of Spaniards aged 14 or more were Internet users (See Fig 6). This percentage may not seem to be very high, specially if we take into account the number of Internet users in other countries, such as UK, Finland or other countries of the EU, but if we take as an estimate the lowest yearly growth rate from 1996 until 2001, which is 50%, and we take its half as a plausible yearly growth rate for the next four years, the result is that by the year 2005 there would be over 17 million Internet users in Spain, which would represent almost half of the population aged 14 or more. The implication of this is that the Internet is a growing and unstoppable phenomenon which is becoming everyday more pervasive part of our lives, in the same manner that happened some years ago with technologies such as the telephone or the television.

Fig 6- Evolution of percentage of persons connected to the Internet (1996 – 2001)

EGM (2001)		
	% of persons connected to the Internet	Yearly growth rate (%)
1996	0.8%	-
1997	2.7%	237
1998	4.8%	77
1999	7.2%	50
2000	11.3%	56
2001	20.3 %	79
Total 1996 - 2001		2437

According to several studies, most Internet users (between 44% and 54.7% of Internet users depending on the study) connect to the Internet from their own households⁵⁶. This is surprising because the place with the highest Internet access is the place of work. The average of households connected to the Internet is only between 10% and 14% of all Spanish households⁵⁷, a low number if we take into account that between 32% and 37% of the households in Spain have a computer⁵⁸, while the percentage of business firms with Internet access is of 64.5%⁵⁹. What is surprising is that if workplace is the place with highest Internet access, the number of Internet users should be higher than the number of Internet users in households, and not the other way around. But this is not the case. If we look at the evolution of the number of Internet users we see that at the onset of Internet use in Spain, the place where most people connected to the Internet was the workplace, and the main reasons for that were the high cost associated to the use of the Internet and the lack of general knowledge about what the Internet was or its usefulness. Nowadays, there is an inversion of the trend, because although the amount of business firms with Internet connection is six times the number of households with Internet connection, the yearly growth rate of Internet household users is positive while the yearly growth rate of Internet work users is negative. As said earlier, in Spain there is a high percentage of business firms that are Internet connected (64.5% of all the firms). However, only 24% of Spanish business firms have a website⁶⁰. Our hypothesis is that the use of Internet as a business tool is currently rather limited. Firms with a web page consider that the main objective of its page is to provide information about the firm or about its products (70% of business firms) and only 25.3% of firms consider e-commerce as the main objective of their web page⁶¹. In addition, 65% of business firms have no income from e-commerce⁶².

⁵⁶ See V.19

⁵⁷ See V.1

⁵⁸ See V.9

⁵⁹ See V.53

⁶⁰ See V.59

⁶¹ See V.90

⁶² See V.94

According to business firms with e-commerce, the main problems for selling on-line their products are the distrust of in the mode of payment and Internet security (25.1% of mentions) and the lack of knowledge of the Internet (17.4% of mentions)⁶³. Best-sold products are CDs (24.8%) and books (21%)⁶⁴, which are not only popular and affordable but also products that people are ready to buy without physically touching them, because shoppers know the kind of information contained in the product before buying it. In sum, there is a limited use of the Internet in the daily practice of business firms. So, their workers are not frequent users of Internet at work. As a result, people who do want to connect to the Internet, predominantly do it at home.

Another highly relevant feature to understand the use of the Internet is the age of Internet users. According to all the studies, the Internet users who are between 25 and 34 years old represent about one third of the total Internet users (between 30% or 38% depending on the study), which is the highest percentage of any age group (See Fig 7). One of the possible causes of this readiness to accept the Internet may be that this generation grew up with videogames and computers, so the Internet could be taken as one step further. These people represent the young work force of the country, which means not only that the Internet is for personal use, but also may be in the near future for business use, although business uses of the Internet in Spain are only in their beginning. The frequency for the rest of the other age groups decreases as people are younger or older. But there is a point in which the percentage of Internet users dramatically decreases, and it is at the age of 45 or older (This group are only 9% of all Spanish Internet users). This age digital divide could probably be leave out of the information society the older generations if they do not learn how to use the Internet. This age gap has serious social consequences beyond the group of retired people. Someone who is 45 years old is expected to continue working for at least 20 years more, since retirement age in Spain is 65. This means that these workers will be at a disadvantage in a rapidly changing labor market, as the dynamic e-economy transforms business and work.

Fig 7- Distribution of Internet users by their age

	EGM (2001)	AIMC (2001)	eEspaña 2001
< 14 years old			3.4%
Between 14 –19 years old	18.5%	9.3%	
Between 20 – 24 years old	19.8%	20.7%	
Between 25 – 34 years old	30.3%	38.6%	
Between 35 – 44 years old	19.4%	19.9%	
Between 45 – 54 years old	9%	8.8%	
Between 55 – 64 years old	NA	2.1%	
> 65 years old	NA	0.5%	0.7%
Doesn't know or doesn't answer	3%	0.2%	

There is also a gender gap. While 61.1% of Internet users are men, only 38.9% are women⁶⁵. However, the difference of Internet use between genders decreases as Internet use increases, which may be due to the high growth rate of Internet users in the young generations. Although there are no data comparing the age-gender variables, we could hypothesize that the gap will not decrease in the older generations because women in this group do not work and do not have studies, which means a lack of motivation and skills for using the Internet.

Another interesting feature of Internet users is their cultural level. The higher the educational level is, the higher the percentage of Internet users is. In Spain, 52.1% of Internet users have a University degree, only 8.6% of Internet users have primary education and less than 1% have no studies⁶⁶. Below secondary education there are few Internet users, epitomizing the educational component of the digital divide.

Regarding the social class, it could be thought that high class people is the social group with highest Internet access. Surprisingly it is not: the medium-medium class has the highest percentage of Internet users (39.7%). If we take into account the evolution of the percentage of Internet users according to their social

⁶³ See V.74

⁶⁴ See V.40

⁶⁵ See V.130

⁶⁶ See V.138

class, we see that for the 1997-2001 period there has been a negative growth rate of high-class Internet users (-30.5%), while there has been a growth rate of 38.3% of medium-medium class Internet users⁶⁷. If we combine the education and social class features we could hypothesise that Internet used is not defined by income but by education. The digital divide is not between people with and without money, because nowadays the Internet is an affordable technology for most people: the digital divide would be between educated and non-educated people, but not because of the Internet access but because of the Internet content: educated Internet users were the first designers of Internet content.

The household size is another interesting reference point that confirms many data of the previously analysed features. The lowest percentage of Internet users belongs to households with one person (4.8% or 6% depending on the source) and to households with six people (5.2% or 6% depending on the source), while the highest belongs to households where four people live (35.3% or 31.3% depending on the source)⁶⁸. On the one hand, households with one person are usually households where old people live, and households with six people are usually households where families of low social class live. On the other hand, households with four people represent medium class families, in which the youngsters live with parents because they still do not have enough money to live on their own.

It can be stated that Internet is an urban phenomenon, not a rural one. Towns with less than 2,000 inhabitants show the lowest percentage of Internet users (only 3%), while the highest percentages of Internet users is located in middle-size towns (Towns with 50,000-200,000 inhabitants have 23.5% of Internet users). Surprisingly, large metropolitan areas have only 9% of users, which contradicts the trend in other countries⁶⁹. We could suggest that the cause is that in large metropolitan areas the statistically predominant social classes are medium-low and lower class, among which the use of Internet is still low, while the relative percentage of medium-medium class over the total population of the town is higher in the middle sized towns.

Concerning the marital status of Internet users, the percentage of single users is the highest (56.9%), while the percentage of widow users is the lowest (0.4%)⁷⁰. These data are in concordance with the data referring to number of people in households and age of Internet users.

How is Internet used? We could suggest that there are several typologies of uses of the Internet. One of the main uses of the Internet is the search for information, either from information sources (89.5% of users) or general media information (81.6% of users). This percentage decreases when the searched information is more specific, such as financial information (34.2% of users) or weather forecast information (21.7% of users) (See Fig 8). The hypothesis here could be that Internet is an informational tool, and the more specific the information is the lower the percentage of Internet users (maybe because of the previously mentioned cultural factor). Internet is a principal source of information because it has two big advantages over other sources: it is quick and there is access to worldwide information. Business firms specially value these advantages when they search for information about their competitors. Another data that supports this hypothesis is the number of bookmarks stored in browsers: 38.8% of Internet users store between 11 and 50 bookmarks⁷¹, which may be considered a high because it means that at least the user usually visits between 11 and 50 pages of his interest.

⁶⁷ See V.140

⁶⁸ See V.124

⁶⁹ See V.128

⁷⁰ See V.137

⁷¹ See V.39

Fig 8 - Distribution of Internet users according to their kind of activity when surfing the web

	AIMC (2001)	CIS (2001)	Tecnologías información (2000)
Searching for information in web directories or search engines	89.5%	80.7%	82%
Reading news and headlines in online newspapers and magazines	81.6%	50.1%	
Sending short messages to mobile phones	56.4%	29.7%	
Downloading MP3	39.4%		21.2%
Consulting financial information	34.2%		
Consulting the movies /entertainment / movie guide	29.1%		
Sending e-cards	29%		
Searching for phone numbers or addresses	26.2%		
Searching for a job	25.2%	18.2%	
Consulting the weather forecast	21.7%		
Consulting the TV guide	19.6%		
Network games	19.3%	13.6%	
Videoconference	6.9%	2.9%	

Internet is as a communication tool, either individual or in group. For individual communication, the most important use is email (74.2% or 95.5% of users depending on the source). Email is followed by sending messages to mobile phones (56.4%), sending e-cards (29%) and videoconference (6.9%). Regarding the group communication, only 21.1% users chat⁷². If we analyse these data we do not find support to the idea that Internet is an isolating technology, because the data clearly show its communicational use. On the other hand, Internet is not a substitution for other forms of communication, such as phones. In Spain, the number of mobile phone users is increasing at a fast pace: in 1995 the number of mobile phone users was of 944,000, while the number for 2000 was 24,344,000 users⁷³, which shows the quick penetration of this technology due to the lowering of its cost and availability of the area coverage for mobile telephony.

The Internet is also a source of leisure and entertainment. Internet users download music using mp3 technology (39.4% of users)⁷⁴; visit adult websites (38% of users)⁷⁵ and play network games (19.3% of users) (See Fig 8). It could be hypothesized that mp3 downloaders are young people who download free mp3 because they do not have money to buy the original CD, although the sound quality of mp3 is lower. Regarding the adult websites visitors, we could say that Internet allows the visitor's privacy and the comfort of not having to go out from home.

Internet can be regarded as an instrumental tool: 25.2% of Internet users search for a job by Internet (See Fig 8). This use is highly selective due to the kind of job offers found on the Internet, which are usually related to the field of technology.

It is also relevant to analyze frequency of connection to the Internet. Nowadays, the majority of Internet users connect to the Internet daily (43.1% of users), while only 18.8% of users connect to it monthly. At the very beginning of the penetration of the Internet, users used mostly to connect to it weekly or occasionally, probably because of the cost and of the few household with access. As these two facts have considerably changed, the data about the evolution the frequency of use for the 1997-2001 period show that the growth rate for the "daily" variable is of 72%, while the growth rate for the "monthly" option is 7% for the 1997-2001 period⁷⁶. This means that while the daily variable growth rate has significantly increased, the monthly variable growth rate has increased only a little. We could hypothesized that the Internet is everyday more a part of our life.

Another social aspect that has been affected by the Internet is education. There are no data for Spain regarding the educational use of Internet at primary or secondary schools, but the available data show that

⁷² See V.26

⁷³ See V.15

⁷⁴ See V.31

⁷⁵ See V.32

⁷⁶ See V.17

Internet is an educational tool for adults: 34.6% of the online education courses are economic and finances courses⁷⁷. It is also important note that 47% of online courses last less than 50 hours⁷⁸. It could be inferred that these courses are professional and training courses addressed to the work force. Another remarkable fact is that online education tends to be cheaper than traditional education: the cheaper the cost/credit is the higher the number of online courses is.

As in other countries, telecommuting is not a widespread practice. Only 2.8% of the total working population in Spain are telecommuters⁷⁹. Instead of the idea of "telecommuting" we should think about the concept of "work online" from a variety of places, including the workplace.

We have discussed the data on e-commerce earlier. Let us now take into account e-banking. The fact is that 49% of Internet users do not use e-banking, but 51% of users do it⁸⁰. The main causes for not doing it are the lack of Internet security (24%) and the lack of customised services (23.6%)⁸¹. On the other hand, online bank users remark as most valuable aspects its availability (49.2%) and its easiness (28.1%)⁸². If we compare the data in the e-commerce and the e-banking areas, we could suggest that it is the same kind of Internet user who practises both activities: if an Internet user has an online bank account his readiness to shop on the Internet is higher than somebody who has not.

Let us address now the issue of Internet and sociability. Since the onset of the Internet much has been said about this matter, specially on the idea of Internet as an isolating technology. It has been previously showed that the Internet is a communication tool, by means of e-mail use and mobile messaging. In addition, we could say that direct sociability is not affected by Internet because only 8.4% of Internet users substitute the time spent in the Internet for going to the cinema or only 10.1% for going out with friends⁸³. Regarding indirect sociability, Internet may affect activities such as watching TV, but it is still very early to know the real impact of the Internet in other media.

In sum, like in the Catalonia case, Internet in Spain is characterized as a personal and communicational technology, fully weaved into the lives of people. It does not isolate, in fact it expands social networks. And it is primarily a tool of personal expression and educational development. However, the business uses of the Internet are still very limited in Spain, with the major exception of e-banking, probably due to a systematic effort undertaken by the banking industry. There is a substantial gap in the uses of Internet between the young people on the one hand, and the mature and older segments of the population on the other hand. There is also an educational divide between the highly educated segment of the population and the rest. So, the users of the Internet clearly represent the newest, and most dynamic part of the Spanish society. That this group does not isolate itself from the mainstream of society, thus adding another layer to the division of society, depends to a large extent on public policy initiatives and also on the openness by business firms to the advantages provided by networking technology.

⁷⁷ See V.118

⁷⁸ See V.122

⁷⁹ See V.86

⁸⁰ See V.46

⁸¹ See V.88

⁸² See V.87

⁸³ See V.25

3.1 Tables on Spain (*)

(Organized by Variables)

(*) We have organized the tables according to the variables we have studied on the basis of available data. We have numbered the variables, given one number to each variable, as per the list of variables shown in the appendice of this working paper.

Thus, tables do not have numbers, variables do. Each number is unique for each variable. All data concerning the variable from various sources are included in the table characterizing each variable. However, since our study concerns three different contexts: Catalonia, Spain, and Spanish Regions, tables are presented in three different blocks at the end of each section of the paper. For each context, we continue to identify the variables by their unique number, but naturally the data for the same variable are different in each one of the three contexts, and so are the tables that share the same number of the end of the three sections.

In each table we have indicated the specific source for each one of the statistics displayed in the table. Statistics may differ and usually do. This is exactly the purpose of our study: to show the diversity of estimates for the same variable, referring the reader to the methodological note in appendice for her/him to evaluate the reliability of each one of the sources presented.

3.1.1 Internet use variables (Spain)

Access to Internet and use by households and persons in Spain

1. % Households connected to the Internet

EGM ⁸⁴ (2001)	AIMC (2001)	eEspaña 2001 ⁸⁵	Telefónica ⁸⁶ (2001)	CIS (2001)	Tecnologías información (2000)
14.3%		10%	10%	NA	14.2%

3. % Persons connected to the Internet

EGM (2001)	AIMC (2001) ⁸⁷	eEspaña 2001	Telefónica (2001)	CIS (2001)	AECE (2001)
20.3%		13.7%	13.7%	23.9%	23.5%

5. Evolution of percentage of persons connected to the Internet (1996 – 2001)

EGM (2001)		
	% of persons connected to the Internet	Yearly growth rate (%)
1996	0.8%	-
1997	2.7%	237
1998	4.8%	77
1999	7.2%	50
2000	11.3%	56
2001	20.3 %	79
Total 1996 – 2001		2437

7. Distribution of households connected to the Internet by year of connection

	EGM (2001)	AIMC (2001)	eEspaña 2001	Telefónica (2001)	CIS (2001)
Households connected to the Internet in the last year	52.9%				
Households connected to the Internet more than a year ago	45.4%				
Doesn't know / doesn't answer	1.7%				

8. Distribution of persons connected to the Internet by year of connection

	EGM (2001)	AIMC (2001)	eEspaña 2001	Telefónica (2001)	CIS (2001)
Less than 6 months		8.2%			
Between 6 and 12 months		10.4%			
More than a year and less than two years		14.8%			
More than two years and less than three years		17.2%			
More than three years and less than five years		25.6%			
More than five years		17.8%			
Doesn't know / doesn't answer		5.9%			

9. % Households with a computer

⁸⁴ All percentages in EGM are over the total population in Spain except when indicated

⁸⁵ All percentages in eEspaña 2001 are over the total population in Spain except when indicated. Original source: INRA Europe 2000

⁸⁶ All percentages in Telefónica are over the total population in Spain except when indicated. Original source EITO 2001

⁸⁷ The percentage is omitted in this case because the only way to fill in the survey was by Internet.

EGM (2001)	AIMC (2001)	eEspana 2001	Telefónica (2001)	CIS (2000)
32.5%		40%		36.7%

11. % Internet connected persons among persons with access to a computer

EGM (2001)	AIMC (2001)	eEspana 2001	Telefónica (2001)	CIS (2000)
60.6				59.4%

14. % of mobile phone users over Spanish population

EGM (2001)	AIMC (2001)	eEspana 2001 ⁸⁸	Telefónica (2001) ⁸⁹	CIS (2001)
		64.5%	64.5%	58% ⁹⁰

15. Evolution of mobile phone users (1995 – 2001)

Telefónica (2001)		
	Number of mobile phone users	Yearly growth rate (%)
1995	944,000	-
1996	2,996,000	217
1997	4,337,000	44
1998	7,051,000	62
1999	15,005,000	112
2000	24,344,000	62
Total 1995 - 2001		2478

16. Distribution of Internet users according to their frequency of connection to the Internet
(% of Internet users over total Internet user)

	EGM (2001)	AIMC (2001)	eEspana 2001	Telefónica (2001)	CIS (2001)
Daily	43.1%				
Weekly	38%				
Monthly	18.8				
Occasionally	NA				

17. Evolution of percentage of Internet users by frequency of connection to the Internet
(% of Internet users over total Internet users) (1997 – 2001)

EGM (2001)								
	Daily		Weekly		Monthly		Occasionally	
	% of persons over total persons connected to the Internet	Yearly growth rate (%)	% of persons over total persons connected to the Internet	Yearly growth rate (%)	% of persons over total persons connected to the Internet	Yearly growth rate (%)	% of persons over total persons connected to the Internet	Yearly growth rate (%)
1997	25%		28.8%		17.5%		28.7	
1998	31.1%	24	30%	4	12.5%	-28	26.4	-8
1999	30.9%	- 0.64	27.3%	9	15.3%	22	26.6	0.7
2000	38.3%	23	36.7%	34	9.8%	-35	15.3	-42
2001	43.1%	12	38%	3	18.8%	91	NA	
Total 1997-2001 ⁹¹		72		31		7		-46

⁸⁸ Original source : CMT, Informe sobre la competencia en el mercado de telefonía móvil

⁸⁹ Original source : CMT, Informe sobre la competencia en el mercado de telefonía móvil

⁹⁰ Over a sample of Spanish population

⁹¹ Except in the group "occasionally", in which the data are only available until the year 2000, so the value is in that case "Total 1997-2000"

18. % of Internet users distributed by place of connection and by frequency of use

AIMC (2001)				
	Household	Work	University / Centre of studies	Cybercentre/ Library
Several times per day	23.7%	34.2%	5.3%	0.6%
Every day	38.4%	14.2%	5.2%	1.1%
Several times per week	16.2%	6.1%	6.9%	2.6%
Once a week	4.7%	2.2%	3.9%	2.2%
Twice a month	1.8%	1.1%	3.3%	4.5%
Once a month	0.8%	0.4%	1.6%	3%
Less than once a month	0.7%	0.9%	3.9%	9.3%
Never or almost never	9.5%	28.9%	44.9%	52.5%
Doesn't know / doesn't answer	4.4%	11.9%	25%	24.1%
Total	100%	100%	100%	100%

19. % of Internet users by place of Internet connection (over total persons connected to the Internet)

	EGM (2001)	eEspaña 2001 ⁹²	Telefónica (2001)	CIS (2001)
Household	54.7%	44%	55%	
Work	31.0%	33%		
University / Centre of studies	16.5%	12%		
Other / Doesn't know or doesn't answer	20.4%	11%		

20. Evolution of percentage of Internet users by place of Internet connection (over total persons connected to the Internet) (1997 – 2001)

EGM (2001)								
	Household		Work		University / Centre of studies		Others (Include "doesn't know or doesn't answer")	
	% of persons over total persons connected to the Internet	Yearly growth rate (%)	% of persons over total persons connected to the Internet	Yearly growth rate (%)	% of persons over total persons connected to the Internet	Yearly growth rate (%)	% of persons over total persons connected to the Internet	Yearly growth rate (%)
1997	31.7%		42.3%		24.2%		8.2%	
1998	39.9%	25	39.9%	-5	21%	-13	11.3%	37
1999	45.1%	13	40%	0.2	19.8%	-5	9.1%	-19
2000	52.5%	16	40.7%	1	18.2%	-8	9%	-1
2001	54.7%	4	31%	-23	16.5%	-9	20.4%	120
Total 1997-2001		72		-26		-31		140

22. Weekly average time of connection to the Internet

	EGM (2001)	AIMC (2001)	eEspaña 2001	Telefónica (2001)	CIS (2001)
Connected to the Internet less than an hour		2.7%			
Connected to the Internet between 1 – 4 hours		13.9%			
Connected to the Internet between 4 – 10 hours		26.5%			
Connected to the Internet between 10 – 30 hours		34.7%			
More than 30 hours		21.1%			
Doesn't know or doesn't		1.1%			

⁹² Original source: AIMC (2001)

answer					
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23. Monthly average time of connection to the Internet (Measured in hours/month)

EGM (2001)	AIMC (2001)	eEspaña 2001 ⁹³	Telefónica (2001) ⁹⁴	CIS (2001)
		8.7	8.1	

24. Intensity of Internet use by day of the week

	EGM (2001)	AIMC (2001)	eEspaña 2001	Telefónica (2001)	CIS (2001)
From Monday to Friday		45.5%			
Weekends and holidays		17%			
Any day of the week		37.1%			
Doesn't know or doesn't answer		0.6%			

25. % of Internet users who substitute the time spent in Internet for other activities

AIMC (2001) ⁹⁵	
Watch TV	65%
Do nothing	58.3%
Search for information in libraries, guides...	39.9%
Sleep	25.5%
Read books	20.7%
Study	13.8%
Do sport	13.1%
Go out for a walk / with friends	10.1%
Go to the cinema	8.4%
Work	6.1%
Other activities	3.7%

26. Distribution of Internet users according to their kind of activity in the Internet⁹⁶

	EGM (2001)	AIMC (2001)	eEspaña 2001	Telefónica (2001)	CIS (2001)	Tecnologías información (2000)
World Wide Web	89.7%	93%	96%		85.8%	
e-mail	74.2%	95.5%	61%		75.5%	42%
FTP	30.5%	35.3%			20.4%	35.9%
Chat		33.5%	28%		21.9%	
Newsgroups		13.7%	10%		3.9%	
Telnet		7.2%			3.2%	
Other	44.8%	18.9%	26%			

27. Evolution of Internet users according to the kind of activity on the Internet

EGM (2001)								
WWW		E-mail		FTP ⁹⁷		Others (Include "doesn't know or doesn't answer")		
% of persons over total persons connected to the Internet	Growth rate (%)	% of persons over total persons connected to the Internet	Growth rate (%)	% of persons over total persons connected to the Internet	Growth rate (%)	% of persons over total persons connected to the Internet	Growth rate (%)	

⁹³ Original source: Net Value (2001)

⁹⁴ Original source: Net Value (2000)

⁹⁵ The total sum of percentages is higher than 100% because many of the surveyed persons marked two or more answers. The Telefónica (2001) study report the same finding.

