# Repositório ISCTE-IUL

# TELECENTERS IN BRAZIL: THE NEED FOR SURVIVAL DESPITE OF THE EVOLUTION OF CELL PHONES

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## Abstract

Brazil is an extremely socially unequal country, with 208 million inhabitants. Only 23.9% of the population belong to high and middle class strata (A and B), while 76.1% belong to the poorest ones (C, D, E). During the past two decades, Brazilian State has promoted several policies to face poverty, but it is still far way from being a country with equal opportunities regarding citizenship practices. Even though there have been improvements to promote the digital inclusion - or inclusion in the network society - of the poorest communities and people, they have been insufficient to bring social equality and fair economic development for all. Digital inclusion has been providing much more than just the use of Information and Communication Technologies copping with ICT's technological evolution, but it also offers the possibility of users' socialization, participating and living in the network society, thus better exercising digital citizenship. However, the widespread use of Internet-enabled mobile phones has raised questions as to whether the Telecenter program will continue to be justified. This paper aims to contribute to this debate, presenting some results of a research analysis on the use of ICT in Brazilian homes, carried out in Belo Horizonte's Telecenters (as part of a PhD Project). Findings suggest that Telecenters still provide a number of services that cell phones cannot replace, such as training courses, supervised school work development, technical support on ICT skills by digital inclusion agents and government and private online services, among others. They also point out the need for improvement in the diversification of courses offered, ICT infrastructure improvement and local Telecenters management. We highlight the importance of digital inclusion public policies as well as the need to improve Telecenters' services, so that they may continue to fulfil an important role in promoting citizenship within low-income communities in developing countries, particularly in Brazil.

Keywords: digital inclusion, Telecenters, public policies, citizenship, ICT, cell phones.

## 1    INTRODUCTION

Since the 20th Century, to be a modern citizen is considered to be obedient and passive, in the face of Law and thus, subjected to the State's command and control. This concept, which leads private and collective initiatives to be dependent from state power, do not prevail in the present era of postmodernity, where new technologies information and communication flows are gaining an exceptional importance. In this context, every citizen who has the ability and access to use emerging technologies can trigger collective and social actions with a simple touch. Managing media and social media, as a means to gain autonomy and generate social movements, has become a prevailing idea. Accordingly, through ICT, all individuals may have the same civil, social and political rights, regardless of gender, race, social status, education level, and political or religious choice, leading to the concept of digital citizenship, which brings us closer to the idea, still utopian, that we can all be really 'equal' (*e.g.*, [1]; [2]; [3]).

Digital citizenship is a systemic conception of the network society based on information, knowledge and citizen participation, in which inequalities, even between countries, reflect differences in the level of knowledge, opportunity, accessibility and use of ICT. It is, thus, directly related to individual and social understanding (or awareness) about what roles and functions each one can play now. Poor people, with no possibility nor ability to use ICT, are being excluded, as unadapt to the network society, suffering the consequences in their social and professional lives. Although societies and individuals are heterogeneous and multicultural, the opportunities promoted by ICTs have increased economic, digital or social exclusion (*e.g.,* [4]; [5]; [6]).

Network society is somehow a reflection of social reality. Further, a citizen has no longer to participate in straight obedience to the State, but according to his/her capacity to act in the development of social rules, acquiring experience and knowledge. This perspective is increasingly dependent and supported

by ICT as digital economy gains space and strength, due to the main activities that converge in business models that circulate in electronic networks and technological platforms. Thus, differences between people and countries have been aggravated, depending on the greater or lesser mastery of technologies, and internet has become the main communication tool, causing major changes in social habits (in leisure, work, communication, etc.), ways of living and of participating in society.

In 2017, 120.7 million Brazilians (57% of the whole population) had internet access [7]. It is evident that people with little financial resources, education, knowledge and ICT access and skills, will hardly be integrated in the new paradigm of our society – unless there is a strong State intervention along with national and international organizations' actions to overcome poverty and social inequalities (*e.g.,* [6]). The huge benefits emerging from the ICT's increasing access, speed and popularization, still do not reach everyone. Where ICT access and mastery in social contexts have been made available, citizens were empowered to follow up and intervene in their everyday interests, through public or community channels, challenging centres of power. Also, the various activities that can be done online, using Internet, are no more a privilege of only few social groups (*e.g.*, [8]). But of course that such advantages and social gains cannot, by themselves, reduce poverty and promote social equality.

