Original article

Digital citizenship and democracy: an evaluation model for public digital inclusion initiatives

Cidadania digital e democracia: modelo de avaliação de iniciativas públicas de inclusão digital

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Abstract

This article investigates themes, factors, and dimensions that could potentially integrate evaluation models for citizenship exercise into digital inclusion programs and spaces. It is a quantitative study conducted in Telecenters located in the city of Belo Horizonte, state of Minas Gerais, Brazil. Correlational statistical models were used for the analyses. The results led to the development of a universal conceptual model. This model encompasses various dimensions of digital inclusion and contributes to the assessment of the impacts of Information and Communication Technologies (ICT) on the democratization of digital citizenship, focusing on the Telecenters Program in Brazil.

Keywords: democracy; digital citizenship; digital inclusion; Telecenters; evaluation.

Resumo

Este artigo investiga as temáticas, os fatores e as dimensões que poderiam potencialmente integrar modelos de avaliação do exercício da cidadania em programas e espaços de inclusão digital. Trata-se de um estudo quantitativo conduzido em Telecentros em Belo Horizonte, Estado de Minas Gerais, Brasil. Para as análises foram utilizados modelos de estatísticas correlacionais. Os resultados permitiram desenvolver uma proposta de um modelo conceitual universal. Abrange as diversas dimensões da inclusão digital, contribuindo para a avaliação dos impactos das Tecnologias de Informação e Comunicação na democratização da cidadania digital, com foco no Programa de Telecentros no Brasil.

Palavras-chave: *democracia; cidadania digital; inclusão digital; Telecentros; avaliação.*

Introduction

Throughout modern history, the ideal of constructing democratic and egalitarian societies has undergone many changes. These changes have taken place to the extent that the rules that sustain human rights, dissemination of knowledge and access to technology have been prioritized as conditions for a collective and dignified life, as far as civil, social and political rights are concerned (Diniz, 2014).

According to Marshall's modern paradigm (1967), citizenship is the capacity attributed to a subject in terms of having certain political, social and civil rights in the scope of a juridical bond with the State, where the subject delegates his or her participation in politics to elected representatives (Costa and Ianni, 2018). But in the post-modern world, in face of the neoliberal progression and the constitution of an information society, the State has lost its prominence. Models of direct and indirect democracy complement and coexist with each other; new technologies are dominant; and information and ease in communication acquire unprecedented importance and power.

In democratic contexts, any citizen with the access and capacity to use Information and Communication Technologies (ICTs) is capable, in theory, to autonomously trigger off collective actions and influence social movements with a simple click. This renews the utopic vision that everyone can truly be "equal". As such, the so-called network society is a reflex, consequence and representation of a new social reality, and in order to participate in it as a citizen, obedience to the State is no longer required. Instead, citizenship is based on the individual capacity to act in the construction of social rules, taking into account acquired experience and knowledge, as well as access and opportunity of expression (Snyder, 2016; Bustamante, 2010; Castells, 2003).

This perspective allows various authors to affirm that, through the usage of the ICTs, all individuals are potentially able to exert the same civil, social and political rights, independently of gender, race, social condition, education level, and political or religious option – a situation that configures the concept of an active, digital or hyper-citizenship (ibid.).

In this manner, the notion of digital citizenship departs from a systemic conception of the network society, based on information, knowledge and citizen participation. It is acknowledged, however, that the inequalities between social classes, and even between countries, reflect differences in levels of knowledge, opportunity, accessibility and use of the ICTs, limiting the functions and roles that each person may perform in the network society (Poker, 2009; Silva, 2013, Unesco 2005; Mendes, 2001).

Therefore, the utopian dream of an egalitarian society promised by the network society remains increasingly distant in view of the difficulties in reducing poverty, promoting better conditions of living, as well as increasing opportunities for work and upward mobility. Paradoxically, the opportunities promoted by the ICTs have resulted in the increase of economic, digital and social exclusion, further implicating new ethical and moral questions related to the rapid transformation of cultural values in societies. This consolidates a social model: the network society dominated by great information monopolies, hegemonic groups in

economic power and with greater power for the elaboration of norms and behaviors for life in society (Mendes, 2001).

Even as we acknowledge the benefits arising from amplified conditions for information access, speed and popularization, thus facilitating the exercise of various activities previously restricted to only a few social groups (Gomes, 2007), the promise of empowering citizens to follow, contest and intervene in the decisions derived from the centers of power, by means of the public or community sphere, remains a challenge. In the same manner, social movements by themselves are not capable of reducing neither poverty nor social inequality. Nor are they capable of promoting autonomy and social transformation.