⁹⁶ The total sum of percentages is higher than 100% because many of the surveyed persons marked two or more answers

⁹⁷ FTP stands for "File Transfer Protocol"

1997	78.3%		67.8%		35.7%		31.8%	
1998	80.4%	2	76.3%	12	40.2%	12	29.2%	-8
1999	82.8%	2	74.7%	-2	34%	-15	26.6%	-8
2000	86%	3	81.3%	8	38.1%	12	27.1%	-1
2001	89.7%	4	74.2%	-8	30.5%	-19	44.8%	60
Total 1997-2001		14		9		-14		40

28. Distribution of Internet users according to the kind of activity when surfing the web⁹⁸

	EGM (2001)	AIMC (2001)	eEspaña 2001	Telefónica (2001)	CIS (2001)	Tecnologías información (2000)
Searching for information in web directories or search engines		89.5%			80.7%	82%
Reading news and headlines in online newspapers and magazines		81.6%			50.1%	
Sending short messages to mobile phones		56.4%			29.7%	
Downloading MP3		39.4%				21.2%
Consulting financial information		34.2%				
Consulting the movies /entertainment / movie guide		29.1%				
Sending e-cards		29%				
Searching for phone numbers or addresses		26.2%				
Searching for a job		25.2%			18.2%	
Consulting the weather forecast		21.7%				
Consulting the TV guide		19.6%				
Network games		19.3%			13.6%	
Videoconference		6.9%			2.9%	

31. % Internet users who use Napster

EGM (2001)	AIMC (2001)	eEspaña 2001 ⁹⁹	Telefónica (2001)	CIS (2001)
		20%		

32. % Internet users who visit adult websites

EGM (2001)	AIMC (2001)	eEspaña 2001 ¹⁰⁰	Telefónica (2001)	CIS (2001)
		38%		

⁹⁸ The total sum of percentages is higher than 100% because many of the surveyed persons marked two or more answers

⁹⁹ Original source: Net Value (2001)

¹⁰⁰ Original source: Net Value

33. Distribution of Internet users according to the main problems they face when surfing Internet

AIMC (2001) ¹⁰¹	
Slow speed	82.1%
Quality of phone connection	46.3%
Too much advertising	41.1%
Phone cost	41%
Security	38%
Quality of service providers	26.6%
Lack of confidentiality	22.9%
Language	21.5%
Cost of the service provider	13.3%
Other problems	4%

34. Most visited .es domains over most visited websites (ordered by number of visits)

Telefónica (2001) ¹⁰²	
Website	Number of visited webs
Terra España	759.2
Ya.com	283.8
Yahoo.es	163.4
Navegalia	102.3
EBankinter	66.1
Grupo Intercom	40.6
Páginas Amarillas	35.2
World Online	24.0
La Caixa	21.8
Infojobs.net	21.6
Segundamano	13.7
Infobolsa	12.7
Plus.es	12.1
Corazón Gay	11.4
Grupo Anuntis	11.4
Canal 21	11.2
BOE	7.1
Agencia Tributaria	4.4
IDG	3.4

35. Distribution of email users according to the weekly average of sent / received emails

AIMC (2001)		
	Received	Sent
Less than five	10.8%	23.5%
Between 5 and 20	40.3%	50.7%
Between 21 and 50	25.5%	16.5%
Between 51 and 100	13.0%	5.8%
More than 1000	10.2%	3.0%
Doesn't know or doesn't answer	0.2%	0.9%

36. Distribution of email users according to the email software used

AIMC (2001)	
Outlook (Microsoft)	64.2%
Messenger (Netscape)	12.6%
CC:mail (Lotus)	2.4%
Exchange (Microsoft)	2.2%

¹⁰¹ The total sum of percentages is higher than 100% because many of the surveyed persons marked two or more answers

¹⁰² The data refer to March 2001. Original source: OJD (2001)

Eudora	2.2%
Other software	6.6%
Doesn't know or doesn't answer	9.8%

37. Distribution of email users according to the frequency of received spamming

AIMC (2001)	
More than one every day	17.8%
One per day	4.4%
Several per week	25.1%
One per week	5.4%
Several per month	13.2%
One per month	4.9%
Lower frequency	14.9%
Never	14.1%
Doesn't know or doesn't answer	0.3%

38. % of Internet users with a personal website

AIMC (2001)	
Yes	21.4%
No	76.6%
Doesn't know or doesn't answer	1.9%

39. Distribution of Internet users by number of bookmarks stored in their browsers

AIMC (2001)	
No bookmarks stored	14%
Between 1 and 10 bookmarks	18.3%
Between 11 and 50 bookmarks	38.8%
Between 51 and 100 bookmarks	13.7%
More than 101 bookmarks	9.2%
Doesn't know or doesn't answer	6.8%

E-business related uses by persons and households in Spain

40. Distribution of Internet shoppers according to the product they shop on the Internet

	AIMC (2001)	Telefónica (2001) ¹⁰³
Books / Magazines	18.8%	21%
Cd's	12.7%	24.8%
Journeys /Entertainment / Spare time / Tickets	12.6%	16.3%
Hardware	12.2%	
Software	11.7%	9.9%
Electronic items	7.4%	9.6%
Video /DVD	6.8%	
Food / Drinks	3.9%	
Clothes	3.1%	
Flowers	2.7%	
Financial services	1.2%	
Mobile phones	0.9%	
Cars / Motorbikes / Accessories	0.8%	
Internet services and domains	0.8%	
Other	4.2%	

41. Distribution of Internet shoppers according to the yearly amount of money they have spent when shopping on the Internet

¹⁰³ The eEspaña 2001 and the AECE (2001) study report the same finding

	AECE (2001)
Less than 5.000 ptas	19.3%
Between 5.000 and 10.000 ptas	12.9%
Between 10.000 and 25.000 ptas	26.4%
Between 25.000 and 50.000 ptas	13.1%
More than 50.000 ptas	28.4%

42. Distribution of Internet shoppers according to their reasons for shopping on the Internet

	Telefónica (2001) ¹⁰⁴
Easier	37.8%
Cheaper products	21.5%
It's the only way for shopping	16.2%
Because it's fast	13%
To try it	9.4%
Better accessibility to products	2.8%
Other	1%

43. Distribution of Internet users according to their reasons for not shopping on the Internet (% over Internet users who don't shop on the Internet)¹⁰⁵

	Telefónica (2001) / AECE (2001)
Lack of information	28.6%
Distrust in the mode of payment	25.5%
It is not advantageous	24.9%
Afraid of giving personal data	24.3%
Distrust in the way the product is presented	17.3%
The product is not available on the Internet	5.4%
Not very much diversity in the offer of product	2.5%
Problems for receiving the product at home	2.2%
Cost of the call	1.9%
Shipping costs	0.6%

44. Distribution of Internet shoppers according to the mode of payment on the Internet (% of Internet shoppers over Internet shoppers who have bought a service/product in the last 12 months)

	AIMC (2001)	AECE (2001) ¹⁰⁶
Credit card	56.3%	55.2%
Company credit card	2%	
Payment upon reception	29.4%	40.9%
Bank charge	3.2%	9.7%
Bank transfer	5.3%	2.7%
Other	1.7%	5.8%
Doesn't know or doesn't answer	2%	

45. Distribution of Internet users according to their opinion about credit card security on the Internet¹⁰⁷

	Telefónica (2001) ¹⁰⁸	AIMC (2001)
Definitely agree	5%	8.3%
Generally agree	23%	31.5%
Hesitant	21%	10.7%
Generally disagree	26%	29.7%
Definitely disagree	14%	18.4%
Doesn't know or doesn't answer	11%	1.5%

¹⁰⁴ The eEspaña 2001 and the AECE (2001) study report the same finding

¹⁰⁵ The total sum of percentages is higher than 100% because many of the surveyed persons marked two or more answers

¹⁰⁶ The total sum of percentages is higher than 100% because many of the surveyed persons marked two or more answers

¹⁰⁷ The surveyed persons expressed their level of agreement to the sentence "The use of credit cards for on-line shopping is safe"

¹⁰⁸ Original source: CommerceNET, Encuesta sobre los usuarios de Internet y el comercio electrónico (junio 2000)

46. % of on-line banking over Internet users (distributed by kind of use)

AIMC (2001)	
Only to consult the balance summary	24.9%
Consult of the balance summary and transactions	25.1%
No	49%
Doesn't know or doesn't answer	1%

Infrastructures related to the use of Internet in Spain

49. % of Internet hosts per 100 inhabitants (geographical area)¹⁰⁹

Métrica SI (2000) ¹¹⁰	
Spain	0.77%

50. % of web servers per 1000 inhabitants (geographical area)¹¹¹

Métrica SI (2000) ¹¹²	
Spain	0.59%

51. % of secure web servers per 100.000 inhabitants (geographical area)¹¹³

Métrica SI (2000) ¹¹⁴	
Spain	0.61%

52. % of household Internet users with a high speed Internet access (distributed by kind of access)

	EGM (2001)	AIMC (2001)
RDSI	4.5%	6.2%
DSL	2.3%	6.8%
Cable	3.6%	8.8%
Total	10.4%	21.8%

Internet access and uses by business firms in Spain

53. % of business firms with Internet access¹¹⁵

	Tecnologías SSI (2000)	Telefónica (2001) ¹¹⁶
Access to the Internet	51.7%	64.5%
Not access to the Internet	48.3%	33.5%

56. Distribution of business firms with Internet connection according to the kind of use of the Internet¹¹⁷

Tecnologías SSI (2000)

¹⁰⁹ Data for 1999

¹¹⁰ Original Source: Network Wizards

¹¹¹ Data for 1998

¹¹² Original Source: Nercraft, OCDE

¹¹³ Data for 1999

¹¹⁴ Original Source: Nercraft, OCDE

¹¹⁵ This value is also available in the CMT study, but it is omitted because the business firms of the survey are all firms with an .es domain, so the value of Internet access is 100%.

¹¹⁶ Original source: CommerceNet, Encuesta sobre los usuarios de Internet y el comercio electrónico (junio 2000)

¹¹⁷ The total sum of percentages is higher than 100% because many of the surveyed business firms marked two or more answers

Search for information	83.4%
Data transmission	62%
Financial transactions	41.5%
Analysis of competitors	21.4
Human resources	6.9%

57. % of business firms whose main activity is developed on the Internet

CMT (2001)	
Yes	8.5%
No	91.5%

58. Distribution of business firms with Internet access according to the number of full time employees needed for the presence of the firm on the Internet

CMT (2001)	
None	36.1%
Less than 1 employees	33.6%
1 employee and less than 2	19%
2 employees and less than 3	4.7%
3 employees and less than 4	1.9%
4 or more employees	2.5%
Doesn't know or doesn't answer	2.2%

59. % of business firms connected to the Internet with a website¹¹⁸

	Tecnologías SSI (2000)	Telefónica (2001)/ AECE (2001)
With a website	15%	24%
Without a website	85%	73.9%
Doesn't know/doesn't answer		2.1%

61. Distribution of websites of business firms according to the kind of hosting

CMT (2001)	
% of websites of business firms hosted in an own server	19.6%
% of websites of business firms hosted in an external server	77.7%
Doesn't know or doesn't answer	2.8%

62. Distribution of websites of business firms according to the size of the site (measured in Mb)

CMT (2001)	
% of websites of business firms of less than 12 Mb	27.3%
% of websites of business firms of 12 to 80 Mb	23.1%
% of websites of business firms of more than 80 Mb	8.5%
Doesn't know or doesn't answer	41%

63. Distribution of websites of business firms according to the kind of access

CMT (2001)	
% of websites of business firms which are open	80.4%
% of websites of business firms partially restricted (they are free but they need a register)	9.9%
% of websites of business firms partially restricted (of payment)	2.8%
Doesn't know or doesn't answer	6.9%

¹¹⁸ This value is also available in the CMT study, but it is omitted because the business firms of the survey are all firms with an .es domain, so they all have a website

64. Distribution of websites of business firms according to the monthly traffic of the website

CMT (2001)	
% of websites of business firms with 2000 or less visits per month	8.8%
% of websites of business firms with more than 2000 visits per month	3.9%
Doesn't know or doesn't answer	87.3%

67. Distribution of services/products offered by business firms on the Internet according to the kind of product/service

	Telefónica (2001)	AECE 2001
Booking of hotels / accommodation	31%	22.2%
Booking of journeys	14%	10.3%
Books	11%	8.3%
Software	9%	6.3%
Education	8%	5.6%
Hardware	7%	5.2%
Insurance	6%	4.5%
Financial services	5%	3.3%
Drinks	5%	3.3%
Entertainment	4%	3.2%

70. Evolution of e-business in Spain in the B2C (Business to Consumer) e-commerce

eEspaña 2001 / Telefónica (2001) / Price Waterhouse (2000) / AECE 2001		
	Total amount of money (measured in million pesetas)	Yearly growth rate (%)
1997	800	
1998	3,400	325
1999	11,951	251
2000	34,000	184
Total 1997 –2000		4,150

71. Evolution of e-business in Spain in the B2B (Business to Business) e-commerce

eEspaña 2001		
	Total amount of money (measured in million pesetas)	Yearly growth rate (%)
1999	1,250	
2000	4,350	248
Total 1999 –2000		248

74. Distribution of business firms which sell products on-line according to the main problems they have to sell their products on the Internet

Telefónica (2001) / AECE (2001)	
No problems	34.5%
Distrust in the mode of payment	25.1%
Internet is still unknown	17.4%
Habits of the consumer	14.3%
Problems for having access to new IT	9.1%
Internet speed	7.7%
Few Internet shoppers	4.4%
Costs for the consumer	3.2%
High selling costs	2.6%
The target customer is inappropriate	2.5%
Conflict with traditional selling	2.4%
Logistics / distribution problems	2%

Lack of finance	1.5%
Not part of the marketing plan	1.4%
Inappropriate product for the Internet	1.2%

75. Distribution of business firms which do not sell their products on-line according to their reasons for not selling their products on-line

Telefónica (2001) / eEspaña 2001/ AECE (2001)	
Inappropriate product for the Internet	34.7%
No need to sell on-line	23%
Small size of the firm	16.2%
The target customer is inappropriate	12.6%
Lack of technological knowledge	9.8%
Not a clear business opportunity	6.6%
Conflict with traditional selling	6%
Not thought about on-line selling	5.1%
Developing the idea of selling on-line	4.3%
High costs	2.1%
Lack of time	1%
Lack of security	0.7%
Other	0.7%

76. Percent distribution of Internet portals by activity

eEspaña 2001 ¹¹⁹	
Services	56%
Entertainment	21%
Shops	19%
Industry	14%
Culture and Education	10%
Accommodation	4%
Health	4%
Searchers	2%

77. % of employees of business firms with intranet access by department

eEspaña 2001 ¹²⁰	
Top management	74%
Management	62%
I+D	55%
Marketing	55%
Purchases	54%
Sales	53%
Production	48%
Human resources	47%

78. Distribution of business firms according to the kind of free access content of their intranet (% over business firms with intranet)

eEspaña 2001 ¹²¹	
Internal memos	44%
General information of the firm	41%
Data base / files	33%
Information by departments	27%
Sales information /accounting	20%
Información of Human Resources	19%
Information about new customers	17%

¹¹⁹ Original source: REDmarket (2001)

¹²⁰ Original source: Paloma Sánchez & others

¹²¹ Original source: Paloma Sánchez & others

Training	12%
Management	8%
Computer services	7%
Repairing services	3%
Human resources	1%
Purveyors / Purchases	1%
Information about banks	1%
Doesn't know or doesn't answer	1%

79. Percent distribution of business firms according to the level of penetration of IT ¹²²

eEspaña 2001	
Integrated	2%
Advanced	8%
In process	29%
Emergent	46%
Excluded	15%

80. Evaluation of the IT impact on business firms according to the level of penetration of IT

eEspaña 2001 ¹²³	
Kind of firms according to the level of penetration of IT ¹²⁴	Degree of impact ¹²⁵
Integrated / Advanced	7
In process / Emergent	5.8
Excluded	4.4

81. Evaluation of the expectation of the IT impact on business firms according to the level of penetration of IT

eEspaña 2001 ¹²⁶	
Kind of firms according to the level of penetration of IT ¹²⁷	Degree of impact ¹²⁸
Integrated / Advanced	7.6
In process / Emergent	6.9
Excluded	5.6

82. Evaluation of the importance of the barriers to IT penetration in business firms (Evaluated by business firms with no IT access)

eEspaña 2001 ¹²⁹	
Kind of barriers	Degree of importance ¹³⁰
Problems due to the firm's activity or to the firm's size	5.2
Financial problems	5.1
Human Resources problems	5
Technical problems	4.8

84. Percent distribution of business firms according to the frequency of IT training among their employees

¹²² In order to evaluate the level of IT penetration the firms have been classified according to their availableness to: a)access to the Internet, b)having a website c)having an intranet, d) selling products on-line by means of their own website According to these criteria, there are five kinds of firms: 1 – *Integrated*, which have all the previously mentioned elements, 2 – *Advanced*, which have access to Internet, a website and an intranet, 3- *In process*, which have two of the above elements, 4 – *Emergent*, which have only access to the Internet 5- *Excluded*, which have none of the previously mentioned elements

¹²³ Original source: Paloma Sánchez & others

¹²⁴ See footnote 122

¹²⁵ There is a scale in which 0= no impact and 10= maximum impact

¹²⁶ Original source: Paloma Sánchez & others

¹²⁷ See footnote 122

¹²⁸ See footnote 125

¹²⁹ Original source: Paloma Sánchez & others

¹³⁰ There is a scale in which 0= no importance and 10= maximum importance

Tecnologías SSI (2000) ¹³¹	
Usually	1.2%
Occasionally	48%

85. Evaluation of the importance of the barriers to telecommuting in business firms (% of mentions of the surveyed firms)

Telefónica (2001) ¹³²	
Not enough knowledge of what telecommuting is	76%
Data security	73%
Productivity and quality of work	70%
Management of the telecommuter	67%
High associated costs	65%
Communication	58%
Refusal of the employees	47%
Refusal of the unions	40%

86. % of telecommuters over the total of the working population

Telefónica (2001) Métrica SI (2000) ¹³³	Tecnologías SSI (2000)
2.8%	2.3%

87. Percent distribution of the most valuable aspects of online bank according to online bank customers

eEspaña 2001 ¹³⁴	
Availableness	49.2%
Comfortableness	28.1%
Rapidness	12.2%
Better financial services	7.6%
Personal service	1.6%
Security	1%

88. Percent distribution of barriers to online bank use according to Internet users

eEspaña 2001 ¹³⁵	
Lack of security	24%
Lack of customized service	23.6%
Slowness	14.9%
Lack of services	13%
Lack of products	10.8%
Difficult use	7.9%
Time spent	5.5%

90. Percent distribution of business firms according to the main objectives of the firms in relation to their website

	CMT (2001) ¹³⁶	Telefónica (2001) /AECE (2001) ¹³⁷
Information about the products /services of the firm	70.5%	50.8%
Corporate image	69.7%	
Advertising	53.4%	61.1%
Help desk	28.1%	10.2%
Sales / e-commerce	25.3%	10.3%

¹³¹ The total sum of percentages is less than 100% because it is unknown the rest of answering possibilities.

