Telecommunications for the Needy: How needed are they?

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Telecommunications, mobile and non-mobile, play a major role in our society, but their role as tools for escaping poverty remains a policy agenda still with room for progress both in Europe and around the World. Some groups in society, like the needy, have difficulties in accessing and using such technologies in ways that mirror the debates of the late 90s over the "digital divide". For some groups, like the needy, it would be more exact to address the concept of digital poverty rather than digital divide, because without access to telecommunications one might not have the same degree of opportunities to leave poverty or not to fall into poverty [34] [3] [4]. The goal of this paper is to scope the problem by departing from the Portuguese case study. Our research is empirical and highlights the telecommunication ownership and expenditures of the Portuguese population, and specially the most fragile segments within it. Such an effort is undertaken while not ignoring major issues of political economy of the contemporary globalizing networked society. Our main argument in this paper is that, if telecommunications are a needed tool for the lower income segments of the population, that is the needy, a debate around digital poverty associated to mobile telecommunications is needed in Europe too and to address such issues we need public policy commitments.

Keywords: *needy, mobile telecommunications, digital poverty, digital divide, telecommunication policies*

1 Introduction

Telecommunications play a major role in our society. The number of Internet users is increasing worldwide, as well as mobile phone users. This evolution is somehow supported by one feature more and more present on new technological products: media networking [10]. Web users use Internet for sending SMS or access Internet through mobile phones, Mp3 readers are becoming one of many mobile phone features, as well as GPS, WAN, radio, and we can watch television content, and other audiovisual content, on a multitude of screens from the PC through to mobile phones, etc, making the definition of what television, newspapers or even radio is increasingly difficult [12].

There is, in general, a great amount of importance given to computers and Internet in an Information Society [20], but as computers and Internet access and services evolve, so have done mobile phones. The importance of mobile phones resides (despite the growth of mobile computers and computer wireless connections) in their affordability, their portability and in the way they are evolving into Smartphones, giving more autonomy to users for access to the Internet. Mobile phones are one of the current technologies most segmented towards different groups of users, from the one's looking for computer like capabilities to who only wishes to be able to use voice [2] [17] [36] [38].

Mobile phones are becoming more and more sophisticated, encompassing some features that are closing the gap between a mobile computer and a phone [45] [50] [54]. But, in fact, the networking it's not just technological (in terms of features, software, hardware pieces, etc.) but also in the very shape and size, both mobile computers and mobile phones are becoming lighter and smaller.

Mobile phone usage already gained a more wider presence in our society than computers and Internet, and their importance in our everyday communication make mobile phones almost indispensable [53] [56] [17]. Most young users of mobile phones, in the developed world, state how difficult for them is the idea of giving away the use of their portable devices and the change such choice would bring to their daily lives [8] [50] [47].

Our, contemporary, societies are informational

societies [13], rather than just information societies [79], because they focus on the central role of a new form of social organization in which the technological condition makes the production of information and its processing and transmission the main sources of productivity and power. To communicate and to be in the network is an increasingly important feature in our society, because it's no longer just a trait or option, but a true condition for the exercise of citizenship and for economic opportunities [13] [10] [34] [69]. The access to the communications networks is made both through Internet communication and mobile phone communication, the two major technological innovations to reach the majority of the world population [48]. In that sense, we have to take into account that "the communicational model generated in the informational societies, where the prevailing social organization model is the network, is that of *networked communication*" [10].

Nevertheless, many remain set apart from these telecommunication technologies and from networked communication but at the same time share the condition of living in increasingly informational societies with a network organizational model of social, economic and power relations [13] [7] [19]. The term "digital divide" refers precisely to the fact that many citizens do not have access to ICTs, like the Internet [25] [28] [62] [43] [44] [78], or do not have the proper skills/literacy to use them [81]. Many authors and organisms rely mostly on Internet use and dissemination when it comes to quantify the digital divide, but some do encompass mobile phones and other ICTs [26], like for instance the ICT-OI – Information Technologies – Opportunity Index which is the result of the efforts of the follow initiatives, ITU´s Digital Access Index (DAI) and Orbicom´s Monitoring the Digital Divide/Infostate conceptual framework [49].

The work [34] shed some more light on the different ways we can look at the digital divide, namely that the current discussion about the digital divide focuses mainly on the analysis of the access level of different groups and does not reflect the reasons that cause the existing gap. [34] suggest the importance of introducing such concepts as "information poverty", and consequently digital poverty, because they highlight that the poor, but also policy makers, have to identify, through a collaborative process, the opportunities and challenges that ICT can

offer to improve their standard of living, provided by the access to basic services as education and health care [34] and also work and citizenship opportunities.

