

## **Chapter 2 – The evolution of electronic communications services and the consumption of electronic communications services – integrated view**

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## **2. The evolution of electronic communications services and the consumption of electronic communications services – integrated view**

The following chapters will present the state of the electronic communications services in 2006. The report's structure is based on the regulatory definitions of the services. However, these services' consumption, production and distribution is often made together. The presentation scheme used in this report may possibly overshadow this fact.

In order to avoid possible misinterpretations or partial interpretations of the information provided, we following present, in broad and approximate terms, an integrated view of the global evolution of electronic communications. We also characterize the electronic communications residential consumer, in global terms<sup>2</sup>.

### **2.1. Global evolution of electronic communications**

In this section we adopt an approach that considers electronic communications services to be voice services (fixed and mobile telephone services), data (mainly Internet Access) and video (TV signal distribution) services. These services are distributed over several access networks, namely: mobile networks, traditional fixed network, cable and satellite TV distribution networks, and other radio means.

This a first approach to a new way of structuring the existing information.

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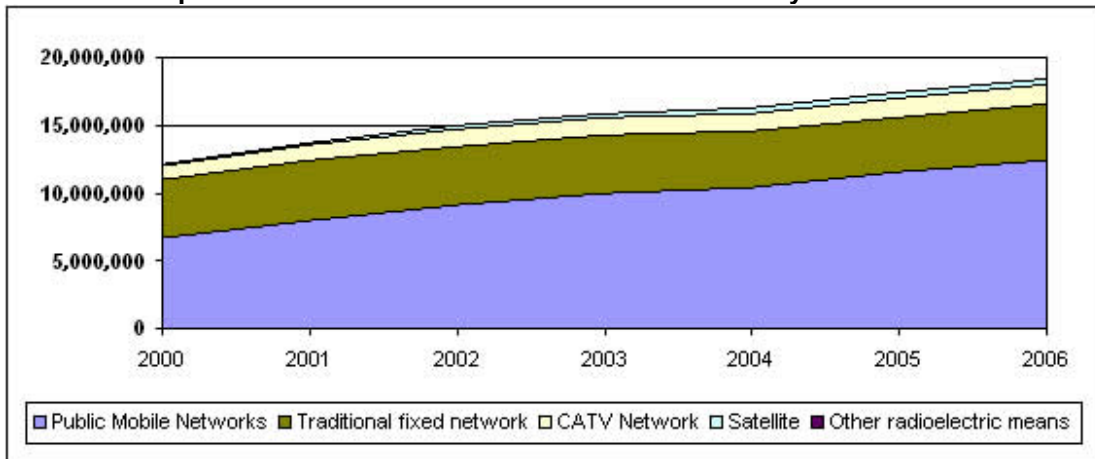
<sup>2</sup> One does not intend to anticipate or support any decision concerning the definition of electronic communications services' relevant markets.

### 2.1.1. Means of access to the service

Globally, the number of physical means used by consumers to access electronic communications services has grown about 7 per cent a year, during the period under review. This evolution is mainly due to the growth of mobile networks and, to a lesser extent, to cable TV distribution networks.

Mobile networks have strengthened their importance as a means of access to the services, growing an average 11 per cent a year. The traditional fixed network has seen its weight decrease – between 2000 and 2006, it decreased of 1 per cent a year on average. Cable TV distribution networks have grown around 7 per cent a year, maintaining their relative importance. Satellite networks, albeit growing 22 per cent since 2000, only stand for 2.5 per cent of the overall access means.