¹³² Original source: Ecatt and Telefónica (2001)

¹³³ Data for 1998.Original source: EcaTT Project.

¹³⁴ Original source: AUI(2001)

¹³⁵ Original source: AUI(2001)

¹³⁶ The total sum of percentages is higher than 100% because many of the surveyed business firms marked two or more answers

¹³⁷ The total sum of percentages is higher than 100% because many of the surveyed business firms marked two or more answers

Internal communication	11.3%	
Economic information about the firm	4.7%	
Other	5%	2.5%
Cost reduction		0.4%
Doesn't know / doesn't answer		1.6%

91. Percent distribution of business firms with a website according to the total annual costs of the maintenance of their website

CMT (2001)	
No costs	2.2%
0-99.999 pts	25.3%
100.000 – 199.000 pts	14.9%
200.000 – 1.599.000 pts	38.8%
1.600.000 – 6.399.999 pts	8.5%
6.400.000 pts or more	7.2%
Doesn't know or doesn't answer	3%

92. Percent distribution of business firms with a website according to the human resources annual costs of the maintenance of their website

CMT (2001)	
No costs	7.4%
0-99.999 pts	47.4%
100.000 – 199.000 pts	12.7%
200.000 – 1.599.000 pts	21.2%
1.600.000 – 6.399.999 pts	8%
6.400.000 pts or more	2.2%
Doesn't know or doesn't answer	1.1%

93. Percent distribution of business firms with a website according to their forecast of the trend in costs of the maintenance of their website in a short term

CMT (2001)	
Large decrease of the costs	1.4%
Little decrease of the costs	7.2%
No variation of the costs	49%
Little increase of the incomes	29.2%
Large increase of the costs	8.8%
Doesn't know or doesn't answer	4.4%

94. Percent distribution of business firms with a website according to the total annual income due to their website

CMT (2001)	
No income	65%
0-799.999 pts	8.5%
800.000 – 6.399.999 pts	4.4%
6.400.000 – 25.599.000 pts	1.4%
25.600.000 pts or more	4.1%
Doesn't know or doesn't answer	16.5%

95. Percent distribution of business firms with a website according to the annual sale of products /services on-line income

CMT (2001)	
No income	72.2%
0-799.999 pts	10.7%
800.000 – 6.399.999 pts	5.5%
6.400.000 – 25.599.000 pts	3%

25.600.000 pts or more	3.6%
Doesn't know or doesn't answer	5%

96. Percent distribution of business firms with a website according to their forecast of the evolution in income in a short term due to their website

CMT (2001)	
Large decrease of the income	0%
Little decrease of the income	0%
No variation of the income	36.1%
Little increase of the income	44.1%
Large increase of the income	9.1%
Doesn't know or doesn't answer	10.7%

Internet uses of Public Administration & Health Organizations in Spain

105. Percent distribution of town halls of towns with more than 20.000 inhabitants according to their website presence

eEspaña 2001	
With website	72.2%
Without website	20.7%
Web hosted in another organisation	1.3%
Web with domain but unavailable	5.7%

107. Distribution of town halls according to their IT penetration level¹³⁸

eEspaña 2001	
Advanced	37%
In process	32%
Emergent	21%
Excluded	10%

Access and use of on-line education by Internet users in Spain

117. % of organisations which offer on-line education by kind of organisation

eEspaña 2001	
Business firms / consulting firms /foundations/ associations	49.8%
Universities	28.4%
Portals	10.5%
Public Administration	8%
Schools / Professional associations / Unions	2.5%
Other organisations	1.9%

118. Distribution of e-learning offer according to the kind of content offered by e-teaching organisations

eEspaña 2001	
Economics / Finances	34.6%

¹³⁸ In order to evaluate the level of IT penetration the town halls have been classified according to their availableness to: a)access to the Internet, b)having a website c)having an intranet. According to these criteria, there are four kinds of town halls: 1 – *Advanced*, which have access all the previously mentioned elements, 2- *In process*, which have two of the above elements, 3 – *Emergent*, which have one of the previously mentioned elements, 4- *Excluded* , which have none of the previously mentioned elements

Social Sciences	17.3%
Technology (Informatics . Telecommunications...)	16.7%
Humanities	16%
Biology . Medicine. Pharmacy	11.1%
Communication	8.6%
Physics. Chemistry. Maths. Statistics	6.2%
Other items of general knowledge	3.1%
Computer Sciences for beginners	34%
Marketing and Public Relations	21%
E-commerce	20.4%
Computer Sciences for programmers	19.8%
Management training	16.0%
Prevention of accidents in work	12.3%
Human Resources	11.7%
Quality	11.7%
Languages	8.6%
Ecology and Environment	7.4%
Logistics	6.2%
Production. purchases	6.2%
Teacher's training	6.2%
Other items of specific training	11.6%
Other items	11.1%

119. Distribution of organisations according to the number of courses taught by each one

eEspaña 2001	
1 course	25.9%
2-5 courses	24.7%
6-10 courses	31.5%
11-20 courses	7.4%
20-50 courses	6.8%
51-100 courses	1.2%
More than 100 courses	2.5%

120. Distribution of Internet portals according to the educational content they offer

eEspaña 2001	
Economics / Finances	35.3%
Social Sciences	5.9%
Technology (Informatics . Telecommunications...)	11.8%
Humanities	17.6%
Communication	5.9%
Physics. Chemistry. Maths. Statistics	5.9%
Computer Sciences for beginners	29.4%
Marketing and Public Relations	41.2%
E-commerce	17.6%
Computer Science for programmers	17.6%
Management training	11.8%
Prevention of accidents in work	5.9%
Human Resources	23.5%
Quality	5.9%
Languages	11.8%
Entertainment	5.9%
Culture	5.9%
Vocational training	5.9%
Other items	35.3%

121. % of on-line courses according to the kind of organisation teaching them

eEspaña 2001	
Universities	44.9%

Business firms / consulting firms /foundations/ associations	41.5%
Portals	6.3%
Public Administration	5.9%
Schools / Professional associations / unions	1.2%
Other organisations	0.3%

122. Distribution of total amount of on-line courses according to the amount of teaching

eEspana 2001	
Less than 50 hours	47%
Between 50 and 100 hours	23.3%
Between 100 and 250 hours	7.7%
Between 250 and 500 hours	3%
Between 500 and 1000 hours	2.2%
More than 1000 hours	0.8%
Less than 60 days	11.8%
Between 60 days and 6 months	3.5%
More than 6 months	0.7%

123. Distribution of professional masters degrees in Spain (on-line and traditional) according to the cost per credit

eEspana 2001		
	Traditional	On-line
Less than 5000 pts per credit	4	7
Between 5000 and 10.000 pts per credit	11	18
Between 10.000 and 15.000 pts per credit	60	22
Between 15.000 and 20.000 pts per credit	31	13
Between 20.000 and 25.000 pts per credit	33	-
Between 25.000 and 30.000 pts per credit	8	-
Between 30.000 and 35.000 pts per credit	7	-
Between 35.000 and 40.000 pts per credit	3	1

3.1.2 Demographical and sociological variables of Internet users (Spain)

Persons and households

126. Distribution of Internet users according to household dimension (% over all households with access to the Internet)

	EGM (2001)	AIMC (2001)	eEspaña 2001	Telefónica (2001)	CIS (2001)
Households with 1 person	4.8%	6%			
Households with 2 persons	15.6%	18.9%			
Households with 3 persons	24.6%	23.4%			
Households with 4 persons	35.3%	31.3%			
Households with 5 persons	14.3%	13.3%			
Households with 6 persons or more	5.2%	6%			
Doesn't know or doesn't answer	0.2%	1%			

128. Distribution of Internet users according to city / town dimension

	EGM (2001)	AIMC (2001)	eEspaña 2001	Telefónica (2001)	CIS (2001)
Less than 2000 inhabitants	3%				
Between 2.000 and 5.000 inhabitants	4.5%				
Between 5.000 and 10.000 inhabitants	6%				
Between 10.000 and 50.000 inhabitants	21%				
Between 50.000 and 200.000 inhabitants	23.5%				
Between 200.000 and 500.000 inhabitants	14%				
Between 500.000 and 1.000.000 inhabitants	9%				
Barcelona (City)	8%				
Madrid (City)	11%				

130. Distribution of Internet users according to their gender

	EGM (2001)	AIMC (2001)	eEspaña 2001 ¹³⁹	Telefónica (2001)	CIS (2001)
Male	61.1%	70.5%	62.8%	61%	
Female	38.9%	29.5%	37.2%	39%	

133. Evolution of difference in Internet use between genders (Male-Female percentages) (1997-2001)

EGM (2001)			
	% of male Internet users	% of female Internet users	Difference in Internet use between genders
1997	66.9%	33.1%	33.8
1998	70.4%	29.6%	40.8
1999	68%	32%	36
2000	62%	38%	24
2001	61.1%	38.9%	22.2
Total 1997 - 2001			-11.6

¹³⁹ eEspaña 2001 reports the same findings as EGM

134. Distribution of Internet users by their age

	EGM (2001)	AIMC (2001)	eEspaña 2001	Telefónica (2001)	CIS (2001)
< 14 years old			3.4%		
Between 14 – 19 years old	18.5%	9.3%			
Between 20 – 24 years old	19.8%	20.7%			
Between 25 – 34 years old	30.3%	38.6%			
Between 35 – 44 years old	19.4%	19.9%			
Between 45 – 54 years old	9%	8.8%			
Between 55 – 64 years old	NA	2.1%			
> 65 years old	NA	0.5%	0.7%%		
Doesn't know or doesn't answer	3%	0.2%			

136. Evolution of percentage of Internet users by their age (1997 – 2001)

EGM (2001)														
	% of 14-19 years old Internet users	% of 20-24 years old Internet users	% of 25-34 years old Internet users	% of 35-44 years old Internet users	% of 45-54 years old Internet users	% of 55-64 years old Internet users	% of >65 years old Internet users	Yearly growth rate of 14-19 Internet users (%)	Yearly growth rate of 20-24 Internet users (%)	Yearly growth rate of 25-34 Internet users (%)	Yearly growth rate of 35-44 Internet users (%)	Yearly growth rate of 45-54 Internet users (%)	Yearly growth rate of 55-64 Internet users (%)	Yearly growth rate of >65 Internet users (%)
1997	10.6%	19.5%	37.8%	24.5%	6.5%	1%	0.1%	-	-	-	-	-	-	-
1998	10.4%	21.2%	35.7%	18.2%	12.7%	1.4%	0.4%	-1.8	8.7	-5.5	-25.7	95.3	40	300
1999	10.1%	21.7%	34.1%	21.5%	9.7%	2.6%	0.3%	-2.8	2.3	-4.48	18.1	-23.6	85.7	-23
2000	13.4%	18.4%	37.1%	16.9%	10.2%	3.3%	0.8%	32.6	-15.2	8.7	-21.3	5.1	26.9	166
2001	18.5%	19.8%	30.3%	19.4%	9%	NA	NA	38	7.6	-18.3	14.7	-11.6	NA	NA
Total 1997 - 2001 ¹⁴⁰								74.5	1.5	-19.8	-20.8	38.4	230	700

137. Distribution of Internet users according to their marital status

AIMC (2001)	
Single	56.9%
Married	33.5%
Widow / Widower	0.4%
Divorced	2.9%
Lives with his / her couple (without marrying)	6.1%
Doesn't know or doesn't answer	0.3

138. Distribution of Internet users according to their educational level

AIMC (2001)	
No studies	0.3%
Primary education (EGB / ESO)	8.6%
Secondary education (BUP / FP)	38.7%
University degree	52.1%
Doesn't know or doesn't answer	0.3%

¹⁴⁰ Except in the groups “% of 55-64 years old Internet users” and “% of >65 years old Internet users”. in which the data are only available until the year 2000. so the value is in that case “Total 1997-2000”

140. Distribution of Internet users according to their social class

	EGM (2001)	AIMC (2001)	eEspaña 2001 ¹⁴¹	Telefónica (2001)	CIS (2001)
High class	18.6%				
High –medium class	26.7%				
Medium –medium class	39.7%				
Medium-low class	12.3%				
Low class	2.7%				

141. Evolution of Internet users according to their social class (1997 – 2001)

EGM (2001)										
	% of high class Internet users	% of high – medium class Internet users	% of medium – medium class Internet users	% of medium-low class Internet users	% of low class Internet users	Yearly growth rate of high class Internet users (%)	Yearly growth rate of high – medium class Internet users (%)	Yearly growth rate of medium – medium class Internet users (%)	Yearly growth rate of medium-low class Internet users (%)	Yearly growth rate of low class Internet users (%)
1997	26.8%	32.8%	28.7%	10.3%	1.4%	-	-	-	-	
1998	30.8%	28.2%	30.1%	7.6%	3.3%	14.9	-14	4.8	-26.2	135.7
1999	30.1%	27.5%	32.3%	9.1%	1.1%	-2.2	-2.4	7.3	19.7	-66.6
2000	23.7%	27.9%	37.6%	9.1%	1.7%	-21.2	1.4	16.4	0	54.5
2001	18.6%	26.7%	39.7%	12.3%	2.7%	-21.5	-4.3	5.5	35.1	58.8
Total 1997 - 2001						-30.5	-18.5	38.3	19.4	92.8

145. Distribution of Internet users according to their job

AIMC (2001)	
Work in his /her own business	13.6%
Work for a firm / organisation	56.3%
Student	24.5%
Housewife	1.1%
Doesn't work (retired. unemployed...)	4.2%
Doesn't know or doesn't answer	0.2%

Business firms and the Internet

147. % of business firms connected to the Internet according to their dimension (over the total of business firms)

Tecnologías SSI (2000)	
Between 0-2 employees	41%
Between 3-5 employees	50%
Between 6-9 employees	61%
Between 10-49 employees	73%
Between 50-249 employees	92%
More than 250 employees	99%

¹⁴¹ eEspaña 2001 reports the same findings as EGM

149. % of business firms with connection to the Internet according to their activity

Tecnologías SSI (2000)	
Industry	59%
Construction	41%
Commerce	43%
Rest of services	73%

4. THE NETWORK SOCIETY IN THE SPANISH REGIONS.

A commented summary of the evidence on the uses of Internet in Spanish Regions, 2000-2001

The data for the Spanish Regions are very similar to those reflected in the Spanish summary, but every Region has certain peculiarities.

The percentage of households connected to the Internet vary for every Region, being the differences among them quite significant. While in Navarra the studies reported 14.5% of households connected to the Internet for 2000, in Euskadi, the reported percentage is 23%¹⁴² for 2001. This difference is also reflected in the number of Internet users: in Navarra 18.5% of the population uses Internet, while in Euskadi the percentage of Internet users is 20.7%. The Region with the lowest percentage of Internet users is Castilla La Mancha (11,2%) (See Fig 9). The evolution of Internet users for the period 1997-2001 shows that there has been a high growth rate of Internet users¹⁴³. However, the current percentage of Internet users in every region is quite different. We could think the causes for these differences are the amount of population for each region or the technical development of it.

Fig 9 - % Persons connected to the Internet (% over total population)

Region	EGM (2001)	AIMC (2001)*
	% Persons connected to the Internet	% Persons connected to the Internet
Andalucía	16.6%	11.8%
Aragón	13.5%	2.8%
Asturias	19.1%	3.3%
Baleares	20.3%	1.8%
Canarias	17.5%	3.8%
Cantabria	15.6%	1.2%
Castilla y León	14.3%	5.6%
Castilla La Mancha	11.2%	2.8%
Catalunya	24.8%	21.1%
Comunidad Valenciana	20.1%	9.1%
Extremadura	13.7%	1.8%
Galicia	12%	4.7%
Madrid	22.8%	19.8%
Murcia	14.8%	2%
Navarra	18.5%	1.4%
País Vasco (Euskadi)	20.7%	5.9%
La Rioja	22.9%	0.7%
Ceuta y Melilla		0.2%
Doesn't know or doesn't answer		0.4%
Total	-	100%

* Percent distribution of the surveyed people. For this reason total is 100%

Taking a snapshot of one particular city, the study reporting data about a town in Murcia, Cieza, referring to the percentage of Internet users according to household dimension are very similar to Spain: the highest percentage of Internet users belongs to households where four people live (39%), while the lowest percentage refers to households with eight people (2%)¹⁴⁴. In addition, the household income clearly defines the percentage of Internet users: in La Rioja households with 210,000- 420,000 show the highest percentage of users (25.5%)¹⁴⁵, which represent the medium class. The age of Internet users also follows the trend in Spain: 48.8% of users in La Rioja are between 18 and 31 years old, and in Navarra 28% of users are between 15 and 24 years old¹⁴⁶.

¹⁴² See V.1c and V.1a

¹⁴³ See V.5

¹⁴⁴ See V.124

¹⁴⁵ See V.126

¹⁴⁶ See V.134a and V.134b

The gender distribution in the regions is also similar to Spain: in La Rioja 66.5% of Internet users are men, and 33.5% are women¹⁴⁷, while in Navarra the percentage for men is 61% and 39% for women¹⁴⁸. Regarding the educational level, the highest percentage of Internet users belongs to Internet users with an University degree: in Euskadi, 43.4% of the population¹⁴⁹ and La Rioja, 48.1% of Internet users¹⁵⁰. The exceptions are Navarra and Cieza (Murcia), where the percentage of Internet users with secondary education is the highest (41% of users in Navarra and 37% of the users in Cieza)¹⁵¹.

Once the socio-demographic features of Internet users have been stated, we have to study the typology of uses of the Internet. There is not much information about the Regions in this field in the several surveys. We only have data from Navarra and they are surprising because they do not show the general trend of the uses of the Internet in Spain. While in Spain the most important activity of Internet users is the search for information, in Navarra it is chat (44.8% of Internet users who connect from home do it), followed by the search for information (40.8% of Internet users who connect from home). We would like to have more information about what is the main activity of the Internet of users who connect from other places to check the importance of the Internet as an informational tool. It is also important the leisure/entertainment typology : 32.1% of Internet users in Navarra download music, which is similar to the situation in Spain (39.4% of Internet users)¹⁵².

Another relevant data is the percentage of mobile phone users. While in Navarra 43.6% of the population use a mobile phone, in Catalonia 77.3% of the population use it¹⁵³. It could be hypothesized that there is a positive correlation between the percentage of mobile users and the percentage of Internet users. However we need more information about the rest of the regions to check the hypothesis.

Place of connection and frequency of connection of Internet users have also to be taken into account. Like in Spain, the place where most Internet users connect is their household (21% of population in Euskadi and 55.9% of Internet users in Catalonia), followed by the place of work (15% of population in Euskadi and 36.6% in Catalonia). However, Navarra shows the opposite trend: the percentage of population who connect to the Internet from work is higher than the percentage of population who connect from household (9.8% the former and 14.9% the latter)¹⁵⁴. Regarding the frequency of connection, Internet users prefer to connect weekly both in Euskadi and in Murcia¹⁵⁵. In addition, the favourite days of the week for users to connect in Navarra are Saturday (64.2% of users) and Sunday (62.5%)¹⁵⁶. We could think that there is an increase of Internet use on the weekends due to the higher amount of free time of the user. However, it has to be pointed that the increase of Internet use in weekends does not necessarily mean that the Internet is mostly used as a leisure tool.

The information about use of on-line education by Internet users is very scarce. We only know the number of IT PhD and IT Degrees by Region. Catalonia offers the highest number of courses (133), while Extremadura, Cantabria and Navarra offer the lowest number of courses (2 courses every Region). We don't know the percentage of these IT PhD and IT Degrees which are offered on line¹⁵⁷.