The State could adopt a cohesive set of public policies to minimize social inequalities and promote economic development, safeguarding the ethical and humanistic dimension, and ensuring the exercise of citizenship for all. This presupposes transforming education and skills development, promoting social and digital inclusion, regulating professions, disseminating information of public interest, ensuring security and privacy in Internet use, simplifying and improving public services, fostering economic growth, competition and productivity, and stimulating collaboration and social participation networks (*e.g.*, [9]). Based on the rapid technological development, the centrality of ICT in people's lives, and the need to reduce poverty and social inequality, some national states, guided by international guidelines, have adopted digital inclusion public policies, aiming to: 1) provide broadband access for all citizens; 2) offer and train new ICT skills, especially for the most disadvantaged populations; 3) improve quality and efficiency of public services through e-government applications; 4) provide citizens with the right to better exercise citizenship, in electronic democracy; 5) provide or generate new ways of creating economic value through electronic business and interactive content, among others (*e.g.,* [10]; [11]; [12] [13]).

To achieve these objectives, digital inclusion public policy must be recognized as a fundamental right for all human beings, as information and knowledge access broadens the exercise of citizenship, facilitating the integration and modification of individuals, social groups and nations living conditions, (*e.g.,* [14]). Particularly in Brazil, an extremely unequal country in social, cultural and geographic terms, poverty is the most urgent issue to be solved, since 25.4% of the its population live under the poverty line. Although much has been done, regarding actions to promote the information and knowledge society, very little has been done as far evaluating its effectiveness. The Brazilian digital inclusion policy is very broad and had its peak of development between 2005 and 2013, through implementation of 21 programs sponsored by the Federal Government, and expanded actions to the states and municipalities, fostering the digital and social inclusion of poor communities throughout the whole country.

At the federal governmental level, the Brazilian Internet Steering Committee (CGI.br) was created, through the Regional Centre for Studies on the Development of the Information Society (Cetic.br), a department of the Brazilian Network Information Centre (NIC.br), which is responsible, among other objectives, for the quantitative evaluation of Internet and ICT uses, in various public policies, such as digital inclusion, education, health, among others. The Telecentro.br is one of the most impacting digital inclusion programs implemented in Brazilian municipalities, including Belo Horizonte, since 2006. Telecenters are public facilities that provide free access to computers and Internet, and ICT's training courses. As an ultimate goal they narrow the digital divide, increasing the exercise of citizenship. They are usually located in low-income communities, very often housed in a public school, neighbourhood association or other common use facility, with easy access for daily use by community members.

Raising questions on the objectives of Telecenters as computer and internet access providers to poor communities, the Survey on the Use of Information and Communication Technologies by Brazilian Households - ICT, promoted by CGI.br in 2017/2018, demonstrated an increasing number of cell phones and internet access, especially in lower socioeconomic class strata (C, D, E). In 2017, 156.8

million Brazilians were mobile phone users [7]. In 2018 (October), there were 233.3 million cell phones with a density of 111.34 cells per 100 inhabitants[1]. According to this survey:

> "It is worth highlighting that, different from other indicators of the survey, the use of cell phone was very frequent among all social segments. Differences among socioeconomic classes were smaller, in contrast with the data regarding the use of other devices and technologies investigated by the ICT Households survey. Despite the stability of the indicators for ownership and use of mobile phones on an elevated level, the types of use of these devices has been changing. Even though making phone calls was still the most commonly mentioned activity (93%), it has been decreasing since 2014, when it was carried out by 97% of mobile phone users. Furthermore, activities such as taking photos and sending messages have been on the rise in recent years. In 2014, 62% of mobile phone users reported taking photos and 47% sent messages through the devices, proportions that reached 75% and 73% in 2017, respectively. Taking photos, for example, was carried out by 93% of mobile phone users with a Tertiary Education and 91% of individuals between 16 and 24 years old. In turn, among those with only a Pre-school Education (25%) and individuals 60 years of age or older (37%), using mobile phones for this purpose was much less common." ([7], p. 246-247)

Since the turn of the century, in Brazil, digital inclusion policies have been implemented by several ministries, secretariats, agencies and boards. In the last decade, these programs have undergone many changes with the loss of its central objectives, due to the lack of financial resources and social policies priorities. Despite this situation and the instability in the public policies management of digital inclusion, the Telecentros.br Program remains active, without having its main objectives altered. One hypothesis for this durability is due to the services they still provide, even in the recent context of relative reduction of extreme poverty rates. However, the fast technological evolution of cell phones and Wi-Fi networks and the lack of evaluations of digital inclusion programs led them to be questioned by governments: a) Do Telecenters still fulfil their central objectives? Should they continue to exist in face of the increasing use of cell phones by low-income families as well as the growing possibility of using free Wi-Fi spots?