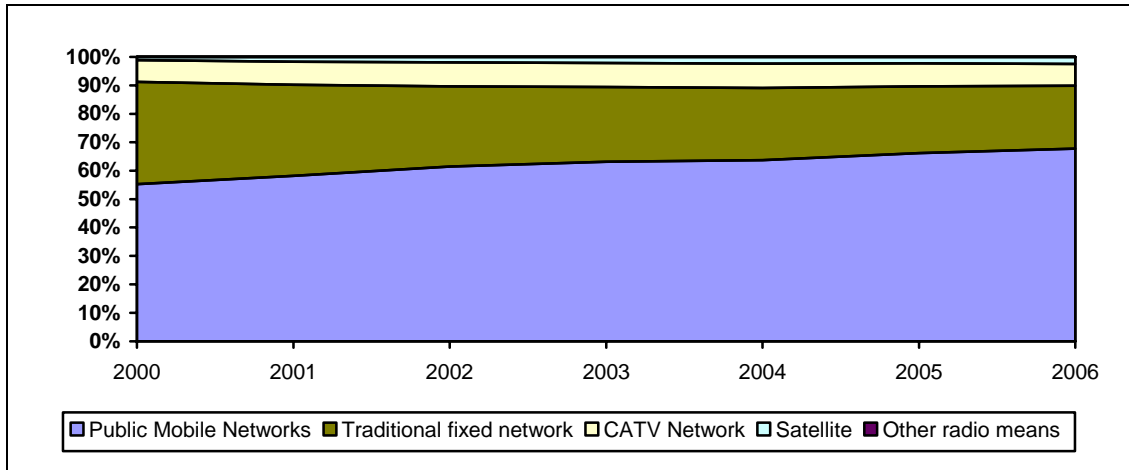
**Graph 2-1 – Evolution of the number of customers by access network**



Source: ICP-ANACOM

As shown on the following table, the main means of access to electronic communications services are mobile networks and the traditional fixed network. Mobile accesses make up about two thirds of the overall accesses, while the traditional fixed network stands for about one quarter of the total amount. Cable TV distribution networks are responsible for around 8 per cent of all accesses. The remaining means of access stand for very small fraction of the total.

**Graph 2-2 – Evolution of the number of customers by access network (relative weight)**



Source: ICP-ANACOM

### **2.1.2. Electronic communications services**

Voice, data and video services can be provided over any of the above mentioned access means.

Currently, other services besides voice and low debit data are provided over the traditional fixed network, such as broadband Internet access services, and over these, TV distribution services.

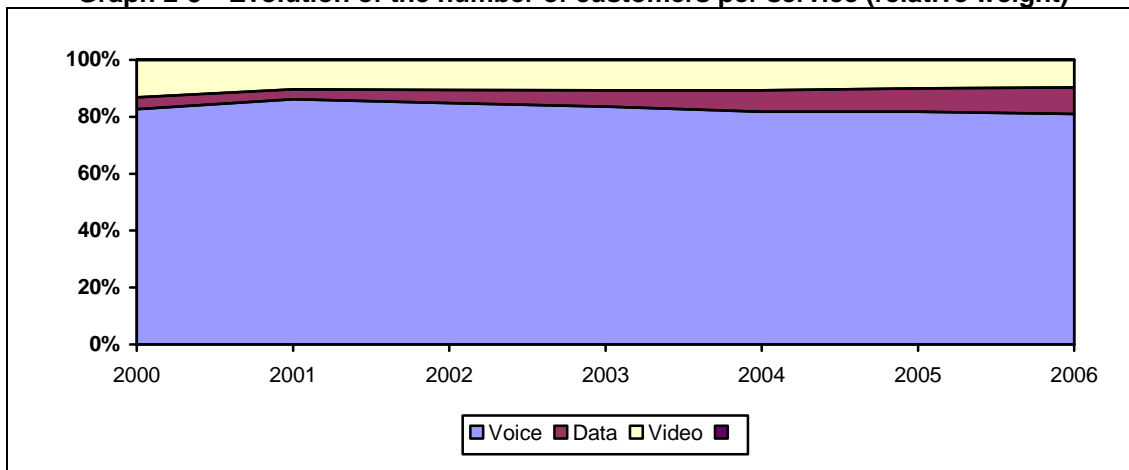
In the same way, fixed telephony and broadband Internet access services are provided over the cable distribution networks.