Let's consider now the Public Administration sector. The percentage of Public Administration regional institutions with an accessible website report that the lowest percentage belongs to Cantabria (66.7%) and the highest belongs to Navarra (100%). However, we need to go further, because not all Regions have the same number of institutions, so the percentages may be a little tricky: it's easier for a Region to have a higher percentage if the number of institutions is lower (See Fig.10 to have a clearer idea of the actual situation)

Fig 10 - % of Public Administration institutions with an accessible website by Region

¹⁴⁷ See V.130b

¹⁴⁸ See V.130a

¹⁴⁹ See V.139a

¹⁵⁰ See V.139c

¹⁵¹ See V.139b and V.139d

¹⁵² See V.26

¹⁵³ See V.14a and V.14b

¹⁵⁴ See V.19a, V.19b and V.19c

¹⁵⁵ See V.16a and V.16b

¹⁵⁶ See V.24

¹⁵⁷ See V.116

eEspaña 2001			
Region	Total Public Administration institutions	Total Public Administration institutions with an accessible website	% of Public Administration institutions with an accessible website (% over the total)
Andalucía	79	58	73.4%
Aragón	7	5	71.4%
Asturias	10	7	70%
Baleares	13	12	92.3%
Canarias	25	17	68%
Cantabria	6	4	66.7%
Castilla-La Mancha	19	15	78.9%
Castilla y León	24	18	75%
Catalunya	86	77	89.5%
Ceuta	2	2	100%
Comunidad Valenciana	49	41	83.7%
Extremadura	11	9	81.8%
Galicia	23	18	78.3%
La Rioja	3	2	66.7%
Madrid	30	22	73.3%
Melilla	2	1	50%
Murcia	15	13	86.7%
Navarra	6	6	100%
País Vasco (Euskadi)	22	18	81.8%

The immediate question which arises is : what kind of e-information is available for the citizen on the Public Administration institutions websites? Of course, every institution has its own information, but in general 67% of the websites display information about public competition, followed by 63% of websites containing information about subventions. On the contrary, 34% of the websites display information about proceedings and only 32% about taxes (See Fig 11). What is curious is that if the second highest percentage of IT use inside Public Administration institutions is set in the tax management area (90% of IT use)¹⁵⁸, how can it be possible that the tax area is the one in which the citizen has the least possibilities of using IT? . It could be hypothesized that Public Administrations institutions use IT as an informational tool rather than an instrumental tool, maybe because the use of IT is not so much spread over the population or that the possibilities of reducing bureaucracy with IT are still unknown.

Fig 11 - % of e-information available for the citizen in the Public Regional Administrations

eEspaña 2001	
Competition for a job	67%
Subsidies	63%
Contest	62%
General information	60%
Application forms	57%
Publications	45%
Claims	38%
Proceedings	34%
Taxes	32%

As far as business firms are concerned, by 2000, the highest percentages of firms with Internet access was set in Madrid (68%), and Catalonia (64%), and the lowest in Extremadura (40%)¹⁵⁹. If we look at the percentage of Internet users by region, we see that there is a positive correlation between the percentage of Internet users and the percentage of firms with Internet access by region. It could be hypothesized that the higher use in firms the higher use in particular users and viceversa. Regarding the kind of use of Internet in firms, it is very similar to the use of particulars: the main purpose of Internet is the search for information

¹⁵⁸ See VT.98

¹⁵⁹ See V.53a

(74.2% of firms with Internet access in Navarra) and the use of e-mail (78% of firms with Internet access in Cieza and 91% of firms with access in Baleares). E-bank is also an important firm's use in Navarra, much more important than the particular's use (53.1% of firms use e-bank versus 24.5% of e-bank particular users in Navarra). However, the lowest percentage of Internet use of firms refer to e-commerce: 6.9% of firms in Navarra with Internet access purchase goods and services by the Internet, and only 3.9% of firms sale products¹⁶⁰. However, it should be interesting to have data concerning the incomes of e-commerce to hypothesize properly about the situation of e-commerce in every region. The data for the Regions show that the percentage of firms with e-commerce is still not very high, although the data for a region from different studies are significantly different (see Fig 12). The possible causes for the low percentage of firms with e-commerce, as in the Spain case, could be the few customers (43% of firms with e-commerce in Baleares report this statement as a medium problem for e-commerce)¹⁶¹ and the lack of security of Internet (21% of firms without e-commerce report this statement as a big barrier for e-commerce)¹⁶². However, it is very difficult to elaborate statements with so few data for Regions, but it could be said that e-commerce is still less spread than particular use, so firms should trust more in IT or there could be a digital divide between particular users and business firms regarding IT use.

Fig 12 - % of business firms with e-commerce by Regions

Region	eEspaña 2001		Tecnologías SSI (2000)
	% of business firms with e-commerce over firms with Internet presence	% of business firms with e-commerce over the total of business firms	% of business firms with e-commerce over the total of business firms
Andalucía	33.9%	10.5%	8%
Aragón	22.6%	9.6%	12%
Asturias	36.3%	11.9%	13%
Baleares	42%	16.5%	7%
Canarias	40.9%	8.2%	10%
Cantabria	29.7%	8.6%	16%
Castilla-La Mancha	28.4%	5.1%	15%
Castilla y León	8.5%	2.2%	10%
Catalunya	33%	10.9%	14%
Comunidad Valenciana	28.8%	9.6%	15%
Extremadura	41.4%	7.8%	5%
Galicia	25.4%	9.3%	14%
Madrid	46%	20.4%	23%
Murcia	51%	13.7%	13%
Navarra	18.6%	4.9%	4%
País Vasco (Euskadi)	20.5%	4.9%	4%
La Rioja	25.5%	5.6%	25%

In sum, the situation in Spanish Regions is quite similar to the situation in Spain at large, specially concerning the sociological features of particular users or the situation of e-commerce. However, the regions show significant differences in aspects such as the penetration rate. It has to be taken into account that every region has certain cultural, economic, and geographical peculiarities which make them different one from another, and these may also affect the use of the Internet. Indeed, we observe a difference in the rate of penetration between regions, and this difference is closely correlated with the level of economic development, and with the educational status of the population. In the Baleares the rate of penetration of Internet is lower than would correspond to their status as the wealthiest region of Spain. However, this is because of the fact that average income in the Baleares is inflated by the high concentration of income in the top 20% of the population of the islands. Overall, Catalonia and Madrid continue to signal their economic and educational preeminence, while the less developed regions of Spain (the Castillas, Galicia, Extremadura) lag in the diffusion of the Internet as they lag in most other indicators of development. Since the learning curve in the use of the Internet is dependent on the time of its adoption, it seems necessary a deliberate regional policy that would have the diffusion of Internet as an important feature of the strategy to reduce regional inequality in the information economy. An interesting example of this kind of regionally-based initiatives is the

¹⁶⁰ See V.56a,V.56b and V.56c

¹⁶¹ SeeV.72

¹⁶² See V.73

policy of the Comunidad de Murcia concerning the Ciez@net program for the city of Cieza. Otherwise there could be a danger of a growing digital divide between the Spanish Regions.

4.1. Tables on Spanish Regions (*)

(Organized by Variables)

(*) We have organized the tables according to the variables we have studied on the basis of available data. We have numbered the variables, given one number to each variable, as per the list of variables shown in the appendice of this working paper.

Thus, tables do not have numbers, variables do. Each number is unique for each variable. All data concerning the variable from various sources are included in the table characterizing each variable. However, since our study concerns three different contexts: Catalonia, Spain, and Spanish Regions, tables are presented in three different blocks at the end of each section of the paper. For each context, we continue to identify the variables by their unique number, but naturally the data for the same variable are different in each one of the three contexts, and so are the tables that share the same number of the end of the three sections.

In each table we have indicated the specific source for each one of the statistics displayed in the table. Statistics may differ and usually do. This is exactly the purpose of our study: to show the diversity of estimates for the same variable, referring the reader to the methodological note in appendice for her/him to evaluate the reliability of each one of the sources presented.

4.1.1. Internet use variables (Spanish Regions)

Access to Internet and use by households and persons in Spanish Regions

1. a) % Households in País Vasco connected to the Internet

OSIE (2001)	
% Households in País Vasco connected to the Internet	23%

1. b) % Households in La Rioja connected to the Internet

Fundación Riojana (2001)	
% Households in La Rioja connected to the Internet	19.1%

1. c) % Households in Navarra connected to the Internet

Instit. Estad. Navarra (2000)	
% Households in Navarra connected to the Internet	14.5%

1. d) % Households in Catalunya connected to the Internet

	Estadístiques SI (2001)	Òmnibus Municipal ¹⁶³ (2001)	Encuesta metropolitana (2000)
% Households in Catalunya connected to the Internet	27.1%	37.1%	23.2%

3. a) % Persons connected to the Internet (% over total population)

	EGM (2001)	AIMC (2001) ¹⁶⁴
Region	% Persons connected to the Internet	% Persons connected to the Internet
Andalucía	16.6%	11.8%
Aragón	13.5%	2.8%
Asturias	19.1%	3.3%
Baleares	20.3%	1.8%
Canarias	17.5%	3.8%
Cantabria	15.6%	1.2%
Castilla y León	14.3%	5.6%
Castilla La Mancha	11.2%	2.8%
Catalunya	24.8%	21.1%
Comunidad Valenciana	20.1%	9.1%
Extremadura	13.7%	1.8%
Galicia	12%	4.7%
Madrid	22.8%	19.8%
Murcia	14.8%	2%
Navarra	18.5%	1.4%
País Vasco (Euskadi)	20.7%	5.9%
La Rioja	22.9%	0.7%
Ceuta y Melilla		0.2%
Doesn't know or doesn't answer		0.4%
Total	-	100%

3. b) % Persons connected to the Internet in La Rioja (% over total population)

Fundación Riojana (2001)	
% Persons connected to the Internet	22.3%

¹⁶³ All the surveyed people in the Òmnibus Municipal study live in Barcelona

¹⁶⁴ % Distribution of the surveyed people. For this reason total is 100%

3. c) % Persons connected to the Internet in Navarra (%over total population¹⁶⁵)

Instit. Estad. Navarra (2000)	
% Persons connected to the Internet in Navarra	28.9 %

4. % Persons connected to the Internet in Catalunya over total population¹⁶⁶ (distributed by frequency of use.)

Estadístiques SI (2001)	
Occasionally	42.9%
Once or more times per month	35.4%
Once or more times per week	29.8%
Daily	14.4%

¹⁶⁵ Population aged 15 or more

¹⁶⁶ Population aged 15 or more

5. Evolution of percentage of persons connected to the Internet (1997 – 2001)

[illegible]

¹⁶⁷ Both eEspaña 2001 and Telefonica (2001) report data from the EGM (2001) source

6. Evolution of percentage of persons connected to the Internet¹⁶⁸ in Catalunya (distributed by frequency of use.) (2000-2001)

Estadístiques SI (2001)								
	Occasionally		Once or more times per month		Once or more times per week		Daily	
	% of persons connected to the Internet over total population	Growth rate (%)	% of persons connected to the Internet over total population	Growth rate (%)	% of persons connected to the Internet over total population	Growth rate (%)	% of persons connected to the Internet over total population	Growth rate (%)
2000	33.3%	-	24.8%	-	20.6%	-	10%	-
2001	42.9%	28.8	35.4%	42.7	29.8%	44.6	14.4%	44
Total 2000-2001		28.8		42.7		44.6		44

9. a) % Households in la Rioja with a computer

Fundación Riojana (2001)	
% Households with a computer	46.1%

9. b) % Households in Navarra with a computer

Instit. Estad. Navarra (2000)	
% Households in Navarra with a computer	42.9%

9. c) % Households in Catalunya with a computer

	Estadístiques SI (2001)/ Fundación Riojana (2001)	Ómnibus Municipal (2001)	Encuesta metropolitana (2000)
% Households with a computer	45.7%	57.9%	49.1%

14. a) % of mobile phone users in Navarra over total population

Instit. Estad. Navarra (2000)	
% of mobile phone users in Navarra	43.6%

14. b) % of mobile phone users over Catalan population

Estadístiques SI (2001)	
% of mobile phone users over Catalan population	77.3%

16. a) Distribution of Internet users according to their frequency of connection to the Internet in Cieza (Murcia) (% over Internet users)

Cieza (2000)	
Less than once a month	4%
Once a month	2%
Several times per month	12%
Several times per week	36%

¹⁶⁸ Over total population aged 15 or more

Less than once a day	11%
More than once a day	35%
Doesn't know/ doesn't answer	1%

16. b) Distribution of Internet users according to their frequency of connection to the Internet in País Vasco (% of persons over total surveyed people)

	Osie (2001)
Daily	10%
Every two or three days	8%
Once a week	12%
Never	7%
Doesn't know or doesn't answer	63%

19. a) % of Internet users by place of Internet connection in País Vasco (over total population)

	OSIE (2001)
Household	21%
Work	15%
University / Centre of studies	14%
Other / Doesn't know or doesn't answer	11%

19. b) % of Internet users by place of Internet connection in Navarra (over total population)

	Instit. Estad. Navarra (2000)
Household	9.8%
Work	14.9%
University / Centre of studies	52.1%

19. c) % of Internet users by place of Internet connection in Catalunya (over total Internet users)¹⁶⁹

	Estadístiques SI (2001)	Ómnibus Municipal (2001)	Terrassa (1999)
Household	55.9%	77.7%	46%
Work	36.6%	42.6%	23%
University / Centre of studies	21.4%	14.7%	13%
Public places /Administration	12.5%		
Other places	23.9%	3.6%	

23. Monthly average time of connection to the Internet in Navarra (Measured in days /month)

	Instit. Estad. Navarra (2000)
Monthly average time of connection to the Internet	16.2 days/month

24. Intensity of Internet use by day of the week in Navarra (% of Internet users over Internet users)¹⁷⁰

	Instit. Estad. Navarra (2000)
Monday	43.5%
Tuesday	43.3%
Wednesday	49.4%
Thursday	45.5%
Friday	52.5%
Saturday	64.2%
Sunday	62.5%

26. Distribution of Internet users in Navarra according to their kind of activity in the Internet (% of Internet users over Internet user who connect from home)

¹⁶⁹ The total sum of percentages is higher than 100% because many of the surveyed persons marked two or more answers

¹⁷⁰ The total sum of percentages is higher than 100% because many of the surveyed persons marked two or more answers

	Instit. Estad. Navarra (2000)
Bank services	24.5%
Newsgroups	24.5%
Search for information	40.8%
Chat	44.8%
Download music	32.1%
Download software	10%

38. % of Internet users in Navarra with a personal website (% over Internet users)

	Instit. Estad. Navarra (2000)
% Internet users in Navarra with a personal website	8.6%

E-business related uses by persons and households in Spanish Regions

40. Distribution of Internet shoppers in Navarra according to the product they shop on the Internet

	Instit. Estad. Navarra (2000)
Books / Magazines	6%
Cd's	7%
Journeys /Entertainment / Spare time /	5%
Hardware	4%
Software	3%
Electronic items	4%
Video /DVD	3%
Sportive clothes	1%
Information	1%
Financial services	2%
Tickets	7%

44. Distribution of Internet shoppers in Navarra according to the mode of payment on the Internet

	Instit. Estad. Navarra (2000)
Credit card	51.7%
Debit card	4.6%
Payment upon reception	19.9%
Bank charge	2.7%
Other	21.2%

Internet access and uses by business firms in Spanish Regions

53. a) % of business firms with Internet access

	Tecnologías SI (2000)
Region	% business firms connected to the Internet
Andalucía	45%
Aragón	45%
Asturias	43%
Baleares	54%
Canarias	63%
Cantabria	44%
Castilla y León	42%
Castilla La Mancha	52%

Catalunya	64%
Comunidad Valenciana	61%
Extremadura	40%
Galicia	52%
Madrid	68%
Murcia	52%
Navarra	52%
País Vasco (Euskadi)	41%
La Rioja	61%

53. b) % of business firms in Baleares with Internet access

IBIT (2001)	
% of business firms in Baleares with Internet access	60%

53. c) % of business firms in Navarra with Internet access

Instit. Estad. Navarra (2000)	
% of business firms in Navarra with Internet access	46.1%

53. d) % of business firms in Catalunya with Internet access¹⁷¹

	Estadístiques SI (2001) ¹⁷²	Tecnologías SI (2000)	Terrassa 1999
Access to the Internet	83.8%	64%	40.9%
Not access to the Internet	16.2%	36%	59.1%

55. Distribution of business firms in Baleares connected to the Internet by year of website presence

IBIT (2001)	
Less than a year	31%
1 year	30%
2 years	22.5%
3 years	11.5%
>3 years	5%

56. a) Distribution of business firms in Navarra with Internet connection according to the kind of use of the Internet

Instit. Estad. Navarra (2000)	
Sales of goods and services	3.9%
I+D	12.5%
Chats / Newsgroups	12.5%
Training	13%
Automatisation of production / distribution	20%
Purchase of goods and services	6.9%
Deal with Public Administration	16%
Access to data base of customers	20%
Advertising and marketing	29%
Downloading programs	31%
Access to data base of purveyors	33%
Information of business firms	41.9%
Get information from Public Administration	44.6%
e-bank	53.1%
Search for information	74.2%

¹⁷¹ In the Bellmore Consulting (2000) study the percentage is 100% because this study is made to business firms with e-commerce

¹⁷² The data refer to business firms of 10 or more employees

56. b) Distribution of business firms in Cieza (Murcia) with Internet connection according to the kind of use of the Internet

Ciezanet (2001)	
e-mail	78%
Information	56%
Read digital press	18%
Relation with the customer	50%
e-commerce sales	12%
Banks. Treasure	56%

56. c) Distribution of business firms in Baleares with Internet connection according to the kind of use of the Internet

IBIT (2001)	
e-mail	91%
Surfing the Internet	49.5%
B2C commerce	14.5%
B2B commerce	4%

59. a) % of business firms in Baleares connected to the Internet with a website

IBIT (2001)	
% of business firms with a website	30.5%

59. b) % of business firms in Navarra connected to the Internet with a website

Institut. Estad. Navarra (2000)	
% of business firms with a website	9.6%

59. c) % of business firms in Catalunya connected to the Internet with a website¹⁷³

	Estadístiques SI (2001)	Terrassa 1999
With a website	49.9%	17.5%
Without a website	50.1%	82.5%

60. a) Distribution of business firms in Baleares with a website according to the kind of use of their webpage

IBIT (2001)	
Intranet	3%
Extranet	1%
B2B commerce	4%
B2C commerce	14.5%
Product information	28%
Business firm's information	35%

60. b) Distribution of business firms in Catalunya with a website according to the kind of use of their webpage

Bellmore Consulting (2000)	
Give information of their products / services	81.6%
Interact with the customer	39.3%
Transactions	20.9%

¹⁷³ In the Bellmore Consulting (2000) study the percentage is 100% because this study is made to business firms with e-commerce

65. % of business firms with e-commerce by Regions

Region	eEspanya 2001 ¹⁷⁴		Tecnologías SSI (2000)
	% of business firms with e-commerce over firms with Internet presence	% of business firms with e-commerce over the total of business firms	% of business firms with e-commerce over the total of business firms
Andalucía	33.9%	10.5%	8%
Aragón	22.6%	9.6%	12%
Asturias	36.3%	11.9%	13%
Baleares	42%	16.5%	7%
Canarias	40.9%	8.2%	10%
Cantabria	29.7%	8.6%	16%
Castilla-La Mancha	28.4%	5.1%	15%
Castilla y León	8.5%	2.2%	10%
Catalunya	33%	10.9%	14%
Comunidad Valenciana	28.8%	9.6%	15%
Extremadura	41.4%	7.8%	5%
Galicia	25.4%	9.3%	14%
Madrid	46%	20.4%	23%
Murcia	51%	13.7%	13%
Navarra	18.6%	4.9%	4%
País Vasco	20.5%	4.9%	4%
La Rioja	25.5%	5.6%	25%

66. Distribution best sold products on the Internet by Regions (% of business firms which sale every kind of product)

Eespaña 2001 ¹⁷⁵													
Region	Food	Drinks	Domestic shopping	Electronic	Learning	Hardware	Books	Spare time	Software	Accommodation booking	Trip booking	Clothes	Other products
Andalucía	26.6%									27.3%			
Aragón	24%										27.9%		
Asturias			22.5%						12.7%	72.1%			
Baleares										37.8%	55.1%		
Canarias				53.2%									44.6%
Cantabria										19.5%			26.9%
Castilla-La Mancha				19.5%									
Castilla y León		52.1%		41.7%									
Catalunya					25.8%		25.8 %						
Comunidad Valenciana	41.6%											12.5%	
Extremadura									16.6%				58%
Galicia	30.4%									37%			
Madrid				29.4%									
Murcia						76.9%			76.9%				
Navarra								29.7 %		29.7%			
País Vasco							32.6 %		32.6%				
La Rioja	14.5%			20.5%									

¹⁷⁴ Original source (AECE 2000)

¹⁷⁵ Original source: AECE (2000)

69. Percent distribution of business firms in Balears with a website according to the total annual costs of the maintenance of their B2C

IBIT (2001)	
< 250.000 ptas	28.5%
251.000 – 500.000	14.5%
500.001 – 1.000.000 pts	7%
1.000.001 – 5.000.000 pts	14.5%
5.000.000 pts	5%
Doesn't know or doesn't answer	31%

72. Distribution of business firms in Balears with B2C e-commerce according to the main problems they have to sell their products on the Internet (Distributed by evaluation of the problem)

IBIT (2001)				
	Big problem	Medium problem	No problem	Doesn't know
Transport	0%	5.5%	63%	31.5%
Cash	0%	8.5%	83%	8.5%
Few customers / demand	0%	43%	51.5%	6.5%
High costs	3%	17%	71.5%	8.5%
Technology	0%	23%	71.5%	5.5%
Communication network	5.5%	37%	51.5%	5.5%
Technical security	3%	23%	65.5%	8.5%
Legal security	0%	3%	88.5%	8.5%
Purveyor	0%	20%	74.5%	5.5%

73. Distribution of business firms in Balears connected to the Internet according to their main barriers for e-commerce (Distributed by size of the problem)