Although the work of [34] focuses a region of high income inequalities, like South America and Central America and the Caribbean, we believe that in the developed world, too, there is a need to discuss digital poverty within particular groups such as the needy, that although living in countries of lower income inequality face lower income opportunities and consequently social exclusion dangers that might be minimized through the use of mobile communications.

A pre-condition for owning and using regularly a mobile phone is affordability. In this sense, needy people in developed countries are among those that have the most difficulties in accessing and using such technologies. So, how do they relate to telecommunications in terms of ownership and expenditures?

But first other questions need to be address. Who are the needy? What are the social and economical conditions for one to become a needy? What is a need? What are the needs for the needy? The concept of poor encompasses several segments of the population in different life conditions. For instance, Capucha reports that "the majority of the poor in Portugal are old people, poor peasants and lower-qualified and lower-paid salaried workers in agriculture, industry and services" [5]. Other groups, not exactly associated with poverty, but that can also fall into social exclusion: «(...) are other categories of the population which are on the edge of society and which present very particular problems. The manner in which they have been side-lined is experienced in a way, which disturbs the social order. These are groups of persons whose designations crop up ever more frequently in day-to-day conversation: "young people at risk", "drug addicts", "prisoners and ex-convicts". In every case they are excluded from the main institutions, have weakened or unstable connections with their families, have failed or are stigmatized at school (or have dropped out of school), have no steady job, and are effectively delinquents as far as the law is concerned, and so on – although it is significant that they very often tend to built close networks of solidarity amongst themselves» [5]. Within this broad concept of the needy we can also adds two other categories that might have particular problems and be social excluded: single-parent families and handicapped persons [5]. All of these reported poor people and

other social excluded, or in risk of being social excluded, have needs that may be difficult to fulfill, like subsistence needs or other material goods and services (for instance, mobile phones goods and services), and so, may fall into the concept of needy people.

Nevertheless, in this paper we will focus mainly on those citizens with small household gross monthly incomes and other segments of our society like the elderly in order to try to understand the relation of needy people with telecommunications, in particular with mobile phones.

Another issue to be addressed is what are the positive and negative aspects of telecommunications for needy? We have tried to map possible positive and negative aspects of the relations established through the domestication of technology [68] between mobile phones and needy, like the importance of have and have not a mobile phone, their affordability and their importance for the everyday live. Our view is that although [34] work focused developing countries we might find in the needy populations of those countries similitude of uses and of usage outcomes of mobile technologies. To be true that assertion we could suggest that, like in the previous researches [34] mobile phones are recognized among the needy as a tool that strengthens social links and brings higher personal security and that shows usefulness in improving opportunities for businesses and working. Mobile phones usage seems to indicate, for the needy, a major economic impact in social capital variables, like the strengthening of trust networks and higher coordination of informal work markets [34].

Our focus, in this particular paper, is the Portuguese social environment, that is, a society in transition to the Informational and network environment [11]. Among other findings depicted in our analysis of Portugal, we have observed that the needy people use less the mobile phone when comparing to the overall population usage rate [63]. When it comes to mobile phones the "needy" spend less money per month and their rate of ownership and usage of mobile phones is far smaller [63]. Taking this data into account, we have tried to relate data by crossing ownership, usage and expenditure of Media/Telecommunications, with a special focus on mobile phones[1]. In doing so, we tried to map differences among the general population in relation to telecommunications and the needy people, in the process we have tried to raise new

questions for the development of future analysis of this market segment and target of public policies.

2 Digital Divide and the Needy: A Telecommunication divide?

Telecommunications play a major role in our society but their role as tools for escaping the poverty trap remains a policy agenda with room for progress. Some fractions of society have difficulties in accessing and using such technologies in ways that mirror the debates of the "digital divide" [24] [28] [62] [43] [44] [78].

The OECD defines the Digital Divide as "the gap between individuals, households, businesses and geographic areas at different socio-economic levels with regard both to their opportunities to access information and communication technologies (ICTs) and to their use of the Internet for a wide variety of activities" [64].

For Compaine, digital divide refers to the "perceived gap between those who have access to the latest information technologies and those who do not" [25]. For Salinas "disparity between individuals and/or communities who can use electronic information and communication tools, such as the Internet, to better the quality of their lives and those who cannot" [67]. For [52] [65] we can trace digital divide by measuring personal computer ownership and Internet access.

But not only the problem is the divide between those who have and those who have not, but also at the level of the those who have access and the way they use these technologies, their skills [81] and ICTs expenditures.

The reasons for these divide are of different natures. At a first level, the divide is mainly the expression of the previous social and economic inequalities: "The digital divide is not digital; it's the social and economic divide which is reinforced by technologies that exacerbate the potential to exclude people" [23]. Despite the generalization of the term digital divide, there is not just a digital divide but digital divides that result from different social economic and technologic differences [26].