With 3rd generation mobile networks, broadband Internet access and TV distribution started being provided to mobile networks' customers.

Currently, in Portugal, satellite networks are mainly used to provide TV distribution services.

As shown, voice services are responsible for about 80 per cent of all electronic communications services' customers. However, voice's relative weight has been slowly decreasing, for the service's average growth rate between 2000 and 2006 (15.1 per cent) has stood below the overall growth rate (15.5 per cent). Data services were the ones with a greater growth, an average of 32 per cent a year, reaching around 9 per cent of total customers by the end of the period under review. TV services – mostly provided by the cable TV operators – have been losing their relative importance in the total number of the services' customers, although they are growing at an average rate close to 10 per cent a year.

**Graph 2-3 – Evolution of the number of customers per service (relative weight)**

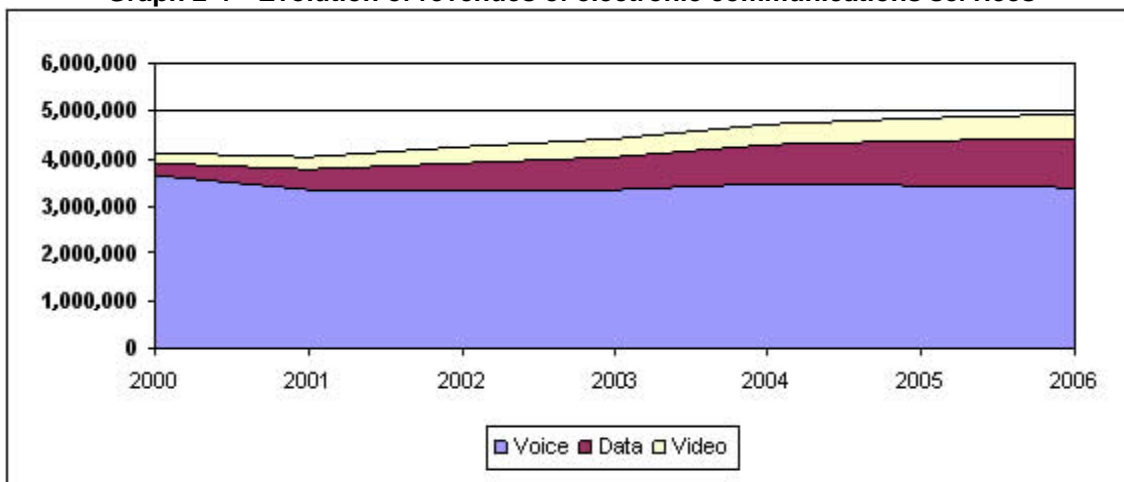


Source: ICP-ANACOM

Albeit the lead of voice services in terms of customers, if service revenues are considered, data and video services are the main responsible for the growth in the services' revenues.

Voice services' revenues, which stood for about 90 per cent of revenues in 2000, stand now for only 70 per cent, having decreased at an average 1.2 per cent a year. On the other hand, data revenues increased about 25 per cent a year, while video revenues increased 16 per cent a year.

**Graph 2-4 – Evolution of revenues of electronic communications services**



Source: ICP-ANACOM

## **2.2. Usage profile of the electronic communications' residential user**

This section contains an integrated view of the electronic communications services' residential user. To achieve that purpose, we will make use of the Survey to the Consumption of Electronic Communications of December 2006<sup>3</sup>.

<sup>3</sup> The universe defined for this study included individuals of both genders, aged 15 years old or over, residing in Mainland Portugal and in the Autonomous Regions of Madeira and the Azores. Selection of those interviewed was made by method of gender, age, education and occupation quotas. The sample was stratified by region and habitat. 2,519 interviews were conducted overall. 997 were made by mobile phone and 1,522 were conducted via fixed network. The fieldwork and data handling was performed by MARKTEST between 9 November and 29 December 2006. Only the observations from interviewees that answered to all questions concerning the possession of services were used in reckoning the frequencies shown in this chapter's tables. Due to limitations associated to the inquiry collection method, it is not possible to study the 'only Internet' or 'only TV' hypotheses. The conclusions presented were statistically validated. The Chi-Square test was applied to all tables to verify the possibility of the existence of no relationship between the table's lines and columns, and that possibility was dismissed in all tables.