IBIT (2001)				
	Big problem	Medium problem	No problem	Doesn't know
Internet is not secure	21%	28%	32%	18.5%
Few customers use Internet	18.5%	33%	31%	17.5%
Lack of knowledge / qualification	15.5%	32.5%	48%	4%
My products are difficult to classify	8.5%	12%	77%	2.5%
Transport problems	6%	11%	59.5%	24%
Not good service providers in Balears	7.5%	15.5%	23.5%	53.5%
Expensive implementation	4.5%	13.5%	65%	17%
I need partners	3.5%	18.5%	62%	16.5%

75. Distribution of business firms in Navarra which do not sell their products on-line according to their reasons for not selling their products on-line

Instit. Estad. Navarra (2000)	
Preference for the current model	60.6%
The customers are not ready	28.8%
It is not necessary	23.3%
The employees are not trained	19.3%
Lack of incentives	18.1%
Lack of public finance	17%

Internet uses of Public Administration & Health Organizations in Spanish Regions

97. % of Public Administration institutions with an accessible website by Region

eEspaña 2001			
Region	Total Public Administration institutions	Total Public Administration institutions with an accessible website	% of Public Administration institutions with an accessible website (% over the total)
Andalucía	79	58	73.4%

Aragón	7	5	71.4%
Asturias	10	7	70%
Baleares	13	12	92.3%
Canarias	25	17	68%
Cantabria	6	4	66.7%
Castilla-La Mancha	19	15	78.9%
Castilla y León	24	18	75%
Catalunya	86	77	89.5%
Ceuta	2	2	100%
Comunidad Valenciana	49	41	83.7%
Extremadura	11	9	81.8%
Galicia	23	18	78.3%
La Rioja	3	2	66.7%
Madrid	30	22	73.3%
Melilla	2	1	50%
Murcia	15	13	86.7%
Navarra	6	6	100%
País Vasco (Euskadi)	22	18	81.8%

98. % of IT use in the different management areas of the Public Regional Administrations

eEspaña 2001 ¹⁷⁶	
Accountant / Financial	91%
Tax /public finance	90%
Human Resources	87%
Economy	85%
Social welfare	78%
Employment	78%
Agriculture. Fishing	76%
Health	76%
Education	76%
Public attention	73%
Transport	72%
Public works	71%
Urbanismo y vivienda	68%
Environment	68%
Commerce	65%
Shopping	60%
Tourism	58%
Culture and sports	52%

99. % of e-information available for the citizen in the Public Regional Administrations

eEspaña 2001 ¹⁷⁷	
Competition for a job	67%
Subsidies	63%
Contest	62%
General information	60%
Application forms	57%
Publications	45%
Claims	38%
Proceedings	34%
Taxes	32%

100. Evaluation of the effectiveness of the IT impact in the Public Regional Administrations

eEspaña 2001 ¹⁷⁸

¹⁷⁶ Original source: Paloma Sánchez & others

¹⁷⁷ Original source: Paloma Sánchez & others

¹⁷⁸ Original source: Paloma Sánchez & others

Better public attention	73%
Better internal communication	71%
Better external knowledge of the AC ¹⁷⁹	68%
Reduction of time spent in the management and resolution of proceedings	64%
Better management of the AC competences	64%
Better quality of the social services offered by the AC Administration	62%
Better information about citizens	58%
Better information about purveyors	54%
Better tax collection	53%
Expenses reduction	50%
Promotion of employment in the Public Administration	44%
Self-learning	40%

101. Evaluation of the importance of the barriers to IT penetration in the Public Regional Administrations

eEspaña 2001 ¹⁸⁰	
Problems derived from the organisational structure of the AC	46%
High purchasing costs	43%
High maintenance costs	40%
Quickly old fashioned equipment	38%
It is not strategical for the AC	33%
Distrust in IT	28%
Lack of employee qualification	28%
Difficult use of the hardware/software	27%
Refusal of the employees	25%
Language problems	25%
Problems with the IT purveyors	23%
Network limitations	22%
Lack of information about equipment, services and possibilities	16%

106. % of town halls of towns with more than 20.000 inhabitants according to the accessibility of their webpage (Distributed by Regions)

eEspaña 2001			
Region	Total town halls	Total town halls with an accessible website	% of town halls with an accessible website (% over the total)
Andalucía	62	42	67.7%
Aragón	3	1	33.3%
Asturias	8	5	62.5%
Baleares	9	8	88.9%
Canarias	16	9	56.3%
Cantabria	3	1	33.3%
Castilla-La Mancha	13	9	69.2%
Castilla y León	14	9	64.3%
Catalunya	45	39	86.7%
Ceuta	1	1	100%
Comunidad Valenciana	42	34	81%
Extremadura	7	5	71.4%
Galicia	18	13	72.2%
La Rioja	1	1	100%
Madrid	24	16	66.7%
Melilla	1	1	100%
Murcia	12	10	83.3%
Navarra	3	3	100%
País Vasco (Euskadi)	17	13	76.5%

¹⁷⁹ AC stands for Autonomous Communities

¹⁸⁰ Original source: Paloma Sánchez & others

Access and use of on-line education by Internet users in Spanish Regions

116. Number of IT PhD . IT masters degrees and IT professional degrees by Region

eEspaña 2001				
Region	Number of institutions	Number of PhD	Number of Masters	Number of professional degrees
Andalucía	3	-	3	1
Asturias	1	2	-	-
Baleares	1	-	2	-
Canarias	1	2	-	-
Cantabria	1	-	1	-
Catalunya	13	8	41	71
Extremadura	1	-	1	-
Galicia	3	4	3	3
Madrid	12	10	15	13
Navarra	1	-	1	-
País Vasco (Euskadi)	1	-	1	1
C.Valenciana	4	27	4	1
Zaragoza	2	1	-	2

4.1.2. Demographical and sociological variables of Internet users (Spanish Regions)

Persons and households

127. Distribution of Internet users in Cieza (Murcia) according to household dimension (% over all households with access to the Internet)

Ciezanet (2000)	
Households with 1 person	0%
Households with 2 persons	6%
Households with 3 persons	12%
Households with 4 persons	39%
Households with 5 persons	28%
Households with 6 persons	9%
Households with 7 persons	4%
Households with 8 persons	2%

126. Distribution of Internet users in La Rioja according to income levels per household (% over all Internet users)

Fundación Riojana (2001)	
Households with income levels of less than 125,000 ptas/month	1%
Households with income levels of 125.001-210,000 ptas./month	11.5%
Households with income levels of 210.001-420,000 ptas./month	25.5%
Households with income levels of more than 420,000 ptas/month	2.9%
Doesn't know or doesn't answer	59.1%

128. Distribution of Internet users in Navarra according to city / town dimension

Instit. Estad. Navarra (2000)	
Less than 1.000 inhabitants	3%
Between 1,000 – 5,000 inhabitants	16%
Between 5,001 – 20,000 inhabitants	8%
More than 20,000 inhabitants	3%
Pamplona and surrounding towns	71%

130. a) Distribution of Internet users in Navarra according to their gender (% over Internet users)

Instit. Estad. Navarra (2000)	
Male	61%
Female	39%

130. b) Distribution of Internet users in La Rioja according to their gender (% over Internet users)

Fundación Riojana (2001)	
Male	66.5%
Female	33.5%

130. c) Distribution of Internet users in Cieza (Murcia) according to their gender (% over Internet users)

Ciezanet (2000)	
Male	50%
Female	49%

131. a) % of Internet users in País Vasco according to their gender (% over total population)

Osie (2001)	
Male	33.2%

Female	23.1%
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131. b) % of Internet users in Catalunya according to their gender (% over total population)

	Estadístiques SI (2001)	Ómnibus municipal (2001)
Male	38.3%	48.7%
Female	21.8%	31.4%

134. a) Distribution of Internet users in País Vasco by their age (Distributed by frequency of use) (% over Internet users)

	Osie (2001)		
	Daily	Every two or three days	Once a week
Between 18 – 24 years old	16.7%	18.9%	23.7%
Between 25 – 34 years old	12.4%	11.6%	19.6%
Between 35 – 49 years old	12.9%	7.7%	12%
Between 50 – 64 years old	6.2%	3.4%	4.7%
> 65 years old	1.6%	0.6%	0.9%

134. b) Distribution of Internet users in Navarra by their age (% over Internet users)

	Instit. Estad. Navarra (2000)
Between 15 – 24 years old	28%
Between 25 – 34 years old	25%
Between 35 – 44 years old	26%
Between 45 – 54 years old	12%
Between 55 – 64 years old	6%
> 65 years old	2%

134. c) Distribution of Internet users in La Rioja by their age (% over Internet users)

	Fundación Riojana (2001)
Between 18 – 31 years old	48.4%
Between 32 – 45 years old	28.8%
Between 46 – 59 years old	17.3%
> 60 years old	5.4%

134. d) Distribution of Internet users Cieza (Murcia) by their age (% over Internet users)

	Ciezanet (2000)
<17 years old	23%
Between 18 – 29 years old	30%
> 30 years old	47%

135. % of Internet users in Catalunya by their age (% over total population)

	Estadístiques SI (2001) ¹⁸¹
Between 15 –24 years old	64.8%
Between 25 – 39 years old	44.4%
Between 40 – 54 years old	20.6%
>55 years old	3.4%

	Ómnibus municipal (2001)
Between 16 –24 years old	73.9%
Between 25 – 34 years old	66.1%
Between 35 – 44 years old	53.6%
Between 45 – 54 years old	44.2%

¹⁸¹ The data refer to weekly Internet users

Between 55 – 64 years old	19.4%
> 65 years old	3.5%

139. a) % of Internet users in País Vasco according to their educational level (% over total population)

OSIE (2001)	
No studies	2.4%
Primary education (EGB / ESO)	5.5%
Secondary education (BUP / FP)	25.2%
University degree	43.4%

139. b) % of Internet users in Navarra according to their educational level (% over total Internet users)

Instit. Estad. Navarra (2000)	
No studies	
Primary education (EGB / ESO)	22%
Secondary education (BUP / FP)	41%
University degree	38%

139. c) % of Internet users in La Rioja according to their educational level (% over total Internet users)

Fundación Riojana (2001)	
No studies	0%
Primary education (EGB / ESO)	11.6%
Secondary education (BUP / FP)	40.3%
University degree	48.1%

139. d) % Internet users in Cieza (Murcia) according to their educational level (% over Internet users)

Ciezanet (2000)	
No studies	3%
Primary education (EGB / ESO)	30%
Secondary education (BUP / FP)	37%
University degree	30%

139. e) % Internet users in Catalunya according to their educational level (% over total population)

	Estadístiques SI (2001) ¹⁸²	Terrassa 1999
No studies	5.3%	0%
Primary education (EGB / ESO)	10.8%	7%
Secondary education (BUP / FP)	50.9%	23%
University degree	60.5%	52%

143. Distribution of Internet users in Navarra according to their cultural / geographical origin

Instit. Estad. Navarra (2000)	
Pamplona	73%
North	7%
Center	7%
South	12%

144. % of weekly Internet users in Catalunya according to their cultural / geographical origin (% over total population)

Estadístiques SI (2001)	
Barcelona	32.4%

¹⁸² In the Estadístiques SI (2001) study the Internet users are weekly Internet users

Girona	18%
Lleida	21.3%
Tarragona	24.9%

145. Distribution of Internet users in Navarra according to their job

Institut. Estad. Navarra (2000)	
Work in his /her own business	14%
Work for a firm / organisation	48%
Student	21%
Unemployed	7%
Doesn't work	1%
Housewife	6%
Retired	2%
Other situations	1%

146. % of weekly Internet users in Catalunya according to their job (% over total population)

Estadístiques SI (2001)	
Work in his /her own business	39.9%
Work for a firm / organisation	39.9%
Student	70.4%
Unemployed	20.5%
Housewife	
Retired	

Business firms

148. % of business firms in Balears with a website according to their dimension (over the total of business firms)

IBIT (2001)	
Between 6-10 employees	17%
Between 11-25 employees	28%
Between 26-50 employees	44%
Between 50-250 employees	50%

150. % of business firms in Balears with a website according to their activity

IBIT (2001)	
Food	23%
Shoes / Leather / Fashion	35%
Pearls / Jewelry	33.5%
Wood	15%

5. METHODOLOGICAL NOTE

5.1. Procedure followed in the elaboration of this analytical summary

The first step was to identify available surveys and studies on the use of Internet in Spain and Spanish Regions for the period 2000-2001, and in the case of Catalonia, for the period 1999-2001. We decided to study only this period because prior to 1999 the level of diffusion of Internet was so low that the meaning of the data were not relevant for the analysis of current trends. Therefore, we have not analyzed studies that did not extend their data base until 1999/2000. However when analyzing studies for the period 1999/2001 we included in our analysis the earliest possible point in time in the statistical series. The sources included in this summary were studies published in the world wide web, as well as studies, in all formats, produced by public institutions and private firms which gave us their permission to process the data.

Once we collected available studies, we examined their methodology and selected the studies that would be taken into consideration in our analysis. We discarded some studies because of serious concerns about their reliability.

We differentiated studies and surveys according to territorial criteria: Spain, Spanish Regions, and Catalonia, dealing with them as separate units. Then, we defined a list of variables. The variables were identified from the studies, selecting the variables that bore the most relevant information to analyse the current situation of the penetration of the Internet in Spain, Regions and Catalonia. In addition, the variables were categorised according to the kind of IT user: households and persons, business firms, Public Administration and Health Organisations. A non IT user category was also considered: infrastructures. The final result was the differentiation of the variables into two main categories: "Internet use variables" and "Demographical and sociological variables of Internet users", both of them applied to the different IT user groups and territorial units.

The second step was to design a table for each of the variables and to compute the data from the studies, so that all the values for a variable from the different studies could be easily compared. Although in some cases various studies presented very different results for the same variable, we still included all in the table because the reliability the sources had previously been assessed. Therefore the discrepancy must be explained rather than overlooked.

Finally, we elaborated a summary with the most relevant information from the different studies. We have made an effort to analyse the meaning of the data, and not only to present descriptive statistics. This paper would like to be a modest contribution to understand the current situation of the diffusion and uses of Internet in Catalonia and in Spain but we are aware of the limits of our effort and of the difficulties ahead.

5.2. Description of Studies & Surveys included in the Data Base

5.2.1. List of Studies

Spain (includes also some data on Catalonia)

- CIS [Centro de Investigaciones Sociológicas]: *Barómetro de Septiembre de 2001 (Estudio 2429)*
- CIS [Centro de Investigaciones Sociológicas]: *Barómetro de Septiembre de 2000 (Estudio 2398)*
- AIMC [Asociación para la Investigación de los Medios de Comunicación]: *Navegantes en la red: Cuarta encuesta AIMC a usuarios de Internet*
- Fundación Retevisión-Auna : *España 2001: Informe anual sobre el desarrollo de la Sociedad de la Información en España*
- Telefónica : *La Sociedad de la Información en España : Perspectiva 2001-2005*

- Comisión del Mercado de las Telecomunicaciones: *2º estudio sobre la presencia de las entidades españolas en Internet: Encuesta a dominios “.es”*
- AIMC *Estudio General de Medios: Datos Generales de Usuarios de Internet en España*
- AECE [Asociación Española de Comercio Electrónico]: *Resumen del Estudio sobre Comercio Electrónico B2B en España*
- AECE: *Resumen del Estudio sobre Comercio Electrónico @ECE B2C*
- DMR Consulting, SEDISI [Asociación Española de Empresas de Tecnología de la Información]: *Las Tecnologías de la Sociedad de la Información en la Empresa Española 2000*
- SEDISI: *Métrica de la Sociedad de la Información: Metodología*

Regions

- FUNDARCO [Fundación Riojana para la Sociedad del Conocimiento]: *Resultados del Observatorio Riojano de la Sociedad de la Información de Junio 2001,*
- Instituto de Estadística de Navarra: *Estadísticas de la Sociedad de la Información en Navarra*
- OSIE [Observatorio de la Sociedad de la Información en Euskadi]: *Resultados del Observatorio de la Sociedad de la Información en Euskadi (Mayo 2001)*
- Fundación Integra: *Estudio sociológico del proyecto Ciez@net*
- IBIT [Fundació de les Illes Balears per a la Innovació Tecnològica]: *El comerç electrònic en les Illes Balears: Un enfocament real*

Catalonia

- Secretaria per a la Societat de la Informació: *Estadístiques de la Societat de la Informació Catalunya 2001*
- Secretaria per a la Societat de la Informació: *Estadístiques de la Societat de la Informació Catalunya 2000*
- Fundació Jaume Bofill, Universitat Oberta de Catalunya: *3r informe del Projecte Astrolabi: L'ús de les TIC per part de l'alumnat*
- Institut Municipal d'Informàtica : *Òmnibus municipal: juny 2001*
- BellMoore Consulting, COPCA [Consorci de Promoció Comercial de Catalunya] : *El comerç electrònic en l'empresa catalana: Products and Services from Catalonia*
- Institut d'Estudis Regionals i Metropolitans de Barcelona: *Enquesta sobre les condicions de vida i hàbits de la població de la Regió Metropolitana de Barcelona*
- Ajuntament de Terrassa-Foment de Terrassa S.A : *Síntesis del Estudi OEST, Noves tecnologies i desenvolupament local: Terrassa davant el repte dels futurs tecnològics*

5.2.2. Characteristics of each study

Note: In the following paragraphs we will be summarizing the characteristics of each study that we have integrated in our data base, providing the exact reference of the study, describing its area of application, and outlining the main features of the methodology used in the study. We will not critically comment on the methodology of each study, leaving this task to the reader, on the basis of the elements that we propose in this summary. The fact that we have included a study in our data base means that we think its findings are worth considering. However, it does not imply that we judge its methodology rigorous enough to be fully convinced of the validity of the findings. It is only through the critical assessment of the community of researchers on the Internet that we will be able to reach a more accurate knowledge of our field of research in the near future. In order to minimize the distance between the original presentation of their methodology in the studies themselves and our synthetic presentation here, we have kept the Spanish language writing in this methodological section.

Spain (Includes also some data on Catalonia)

- CIS [Centro de Investigaciones Sociológicas]: *Barómetro de Septiembre de 2001 (Estudio 2429)*, world wide web, <http://www.cis.es/baros/frame.html>
 - **Ámbito de aplicación de los datos**
Población española de 18 años o más.
 - **Representatividad de la muestra**
Muestra representativa de la población objeto de estudio
 - **Descripción de la base de datos del estudio**
Los datos cuantitativos se muestran en tablas con el porcentaje de españoles que se incluyen para cada uno de los supuestos. Los datos no van acompañados de ningún gráfico ni texto explicativo. Debido a que el barómetro mide varios indicadores de la sociedad española el uso de Internet es uno más, por lo que los datos que hacen referencia a este tema son escasos y de tipo general.
 - **Metodología de obtención de la base de datos del estudio**
Ámbito: Nacional. Se incluyen las provincias insulares y se excluyen Ceuta y Melilla.
Universo: Población española de ambos sexos de 18 años y más.
Tamaño de la muestra: Diseñada: 2.500 entrevistas. Realizada: 2.488 entrevistas.
Afijación: Proporcional.
Ponderación: No procede.
Puntos de Muestreo: 168 municipios y 48 provincias.
Procedimiento de muestreo: Polietápico, estratificado por conglomerados, con selección de las unidades primarias de muestreo (municipios) y de las unidades secundarias (secciones) de forma aleatoria proporcional, y de las unidades últimas (individuos) por rutas aleatorias y cuotas de sexo y edad.
Los estratos se han formado por el cruce de las 17 comunidades autónomas con el tamaño de hábitat, dividido en 7 categorías: menor o igual a 2.000 habitantes; de 2.001 a 10.000; de 10.001 a 50.000; de 50.001 a 100.000; de 100.001 a 400.000; de 400.001 a 1.000.000, y más de 1.000.000 de habitantes.
Los cuestionarios se han aplicado mediante entrevista personal en los domicilios.
Error muestral: Para un nivel de confianza del 95,5% (dos sigmas), y $P = Q$, el error es de ± 2 para el conjunto de la muestra y en el supuesto de muestreo aleatorio simple.
Fecha de realización: Del 13 al 18 de Septiembre de 2001.