Some authors rely only in Internet connection and usage to measure Digital Divide, but we also encompass mobile phones access and usage, taking, as others do, a wider perspective at the phenomenon [20]. Can we find a significant digital divide expressed in mobile phones adoption and use? How much of the divide is due to economical factors? In what aspects those this divide reflects upon ownership and usage of

telecommunications by the needy?

Thus, telecommunications play a major role in our society but inequalities in access and usage still exist at various extents and within countries as well as between countries.

3 Inequalities within and between countries

According to the [80] online users (respondents aged 18 and older) are 77% in Canada and New Zealand, 76% in Sweden, 73% in Australia, 72% in US, 67 in Israel, 66% in UK, 61% in Singapore, 59% in Macao, 50% in Czech Republic and 42% in Hungary.
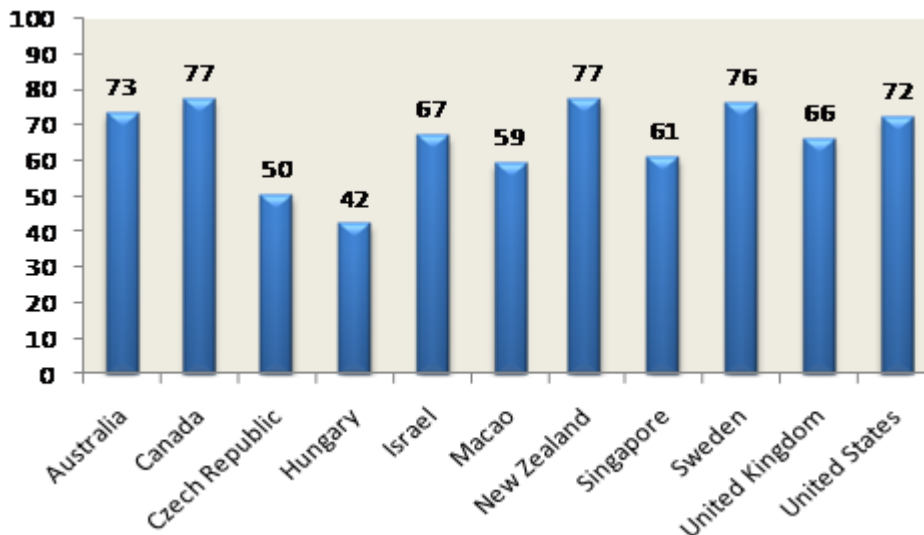

Fig. 1. Overall Internet Use (Respondents Age 18 and Older) (%) Source: [80]

Although Portugal is not presented in the WIP Report not allowing a direct comparison with other countries, we can however situate Portugal when it comes to Internet usage. According to [63][2] [63], there are, in 2008, 40,9% Internet users. In this sense, Portugal stands relatively close to usage rates of Hungary and, for instance, about twenty percent less than UK. A similar number is sustained for 2007 by UMIC/INE report in which the individual using Internet are cited as been of 40% [(%) Individuals aged between 16 and 74 years old] [75].

A common trend too be found, both in [80] and also in [63], as well as in many reports on Internet, is that the number of Internet users is, generally, bigger on higher educated and younger individuals.

Gender gaps also remains in some countries, as shown in [80], of 5% to 15% (15 % in Singapore, 10% in Macao, 9% in the Czech Republic, 7% in Israel, and 6% in Hungary), but in most of the more-developed WIP countries, the gap is almost nonexistent, although in almost all countries one can find more Internet users in men, for the exception of Sweden and US.

Why some people do not go online? The cited WIP report [80] shows that the main reason, for

the exception of the Czech Republic, Sweden, Singapore, and the United States, is "no interest/not useful". It was cited by 52% of non-users in Hungary and 45% in New Zealand. As for those who cited "To Expensive/Cannot Afford Fees" reached 16% of non-users in Czech Republic, 10% in Hungary, 9% in Canada and 7% in US.

In Portugal, among those who do not use Internet (but know what it is), when asked for the reasons, 55,7% reported no interest, 12,9% said do not know how to work with Internet, 11,5% reported having no computer, 6,6% said to found no utility and 5,8% reported the high cost of Internet Access [63].