Therefore, this paper aims to qualify access to ICT, based on: secondary data, such as the number of cell phones and Internet connection in Brazil by type of equipment and social class; and by (qualitative analysis of) primary data, considering the perceptions of less favoured populations/people in the Brazilian society (classes C, D and E), particularly in Belo Horizonte, about Telecenters to exercise their activities and a digital citizenship. Additionally, we intend to infer whether or not Telecenters survive the evolution and use of cell phones and free Wi-Fi connections for internet access.

## 2   METHODOLOGY

To fulfill these objectives, data from two studies were analyzed together: one of bibliographic and document nature (using private institutional documents, as well as public data from books, periodicals and websites), and the other exploratory, based on primary data collected in the field. Given our central question, the results of the Research on the Use of Information and Communication Technologies in Households – ICT, 2017, were also analyzed. They were sorted by social classes C, D and E, which characterizes the users of Telecenters. This research project was coordinated by CGI.br/NIC.br and it aimed to measure ICT access and uses within the Brazilian population, including household members aged 10 years old or more. The data were collected from November 2017 to May 2018. The sample was composed of 23,592 face-to-face interviews, carried out in 350 Brazilian municipalities, using a structured questionnaire made available on tablets. The results were released in July 2018.

The second study used a qualitative approach to analyze answers of a focus group on activities and events related to network society, ICT and social and digital exclusion, involving people from low-income social classes and educational programs that use digital inclusion programs, especially Telecenters, in the city of Belo Horizonte, Brazil (*e.g.,* [15]; [16]; [17]). For the analysis and treatment of the qualitative data collected, content analysis was applied with the use of Thematic or Categorical technique.

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[1]Teleco, 2018- statistics on cell phones in Brazil. Available at http://www.teleco.com.br/ncel.asp. Access on 10/01/2019.

1. As a research method, a focus group with Telecenters users of the BH Digital Inclusion Program (residents in socially vulnerable areas in Belo Horizonte) was carried to understand their perceptions about network society, ICT, citizenship, digital inclusion and Telecenter, in the context where they live.

2. The population in this study is considered finite (number of Telecenters) and infinite (number of Telecenters' users). Finite because the total population is known - in January 2017, the city of Belo Horizonte had 52 active community Telecenters -, and infinite because the number of sample elements, i.e., the number of users of Telecenters (children, young people, young adults, adults and the elderly) is very large and unknown (*e.g.,* [18]; [17]). The finite sample included 5 Telecenters, all located in middle-low-class neighborhoods (socioeconomic classes C, D and E). The infinite sample was composed of 32 participants (N=32): 19 men (**M**) and 13 women (**W**), from 18 and 70 years old - men's age average was 40 years old, and women's was 36. Men and women over 60 years were retired. Youngsters under 18 were students or workers as interns. Young adults, and adults, were workers, students or unemployed. Due to the research ethical limits to this study, no other socioeconomic data has been collected.

3. Each session of the focus group followed a semi-structured script that was developed to include several questions covering the research interest topics.

4. The speeches of all participants (RU)[2] were transcribed, analyzed and systematized through thematic content analysis, to identify emerging patterns, categories or themes, from a large amount of data. This was useful way to sort data, to organize results in detail and to interpret the important aspects of the concepts/themes researched (*e.g.*, [19]). We used MAXQDA v.12, to launch the categorization and coding phases of the thematic analysis [20]. The categories and subcategories were represented by a code system, allowing us to perform several types of semantic, verbal and syntactic analyses.