- CIS [Centro de Investigaciones Sociológicas] (2000) : *Barómetro de Septiembre de 2000 (Estudio 2398)*, world wide web, <http://www.cis.es/baros/mar2398.htm>
 - **Ámbito de aplicación de los datos**
Población española de 18 años o más.
 - **Representatividad de la muestra**
Muestra representativa de la población objeto de estudio
 - **Descripción de la base de datos del estudio**
Los datos cuantitativos se muestran en tablas con el porcentaje de españoles que se incluyen para cada uno de los supuestos. Los datos no van acompañados de ningún gráfico ni texto explicativo. Debido a que el barómetro mide varios indicadores de la sociedad española el uso de Internet es uno más, por lo que los datos que hacen referencia a este tema son escasos y de tipo general.
 - **Metodología de obtención de la base de datos del estudio**
Ámbito: Nacional. Se incluyen las provincias insulares y se excluyen Ceuta y Melilla.
Universo: Población española de ambos sexos de 18 años y más.
Tamaño de la muestra: Diseñada: 2.500 entrevistas. Realizada: 2.498 entrevistas.
Afijación: Proporcional.
Ponderación: No procede.
Puntos de Muestreo: 168 municipios y 47 provincias.
Procedimiento de muestreo: Polietápico, estratificado por conglomerados, con selección de las unidades primarias de muestreo (municipios) y de las unidades secundarias (secciones) de forma aleatoria proporcional, y de las unidades últimas (individuos) por rutas aleatorias y cuotas de sexo y edad.
Los estratos se han formado por el cruce de las 17 comunidades autónomas con el tamaño de hábitat, dividido en 7 categorías: menor o igual a 2.000 habitantes; de 2.001 a 10.000; de 10.001 a 50.000; de 50.001 a 100.000; de 100.001 a 400.000; de 400.001 a 1.000.000, y más de 1.000.000 de habitantes.
Los cuestionarios se han aplicado mediante entrevista personal en los domicilios.
Error muestral: Para un nivel de confianza del 95,5% (dos sigmas), y $P = Q$, el error es de ± 2 para el conjunto de la muestra y en el supuesto de muestreo aleatorio simple.
Fecha de realización: Del 23 al 27 de Septiembre de 2000.
- AIMC [Asociación para la Investigación de los Medios de Comunicación] (2001): *Navegantes en la red: Cuarta encuesta AIMC a usuarios de Internet*, world wide web, <http://www.aimc.es/aimc/html/inter/macro2001.pdf>
 - **Ámbito de aplicación de los datos**
Hábitos de uso de los internautas que visitan *sítes* españoles
 - **Representatividad de la muestra**
Según el propio estudio la muestra no es estadísticamente representativa.
 - **Descripción de la base de datos del estudio**
Los datos cuantitativos muestran el valor absoluto y el porcentaje de usuarios para cada una de las opciones posibles de las preguntas realizadas. El estudio muestra un epígrafe, donde se sintetiza la variable, y a continuación se reproduce la pregunta tal y como ha sido

realizada al entrevistado. No hay ningún comentario sobre las tablas con los resultados, aunque en algunas de las preguntas se adjunta un gráfico de barras o sectorial, además de la tabla con los valores.

➤ Metodología de obtención de la base de datos del estudio

Universo objetivo: Usuarios de Internet que visitan *sítes* españolas.

Cuestionario: Se tomó como punto de partida el utilizado en la edición anterior, y hubo una reelaboración del mismo con la intención de cubrir todos los aspectos de presumible interés. Además de la castellana, se confeccionaron versiones del cuestionario en catalán, gallego y euskera. En la presentación del cuestionario se mencionó el carácter no comercial de la investigación y el compromiso de AIMC de hacer públicos los resultados de los datos en Internet

Sítes colaboradores: El cuestionario no sólo era accesible desde la página de AIMC, sino que hubo 163 *sítes* que colaboraron con AIMC colocando un *banner* de llamada y acceso a la encuesta (Véase el estudio original para obtener la relación de colaboradores). El número de entrevistas suministrada por cada *site* no sólo depende del tráfico que tiene, sino del posicionamiento del *banner* en la página.

Muestreo: El método de colocar un *banner* de llamada a la encuesta en un número amplio de *sítes*, y, al mismo tiempo, divulgar la existencia del estudio a través de distintos medios de comunicación, no responde a los requisitos del muestreo probabilístico.

Fecha de recogida: La encuesta estuvo activa en la red desde el 23 de Abril hasta el 12 de Junio de 2001.

Tamaño de muestra: Se recogieron un total de 51.272 cuestionarios. Después de ser sometidos a un proceso de revisión y validación, la muestra útil final a efectos de tabulación de resultados fue de 43.942.

Incentivo a la colaboración: A los participantes en el estudio se les ofreció participar en un sorteo con premios como un ordenador portátil o agendas electrónicas, donados por una empresa privada.

- Fundación Retevisión-Auna (ed.) (2001): *España 2001: Informe anual sobre el desarrollo de la Sociedad de la Información en España*, Madrid, Fundación Retevisión-Auna

➤ Dirección operativa y coordinación del informe

Sr. Andrés Font

➤ Ámbito de aplicación de los datos

Diversos sectores y actividades que conforman la sociedad española, a nivel estatal o a nivel autonómico. Se establece una comparación de los datos a nivel internacional. Por otro lado, el informe incluye los hábitos y el grado de uso de las TIC de colectivos como el del usuario particular, las empresas, la Administración Central del Estado, las Administraciones Autonómicas o los ayuntamientos. Respecto a las actividades que el informe contempla, destaca la eFormación, la eEconomía o la desarrollada por la eAdministración.

➤ Representatividad de la muestra:

No es posible verificar la representatividad de los datos tomados de fuentes preexistentes a partir de la información proporcionada en el informe. En el caso de los estudios originales realizados para este informe se sostiene su representatividad, excepto en el apartado de eFormación y eAdministración

➤ Descripción de la base de datos del estudio

Los datos son cuantitativos y tienen dos fuentes diferenciadas: en su gran mayoría surgen de estudios preexistentes tanto a nivel nacional (EGM, AIMC, AECE, Baquía Inteligencia...) como a nivel internacional (Forrester Research, OCDE, INRA Europe...). La otra fuente se

refiere a los ámbitos en los que la información previa era escasa: en ese caso se han hecho encuestas y estudios *ex profeso* para la ocasión. Hay una reelaboración de algunos de los valores obtenidos.

Por otro lado, el estudio hace una descripción elaborada de los datos contenidos en el informe, llegando a formular diversas conclusiones y propuestas para un futuro cercano a partir de los mismos. Al final del libro un capítulo denominado “Evaluación final” presenta de forma resumida las principales ideas y datos contenidos en el estudio.

➤ Metodología de obtención de la base de datos del estudio

En el caso de los estudios previamente existentes, el estudio no facilita la metodología utilizada para la obtención de los datos originales, pues el volumen de información sería considerable. Si se desea saber como se han obtenido los datos originales es necesario remitirse a las fuentes explicitadas en la bibliografía del informe.

En el caso de estudios realizados por terceros para Retevisión sobre algún tema en el que la existencia de fuentes previas era escasa, la metodología seguida para cada estudio es la siguiente:

Estudio sobre las Tecnologías de la Información y Comunicaciones en la empresa

Universo: Empresas representantes de los 16 distintos sectores económicos, de acuerdo con la Clasificación Nacional de Actividades Económicas

Fecha de recogida: Durante el mes de Octubre y primera quincena de Noviembre de 2000

Tamaño de la muestra: Se realizaron 600 entrevistas dirigidas al responsable de las TIC de cada empresa, o en su defecto, a la persona responsable más próxima dentro del ámbito directivo de la empresa.

Para garantizar la representatividad estadística de la encuesta se realizó un diseño muestral polietápico estratificado, con afijación de la muestra en cada estrato, y con selección aleatoria final de la empresa encuestada dentro de cada uno de los estratos definidos. Para la formación de los estratos se utilizaron tres variables de clasificación:

- La mencionada de los 16 distintos sectores económicos, de acuerdo con la Clasificación Nacional de Actividades Económicas. Estos 16 sectores se agruparon en cuatro ámbitos productivos constituidos de la siguiente manera:
 - o Sectores de Alta Tecnología: farmacia, maquinarias de oficina y cálculo, productos electrónicos
 - o Sectores de Media tecnología: productos de alimentación y bebidas, minería, vidrio, cerámica, azulejos, maquinaria eléctrica
 - o Sectores de Baja Tecnología: edición, artes gráficas, industria textil, cuero y calzado
 - o Sectores de Servicios: seguros, viajes, informática, ingeniería
- La distribución territorial tomando el total de las 17 Comunidades Autónomas
- El tamaño de las empresas, en función del número de empleados, en función de los siguientes criterios de clasificación:
 - o Pequeñas: De 1 a 50 empleados
 - o Medianas: De 51 a 250 empleados
 - o Grandes: Más de 251 empleados

Como resultado de cruzar estas tres variables, el diseño y selección muestral tuvo en cuenta 816 estratos.

Los resultados alcanzados cuentan con un error, para los datos globales, del $\pm 4\%$, y con un nivel de confianza de 2σ (95,5% de probabilidades de que la estimación de los datos se ajuste a la realidad).

Estudio a Ayuntamientos sobre Tecnologías de la Información y las Comunicaciones

Universo: Ayuntamientos españoles

Diseño de la muestra: Distribución teórica que contempla como variable las CCAA y cuatro cortes de hábitat:

- Municipios de menos de 5.000 habitantes
- Municipios entre 5.000 y 10.000 habitantes
- Municipios entre 10.001 y 20.000 habitantes
- Municipios de más de 20.000 habitantes

Fecha de recogida: Febrero 2001

Metodología: Entrevista telefónica

Tamaño de la muestra: Se seleccionaron 825 municipios mediante un procedimiento proporcional estratificado y de forma aleatoria. Se realizaron 631 entrevistas

Error máximo: $\pm 3,5\%$ ($P=Q=0,5$), para un nivel de confianza del 95,5% (2σ)

Estudio eFormación

Universo: Páginas web a las cuales se accedió mediante enlaces encontrados al realizar búsquedas sobre "Formación virtual" y "Formación online"

Fecha de recogida: 18 Abril 2001-3 Mayo 2001

Metodología: Observación directa de las webs

Tamaño de la muestra: Se seleccionaron 295 organizaciones que ofrecen formación online, pero sólo se pudieron analizar 162.

Estudio eAdministración

Universo: Administraciones públicas recogidas en la página web del Ministerio de Administraciones Públicas y ayuntamientos de todos los municipios españoles de más de 20.000 habitantes

Fecha de recogida: Febrero 2001- Marzo 2001

Metodología: Observación directa de las webs

Tamaño de la muestra: 466 webs

- Telefónica (ed.) (2001): *La Sociedad de la Información en España : Perspectiva 2001-2005*, Madrid, Telefónica
 - Equipo de trabajo

Sr. José Antonio Adell Hernani, Sr. Octavio Martinez-Albelda, Sr. Daniel Palomo Bueno, Sra. Montserrat Pardo Bayona, Sra. Yolanda Pradas Bertomeu, Sra. M. Belén Rodríguez Esteban, Sra. Mercedes Temboury Redondo
 - Ámbito de aplicación de los datos

Los datos mostrados en la primera parte del informe son de aplicables a usuarios de Internet (particulares, empresas, administraciones públicas), infraestructuras, contenidos y entorno a nivel estatal, autonómico o internacional. En la segunda parte del informe, los datos son aplicables a los mismos sectores de la primera parte, aunque en este caso el ámbito geográfico de aplicación queda restringido a España.
 - Representatividad de la muestra

No es posible verificar la representatividad de los datos tomados de fuentes preexistentes a partir de la información proporcionada en el informe. Respecto a los datos obtenidos con el método Delphi, la metodología seguida asume la representatividad social, más que estadística, de las opiniones de expertos en el área investigada.
 - Descripción de la base de datos del estudio

Los datos tienen dos fuentes, una por cada parte en la que se divide el estudio. La primera parte trata la situación actual de la Sociedad de la Información en España, comparándose alguna de las variables con la situación de las mismas en otros países. Se ha recurrido a información contenida en estudios ya existentes tanto a nivel nacional (EGM, AIMC, AECE...) como a nivel internacional (NetValue, EITO...). En alguno de los casos se da una reelaboración de los datos originales, de tipo cuantitativo. Los valores más relevantes se acompañan de un gráfico. Al final de la primera parte existe un capítulo denominado "Conclusiones sobre la Sociedad de la Información en 2001" en el que se presentan de forma resumida las principales ideas y datos contenidas en la primera parte del estudio. La segunda parte del estudio, tiene por objeto ofrecer una panorámica sobre la evolución de la Sociedad de la Información en España hasta el 2005: cómo va a producirse y en qué plazos. Lógicamente, los valores contenidos en estas variables son en su mayoría, pero no exclusivamente, cualitativos, ya que recogen el grado de conformidad de los expertos respecto a una afirmación.

➤ Metodología de obtención de la base de datos del estudio

Para los estudios previamente existentes, el estudio no facilita la metodología utilizada para la obtención de los datos originales, pues el volumen de información sería considerable. Si se desea saber como se han obtenido los datos originales es necesario remitirse a la fuente original, explicitada en la bibliografía del informe

En referencia a los datos de la segunda parte, denominada *Perspectiva 2001-2005*, se ha recurrido al método Delphi. Este procedimiento consiste en la consulta, mediante una serie de cuestionarios, a un conjunto de expertos para recoger sus opiniones, y suele aplicarse para integrar visiones de futuro sobre materias relacionadas con la tecnología.

Los expertos no trabajan físicamente juntos, sino que cada uno de ellos opina por escrito sin que el resto de los otros participantes conozca sus opiniones personales. El número de rondas de cuestionario es variable dependiendo de la materia que se vaya a tratar, aunque para este estudio se han realizado dos. El procedimiento del método Delphi es el siguiente: se selecciona un número de expertos elevado para garantizar un número de conclusiones representativas, ya que se sabe positivamente que no todos continuarán el proceso hasta el final, y se les reparte el cuestionario. Una vez contestado, ellos lo remiten al organismo que les ha encuestado para su procesado. En una segunda ronda, cada encuestado recibe un nuevo cuestionario exacto al que contestó la vez anterior e información estadística de lo que han respondido el resto de miembros del panel junto con un recordatorio de su opinión. En esta segunda ronda el experto puede confirmar o modificar sus opiniones, y en el caso de apartarse de lo que opina la media tiene que expresar el porqué de sus ideas. Las conclusiones obtenidas mediante el método Delphi no tienen por qué ser uniformes, pues indican el valor medio de las respuestas y, al mismo tiempo las opiniones que se separan y las que soportan a la opinión general.

- Comisión del Mercado de las Telecomunicaciones (2001): *2º estudio sobre la presencia de las entidades españolas en Internet: Encuesta a dominios ".es"*, world wide web, <http://www.cmt.es/cmt/index2.html>¹⁸³

➤ Ámbito de aplicación de los datos

Empresas españolas que tienen presencia en Internet con dominio principal ".es", aunque eso no excluye a las empresas con dominios o subdominios adicionales al ".es".

➤ Representatividad de la muestra

El estudio no busca la representatividad de la muestra.

➤ Descripción de la base de datos del estudio

¹⁸³ En este link a la página de la Comisión del Mercado de las Telecomunicaciones se encuentra el 3º estudio sobre la presencia de las entidades españolas en Internet: *Encuesta a dominios ".es"*, pues desde la CMT ha actualizado la información desde que se inició este estudio.

Los datos cuantitativos muestran el valor absoluto y el porcentaje de usuarios para cada una de las opciones posibles de las preguntas realizadas. El estudio muestra un epígrafe, donde se sintetiza la variable, y a continuación se reproduce la pregunta tal y como ha sido realizada al entrevistado. No hay ningún comentario sobre las tablas con los resultados, aunque en algunas de las preguntas se adjunta un gráfico de barras o sectorial, además de la tabla con los valores. Previamente a las principales conclusiones se facilita un informe ejecutivo en el que se reflejan de forma resumida y descriptiva los datos más destacados.

➤ Metodología de obtención de la base de datos del estudio

Universo objetivo: Dominios ".es" que verifiquen:

1. Página web activa o en proceso de construcción.
2. La entidad propietaria del dominio no es un proveedor de acceso a Internet (ISP).

Tipo de entrevista: Autoadministrada a través de Internet.

Cuestionario: Se ha diseñado un cuestionario en HTML que cubre razonablemente los objetivos del estudio. Es un cuestionario personalizado ya que, al entrevistado se le muestra los datos relacionados con el propio dominio que aparecen en la base de datos del "Es-nic".

Proceso: Para llevar a cabo la realización del estudio, la Comisión del Mercado de las Telecomunicaciones (CMT) proporcionó a AIMC la base de datos que posee el "Es-nic" relativa a los dominios ".es" dados de alta entre Agosto y el 8 de Diciembre de 2000. En ella aparecía, para cada dominio (además de datos relativos a la entidad propietaria) el nombre y el e-mail del contacto administrativo.

Tras colocar el formulario en Internet, se envió un correo electrónico a la persona de contacto de cada dominio, informándole de la puesta en marcha del estudio y solicitándole su colaboración rellenando el cuestionario. En el e-mail también se comunicaba una clave exclusiva que cada dominio tenía. Antes de acceder a la encuesta había que introducirla, de manera que, al comienzo del cuestionario se mostraban los datos que el "Es-nic" poseía referidos al dominio en cuestión. Más adelante, a aquellos dominios para los que se recibió respuesta se les enviaron dos recordatorios en los que, nuevamente, se rogaba la participación en la encuesta. Las fechas de los envíos de los distintos mensajes fueron las siguientes:

E-mail explicativo: 15-16 Febrero 2001
1 er Recordatorio: 27 Febrero 2001
2º Recordatorio: 12-13 Marzo 2001

El fichero facilitado por la CMT contenía un total de 4.142 dominios. En 60 casos no se disponía del e-mail del contacto administrativo, por lo que no se entró en contacto con ellos. Por otro lado, como puede apreciarse en el cuadro siguiente, hubo direcciones de correo electrónico que fueron devueltas y que, por tanto, no llegaron a su destinatario.

	Absolutos	%
BASE (dominios con e-mail)	4.082	100.0
Llegaron los 3 correos electrónicos enviados	3.325	81.5
Llegaron 2	105	2.6
Llegó 1	31	0.8
No llegó ninguno	621	15.2

Tamaño muestral: La muestra útil a efectos de tabulación de resultados fue de 363 entrevistas.

Fecha de recogida: La encuesta estuvo activa en la red desde el 15 de Febrero hasta el 25 de Marzo de 2001.

- AIMC [Asociación para la Investigación de los Medios de Comunicación] (2001): *Estudio General de Medios: Datos Generales de Usuarios de Internet en España, world wide web*, <http://www.aui.es/estadi/egm/iegm.htm>

➤ **Ámbito de aplicación de los datos**

Población española de 14 o más años.

➤ **Representatividad de la muestra**

Muestra representativa de la población española de 14 o más años

➤ **Descripción de la base de datos del estudio**

Los datos cuantitativos muestran el valor absoluto y/o el porcentaje de usuarios que se incluyen para cada uno de los supuestos. El estudio muestra la evolución de los datos más relevantes desde el año 1996, año en el que el Estudio General de Medios empezó a investigar el grado de penetración de Internet en España, hasta el 2001. También se contempla la segmentación por CCAA. El estudio se realiza tres veces al año y no muestra el cuestionario realizado sino un epígrafe que sintetiza la variable. Las tablas con los datos más relevantes son acompañadas por gráficos de barras o de líneas, a los que se accede a través de un *link*. No hay ningún texto descriptivo de los datos, únicamente se hace una análisis de un gráfico en el que se muestra la posible evolución del número de usuarios de Internet en España hasta el 2006.

➤ **Metodología de obtención de la base de datos del estudio**

Universo objetivo: Población española de 14 o más años (34.818.000 individuos)

Tipo de entrevista: Entrevista personal

Tamaño muestral: Muestra anual de las tres últimas olas: 43.939 entrevistas. Muestras de la última ola: 14.591 entrevistas. La muestra es probabilística y representativa de la población española de 14 o más años.

Diseño muestral: Selección aleatoria de hogares y elección de una persona en el hogar.

- AECE [Asociación Española de Comercio Electrónico] (2001): *Resumen del Estudio sobre Comercio Electrónico B2B en España*, world wide web, <http://www.aece.org/docs/1.pdf>

➤ **Ámbito de aplicación de los datos**

Business to Business (B2B) en España, entendiendo como tal cualquier forma de proceso comercial entre empresas, cuyo objetivo final es la compra-venta de bienes o servicios basada en la comunicación telemática de información.

➤ **Representatividad de la muestra**

El estudio no busca la representatividad de la muestra

➤ **Descripción de la base de datos del estudio**

Los datos cuantitativos muestran el valor absoluto y/o el porcentaje de empresas que se incluyen para cada uno de los supuestos. No se incluyen las tablas con los resultados obtenidos, puesto que estos están incluidos en el gráfico ilustrativo. El estudio reproduce las preguntas tal y como han sido formuladas. En la parte inferior de cada gráfico se facilita un texto que resalta el valor del dato más destacado de la variable.

➤ **Metodología de obtención de la base de datos del estudio**

Ámbito: Nacional

Universo : 36.375 empresas. Los criterios de selección del universo han sido:

- Empresas de 2 o más empleados
- Empresas con facturación superior a 350 millones
- Se excluye el sector primario

- Se incluyen 7 sectores y 36 subsectores según clasificación de la CNAE¹⁸⁴

Muestra: 3.460 empresas Los criterios de selección de la muestra han sido:

- Estratégica
- El tamaño de muestra asignado a cada sector o subsector está en relación con la contribución del sector al PIB y de un número mínimo de entrevistas por sector.

Metodología: Entrevistas telefónicas asistidas por ordenador. Sistema CATI- Bellview

Error máximo: +/- 2,1% para un nivel de confianza del 95,5% (2 σ)

Periodo: Abril – Mayo 2001

- AECE [Asociación Española de Comercio Electrónico] (2001): *Resumen del Estudio sobre Comercio Electrónico @ECE B2C*, world wide web, <http://www.aece.org/docs/3.pdf>

➤ **Ámbito de aplicación de los datos**

Business to Consumer (B2C) en España, que abarca todas aquellas relaciones de las empresas con el consumidor final.