Income is one differentiating characteristic of the Internet users. The [80] shows some level of disparity in Internet use when comparing users at the upper 50 percent of income with those in the lower 50 percent. As expected, there are more Internet users among people with higher income. It is interesting to see the size of the gaps. The larger gaps between lower incomes and upper incomes Internet users can be seen in the Czech Republic (31%) and Australia (27%), and the smaller difference in the US (18%).
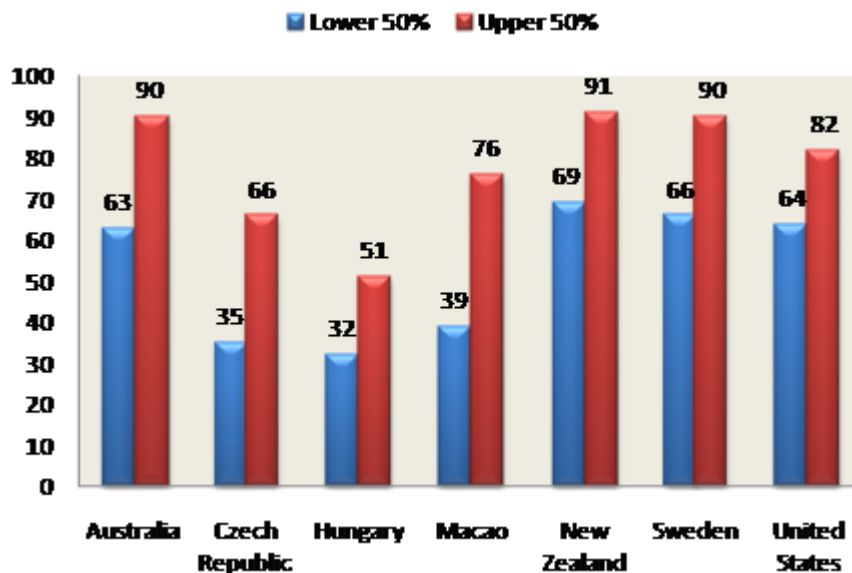
Fig. 2. Internet Use by Income Level (Respondents Age 18 and Older) (%) Source: [80]

Income differentiation can also be seen on [48]: «Although other factors influence Internet usage (e.g., literacy, education and age), the ability to pay for ICTs is one of the most important. This is particularly true in developing nations, where incomes are lower and more sensitive to pricing and where the impact is much greater (…). For example, an increase in average annual income from US$ 100 to US$ 1'000 per capita is associated with an increase in Internet user penetration of 2.9 percentage points, whereas an increase in income from US$ 10'000 to US$ 11000 per capita is associated with an increase in penetration of just 1.6 percentage points» [48].

Also concerning the reasons for not having access to the Internet at home [(%) Households with no Internet connection], the report [75] gives a darker picture of the Portuguese Internet affordability. In 2006 54% cited "equipment costs too high" and 51% "access costs too high" decreasing at 2007 for 49% of those of cited "equipments costs too high" and 46% for "access costs too high" [75].

Portugal is one of many countries which is more and more into an informational society, with recent governments giving special attention to ICT´s. Broadband and mobile phones market are two of the major developing areas.

Mobile phones are more spread than the use of Internet so they gain importance in the diffusion of ICTs in many societies, being Portugal an example among others [77]. In accordance to the [37] "global sales of mobile phone handset passed one billion units in 2007, equivalent to every sixth person in the world buying a handset". The report also points that in Europe the penetration has reached 95%, with total subscribers reaching 800mn. But, despite this, "growth has slowed in many Western and Northern European countries, with countries such as Turkey (45% increase in handset sales) seeing the biggest growth" [37].

Another report that shed some light on the differences between countries is the [80]. It shows that in Hungary users who go online through a wireless device spend 2.2 hours per week of Internet Access by Cell Phone, 1.8 hours per week in Canada and Israel and 1.3 hours per week in Singapore and in the US. These shows the importance that mobile phones are gaining in the society, for they are not just mere objects for Voice Mail but becoming more like small computers (yet with limitations), smartphones. So, the importance of mobile phone is due to its wide spread and penetration, but also in its capacity of networking usages and technologies: Internet access, photo camera, PDA, audiovisual content, MP3 and MP4 reader, etc.