## 3   RESULTS

This section is presented in two parts: the first is centred in the analysis of the document study and the second in the focal group outcomes.[3]

### 3.1   Cell phones and Internet access in Brazil: recent numbers

The following results, from the Survey on the Use of Information and Communication Technologies in Brazilian Households - ICT 2017, shows that television is the ICT equipment more common in Brazilian households, followed by the cell phone, among all social classes. Cell phones are present in 83% of households in classes D/E which is only 13% below the value for class A (*cf.* Figure 1).
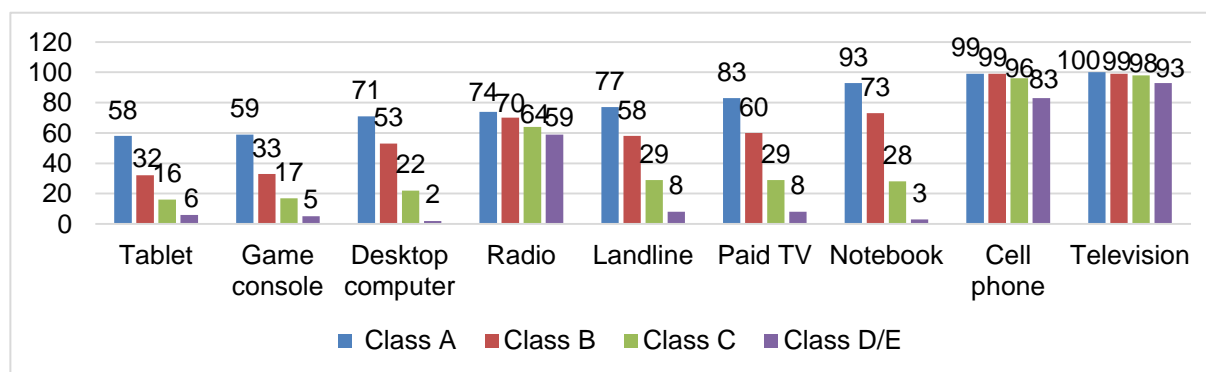


Figure 1. Total number of households with ICT equipment.

[2] RU-Registration Units are the speeches of the participants coded in categories used in the MAXQDA software.

[3] For a better understanding of the secondary data, we note that social classes in Brazil are classified from A to E by the Brazilian Institute of Geography and Statistics – IBGE, considering the household income based on the amount of minimum wages earned a month (in January 2019, the minimum reference wage was BRL 998.00). According to ABEP- Brazilian Association of Research Enterprises, social classes are subdivided as A, B1, B2, C1, C2, D and E, taking into account a set of socio-demographic factors. The Brazilian population is distributed in the following percentages per classes, according to ABEP, 2018: Class A: 2.8% (5.84 million); Class B (B1 + B2): 21% (43.79 million); Class C (C1 + C2), the largest one: 47.6% (99.25 million); and Classes D and E, the two poorest ones that together represent 28.5% (59.42 million) of the Brazilian population. The three poorest classes together (C, D, and E) represent 76.1% (158.67 million) of the Brazilian population, estimated as 208.5 million inhabitants in July 2018 [21].

As for households with internet access, in 2017, 42.1 million households or 120.7 million Brazilians had access to the internet. Despite these numbers, Brazil faces a serious problem of digital and social exclusion. With regards to computer use, this survey showed that, in 2017/2018, 66% of the population in classes D and E, 34% in class C, 13% in class B and 4% in class A have note used (not even once) any type of computer (desktop computer, notebook and tablet). This confirms that the lack of digital skills within classes D and E is very high, and within class C is high – this last one being the largest social class in Brazil. Regarding Internet access, the survey shows that 47% of the whole population in classes D and E, 21% in class C, 9% in class B and 3% in class A reported that they have never accessed the internet, (not even once), from nowhere, confirming that the digital exclusion between classes D and E is very high (*cf.* Figure 2)

In its historical series, this survey also revealed that for the first time in the "2016 edition there was a decrease in the proportion of households with computers, from 50% in 2015 to 46% the following year. In 2017, the proportion remained stable, which represents 32 million households with desktop, notebook or tablet computers" ([7], p. 238). It was verified that in 2017 there were still 34% of Brazilian households that had neither access to the computer nor access to the Internet.