It is from this perspective, therefore, that the network society paradigm presupposes the recovery of the State's prominent role, as Brazil's Federal Government National Broadband Plan and the 2010 Action Plan exemplify.[1] Specifically, the Program 1008 – 'Digital Inclusion' is responsible for the adoption of a coherent unit of redistributive public policies, directed at minimizing social inequalities and promoting economic development, safeguarding an ethical and humanist dimension and guaranteeing the exercise of citizenship to all.

In the realm of the ICTs, the requirements for state action to achieve these goals are: the development of new abilities and competences; the promotion of social and digital inclusion; the regimentation of social networks; the dissemination of public interest information; the assurance of safety and privacy in the use of the internet; the simplification and improvement of public services; the promotion of economic growth, competitiveness and productivity; as well as the stimulation of collaboration and social participation networks (Magalhães, 2007).

Considering, on the one hand, the fast penetration of technology in today's society, as illustrated by the centrality of the ICTs on people's lives and, on the other hand, the disproportionate rate in the attempt to reduce poverty and social inequality, it is possible to verify that since the beginning of this century, the State has intervened with public policies for social inclusion, especially in developing countries, following the orientation of international guidelines. The main goals of these policies include: a) enabling broadband access to all citizens; b) developing new ICT capacities at no cost, especially for more vulnerable populations; c) offering quality and efficiency in public services by means of electronic government applications; d) offering people the right to improve the exercise of their citizenship through electronic democracy; e) creating new forms of generating economic value through the use electronic business and interactive content (ONU br, 2016; MCTI, 2015; Lança, 2004; UMIC, 2002).

To render these goals effective, the public policy for digital inclusion must be recognized as a fundamental human right. Access to information and knowledge increases the exercise of citizenship, enabling the integration and modification of the lives of individuals, social groups and nations (Cardoso et al., 2012).

Specifically in Brazil, which has a population of 203.080.756 (IBGE, 2022) people and living conditions extremely disparate in social, cultural e geographical terms, there are various initiatives for the inclusion of the country in the information, knowledge and

social network. However, little has been done in the sense of monitoring and evaluating the effectiveness of the current Brazilian public policy for social inclusion.

Among the actions that have been implemented, the present study is dedicated to the discussion of the Telecenters.br Program, created in 2009 by the Federal Government's Decree #6991, and its implications at the state and municipal levels, as in the case of the city of Belo Horizonte, Minas Gerais.

Telecenters offer computer and internet access, as well as the development of ICT abilities at no cost; they are usually located in low-income areas. Through the Telecenter. br Program, these spaces can have different types of management (public, private or community), but their infrastructure is always the same, and their final goal is to reduce the digital divide in order to increase the exercise of citizenship. The federal governments of the last two decades in Brazil have differed in their approaches to social policies and the degree of relevance placed upon them. But Telecenters. br is one of the few programs that has survived up to the present, without any alterations in its goals, in spite of the rise in numbers and in quality of cellular phones,[2] increasingly used by the general population.

However, in spite of the significant repercussions of this policy in various segments of Brazilian society, the results published to this moment amount to numerical indicators, that little express its final goal of boosting the exercise of citizenship. There is lack of scientific evidence clarifying elements in the concepts of digital inclusion and citizenship, as well as studies that analyze the relations of cause and effect between these practices, for these policies to be acknowledged as tools for social development and the exercise of citizenship for the vulnerable groups (classes C, D and E)[3] in Brazilian society.

The present study integrates the doctoral research undertaken during the years 2016-2019 at the Graduate Program in the Science and Technology of Information of the Instituto Universitário de Lisboa (IUL-ISCTE), in an attempt to fill this gap, using a sample of 515 users of digital inclusion social programs at the Telecenters of Belo Horizonte. "*In 2022, the majority of the Brazilian population (60,15) lived with up to one minimum salary per capita monthly, while 21,8% had an income varying between one and three minimum salaries monthly, and 8,1% received an income superior to three minimum salaries each month*."[4]

Network society

In the twenty-first century, global society became known as "network society" or "information society"; the internet is considered the source of society's paradigmatic changes in its organization forms and social practices. However, the consensus among various authors is that the ICTs, as tools for social, economic and political transformation will only materialize when they become accessible to everyone. Only then will the ICTs effectively become a means for the eradication of poverty, the reduction of inequalities and the improvement in the quality of life, particularly for the more vulnerable populations (Bagchi et al., 2015; Correia, 2007).