Portugal is on the 29th position of the HDI ranking of the "UNDP Human Development Report 2007/2008: Fighting climate change: Human solidarity in a divided world, for diffusion and creation of technology", bellow countries like US (12th) Spain (13th), UK (16th) or Italy (20th) being Iceland on 1st, Norway on 2nd and Australia on 3rd. It is reported Portugal having (in year 2005) 401 telephone mainlines per 1,000 people and 1,085 cellular subscribers per 1,000 people [77]. Nevertheless, Portugal is the 8th ranking position within the High Human Development countries with more than 1000 subscribers of mobile phone per 1000 people.
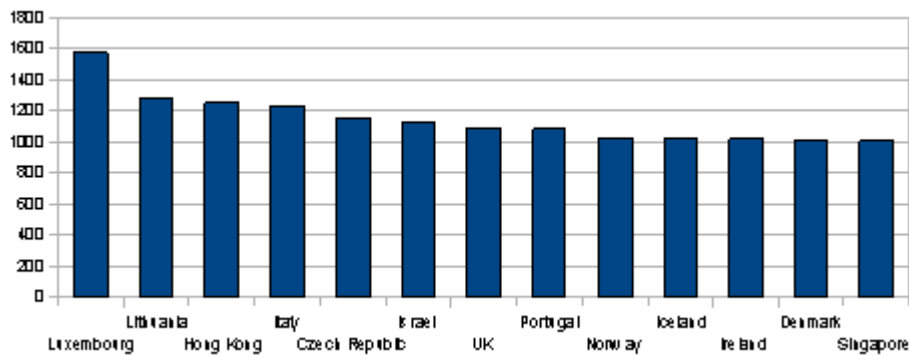
Fig. 3. Countries with High Human Development Cellular Subscriptions per 1000 people (2005)
Source: [77]

According to the [76] individuals aged between 16 and 74 years old), 59,9% of Portuguese uses mobile phone without Internet connection, 11,2% use a mobile a phone with broadband connection (UMTS, etc.) and 16,8% use a mobile phone with narrowband connection (WAP, GPRS). These data shows a relatively high rate of mobile phone ownership, as can also be seen through the mobile phone penetration that is increasing, from 95,5% in 2003 to 126,7% in 2007 [46].

Mobile phones have a major importance on our everyday life [15] [57] [42] [41] [29] that cannot be forgotten too in the analysis of the social inequalities of our society, especially concerning the needy. A taxonomy of the possible outcomes (positive and/or negative) of the deprivation, or not, of telecommunications goods and services needs to be addressed. Such is the effort we tried to accomplish next.

4 Telecommunications for the Needy: A Two Sides Story?

There are positive and negative traits to discuss in order to understand the effects of telecommunication development on the needy, special for mobile phones users. Social and economical reasons can be subsumed in a positive and negative way to respond to these questions.

On the positive dimensions of using mobile phones, we can point: autonomy, personal life management, social inclusion, job and work opportunities, entrepreneurship, and access to government and to health services [33] [22] [14] [15] [18] [7] [70].

The high mobile penetration in developed countries as well as sales worldwide shows that our society is growing as an informational society. Communication is gaining importance in a networked society, permeating our leisure and work life [15] [57] [42] [41] [29]. To be

contactable through a mobile phone might be important for a younger individual in his network of friends, is group of peers. For an adult to be reachable through a mobile phone might mean the opportunity to be contacted by a company interested in his work [59] [61] [60]. The autonomy given by a mobile phone may also help to save one's life by accessing emergency services quicker than through a fixed land line. The advantage for access to health services is bigger for users of mobile phones for they can access both health online sites and other community services [30] [55].

For an entrepreneur the possibility of Internet access through mobile devices might be important for a possible deal to become concrete as he may access important information outside his office. One's ability to be contactable and to enter a network of choices for being contacted by a possible employer is something the use of a mobile phone can also give.

Today, access to ICTs is gaining importance as e-government is developing worldwide. Access to e-government services is not only about Internet mediation, it evolved to mobile phones and wireless technologies giving birth to m-government. To have a mobile phone gives autonomy, for one can easily access to government services as we travel or as we walk through a street [9].

On the negative side we have to take into account the possible social exclusion for being left outside the network of relationships and opportunities offered by being connected, possible situations of addiction [66] and over-expenditure when compared with the current earned income. Also aspects of identity and status, should be taken into account, because the ownership of mobiles phones might gain importance as a status sign [38], and may also lead to over-expenditure.

Different appropriations by different groups might also explain some of the risk (and also benefits on other side) of the use of mobile phones. Needy people might have different appropriations of mobile technology than those with better incomes. Even inside needy people there is probably a different appropriation and use of mobile phones among different groups, for instance, by age or gender, identity of the social group, etc.

Not to have access to health and government services, or not to be reachable at any time can lead to some level of social exclusion, for it means a low level of autonomy that might be so important for the social live in an information society.

Telecommunications are important for social inclusion [1]. In the network society can one exercise citizenship if one does not have a mobile phone or an Internet connection, or even a fixed phone? As governments move towards e-government and even m-government [40] [58] [71], the importance of the dualism to have and have not access gains a growing importance, as well as the distinction between those who have digital skills and those who have not [7].

The importance of ICTs for everyday live [15] [57] [42] [41] [29] might result in distinct consequences, from benefits to damages in everyday live.

In the next point we will look at the Portuguese case, drawing some brief insights on the Portuguese social economic condition before moving into the analysis of media and telecom expenditures, specially looking at mobile phones and comparing ownership/expenditures with others media and telecommunications like TV Services and Fixed Phone.