Regarding accesses to the Internet from cell phones, by social classes, we highlight:

> "The increase in the proportion of Internet users via mobile phones has taken place mainly among Brazilians in class C: In 2016, 71% were Internet users via mobile phones, a percentage that reached 77% in 2017. In the other classes, the proportions remained stable between the two years [2016 e 2017]. It is worth noting, however, that although internet use via mobile phones grew among individuals belonging to class C [74%], those in classes A (96%) and B (89%) were still those who most used the devices to go online, in contrast with classes DE, among which less than half (48%) used the Internet on mobile phones." ([7], p. 247)
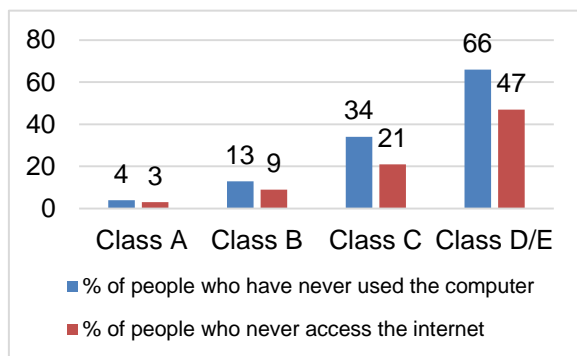


Figure 2. Percentage of people, by social classes, who have never used a computer nor the internet in 2017 in Brazil.
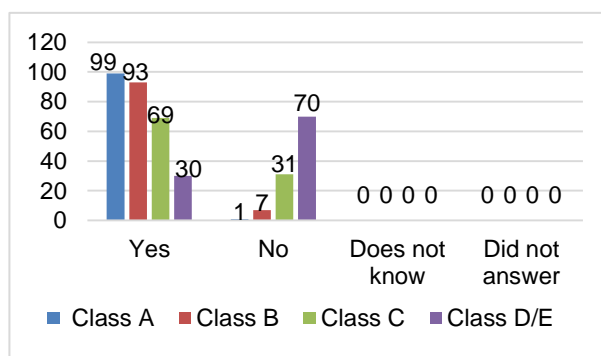


Figure 3. Percentage on total internet user's population by cell phone and social classes.

As far as Internet accesses from Brazilian households, social classes D and E were the ones that had the highest percentage increase, moving from 16% in 2015 to 30% in 2017, that is, the number of households with internet access doubled in the period. Social class C went from 56% to 69% - an increase of 1.2% a year, and class B went from 88% to 93% - a 1.05% increase a year. Those in social class A, already had 99% access to the internet by 2015, and there was no significant growth in 2017 (cf. Figure 3). Although we consider that households in social classes D and E doubled the percentage of Internet access, it refers to only 30% of households, which means that 70% of these households do not have internet access. Regarding the type of internet connection, 80% of the social classes D and E only do it via cell phone, being 48% by modem or 3g or 4G chip. Classes D and E are the ones that least used broadband connection in the studied period (34%).

Main reasons for households not having access to the internet are its high cost, not having computer at home, not knowing how to use the internet, having no internet available in the area, or having no interest or need, among others. Even class A considered internet connection costs high, which confirms that internet costs is very expensive in Brazil (*cf.* Figure 4). Internet connection prices charged by cell phone companies may vary from BRL 30.00 to more than BRL 150.00 per month. Classes C, D and E that pay for this service are mostly in the range of BRL 30.00 to BRL 60.00 per month.
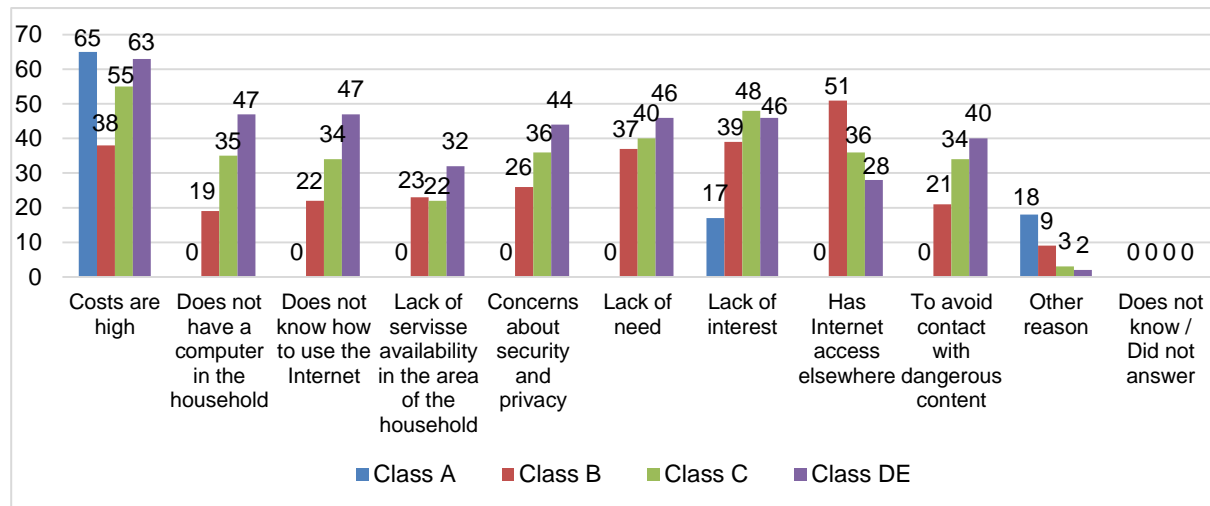