### 2.2.1. Household consumption of electronic communications services

Taking the Portuguese households has a reference and considering the Fixed Telephone (F), paid TV (TV), Mobile (M) and Internet (I) services, 1 out of each 5 Portuguese households only has the mobile telephone service. This is the most common situation in Portugal.

However, households that have four of the mentioned services come in second place.

**Table 2-1 – Electronic communications services available at the household**

	% of answers
M	20.4
F+TV+M+I	17.7
F+M	13.8
F+M+I	10.9
TV+M+I	8.8
F+TV+M	8.4
TV+M	7.9
F	6.8
M+I	2.5
F+TV	1.8
F+TV+I <sup>4</sup>	0.6
F+I <sup>4</sup>	0.5

Source: ICP-ANACOM, Survey on the use of electronic communications services - 2006

On the other hand, it should be stressed out that less than 9 per cent of the households with electronic communications services do not have the mobile telephone service, while about 40 per cent do not have fixed telephone service.

Mention should be made, in this scope, to the significant percentage of users that buy these services in packages. According to the European Commission<sup>5</sup>, 13 per cent of households in Portugal benefit from these offers, against 18 per cent in the EU.

<sup>4</sup> Due to the lack of statistical relevance, from now on situations where there is Internet at the household and the interviewee does not have a mobile phone will be taken off the analysis.

<sup>5</sup> European Commission, *E-Communications Household Survey*, March 2007.



However, 52.7 per cent of the Internet access service customers bought this service in a package. More than half of those surveyed had a service package that includes TV and Internet.

**Table 2-2 – The Internet access service as part of a service package**

<i>«Is your Internet service part of a service package, with fixed telephone or television?»</i>	<b>%</b>
Yes	52.7
No	42.6
N.a.	4.8
<b>Total</b>	<b>100</b>

Source: ICP-ANACOM, Survey on the use of electronic communications services – 2006

The remaining customers subscribe to the Internet access service together with the fixed telephone or together with fixed telephone and TV (triple-play).

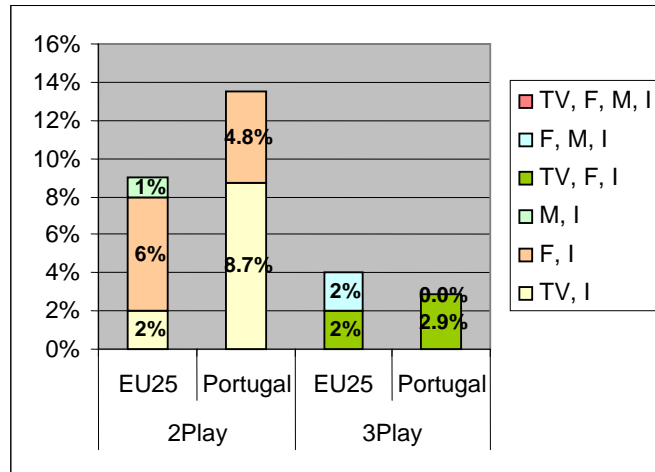
**Table 2-3 – Services included in the Internet package**

<i>«Besides Internet, what services are included in the package?»</i>	<b>%</b>
Television	50.9
Fixed telephone	31.1
Fixed telephone + Television	17.2
N.a.	0.9
<b>Total</b>	<b>100</b>

Source: ICP-ANACOM, Survey on the use of electronic communications services – 2006

According to the available information, most users that buy service packages in Portugal are the customers of cable TV distribution operators. In fact, offerings such as double-play and triple-play combining TV and Internet provided in Portugal since several years, show a usage intensity above the European average.