5 Portugal, the Needy and the Domestication of Telecommunications
5.1 Social-economical and social-demographic indicators
Before moving into the analysis of mobile phones and media expenditures in Portugal we highlight some data on the Portuguese economic conditions in terms of the most fragile segments within it in order to build a broader picture of their characteristics.

The Portuguese national minimum wage has increased every year and stands now (2008) in 426€ [27]. The government recently announced in the proposal for the State Budget for 2009, that in 2009 it will be 450€[3]. The 2008 amount is a lower amount comparing to countries like France

(1,280.07 Euros), UK (1,381.52 Euros), Greece (657.89 Euros) or Spain (600.00 Euros) but upon countries as Czech Republic (303.36 Euros) or Poland (311.44 Euros) [21].

The number of beneficiaries with unemployment benefits increased from 297.588 in 1999 to 508.018 in 2006, but decreased in 2007 to 477.757 [72]. The medium monthly values of subsidy processed by beneficiaries per year, was in 2007 of 479,54 Euros (a number close to that of the national minimum wage). A minor amount compared to 2005 (but decreasing since then) when it was of 488,16 Euros [73].

The number of old age pension beneficiaries has been annually increasing, for it was in 1997 of 1.459.721 and in 2007 reached 1.790.727 [74]. The percentage of the total population that beneficiates from survivor´s pension is also increasing, from 5,5% in 1997 to 6,4% in 2007 [32] [74].

This data shed some lights into the evolution of some fragile segments of the Portuguese society, showing a growing tendency for the number of old age pensioners and survivor´s pension beneficiaries. This data, however, sets the goal of giving a simple snapshot of the social and economical condition of Portugal and of some segments of the Portuguese population.

Other data that is also symptomatic of the needy situation in Portugal is given by the DECO (Portuguese Association for the Consumer Defense)[4] data on over-indebtedness, showing that the number of over-indebtedness processes[5] is increasing substantially, from 152 in 2000 to 1976 in 2007. The number of families with over-indebtedness processes is (according to data from January to July 2008) mainly due to unemployment (53%) and also health problems (18%), but we also have to consider the aggravated credit costs (8%) (DECO - Portuguese Association for the Consumer Defense). These data reflects those ones who ask for DECO for help, and not the actual real number of personal insolvencies, but shed some lights into a growing of people who are forced to ask for help to support their expenditures. This data may also in some extent reflect the recent global economic crisis of the financial market and/or that of the real state market.

After having highlighted some indicators of the Portuguese social and economical condition, it is now time to try to depict the media/telecommunications presence among the Portuguese population. How does the Portuguese population relate to telecommunications, in terms

of ownership and expenditures? And how does the needy population relate to telecommunications in terms of ownership and expenditures? Are there major differences?

5.2 Mobile Phones and Media Expenditures

It was observed [63] for the general population that, when comes to media equipment ownership, television, radio and mobile phones have the largest percentages, with 99,9% of ownership of TV, 96,7% of radio, and 89,7% of mobile phone. For the needy, we find the same media trends as the most owned: 98,9% own a TV, 86,2% a radio and 52,9% a mobile phone. The needy people[6] own less equipment when compared with data for the total population, as expected, for they have less monetary capacity. But it is interesting to find that the fourth major ownership of media by the needy is fixed phone (50,6%), close to the mobile phone ownership rate.

As for the total population, the fixed phone (51,5%) comes only after DVD reader / recorder (59,8%) and CD reader excluding computer CD drive (53,3%). For the needy people surveyed, electronic agendas, web camera, PDA and access to Internet 3G are not in the list of possessions.

Regarding mobile phone features, the two most valued technological features of mobile phones are video or photos (53,2%) and Wi-Fi (35%). The same trend is found among the needy, 17,4% have video / photo camera and 10,9% have Wi-Fi. In the overall population approximately 31% have 3G and in the needy group only 8,7% have 3G. In terms of the use of mobile phones for several activities, we can see that the needy do not use mobile phones for video calls, Internet, GPS services/maps, as ATM, or to watch TV Shows and other audiovisual content. Needy people are, in this sense, set apart from the most advanced features, and in this way using mobile phones only for the most typical activities.

We also focused on other data, namely "How much do you, on average, spent per month on the following goods and services…?" covering TV services, fixed phones and mobile phones. In doing this we analyzed those who do not have or use these media/telecommunications devices as well as those who have and their expenditures.

The number of non-spenders (non-spenders as those who reported to spend, in average per month, zero Euros) in the needy population is of 85,5% for TV services, 57,3% for fixed phones and 50% for mobile phones. Looking at the data for the total population, we find 67,3% non-spenders of TV services, 56,3% for fixed phones

and 10,9% for mobile phones.