Figure 4. Households without internet access by reason for not having internet.

As a final remark, survey results show that free public internet access centres (Telecenter, library, cultural facilities or community organizations) are used by 17% of the total internet users, including all social classes, being most users of classes A and B (35%), followed by users of classes C, D and E (31%). These results may be somehow biased by the use of libraries and cultural facilities by upper classes users, but they also suggest the importance of Telecenters, which are mostly used by low income community residents.

## 3.2   User's perceptions on the importance of Telecenters

The qualitative analysis of focus groups revealed that Telecenters users perceive network society as associated with a globalized society in which people and processes are increasingly connected by ICT. They also relate it to communication and participation, but mainly with the use of the Internet and social networks.

Regarding the use of ICT in everyday life, they agree that it is impossible to live today without technology, and inform they use it to study, learn, research, work, pay bills, communicate, buy, date, play and help people. Telecenters users believe that it is better and easier to live in today's society. However, they recognize that people's exclusion from society is worrisome, given that a significant part of the population is not connected and does not have the educational or financial means to access and use ICT. They also consider that social classes with greater purchasing power have more and better opportunities in education, work and social life. The following quotes illustrate their perceptions:

"I think we are better off living in this society, as far as public safety and community demands, in all social strata "(M52 - Man, 52 years); "In our community we have people who do not know how to play with a computer, do not even know what it is ... the computer and the internet are increasingly 'excluders' ... those less fortunate, have less information, less ability to use them" (M24); "And there are people who have no condition at all. It is not a question of technology, it is a question of society itself "(W20 – Women, 20 years).

From users' perspective, the internet is an essential and useful resource for living in society, and its use is increasing and irreversible. They believe it is useful for raising awareness, for education, getting knowledge, transforming, manifesting, stating one's opinion, participating, helping and entertaining, and its use may help change the community. Negative aspects are also highlighted as challenges to be overcome, such as laziness, too much simplification, lack of privacy, increasing fear and insecurity.

Participants recognize the three basic citizenship rights (civil, social and political), grouping them into three thematic areas: living better in society, participating in society and belonging to a community (cf. "For me it is every right related to living in society, equal rights for all" (M19)).

They associate digital citizenship with critical thinking, having rights, being active, responsible, and intervening in the community. "It is to be a citizen in an active way, with responsibility, interacting the citizen in the community through information technology, networks, the internet, to live better and integrated in society" (M24). It is the right to have access, to be informed to influence equality of opportunities (economic, social and political) and the accomplishment of citizenship "(M67)."I think digital citizenship has changed because people interact more" (M19).

Finally, the exercise of digital citizenship is associated with a collective, dynamic, excluding (those with no ICT access) and technological movement, as a right to live and participate in society. They consider the achievement of digital citizenship as possible if all people can access ICT to communicate, interact, freely express their opinions, help and respect others, and be respected, gain autonomy and be happy.

Participants, as users of Telecenters, recognize the importance of these attributes in their daily lives, stating that with its daily or even sporadic use they may acquire more knowledge, skills in ICT, train and improve themselves to a professional occupation, learning social norms with easy access to information. They recognize that Telecentres: promote social belonging and cohesion, as public spaces, mostly near their homes, where they are welcome, with no sex, age, race or social status discrimination; are quiet and good physical places to stay, work and study. Plus, they value the face-to-face interaction with Telecentre's employees (volunteers or employed monitors) who are available to teach and answer questions about the use of ICT. It was also found that the free use of the computer and the Internet at no cost is a vital reason to attend these spaces. The activities related to citizenship - territorial identities (226 UR), communication and leisure (192 UR) are the most used, followed by categories related to education (108UR), employment and income (77UR), transversal (49 UR), culture and language (40 UR), health (30 UR) and government services (11UR).