➤ **Representatividad de la muestra**

Según el informe se asume la representatividad de la muestra sobre la población objeto de estudio

➤ **Descripción de la base de datos del estudio**

Los datos cuantitativos muestran el valor absoluto y/o el porcentaje de usuarios o empresas que se incluyen para cada uno de los supuestos. No se incluyen las tablas con los resultados obtenidos, puesto que estos están incluidos en el gráfico ilustrativo. El estudio reproduce las preguntas tal y como han sido realizadas al encuestado. Al principio de cada una de las secciones (usuarios o empresa) se facilita un pequeño resumen de los resultados más relevantes del estudio, y después de cada gráfico un texto que resalta el valor del dato más destacado de la variable.

➤ **Metodología de obtención de la base de datos del estudio**

Debido a que han sido dos los grupos estudiados, usuarios y empresas, es necesario mencionar la ficha técnica de ambos.

Ficha técnica usuarios

Universo : Población General mayor de 18 años. (32.500.000)

Muestra: 4200.Estratificada por C.C.A.A.

Selección: Aleatoria

Metodología: Entrevistas telefónicas asistidas por ordenador. Sistema CATI

Error máximo: +/- 1,5% para un nivel de confianza del 95,5%

Periodo: Febrero – Marzo 2001

Ficha técnica empresas

Universo : 847.500 empresas de 2 o más empleados.

Muestra: 4200.Estratificada por C.C.A.A.

Selección: Aleatoria

Metodología: Entrevistas telefónicas asistidas por ordenador. Sistema CATI

Error máximo: +/- 1,5% para un nivel de confianza del 95,5%

Periodo: Febrero – Marzo 2001

¹⁸⁴ Para mayor detalle véase el estudio original

- DMR Consulting, SEDISI [Asociación Española de Empresas de Tecnología de la Información] (2000) : *Las Tecnologías de la Sociedad de la Información en la Empresa Española 2000*, Madrid, Ed SEDISI, DMR Consulting
 - **Ámbito de aplicación de los datos**

Empresas activas en España. El término “empresas” en este contexto engloba a las sociedades mercantiles inscritas en el Registro Mercantil, y no incluye a las personas físicas que realizan algún tipo de actividad empresarial. Geográficamente, también hay una segmentación por Comunidades Autónomas. Finalmente hay varios indicadores en los que se establece una comparación con otros países de la Unión Europea.
 - **Representatividad de la muestra**

Se asume la representatividad de la muestra sobre la población objeto de estudio.
 - **Descripción de la base de datos del estudio**

Los datos cuantitativos muestran el porcentaje de empresas que se incluyen para cada uno de los supuestos. No se incluyen las tabla con los resultados obtenidos, puesto que estos están incluidos en el gráfico ilustrativo. Los gráficos están insertados entre medio de un texto explicativo donde se describen los datos más relevantes, y aunque no incluyen las preguntas realizadas al encuestado, al final del documento existe un anexo donde se muestra el cuestionario completo. Por otro lado, a partir de los datos se construyen una serie de indicadores y se analiza el significado de los mismos, con el fin de mostrar de manera representativa el grado de penetración de las TI en las empresas españolas.
 - **Metodología de obtención de la base de datos del estudio**

Ámbito: Nacional. Se incluyen las provincias insulares y se excluyen Ceuta y Melilla.
Universo: Sociedades inscritas en el Registro Mercantil
Tamaño de la población: 932.713 empresas (Fuente: INE – DIRCE 2000)
Tamaño de la muestra: 2.343 entrevistas.
Procedimiento de muestreo: Se han seleccionado empresas distribuidas por número de asalariados, Comunidad Autónoma y sector. Los cuestionarios se han realizado mediante entrevista telefónica.
Coeficientes de ponderación: Por tamaño de empresa expresado en número de asalariados.
Error muestral: Para un nivel de confianza del 95,5% y $P = Q$, el error es de $\pm 1\%$ para el conjunto de la muestra y en el supuesto de muestra aleatoria simple.
Fecha de realización: De Junio de 2000 hasta Diciembre de 2000.
- SEDISI [Asociación Española de Empresas de Tecnología de la Información] (2000): *Métrica de la Sociedad de la Información: Metodología*, Madrid, Centro de Publicaciones del Ministerio de Industria y Energía. También disponible en world wide web, http://www.sedisi.es/05_Estudios/metrica.zip
 - **Ámbito de aplicación de los datos**

Cualquier indicador que pueda incluirse dentro de los parámetros que conforman la Sociedad de la Información en España. El estudio también incluye los valores de los indicadores para Estados Unidos y para el resto de países de la Unión Europea como punto de referencia para analizar la situación en España.
 - **Descripción de la base de datos del estudio**

Este estudio facilita una serie de indicadores para medir el grado de penetración de la Sociedad de la Información en España. Para cada indicador se facilita una definición del

mismo, las fuentes de donde se han obtenido los valores cuantitativos (AIMC, CMT, EITO, OCDE...), y un comentario con una descripción del valor numérico del indicador y del peso que ese indicador tiene para la medida del grado de implantación de la Sociedad de la Información en España. El dato se muestra en una tabla, junto a un gráfico ilustrativo, comparando los diferentes valores con los de Estados Unidos y otros países de la Unión Europea. Algunos indicadores únicamente facilitan la definición y el comentario, y no su valor numérico pues no hay ninguna fuente previa que haya contemplado ese indicador. Finalmente, existe dentro del estudio un apartado de conclusiones donde hay algunos indicadores provenientes de la elaboración de datos secundarios de distintas fuentes. También en este apartado se acompaña al valor numérico y al gráfico con un texto explicativo.

➤ Metodología de obtención de la base de datos del estudio

El primer paso, una vez acordados los contenidos a tratar, fue redactar un documento de carácter interno, en el que se resumió el marco conceptual de la cuestión y los enfoques teóricos publicados sobre la Sociedad de la Información y sus posibles trayectorias. Al mismo tiempo, se procedió a un minucioso trabajo de documentación y búsqueda de fuentes de referencia

De esa fase surgió un documento de discusión, en el que se plasmaba el tratamiento que de la Sociedad de la Información han hecho organismos internacionales y los principales países industrializados, con especial énfasis en los puntos de vista europeos. Ese documento, que incluía una tabla provisional, resumen de los indicadores que cada referencia consideraba relevantes, fue entonces sometido a un proceso de discusión, al que fueron invitados expertos de distintos orígenes y competencias.

Un primer *Focus Group*, con representantes de empresas miembros de SEDISI, estaba orientado a recoger los puntos de vista de la industria. El segundo *Focus Group* reunió a expertos de las AAPP.

Por otra parte, el equipo redactor mantuvo una serie de entrevistas personales, con personal técnico del INE, EOI, SGAE, Secretaría General de Comunicaciones y el Ministerio para las Administraciones Públicas todos los cuales aportaron sus opiniones sobre el documento preliminar. El resultado de este proceso, que culminó con una nueva ronda documental, es el texto del estudio.

Regions

- FUNDARCO [Fundación Riojana para la Sociedad del Conocimiento] (2001): *Resultados del Observatorio Riojano de la Sociedad de la Información de Junio 2001*, world wide web, <http://www.conlared.com/orsi/1estudio.htm>

➤ Ámbito de aplicación de los datos

Población riojana mayor de 18 años. También se muestran datos importados de otros estudios que hacen referencia a Cataluña, España o la Unión Europea, con el fin de mostrar la posición de La Rioja respecto a estos lugares.

➤ Representatividad de la muestra

No es posible verificar la representatividad de los datos tomados de fuentes preexistentes a partir de la información proporcionada en el informe. Tampoco es posible verificar la representatividad de los datos originales

➤ Descripción de la base de datos del estudio

Los datos cuantitativos muestran el porcentaje de usuarios que se incluyen para cada uno de los supuestos. El estudio facilita un índice con diferentes epígrafes que sintetizan la variable. El acceso a los valores numéricos se hace mediante un *link*, que abre una página en la que se reproduce la pregunta tal y como ha sido realizada al entrevistado, y a continuación un gráfico de barras o sectorial en el que se muestran los porcentajes

obtenidos para cada una de las preguntas. Los datos no son acompañados por ningún texto explicativo de los mismos, aunque al final del estudio los autores del mismo hacen una valoración descriptiva y resumida de los valores obtenidos. También se utilizan datos de otras fuentes ya existentes, aunque no es posible saber su fuente original.

➤ Metodología de obtención de la base de datos del estudio

El estudio no indica la metodología utilizada para la obtención de los datos. Por la forma de presentar los mismos se intuye que los valores numéricos se han obtenido mediante un cuestionario, pero no se puede verificar si ese cuestionario ha sido realizado telefónicamente o mediante entrevista personal. Lo único que es posible saber es que la población sobre la que se ha realizado el estudio es mayor de 18 años.

- Instituto de Estadística de Navarra (2001): *Estadísticas de la Sociedad de la Información en Navarra*, world wide web, http://www.cfnavarra.es/estadistica/soc_info/inforcol_defi.pdf

➤ Responsable

Sr. Iosu Ardaiz Loyola

➤ Ámbito de aplicación de los datos

Hogares, individuos, empresas y Administración Pública de Navarra. Hay indicadores que permiten comparar la posición relativa de Navarra respecto a España y otros países de la Unión Europea.

➤ Representatividad de la muestra

No es posible verificar la representatividad de los datos tomados de fuentes preexistentes a partir de la información proporcionada en el informe. El estudio sostiene la representatividad de los datos originales de la muestra en el sector “usuario y hogares”, y la no representatividad para el sector “administración”.

➤ Descripción de la base de datos del estudio

Los datos se presentan en forma de tablas estadísticas que presentan el contenido de la información tanto en valores absolutos como en porcentajes horizontales y verticales. Junto a los datos, se introduce un texto descriptivo de los mismos acompañado de gráficos para su mejor comprensión. El estudio no reproduce la pregunta tal y como ha sido realizada al encuestado, aunque al final del estudio se incluye un anexo con los cuestionarios realizados. Se utilizan fuentes previamente existente (Eurostat, CMT, AC Nielsen, DMR SEDISI) para comparar la situación de Navarra con la de España, o la de España con la de otros países del mundo.

➤ Metodología de obtención de la base de datos del estudio.

En el caso de los estudios previamente existentes, el estudio no facilita la metodología utilizada para la obtención de los datos originales, pues el volumen de información sería considerable. En referencia a los datos originales del estudio, hay diferentes cuestionarios, cada uno con una metodología propia, según el grupo estudiado

Ficha técnica hogares y usuarios

Ámbito: Provincia de Navarra.

Universo: Población residente en Navarra de 15 o más años

Tamaño de la población: 460.481 personas (Fuente: Rectificación Patronal) / 156.185 hogares

Tamaño de la muestra: 1.870 entrevistas.

Procedimiento de muestreo: Los cuestionarios se han realizado mediante entrevista personal, seleccionándose los hogares a partir de rutas aleatorias y los individuos a través de cuotas de edad y sexo. Dentro del hogar se selecciona al individuo que va a contestar al cuestionario de forma aleatoria, según cuotas de edad y sexo y tratando de que la población estudiante y ocupada esté suficientemente representada. El cuestionario contiene preguntas que se refieren al equipamiento del hogar (como el número de aparatos de TV, etc.) y otras dirigidas al individuo (equipamiento y uso, por ejemplo, del teléfono móvil...). Esto hace que a la hora de tabular los resultados, unos estén en la categoría de hogar y otros en la de individuo. Asimismo, dado que el acceso a Internet se realiza en muchos casos tanto desde el hogar como desde los centros de trabajo o estudio, el cuestionario se ha estructurado de tal forma que el individuo deba contestar sobre la utilización que hace en cada lugar. Esto proporciona una visión que permite identificar comportamientos diferentes según el lugar de acceso.

Error muestral: Para un nivel de confianza del 95% y $P = Q$, el error es de $\pm 2,3\%$ para el conjunto de Navarra.

Fecha de realización: 15 de Marzo hasta 10 de Abril de 2001

Ficha técnica empresas

Ámbito: Comunidad Foral de Navarra.

Universo: Empresas de un empleado o más en Navarra (excluyendo a la Administración)

Tamaño de la población: 19.575 empresas

Tamaño de la muestra: 1.035 entrevistas.

Procedimiento de muestreo: Los cuestionarios se han realizado de manera mixta, a través de correo y teléfono. Además en el pliego de cláusulas se indicó la necesidad de realizar encuestas a través de Internet, siendo este método muy poco utilizado.

Para definir la muestra se utilizaron dos variables: la actividad de la empresa y el tamaño de ésta, atendiendo al número de trabajadores.

Error muestral: Para un nivel de confianza del 95% y $P = Q$, el error es de $\pm 3\%$

Fecha de realización: 15 de Marzo hasta 3 de Mayo de 2001

Ficha técnica Administración

Debido a la dificultad de encuestar a la Administración Pública por sus especiales características, muchas de ellos comunes con las empresas multilocalizadas, se optó por un sistema de recogida de información mixto: por un lado se buscaba recabar datos cuantitativos que permitieran la comparación con el resto de actividades económicas y por otro, a través de una entrevista personal, recoger las impresiones de los trabajadores sobre el equipamiento y uso.

El resultado no ha permitido cumplir con las expectativas planteadas aunque ha marcado las pautas de actuación para las siguientes operaciones.

- OSIE [Observatorio de la Sociedad de la Información en Euskadi] (2001): *Resultados del Observatorio de la Sociedad de la Información en Euskadi (Mayo 2001)*, world wide web, http://www.ehu.es/cpvweb/paginas/euskobar_osie.html

➤ Ámbito de aplicación de los datos

Población mayor de 18 años de la Comunidad Autónoma del País Vasco. También hay indicadores que permiten comparar la posición relativa del País Vasco de la Sociedad de la Información respecto a España o a otros países de la Unión Europea

➤ Representatividad de la muestra

No es posible verificar la representatividad de los datos tomados de fuentes preexistentes a partir de la información proporcionada en el informe. Tampoco es posible verificar la representatividad de los datos originales

➤ Descripción de la base de datos del estudio

Los datos cuantitativos muestran el porcentaje de usuarios que se incluyen para cada uno de los supuestos. Los valores no se muestran en tablas, sino que están insertados dentro de un texto enumerativo de los mismos y se acompañan de un gráfico sectorial o de barras (los gráficos están al final del estudio, no junto al texto que señala el dato que representan). Al final del estudio existe un apartado de conclusiones en el que se muestran resumidos los valores numéricos más relevantes del mismo. Por otro lado, también se utilizan datos de otras fuentes ya existentes (CIS, EGM., Eurobarómetro...) para mostrar la posición relativa del País Vasco respecto a otros ámbitos geográficos.

➤ Metodología de obtención de la base de datos del estudio

El estudio no indica la metodología utilizada para la obtención de los datos. Por la forma de presentar los mismos se intuye que los valores numéricos se han obtenido mediante entrevista, pero no se puede verificar esta ha sido realizada telefónicamente o personalmente. Tampoco se tiene acceso al cuestionario de la entrevista. Lo único que es posible saber es que la población sobre la que se ha realizado el estudio es mayor de 18 años.

• Fundación Integra (2000) : *Estudio sociológico del proyecto Ciez@net*

➤ Equipo de trabajo

D. Juan José García Escribano, D. Juan Luis Chillón Corbalán, D. Juan Ortín García, D. Francisco Hernández Gómez, D^a. Sara Oñate Martínez, D^a. M^a del Pilar García Fernández

➤ Ámbito de aplicación de los datos

Población del municipio de Cieza, Molina de Segura y Yecla (Murcia), independientemente de que se hayan acogido al Proyecto [Ciez@net](#) o no. Empresas, asociaciones e instituciones acogidas al Proyecto [Ciez@net](#). También se hace referencia a educación y cultura.

➤ Representatividad de la muestra

El informe sostiene la representatividad del estudio realizado a usuarios particulares y empresas.

➤ Descripción de la base de datos del estudio

Los datos cuantitativos y cualitativos han surgido de dos fuentes: de varios sondeos y de la recopilación de material documental de varias instituciones colaboradoras en el proyecto [Ciez@net](#). Los datos, ya sean valores absolutos o porcentajes, no son presentados mediante tablas o gráficos, sino que forman parte de un texto redactado en el que no sólo se hace una descripción de los mismos sino que también se analiza su significado y sus implicaciones. Los cuestionarios están disponibles en un anexo.

➤ Metodología de obtención de la base de datos del estudio

Diferentes cuestionarios, cada uno con una metodología propia, según el grupo estudiado.

Entrevistas a testigos

Universo: Personas significadas por su relación con el Proyecto objeto de la investigación, ya sea desde la participación como miembros del equipo coordinador y de seguimiento, ya por jugar un papel de especial relevancia desde alguna institución (ejemplo: del mundo de la

educación reglada), ya incluso por la doble pertenencia de asociación a los diferentes grupos que aparecen conexiados al tema de la “ciudad de la información” (Ciezanet; Ciezanet.com), o por la responsabilidad que ostentan en Integra.

Método de estudio: Entrevistas presenciales y de forma individual. Otras informaciones, recogidas de manifiestos y valoraciones presentadas en diferentes soportes, entre ellos Internet

Usuarios particulares y empresas

Universo: Usuarios particulares y empresas acogidas al Proyecto Ciez@net

Tamaño muestra: 494 entrevistas, de las que 444 corresponden a particulares y 50 a empresas, en relación con las cifras de unos y otras integrados en el Proyecto.

Procedimiento de muestreo: Entrevista personal

Cuestionario: 45 preguntas, que abarcan 151 ítems de respuesta en 43 preguntas con opciones de respuesta cerrada, más 2 preguntas abiertas de carácter alfabético.

Error muestral usuarios: $E = \pm 3'7$ para un nivel de confianza de $K = 2(95'5\%)$.

Error muestral empresas: $E = \pm 9'4\%$ para un nivel de confianza de $K = 2(95'5\%)$.

No usuarios

Universo: Población no usuaria de Ciezanet en las localidades de Cieza, Molina de Segura y Yecla

Tamaño muestra: 300 personas (100 por cada una de las tres poblaciones)

Procedimiento de muestreo: Entrevista telefónica

Cuestionario: 26 preguntas con 87 ítems de respuesta.

Error muestral: $E = \pm 5,7\%$, para un nivel de confianza de $K = 2(95,5\%)$.

- IBIT [Fundació de les Illes Balears per a la Innovació Tecnològica] (1999): *El comercio electrónico en las Islas Baleares: Un enfoque real*, Palma de Mallorca, IBIT

➤ Autores

Sr. Joan Marqués Faner, Sr. Xisco Tous Llull, Sr. Felip Salas Suau

➤ Ámbito de aplicación de los datos

Empresas industriales y turísticas de Islas Baleares. Se estudia el grado de penetración de diferentes variables que definen el B2B y el B2C. El informe está dividido en dos partes.

➤ Representatividad de la muestra

No hay información suficiente para evaluar la representatividad de la muestra.

➤ Descripción de la base de datos del estudio

El estudio consta de tres partes: en la primera hay una introducción general sobre el e-commerce que incluye desde su definición hasta los aspectos legales del mismo. En la segunda se facilitan datos cuantitativos sobre la situación del comercio electrónico en Baleares, acompañados de un texto descriptivo y un gráfico. En la tercera parte se facilita una lista con las iniciativas locales de e-commerce.

➤ Metodología de obtención de la base de datos del estudio

Universo: Empresas industriales y turísticas de Islas Baleares con más de 5 trabajadores.

Cuestionario: Diseñado a partir de un análisis de información secundaria y de una investigación cualitativa mediante la entrevista en profundidad a responsables de entidades de las Islas Baleares.

Tamaño muestra: 400 entrevistados

Metodología: Entrevista personal al responsable de la empresa.

Catalonia

- Secretaria per a la Societat de la Informació (2001): *Estadístiques de la Societat de la Informació Catalunya 2001*, world wide web, <http://dursi.gencat.es/ca/si/documents.htm>

➤ Ámbito de aplicación de los datos

Hogares, empresas y población en Cataluña. Se desea saber el grado de penetración de la Sociedad de la Información y uso de IT en Cataluña. Hay una segunda parte de este informe en preparación que tratará sectores como la educación, sanidad o administración pública entre otros.

➤ Representatividad de la muestra

El estudio se ha realizado sobre una muestra representativa de la población de Catalunya de 15 años y más.

➤ Descripción de la base de datos del estudio

El estudio se divide en tres partes, una por sector estudiado. Los datos cuantitativos muestran el porcentaje de usuarios para cada una de las opciones posibles de las preguntas realizadas. Por cada variable estudiada, se muestra un título y un indicador que la definen. A continuación se muestra el dato más relevante y de desarrolla descriptivamente los datos presentados con ayuda de tablas y gráficos. Finalmente, se muestra la situación de Cataluña respecto a otros países si hay información disponible.

➤ Metodología de obtención de la base de datos del estudio

Diferentes cuestionarios, cada uno con una metodología propia, según el grupo estudiado. A saber:

a) Penetración IT en la sociedad catalana

Universo: Población de 15 años o más que viven en hogares con teléfono en Cataluña.

Cuestionario: Estructurado en 4 apartados. En el primero se pide información sobre el equipamiento del hogar: ordenador, Internet, telefonía y equipamiento y servicios audiovisuales. El segundo apartado se refiere al uso personal de las nuevas tecnologías como la frecuencia y el lugar de uso de Internet. El tercer bloque se refiere al uso por parte de personas de 10 a 14 años que viven en el hogar. Y el último está destinado al perfil socioeconómico de los entrevistados.