In the case of TV services, the greater amount spent by the needy is of 20 to 29,99 Euros (4,8%), and for the total population of 50 Euros or more (2,3%). In the case of fixed phones, the greater amount spent by needy is of 40 to 49,99 Euros (1,3%) and in total population is of 50 Euros or more (0,6%). In the case of mobile phones 2,4% of needy spend 50 Euros or more, as for the total population being of 6,2% those who spend 50 Euros or more.

For the elderly needy[7] (old age population here as those with ages of 65 years old and more), the gap between users (spenders) and non-users (non-spenders) is bigger for the mobile phones than for the TV services or fixed phones. In the case of TV services, the non-spenders are 82,6% of the total old age population, and 95,8% in the needy old age population. In the case of fixed phones, the non-spenders are 41% of total old age population and 51,2% of old age needy population. For mobile phones, the non-spenders are 36,5% of total age population, but 68,1% of the old age needy population.

The biggest amount spend by needy aged 65 years old and more in TV services is of 15 to 19,99 Euros (4,2%), in fixed phones is of 40 to 49,99 Euros (2,3%) and in mobile phones is of 50 Euros or more (2,1%). Comparing to general old age population data we see that the great amount is of 50 Euros or more for mobile phones (4,7%), for fixed phones (1,2%) and for TV Services (despite only 0,6%).

When it comes to gender, we can see that for TV Services, mobile phones and fixed phones those who do not spend any money are more represented in woman. But, if we track only the needy people, we see that the exception occurs for mobile phones, for 56,7% of men and 46,2% of woman do not spend any money. Nevertheless, 3,3 % of needy male individuals spend 50 Euros or more and in female individuals the number is lower, 1,9%.

When it comes to mobile phones it is possible to see that 2,4% of the needy spend 50 Euros or more, on average, per month, but we do not know the reason for that expenditure in order to make assumptions about it (like possible addiction usage), but it is interesting to find such a number not too far from the total population percentage (6,2%). For the needy with 65 years old or more, 2,1% said to spend, on average, 50 Euros or more per month (compared to 4,7% in the total population) on mobile phones services. For instance, needy people might "feel the need" to

consume telecommunication goods and services, due to status and/or identity proposals [38]. This might lead to situations of addiction (constantly buying new handsets or services), situations of over-expenditure that may in turn aggravate their needy situation.

5.3 Telecommunication Policies: Computers and Internet Access

In Portugal, the importance of ICT is widely recognized and policies efforts are being made for the spread of their use, especially when it comes to Internet access. In the Portuguese case, government is giving extremely importance to ICT development, through the so called Technological Plan[8], an initiative that holds several policies for different population targets, covering areas like promotion of e-government, of digital literacy (use of computer and Internet skills). In the field of education[9] with the initiatives "e-escola" (e-school), "e-professor" (e-teacher) e "e-oportunidades" (e-opportunities), mobile computers whit broadband Internet access were accessible at smaller prices[10] than the regular market to students, teachers, and for under graduated people that wish to obtain new competences and school diplomas. For the youngest children it was developed a small mobile computer called "Magalhães" given to children of primary school in a programme called e-primary school ("e-escolinha").

These initiatives, among others (although there are other aspects to take in account in a evaluation of public policies) provides benefits for needy people, even smaller prices for the needy. It is a way for the needy to own mobile computers with broadband Internet access.

5.4 Telecommunication Policies: Mobile Phones and Fixed Phones

Presently, there is no legislation (from Portuguese parliament) subsidizing mobile and fixed phone. There was in the past for fixed phone but ended in 2006. The previous law (Decree-law nº20-C/86 of December 13) was revoked by the "article 158º of Law nº 53-A/2006, of December 29"). The legislation was about the obligation to offer retirees and pensioners, whose household earned a monthly income equal to or below the national minimum wage, a 50% discount on rental of the local loop. Nevertheless, [46], with the legislative competitions on this area, determined, among other deliberations, to the PTC (PT Comunicações, SA, of Portugal Telecom Group)

the provision under the universal service, pensioners and pension subscribers of a single line of analog network (whose families receives a monthly income equal to or below the national minimum wage) of a 50% discount on the rental Line Network (by reference to the pricing basis of the universal service applied by default) and adding that the PTC may also provide for option trading a offer of an additional 10% discount on monthly access to analog and a credit in traffic in value not exceeding 2.3 Euros (excluding VAT)[11].

From the public policies towards the needy, there are also the cases of the PT Foundation[12] and the Vodafone Portugal Foundation[13]. These foundations offer different telecom devices and services for people with special needs, like for instance people with visual and hearing deficiencies.