We found little difference in the perceptions of men and women (see Table 1).Both value knowledge and action, as well as the internet availability. Women emphasize Telecentre as a space for 'doing' something. The Telecentre is a space for learning and knowledge, as an extension of the school, where young people can do homework and attend ICT courses, thus developing their computer skills. Women, more than men, agree that there are instructors/teachers for better orientation in the various uses and to provide face-to-face courses. Both recognize it as a workspace and a job search instrument. Men highlight the need to have language courses offered, especially English, which is so important as a professional skill. The Telecentre is also seen as an alternative space for socialization, especially for children, since parents can leave their children there and go to work, thus avoiding them "hanging loose in the streets". Women emphasize more than men the need of investment to better equip Telecentres. But everyone recognizes the importance of the Telecentres' digital inclusion policy, stating that there could be more throughout the city.

Table 1. Word frequency for men and women with regards to the theme: Telecenters.

| Men | | | Women | | |
|---|---|---|---|---|---|
| Word | Frequency | Average | Word | Frequency | Average |
| knowing | 26 | 1,4 | doing | 35 | 2,7 |
| doing | 24 | 1,3 | playing | 26 | 2,0 |
| internet | 18 | 0,9 | internet | 20 | 1,5 |
| schools | 16 | 0,8 | knowing | 18 | 1,4 |
| english | 16 | 0,8 | computer | 16 | 1,2 |
| Work | 14 | 0,7 | knowledge | 14 | 1,1 |
| ….. | | | | | |

It has been noticed, however, that these spaces are increasingly having fewer users. Looking for the reasons for Telecenters gradual emptying, nineteen improvement indicators were extracted from this study. They were divided into three groups: capacity building (*e.g.,* English and Spanish courses being offered), infrastructure (*e.g.,* provision of equipment for making copies and document scanning, printer, landline and Wi-Fi for mobile phones, better quality of internet access and computers, etc.) and management (*e.g.,* greater publicity on schedule of activities and locations, having a Facebook page, opening on weekends, expanding working hours). The following quotes support what has been demanded: "I wish there were more handsets and professionals to train young people in all areas

(M50); "And another part that should be greatly improved is the publicity of events" (M19); "It should have a greater investment because it is very important to help make better citizens" (W19).

Finally, participants recognize that without the technology available in Telecentres it would be very difficult to actively participate in society and exercise digital citizenship. They also this kind of achievement is complex and not immediate, especially for the less favoured social classes because it involves several technological, social, economic and political aspects. That is why they say that those who are not literate nor have ICT skills are automatically excluded from the exercise of digital citizenship and of an active life in the network society. The following quotes illustrates that: "I think Telecenters should (…) gain priority because, as everyone has said, it is the future [...] [and] it is also present" (M19); "The use of the Telecentre can change the way our children see their families, society, community, politics, economy, the world, That's for sure" (M19).

## 4   CONCLUSIONS

Brazil has 208.5 million inhabitants [21]. The poorest classes C, D and E represent 76.1% of the whole population, which is equivalent to 158.67 million inhabitants. So, there is still a long way from reducing its poverty levels and becoming a country where citizens can have the same civil, social and political rights and exercise citizenship on equal terms. ICT research in Brazilian households [7] outlines a grey scenario, about the use of ICT in Brazil, reflecting how far most of the population is from being digitally integrated. At the country's current stage of economic and social development, public policies are fundamental to promote the necessary changes towards the reduction of poverty and the insertion of people in the network society. Digital and social inclusion programs, especially Telecentres, play an important role in providing access to the computer, the internet - two of the main reasons for using them – as well as training courses for people of social classes C, D and E. Our results show that Digital Inclusion Programs, implemented in Telecentres, contribute greatly to ICT access and sharing but also to socioeconomic improvement and community cohesion. These impacts can be seen as indirect (e.g., [23]), since it is only possible to measure them by user's perceptions: representations on the categories associated with communication, education, culture and language, leisure, work, health, government and territorial identities) and not by effective quantitative terms.