The use of the internet brought on various possibilities for social change, especially in the last decades. According to Castells (2011), the most remarkable of these is the transformation in the process of communication, an integral part of a distinctive characteristic of humans, which is that of being logical. Hence, the internet became popular and its use allows people to access what they wish, whenever they wish it and, most importantly, the internet enables different forms of assimilating information according to the individual cognitive ability, educational level, age, culture or interest, among other aspects (Castells, 2011; Correia, 2007; Topaloglu, Caldibi and Oge, 2016).

As an additional characteristic to the growing use of the internet, one observes a rupture in the traditional structures of commerce, with the formation of an increasingly integrated and globalized commerce, which dislocates the existing business paradigms by reducing the old commercial barriers (Dias, 2007; Montargil, 2007). In spite of these advantages, it is important to consider that the internet also brought along negative implications which demand attention and regulation. These include the dissemination of fake news, scams and other forms of illicit activities, many of which still lack effective regulation (Diniz, Cardoso and Puglia, 2002).

In this manner, although the internet enhances the possibility of significant social changes, it also presents challenges, which need to be overcome so that benefits become accessible to all.

In this context, the State's role becomes crucial for the promotion of social policies that guarantee universal access to the internet and the reduction of digital inequalities. In order to join the socioeconomic model imposed by the network society, countries need to establish goals, in their respective digital domains, for economic, social and political development. An example of this effort are the six pillars determined by Portugal and Brazil (UMIC, 2002; Takahashi, 2000): a) the provision of broadband for all citizens; b) the offer and development of new capacities, especially for low-income population groups; c) the offer of quality and efficiency in public services by means of electronic government applications; d) the guarantee to all people of the right to exercise citizenship by means of electronic democracy; e) the improvement in health conditions within everyone's reach; and f) the generation of new means of creating economic value through e-commerce and interactive contents (Lança, 2004; UMIC, 2002).

However, the execution of all these guidelines is complex, diffuse and often utopic, especially in countries in the periphery of capitalist centers.

Still, considering the internet is a "central key" for the development of countries in the network society, and also the social inequity among different groups in a single nation, the State must assume an important role in guaranteeing generalized access to the internet and expansion in the use of the ICTs. By means of social policies, the State needs to increase digital literacy, thus decreasing the "digital divide" that aggravates these inequalities (Figueiredo, 2007).

Furthermore, it is assumed that an open State must make public interest information available in a transparent and cost-free manner

to everyone. Not only the State, but also businesses and other entities of civil society must participate in the construction of a fair and democratic network society, applying part of their social responsibility to the creation of locations of free access to the ICTs. They must also disseminate technological knowledge by offering spaces for collaborative work and promoting ethical behavior, among other means (Almeida, 2007; Neves, 2007).

The issue of the digital divide, inserted in this discussion, is a challenge that the State must meet as it seeks to promote public policies that make the access to the Information and Communication Technologies (ICTs) democratic.

The info-exclusion or digital divide is related to people who have no easy access (or any access whatsoever) to electronic communication means, not even e-mail. It also includes those who are incapable of learning how to deal with the technological changes that would enable them to be in tune with the new means of communication (Pereira, 2007). One might affirm, therefore, with a certain degree of clarity, that the real "face of info-exclusion" resides in the digitalizing of inequality (Dias, 2007).

One may add that the "info-excluded" is the individual who "while having access to the net, finds there only an alien and strange world, where his or her culture neither exists nor is acknowledged" (ibid., p. 77). It is undeniable that the ICTs, when disseminated to all citizens in an adequate manner, can be an instrument in the fight against info-exclusion (Ramos 2007). One of the public policies that postulates the combat against info-exclusion and the increase of digital literacy is the Digital Inclusion Policy.

In order to mitigate the effects of the digital divide and promote a more inclusive society, notions of digital inclusion emerge as strategy tools in confronting social inequalities, enabling a democratic access to the ICTs.

Digital inclusion

The central idea of this modality in public social policy, as in the case of digital inclusion in Brazil, is to provide incentives to the system beneficiaries, enabling them to change the course of their lives. It may occur by improving their qualifications or by removing school age children from the streets and placing them in schools. These actions thus associate the immediate fight against extreme poverty to the rupture in the generational cycle of exclusion and destitution (Piovesan, 2003).