Are these initiatives sufficient to fulfill the needs on telecommunications for the most fragile segments of society? A first look would deserve at least the acknowledgement that if policies have been taken place regarding Internet and broadband they are less present in what regards mobile phones. The same can be said regarding the high focus on children in school age and the less attention given to the needy outside school age or enrolment.

6 Some Findings

[63] showed that 89,7% of the Portuguese population has a mobile phone, a number greater than that of fixed phone and close to TV services ownership. For the needy, the number of mobile phone owners is much smaller (52,9%) than TV services ownership and closer to that of fixed phone ownership. Needy people are, in general, set apart from ownership of many new ICT/media devices like electronic agenda, web camera, PDA and access to Internet 3G.

Responses to question on how much was the monthly expenditure, on average, of goods and services like TV services, fixed phones and mobile phones, showed that when it comes to TV services and mobile phones the needy spend less money when compared to data from total population, but especially for mobile phones, and that the rate of ownership and usage of mobile phones is far smaller on the needy population.

For the elderly needy (those with ages of 65 years old and more), the gap between users (those who have mobile phone and spend money monthly) and non users is bigger for the mobile phones than for the TV services and for fixed

phones.

When it comes to mobile phones it is possible to see that 2,4% of the needy spend 50 Euros or more, on average, per month, in compare with 6,2% of the total population. For the needy with 65 years old or more, 2,1% said to spend, on average, 50 Euros or more per month on mobile phones.

This data shows that needy encounter difficulties in getting access to mobile phones, but despite the difference in the number of non users of mobile phones, it is also true that some do spend more than 50 Euros, although in less number comparing to total population data on expenditure.

It was visible the inequalities in access and usage of media/telecommunications in the Portuguese population, and some particularities for mobile phones ownership and usage inequalities. If we take into account the possible negative and positive aspects of the relation between the needy and telecommunications, on can better understand the importance of the study on this subject. In a society in which ICTs are evolving, for instance the mobile phones are gaining new features, it is required to close monitor this evolution and the ways the needy appropriate or not in their daily life these technologies.

As society evolves, there is always the need for consensus on who are the needy, what are their needs, and how the fulfill or not of their needs affect their lives. Only responding to these questions is possible to deeper understand the needy condition towards telecommunications within countries, but also between countries. An academic general criterion is needed, but also a political and civil one in order to set proper policies to provide the needy with the help to fulfill their requirements.

What our research tried to identify is that although Portugal being one of the High Development countries with one the highest mobile subscriptions rate there are portions of society where the reach of mobile phones is still low and even where the use is reached there seem to be different patterns of use and of spending. At the same time mobile phones seem to be able to reach broader rates of the population than Internet has been able to. Being mobile phones tools to provide access to the networking organizational features of our contemporary societies, its use can also provide better social inclusion and economic opportunities. The combination of these different departure points and analyses show us the importance to address

mobile phone use by the needy in order to breach digital poverty and achieve better citizenship and social and economic inclusion. So we would suggest the need to foster public policy towards the use of mobile phones as tools of inclusion and economic development by the needy.

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[1] Our research is empirical and highlights the telecommunication ownership and expenditures of the Portuguese population, and especially the most fragile segments within it. This empirical material involves also a secondary analysis of official statistics from several national and international organisms.

[2] OberCom Network Society in Portugal Survey 2008, n=1039. Respondents older or equal to 15 years old. Was taken into account for Internet users, those who reported "Yes, only Internet", "Yes, only e-mail", "Yes, both". Some of the non responders (DK/RA) actually responded to the question about the reason for not being an Internet user, and so, telling us that they are in fact non-users, and therefore they were taken into account as non-users.

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[5] These cases relate to individuals (consumers) responding in good faith and with apparent inability to cope with all of its non professional's debts. The debts were not contracted in the course of their work; have to be debts contracted in the course of non-professional / commercial credits. The debts do not relate to professional commitments made by the consumer, they are from the credit institutions (banks, SFAC, Leasing, etc.) or other creditors (Company for the supply of electricity, gas, water, etc.), to meet their needs and those of his household. Debts of a fiscal nature are also excluded (e.g. IRS, IRC, IRA, Social Security, etc.).

[6] The needy in the analysis considered as those people who reported to have a household gross monthly income less or equal to 500 Euros. In this case the needy are considered solely as those with small household gross monthly income, so it just takes in account the economical factor in the definition of needy people (this was due to the limitations of the survey and not for some priori analytical decision).

[7] The Cross-data of expenditures and age for the needy was solely possible for the elder needy people, for the needy youngsters are not in sufficient number in order to have a proper statistical analysis.

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