The data of the ICT research in Brazilian households provide strong evidences of the importance of digital inclusion policy, as well as of its continuity and strengthening, showing one of the main objectives of the inclusion programs: allow people to master technology for their own development (*e.g.*, [24]), both individually and collectively, in all different aspects of everyday life.

The digital exclusion in Brazil is dramatic, considering that 66% of people in social classes D and E and 34% of people in class C state that they have never used a computer. This is equivalent to 55 million people (approximately ¼ of the Brazilian population) while 47% of people in classes D and E and 21% of people in class C have never accessed the internet, which is equivalent to 23.36 million Brazilians.

Another data that indicates digital exclusion is that only 2% of the population of classes D and E and 22% of class C have desktops in their homes. Besides, only 24% of the population in classes C, D and E (38.08 million of the total 158.67 million) have computers in their residences. Considering the existence of notebook computers the situation does not change much: only 31% of Brazilians in classes C, D and E use it in their residences. On the other hand, the number of people having cell phones in classes D and E is 83% and in class C is 96%. Since classes C, D and E, which are the target users of Telecenters, have, mainly, cell phones, the question is:

Will they soon replace the different uses of Telecenters? Based on the data collected by our qualitative study, the answer is no. First, because the number of computers and notebooks in households in classes C, D and E is very low. Secondly, hiring internet access services is expensive in Brazil. Even people in class A have limited access in their homes due to high connection costs. Only 30% of households in classes D and E and 69% in class C access the internet through computers and notebooks and 42% in classes D and E and 74% of class C do it by using cell phones. 3G and 4G is the most used type of connection by classes C, D and E at an average cost of 60 BRL a month. This price refers to very basic service packages offered by phone companies with very few data and voice resources.

Another important reason for digital exclusion is that 47% of people in classes D and E do not have a computer and do not know how to use the internet, while in class C, that percentage is about 35%. Besides, they state they do not feel safe to use it (44% in class D and E and 36% in class C). A

significant alienation from ICT reality has also been observed in classes C, D and E. In classes D and E, 46% of people say they are not interested in participating in the network society and 44% have no need to use the computer and the internet, whereas in class C this percentage is 48% and 36%, respectively.

Are these data sufficient to answer the central question of this paper? Should they continue to exist in face of the increasing use of cell phones by low-income families as well as the growing possibility of using free Wi-Fi spots? Will cell phone applications evolve to offer courses on first employment, citizenship, social technology (subsistence and economic development), and vocational training such as computer maintenance, network and computer programming in Java languages, among others? Can cell phones replace the socialization and people's empowerment role played by ICT mastering at Telecentres?

We infer cell phones are not able to do so, because only Telecentres, as a public policy tool to face poverty, and also as a public (physical) space, is able to minimize info-exclusion, in particular among those with the least purchase power. However, need improvements in the areas of capacity building, infrastructure quality and management. Access to non-formal education may turn access to ICT easier, helping people cope with change and developing a positive and critical attitude, overcoming obstacles, acquiring knowledge, integrating behaviours, developing autonomy and learning (*e.g.,* [25]). Telecenters promote an active and emancipatory attitude, at the cognitive (in the sense of questioning, making decisions, acting for oneself), affective (developing interest, self-knowledge and security) and social levels (providing new forms of participation and interaction). Self-confidence facilitates adherence to the new media, breaking a generational cycle of people unable to interact in a cultural environment embedded in the ICT languages (*e.g.,* [25]; [26]). People use technology for their individual and collective development (*e.g.*, [24]), contributing to their social and inclusive transformation. This is what we call digital citizenship, which ends up bringing "new life" to citizenship itself, by radically changing the processes of interaction and communication, thus allowing an opportunity for equal participation among those in different social classes.

In short, in Telecenters people find space to communicate, claim for their rights, have fun, learn, participate actively in society, improve their income and their quality of life. For the most part, users show satisfaction in using ICT in Telecenters, which can, also, encourage empowerment, autonomy and solidarity among them. Thus, Telecenters promote digital citizenship, which we infer to be an impossible quest to be solved by cell phones. The growing use of cell phones have been mostly driven by consumption strategies and by their multimedia resources, such as simple applications to take and share photos, and access to social networks.

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