Tamaño muestra: 1645 individuos.

Diseño de la muestra: El proceso de selección del individuo a encuestar ha sido bietápico. En base a un muestreo estratificado sobre hogares con teléfono se selecciona en primer lugar el hogar y a continuación se selecciona aleatoriamente un individuo de entre los componentes del hogar de 15 años o más y se entrevista.

El método de selección del hogar es el muestreo estratificado con asignación proporcional a la población de cada estrato. Los estratos se definen según el número de habitantes de los municipios (más de 500.000 habitantes, entre 10.000 y 500.000 habitantes y menos de 10.000 habitantes). La selección de las unidades muestrales correspondientes a cada uno de los estratos se realiza mediante muestreo aleatorio simple.

Procedimiento de muestreo: Entrevistas telefónicas asistidas por ordenador. Sistema CATI. 45 preguntas, que abarcan 151 ítems de respuesta en 43 preguntas con opciones de respuesta cerrada, más 2 preguntas abiertas de carácter alfabético.

Error muestral usuarios: $E = \pm 2,41\%$ para un nivel de confianza del 95'5% ($p = q = 0,5$).

Fecha recogida: 18-24 Abril 2001

b) Encuesta ocupación IT en la empresa

Ámbito: Cataluña

Universo: Empresas catalanas de 10 o más empleados, subdivididas en ocho sectores de actividad económica¹⁸⁵. Se excluyen las actividades agrícolas, ganaderas y de pesca.

Dimensión de la muestra : Diseñada: 1.600 entrevistas

Realizada: 1.453 entrevistas

Afijación: Asignación de Neyman con un mínimo prefijado. Se parte de una muestra para Cataluña de 1.600 entrevistas, distribuidas entre los diferentes sectores de actividad económica.

Elevación: A partir del Registro de Afiliados y Centros de Cotización del Régimen General de la Seguridad Social del tercer trimestre de 2000.

Procedimiento de muestreo: Los estratos se han formado por el cruce de los ocho sectores de actividad con el tamaño del establecimiento, dividido en tres categorías: de 10 a 20 empleados, de 21 a 200 empleados y de más de 200 empleados.

Error muestral: Para a un nivel de confianza del 95%, y $p=q=0,5$, el error es de $\pm 2,52\%$ para el conjunto de la muestra, y en el supuesto de muestreo aleatorio estratificado.

Procedimiento: Llamada telefónica. Para las entidades que preferían recibir la encuesta por escrito se les envió el cuestionario por fax.

Fecha de realización: 21 de Noviembre - 13 de Diciembre de 2000.

- Secretaria per a la Societat de la Informació (2000): *Estadístiques de la Societat de la Informació Catalunya 2000*, world wide web, <http://www.gencat.es/csi/csi.htm>

➤ Dirección del estudio

Sr. Modest Guinjoan Ferré

➤ Ámbito de aplicación de los datos

Hogares, empresas, administración pública, sanidad, educación, infraestructuras y cultura en Cataluña. Se desea saber el grado de penetración de la Sociedad de la Información y uso de IT en Cataluña.

➤ Representatividad de la muestra

Muestra representativa de la población de Cataluña de 10 años y más.

➤ Descripción de la base de datos del estudio

Los datos provienen de dos fuentes diferenciadas: recopilación de informes preexistentes, e información generada específicamente para este informe. El estudio se divide en diez partes, una por sector estudiado. Los datos cuantitativos muestran el porcentaje de usuarios para cada una de las opciones posibles de las preguntas realizadas. Por cada variable estudiada, se muestra un título y un indicador que la definen. A continuación se muestra el dato más relevante y se desarrolla descriptivamente los datos presentados con ayuda de tablas y gráficos. Finalmente, se muestra la situación de Cataluña respecto a otros países si hay información disponible.

➤ Metodología de obtención de la base de datos originales del estudio

Ámbito: Cataluña

Universo: Población catalana de 10 o más años

Dimensión de la muestra : 1.604 hogares

¹⁸⁵ Para más detalle véase el estudio original

Procedimiento de muestreo: Tanto los hogares como la persona de 10 o más años del hogar son escogidos aleatoriamente.

Fecha de realización: 21 de Noviembre - 13 de Diciembre de 2000.

- Fundació Jaume Bofill, Universitat Oberta de Catalunya (2001): *3r informe del Projecte Astrolabi: L'ús de les TIC per part de l'alumnat*, world wide web,
http://astrolabi.edulab.net/int_inf_3r_informe.htm

➤ Autores del estudio

Sr. Andreu Bellot, Sr. Josep M^a Duart (dirección del proyecto), Sr. Jordi Hinojosa, Sr. Albert Sangrà (dirección del proyecto)

➤ Ámbito de aplicación de los datos

Estudiantes de educación primaria, exceptuando el ciclo inicial, secundaria y bachillerato en Cataluña. Se desea analizar la actitud de los alumnos en relación al uso de las IT, contrastándose el uso que se hace de las mismas en el hogar y en los centros educativos.

➤ Representatividad de la muestra

Con los datos contenidos en el informe no es posible conocer la representatividad de la muestra

➤ Descripción de la base de datos del estudio

Los datos cuantitativos muestran el porcentaje de usuarios para cada una de las opciones posibles de las preguntas realizadas. Por cada variable estudiada, se muestra un título que la define. A continuación se desarrollan descriptivamente los datos presentados con ayuda de tablas y gráficos, y se analizan dando una causa posible del valor de los mismos. Finalmente existe un apartado de conclusiones generales y posibles líneas de actuación para incrementar el uso de IT en la educación. En los anexos se adjunta un modelo de los diferentes cuestionarios realizados.

➤ Metodología de obtención de la base de datos del estudio

Ámbito: Cataluña

Universo: Estudiantes de educación primaria, exceptuando el ciclo inicial, y secundaria

Tamaño muestra: 6.462 encuestas

Cuestionario: La mayoría de las preguntas son comunes a todos los alumnos, excepto algunas que se han dirigido exclusivamente a los alumnos de secundaria y bachillerato a causa de la dificultad de la respuesta

Procedimiento de muestreo: La encuesta fue repartida en los centros, que se han responsabilizado de distribuirla y controlar el correcto desarrollo de las mismas. Una vez recogidas se procede a extraer los datos para el estudio.

- Institut Municipal d'Informàtica (2001): *Òmnibus municipal: juny 2001*

➤ Ámbito de aplicación de los datos

Población de Barcelona de 16 o más años. Se estudia la actitud de los barceloneses respecto al uso del ordenador e Internet.

➤ Representatividad de la muestra

Muestra representativa de la población de Barcelona de 16 años y más.

➤ Descripción de la base de datos del estudio

Los datos cuantitativos muestran el porcentaje de usuarios para cada una de las opciones posibles de las preguntas realizadas. Por cada variable estudiada, se muestra un título que la sintetiza. A continuación se desarrollan descriptivamente los datos presentados con ayuda de tablas y gráficos (algunos incluyen los valores de los estudios anteriores). También se adjunta un modelo del cuestionario realizado.

➤ Metodología de obtención de la base de datos del estudio

Universo: Población de Barcelona de 16 o más años

Tamaño de la muestra: 1.000 entrevistas

Metodología: Entrevista telefónica

Afijación: Proporcional

Ponderación: No procede

Procedimiento de muestreo: Muestra aleatoria en base a cuotas de sexo, edad y distrito municipal calculadas proporcionalmente sobre el padrón municipal de habitantes

Error muestral: En el supuesto de una selección aleatoria sencilla, para un nivel de confianza del 95,5% (2σ), y $P = Q$, el error es de $\pm 3,16$ para el conjunto de la muestra

Fecha de Realización: 11-14 Junio 2001

- BellMoore Consulting, COPCA [Consorci de Promoció Comercial de Catalunya] (2000): *El comerç electrònic en l'empresa catalana: Products and Services from Catalonia*, world wide web, http://www.cambrabcn.es/descarrega/pdf/10_estudi.pdf

➤ Ámbito de aplicación de los datos

Comercio electrónico en Cataluña, en el ámbito empresarial, a partir de la relación entre empresas (B2B) y entre empresas y consumidores finales (B2C). Se desea averiguar el impacto del *e-commerce*, y las actitudes de las empresas ante él.

➤ Representatividad de la muestra

No es posible verificar la representatividad de los datos tomados de fuentes preexistentes a partir de la información proporcionada en el informe. Respecto a los datos originales, no podemos estimar la representatividad de los mismos por la alta tasa de no respuestas con respecto al diseño original de la muestra.

➤ Descripción de la base de datos del estudio

Los datos son cuantitativos y tienen dos fuentes diferenciadas: estudios preexistentes tanto a nivel nacional (EGM y AIMC) como a nivel internacional (Forrester Research, OCDE, Computer Industry Almanac...), y fuentes originales. Las primeras se utilizan para mostrar una perspectiva del comercio electrónico y del número de usuarios en Internet a nivel nacional e internacional. La segunda muestra la situación en Cataluña. Por cada variable estudiada, se muestra un título que la sintetiza. A continuación se desarrollan descriptivamente los datos presentados con ayuda de tablas y gráficos. El estudio también realiza posibles previsiones de la evolución del *e-commerce* a nivel mundial, europeo, español y catalán. Finalmente, y a partir de los datos originales, se proponen diferentes guías de actuación para el desarrollo del *e-commerce* en Cataluña

➤ Metodología de obtención de la base de datos del estudio

Universo: Empresas participantes en la Feria Virtual del COPCA: *Products & Services from Catalonia*

Tamaño de la muestra: Diseñado: 771 entrevistas

Realizado: 243 entrevistas

Metodología: Correo tradicional

Fecha de Realización: Febrero –Setiembre 2000

- Institut d'Estudis Regionals i Metropolitans de Barcelona (2000): *Enquesta sobre les condicions de vida i hàbits de la població de la Regió Metropolitana de Barcelona*
 - Àmbit de aplicació de los datos

Individuos mayores de 18 años residentes en los 163 municipios que componen la región Metropolitana de Barcelona.
 - Representatividad de la muestra

Muestra representativa de la población mayor de 18 años del área metropolitana de Barcelona
- Ajuntament de Terrassa-Foment de Terrassa S.A (1999) : *Síntesis del Estudi OEST, Noves tecnologies i desenvolupament local: Terrassa davant el repte dels futurs tecnològics*, Terrassa, Ajuntament de Terrassa-Foment de Terrassa S.A
 - Àmbit de aplicació de los datos

Empresas y usuarios particulares de Terrassa. Se desea conocer la posición de Terrassa respecto a España y a otros países mediante el grado de penetración de las nuevas tecnologías en esta localidad.
 - Representatividad de la muestra

No es posible conocer la representatividad de la muestra con la información contenida en la síntesis del estudio
 - Descripción de la base de datos del estudio

Los datos cuantitativos muestran el valor absoluto y el porcentaje de usuarios para cada una de las opciones posibles de las preguntas realizadas. El estudio muestra un epígrafe, donde se sintetiza la variable, y a continuación se reproduce la pregunta tal y como ha sido realizada al entrevistado. Los valores de los datos se muestran mediante tablas o gráficos, y se acompañan de un texto descriptivo que resalta el valor numérico más destacado. Por otro lado, hay datos obtenidos de otras fuentes preexistentes que comparan la situación de Terrassa con la de otros ámbitos geográficos
 - Metodología de obtención de la base de datos del estudio

El documento no muestra la metodología para la obtención de datos, debido a que el texto del que disponemos es una síntesis del estudio OEST.

6. APPENDICE: LISTING OF VARIABLES ANALYZED

6.1. Internet use variables

Access to Internet and use by households and persons

1. % Households connected to the Internet
2. Evolution of percentage of households connected to the Internet
3. % Persons connected to the Internet
4. % Persons connected to the Internet (distributed by frequency of use.)
5. Evolution of percentage of persons connected to the Internet
6. Evolution of percentage of persons connected to the Internet (distributed by frequency of use.)
7. Distribution of households connected to the Internet by year of connection
8. Distribution of persons connected to the Internet by year of connection
9. % Households with a computer
10. Evolution of percentage of households with a computer
11. % Internet connected persons among persons with access to a computer
12. Distribution of households with mobile phone according to the number of phones
13. Evolution of percentage of households with mobile phone by the number of phones
14. % of mobile phone users over ... population
15. Evolution of mobile phone users
16. Distribution of Internet users according to their frequency of connection to the Internet (% of Internet users over total Internet users)
17. Evolution of percentage of Internet users by frequency of connection to the Internet (% of Internet users over total Internet users)
18. % of Internet users distributed by place of connection and by frequency of use
19. % of Internet users by place of Internet connection (over total persons connected to the Internet)
20. Evolution of percentage of Internet users by place of Internet connection (over total persons connected to the Internet)
21. Distribution of households connected to the Internet according to their weekly average time of connection to the Internet (% over weekly Internet users in households)
22. Weekly average time of connection to the Internet
23. Monthly average time of connection to the Internet (Measured in hours/month)
24. Intensity of Internet use by day of the week
25. % of Internet users who substitute the time spent in Internet for other activities
26. Distribution of Internet users according to their kind of activity in the Internet
27. Evolution of Internet users according to the kind of activity on the Internet
28. Distribution of Internet users according to the kind of activity when surfing the web
29. Distribution of Internet users according to the language of visited webs
30. Distribution of Internet users according to their first language
31. % Internet users who use Napster
32. % Internet users who visit adult websites
33. Distribution of Internet users according to the main problems they face when surfing Internet
34. Most visited .es domains over most visited websites (ordered by number of visits)
35. Distribution of email users according to the weekly average of sent / received emails
36. Distribution of email users according to the email software used
37. Distribution of email users according to the frequency of received spamming
38. % of Internet users with a personal website
39. Distribution of Internet users by number of bookmarks stored in their browsers

E-business related uses by persons and households

40. Distribution of Internet shoppers according to the product they shop on the Internet
41. Distribution of Internet shoppers according to the yearly amount of money they have spent when shopping on the Internet
42. Distribution of Internet shoppers according to their reasons for shopping on the Internet
43. Distribution of Internet users according to their reasons for not shopping on the Internet (% over Internet users who don't shop on the Internet)
44. Distribution of Internet shoppers according to the mode of payment on the Internet
45. Distribution of Internet users according to their opinion about credit card security on the Internet
46. % of on-line banking over Internet users (distributed by kind of use)
47. % of weekly Internet users visiting Health and Public Administration websites
48. % of weekly Internet users who deal with Health organisations and Public Administration by the Internet

Infrastructures related to the use of Internet

49. % of Internet hosts per 100 inhabitants (geographical area)
50. % of web servers per 1000 inhabitants (geographical area)
51. % of secure web servers per 100.000 inhabitants (geographical area)
52. % of household Internet users with a high speed Internet access (distributed by kind of access)

Internet access and uses by business firms

53. % of business firms with Internet access
54. Distribution of business firms connected to the Internet by year of connection
55. Distribution of business firms connected to the Internet by year of website presence
56. Distribution of business firms with Internet connection according to the kind of use of the Internet
57. % of business firms whose main activity is developed on the Internet
58. Distribution of business firms with Internet access according to the number of full time employees needed for the presence of the firm on the Internet
59. % of business firms connected to the Internet with a website
60. Distribution of business firms with a website according to the kind of use of their webpage
61. Distribution of websites of business firms according to the kind of hosting
62. Distribution of websites of business firms according to the size of the site (measured in Mb)
63. Distribution of websites of business firms according to the kind of access
64. Distribution of websites of business firms according the monthly traffic of the website
65. % of business firms with e-commerce
66. Distribution best sold products on the Internet by Spanish Regions (% of business firms which sale every kind of product)
67. Distribution of services/products offered by business firms on the Internet according to the kind of product/service
68. Distribution of business firms on the Internet according to their kind of e-commerce (B2B, B2C, B2B/C)
69. Percent distribution of business firms with a website according to the total annual costs of the maintenance of their B2C
70. Evolution of e-business in Spain in the B2C (Business to Consumer) e-commerce
71. Evolution of e-business in Spain in the B2B (Business to Business) e-commerce
72. Distribution of business firms with B2C e-commerce according to the main problems they have to sell their products on the Internet (Distributed by evaluation of the problem)
73. Distribution of business firms connected to the Internet according to their main barriers for e-commerce (Distributed by size of the problem)
74. Distribution of business firms which sell products on-line according to the main problems they have to sell their products on the Internet
75. Distribution of business firms which do not sell their products on-line according to their reasons for not selling their products on-line
76. Percent distribution of Internet portals by activity

77. % of employees of business firms with intranet access by department
78. Distribution of business firms according to the kind of free access content of their intranet (% over business firms with intranet)
79. Percent distribution of business firms according to the level of penetration of IT
80. Evaluation of the IT impact on business firms according to the level of penetration of IT
81. Evaluation of the expectation of the IT impact on business firms according to the level of penetration of IT
82. Evaluation of the importance of the barriers to IT penetration in business firms (Evaluated by business firms with no IT access)
83. Ranking of Areas by level of IT penetration (Comparison Spain – World + Spanish Regions)
84. Percent distribution of business firms according to the frequency of IT training among their employees
85. Evaluation of the importance of the barriers to telecommuting in business firms (% of mentions of the surveyed firms)
86. % of telecommuters over the total of the working population
87. Percent distribution of the most valuable aspects of online bank according to online bank customers
88. Percent distribution of barriers to online bank use according to Internet users
89. Forecast of growth of online bank users
90. Percent distribution of business firms according to the main objectives of the firms in relation to their website
91. Percent distribution of business firms with a website according to the total annual costs of the maintenance of their website
92. Percent distribution of business firms with a website according to the human resources annual costs of the maintenance of their website
93. Percent distribution of business firms with a website according to their forecast of the trend in costs of the maintenance of their website in a short term
94. Percent distribution of business firms with a website according to the total annual income due to their website
95. Percent distribution of business firms with a website according to the annual sale of products /services on-line income
96. Percent distribution of business firms with a website according to their forecast of the evolution in income in a short term due to their website

Internet uses of Public Administration & Health Organizations

97. % of Public Administration institutions with an accessible website
98. % of IT use in the different management areas of the Public Regional Administrations
99. % of e-information available for the citizen in the Public Regional Administrations
100. Evaluation of the effectiveness of the IT impact in the Public Regional Administrations
101. Evaluation of the importance of the barriers to IT penetration in the Public Regional Administrations
102. Distribution of town halls connected to the Internet
103. % of town halls with email
104. Percent distribution of town halls according to their website presence
105. Percent distribution of town halls of towns with more than 20.000 inhabitants according to their website presence
106. % of town halls of towns with more than 20.000 inhabitants according to the accessibility of their webpage
107. Distribution of town halls according to their IT penetration level
108. % of health organisations connected to the Internet

Access and use of on-line education by Internet users

109. % schools connected to the Internet
110. % school-rooms with Internet access
111. % of primary and secondary students with Internet access
112. Internet use frequency at schools (see Astrolabi)
113. Median of computers with Internet access per school (Distributed by kind of school)
114. Number of students per computer connected to the Internet
115. Distribution of primary and secondary students according to the IT use frequency at schools (Distributed by courses)
116. Number of IT PhD , IT masters degrees and IT professional degrees
117. % of organisations which offer on-line education by kind of organisation
118. Distribution of e-learning offer according to the kind of content offered by e-teaching organisations
119. Distribution of organisations according to the number of courses taught by each one
120. Distribution of Internet portals according to the educational content they offer
121. % of on-line courses according to the kind of organisation teaching them
122. Distribution of total amount of on-line courses according to the amount of teaching
123. Distribution of professional masters degrees in Spain (on-line and traditional) according to the cost per credit

6.2 Demographical and sociological variables of Internet users

Persons and households

124. Distribution of Internet users according to household dimension (% over all households with access to the Internet)
125. % of households with access to the Internet according to the household dimension (% over all households)
126. Distribution of Internet users according to income levels per household
127. % of households with access to the Internet according to their monthly income levels (% over all households)
128. Distribution of Internet users according to city / town dimension
129. % of households with access to the Internet according to city / town dimension (% over all households)
130. Distribution of Internet users according to their gender
131. % of Internet users according to their gender (% over total population)
132. Evolution of percentage of Internet users according to their gender
133. Evolution of difference in Internet use between genders (Male-Female percentages)
134. Distribution of Internet users by their age
135. % of Internet users by their age
136. Evolution of percentage of Internet users by their age
137. Distribution of Internet users according to their marital status
138. Distribution of Internet users according to their educational level
139. % Internet users according to their educational level
140. Distribution of Internet users according to their social class
141. Evolution of Internet users according to their social class
142. Distribution of Internet users according to their ethnicity
143. Distribution of Internet users according to their cultural / geographical origin
144. % of weekly Internet users according to their cultural / geographical origin (% over total population)
145. Distribution of Internet users according to their job
146. % of weekly Internet users according to their job (% over total population)

Business firms

147. % of business firms connected to the Internet according to their dimension (over the total of business firms)

- 148. % of business firms with a website according to their dimension (over the total of business firms)
- 149. % of business firms with connection to the Internet according to their activity
- 150. % of business firms with a website according to their activity
- 151. Distribution of schools connected to the Internet according to their educational level (Primary, Secondary, etc)