**Graph 2-5 – Distribution of the multiple play offers including Internet**



Source: ICP-ANACOM, Survey on the use of electronic communications services – 2006 and European Commission, E-Communications Household Survey, 2006

By the end of 2005, Portugal witnessed the emergence of news TV distribution offers enclosed in triple-play service packages and based on xDSL/IP and FWA. According to the available information, these offers still didn't have a reasonable expression by the end of 2006.

### **2.2.2. Characterization of the consumption of electronic communications services by geographical area**

Greatest Lisbon and the Autonomous Regions of the Azores and Madeira are the regions with relatively more households with the 4 services considered. On the end, the percentage of households with all these services simultaneously is very small the in the Inner North.

On the other hand, Madeira is the Region of the country with relatively more households with electronic communications services with 3 electronic communications services. The Azores and the Inner North have a lower penetration of these service bundles.

**Table 2-4 – Electronic communications services available at the household by region (%)**

	<b>Greatest Lisbon</b>	<b>Greatest Porto</b>	<b>Littoral North</b>	<b>Littoral Centre</b>	<b>Inner North</b>	<b>South</b>	<b>Madeira</b>	<b>Azores</b>	<b>Total</b>
M	13.3	16.2	24.3	24.3	26.9	22.9	6.2	6.2	20.5
F+TV+M+I	27.8	18.9	14.4	14.6	6.9	19.5	27.8	38.3	17.5
F+M	8	9.9	14.6	12.2	22.8	13.2	10.3	13.6	13.8
F+M+I	5.3	9.6	13.7	15.1	11.1	14.3	9.3	2.5	10.9
TV+M+I	14	16.9	7.2	7.7	3.2	4.9	14.4	2.5	8.8
F+TV+M	13.1	6.3	7.2	8.2	6.1	4.9	16.5	13.6	8.4
TV+M	9.8	12.9	6.1	8.2	4.2	9	7.2	7.4	7.9
F	2.9	4	5.8	6.1	13.9	7.9	4.1	2.5	6.8
M+I	2.4	2.6	3.8	1.6	2.8	2.3		1.2	2.5
F+TV	2.4	1.7	1.3	1.1	1.2	0.4	2.1	11.1	1.8
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: ICP-ANACOM, Survey on the use of electronic communications services – 2006

It should be highlighted that the inner north and inner centre regions are those with relatively more households with only one electronic communications service: the fixed or the mobile telephone service.

### **2.2.3. Characterization of the consumption of electronic communications by social class and education level**

There is a positive relation between the social class<sup>6</sup> and the consumption of 3 or 4 electronic communications services. The higher social stratum, the higher is the use of these combinations of services.

On the other hand, the lower the social stratum, the higher is the possibility of only using 1 electronic communications service. The use of mobile phone is transversal to all social classes.

The same occurs with education. There is a positive relation between the education level and the number of services available at the household.

<sup>6</sup> The social class variable is reckoned by crossing of the education level and the occupation or professional situation and determines, indirectly, the household's available income.

**Table 2-5 – Electronic communications services available at the household by education level (%)**

	4th grade	6th grade	9th grade	12th grade	University education	Total
M	22.3	28.3	23.5	20.2	9.5	20.5
F+TV+M+I	6	7.4	16.8	22.6	35.7	17.5
F+M	21	20.9	13.1	10	4.1	13.8
F+M+I	4.6	12.5	9.4	15	15.5	10.9
TV+M+I	2.2	3.4	8.5	12.4	17.5	8.8
F+TV+M	8.6	8.4	11.8	7.9	5.5	8.4
TV+M	6	11.4	10.7	7.1	6.6	7.9
F	22.2	3.4	1.3	0.5	0.5	6.8
M+I	0.4	1.7	2.4	3.6	4.8	2.5
F+TV	4.3	1.7	1.5	0.3	0.2	1.8
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: ICP-ANACOM, Survey on the use of electronic communications services - 2006

It should be mentioned that only 10.5 per cent of residents over 25 years old have concluded higher education in Portugal<sup>7</sup>. On the other hand, the proportion of residents aged between 20 and 24 years old that concluded secondary education is of 48.4 per cent. In the EU, this figure is of 76.9 per cent. Taking into account the information available, it is possible that education level of the population residing in Portugal is an obstacle to the development of electronic communications in Portugal.

#### **2.2.4. Composition of the family household and the use of electronic communications**

According to the information available, the higher the size of the household, the higher is the probability of it being equipped with the four services considered. While households with three or four people are clearly above the average, regarding the use of the four services, only 1 per cent of households with one person have four services. Internet normally exists in households with 3 or 4 people.

<sup>7</sup> Cf. INE, Portugal's Statistical Yearbook-2005.

**Table 2-6 – Electronic communications services available at the household and number of people living in the family household (%)**

<i>«How many people live in your family household?»</i>						
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>&gt;=5</b>	<b>Total</b>
M	33.7	22.3	20.3	16.8	16.1	20.5
F+TV+M+I	1.1	9.7	19.9	26.6	20.1	17.5
F+M	9.5	17.7	12.4	10.8	18.3	13.8
F+M+I	2.6	4	12	16.8	15.4	10.9
TV+M+I	8.4	10	9.6	7.5	6.8	8.8
F+TV+M	10	10.5	8.1	7.1	6.5	8.4
TV+M	11.1	8.6	9.2	6	5.4	7.9
F	13.2	13	3.9	3.2	4.7	6.8
M+I	4.7	1.7	2.1	2.4	3.9	2.5
F+TV	4.7	2.2	1.2	0.9	2.2	1.8
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: ICP-ANACOM, Survey on the use of electronic communications services – 2006

On the other hand, the children and youngsters within the household is related with the availability of more electronic communications services. The possession of fixed telephone and Internet is a characteristic of households with youngsters aged from 15 to 24 years old.

The percentage of households with all electronic communications services is two times greater in households where there are youngsters in this age group.

**Table 2-7 – Electronic communications services at the household and the presence of youngsters aged between 15 and 24 (%)**

<i>«Are there youngsters between 15 and 24 years old living in your household?»</i>			
	<b>No</b>	<b>Yes</b>	<b>Total</b>
M	20.7	20.1	20.4
F+TV+M+I	14.4	22.8	17.7
F+M	15.6	11.0	13.8
F+M+I	7.3	16.5	10.9
TV+M+I	8.8	8.6	8.8
F+TV+M	10.1	5.7	8.4
T+M	8.4	7.2	7.9
F	9.5	2.5	6.8
M+I	2.2	2.9	2.5
F+TV	2.4	0.7	1.8
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: ICP-ANACOM, Survey on the use of electronic communications services - 2006

On the other hand, having all the electronic communications services is more common in the households with children between 7 and 14 years old.

**Table 2-8 – Electronic communication services in the household and the existence of children in the household (%)**

<i>«Are there children aged between 7 and 14 years old living in your household?»</i>			
	<b>No</b>	<b>Yes</b>	<b>Total</b>
M	20.5	20.4	20.4
F+TV+M+I	15.8	24.5	17.7
F+M	14.2	12.1	13.8
F+M+I	10.4	12.8	10.9
TV+M+I	8.6	9.2	8.8
F+TV+M	8.7	7.2	8.4
T+M	8.1	7.2	7.9
F	8	2.5	6.8
M+I	2.7	2	2.5
F+TV	1.8	1.4	1.8
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: ICP-ANACOM, Survey on the use of electronic communications services – 2006

It should be mentioned that in Portugal a decrease in the size of households is being registered. At the same time, Portugal is one of the EU countries with an oldest population<sup>8</sup>. This factor may start having impact on the demand for electronic communications services.

<sup>8</sup> According to INE (National Statistical Institute): Portugal “is one of the countries of the European Union with a greater elderly population; in 2004 in stood in third place, after Germany and the United Kingdom”.