Digital inclusion programs fit into the production of this new social technology directed towards social inclusion. In urban contexts, the programs demonstrate the potential to develop answers and social provisions that are territorial, integrated, intersectoral and democratic. In this manner, they have a manifest capacity of facing social exclusion as part of a process of social reconstruction (Sposati, 2003). According to Sposati (ibid.), access to information is a fundamental right of any democratic society based on pluralism, tolerance, justice and mutual respect.

Among the various manifestations of Digital Inclusion, this research is focused on the implementation of projects designed

to increase the dialogue between low-income communities[5] and the governmental programs and actions. One of such projects is the Center for the Reconditioning of Computers (CRC), developed in the realm of the Federal Government's Computers for Inclusion Program.

The CRCs are units responsible for receiving discarded computing devices and recovering them. After their recovery, they are sent to Telecenters, libraries, public schools and NGOs. This process increases the possibilities of collective access at the ICTs, conceived by the digital inclusion policy. This program also allows young people to develop work skills in courses where they learn how to recondition computers.

Another project which is the main focus of this research, are the so-called Telecenters, public access spaces located in poor communities, equipped with computers connected to broadband internet, designed for cost-free community use.

When we speak of digital inclusion, we refer to a new culture of rights, not only in the generic sense of the right to the internet, but of the right to access information as a public asset. Through this perspective, these programs are considered a predominant factor for the formation of a new citizenship, increasing not only the possibility of employment, but also generating conditions for community development and problem solving. This occurs with the participation and critical autonomy for change in political practices, thus promoting social inclusion (Grossi, Costa and Santos, 2013).

According to these authors, the digital inclusion programs contribute to social inclusion as they: a) enable people to appropriate technology for their own development in various aspects; b) stimulate the generation of employment and income; c) improve the quality of life among families; d) promote greater social freedom; and e) provide incentive for the construction and maintenance of an active, educated and enterprising society.

Becker (2009) (apud Massensini, 2011, p. 13) affirms that

> [...] digital inclusion would then compensate for this inequality in the citizenship status with an 'opportunity equity' in the acquisition of information, qualification for the job market, search for the knowledge to defend one's rights, communication and expression, etc.

The policies for digital inclusion not only fight info-exclusion, but also reinforce the importance of the exercise of citizenship as the basis for a fairer and more participative society, where the access to information is a fundamental right for the construction of a dignified and egalitarian life.

Citizenship and digital citizenship

In order to define citizenship, one must incorporate the various transformations that have emerged throughout history. Departing from ancient Greece, where the exercise of citizenship was restricted to free individuals, who enjoyed various privileges, to the time where people obeyed the norms established by the State, we arrive at the idea of citizenship in the twenty-first century, where the citizen is a subject with rights, without restriction of gender, race, political or religious conviction. This citizen expresses his or her will freely, with the right of command over body and life

(Diniz, 2014; Cover, 2001). Diniz (2014) expands this idea, arguing that the construction of the concept of citizenship occurred through the mobilization of:

> [...] people and organizations, in search for constructing an equal and participative society. Today, more than ever, popular participation is seen as one of the most visible demonstration of the right to citizenship. It is, at the same time, a guarantee for the exercise of citizenship, ensuring and making other rights possible.

Being a citizen implies having the right to life, with freedom and equality before the law; participating in the destiny of society; being able to make decisions; having a constructive opinion; respecting the rights of others; and having the access to education, work, fair wages, health and also a peaceful old age (Diniz, 2014; Pinsky and Pinsky, 2005). From the perspective of participating in decisive processes of collective interest, citizenship may be passive, with the assurance of rights in society to ensure the right to life, or active, fostering the right to life with civil and political participation (Massensini, 2001; Pereira, 2007; Silveira, 2010).

The exercise of citizenship also requires the consciousness of individuals of the reality in which they live, enabling them to participate effectively in the transformation of this reality and in the distribution of benefits, in a continuous process of interaction between collective and individual rights and responsibilities (Massensini, 2001). Although social classes convey a system of inequities, citizenship seeks equality in rights and obligations, sustained by ideas, values and beliefs (Marshall, 1967). These aspects are based in three fundamental rights: civil (individual freedom), political (participation in power) and social (economic and social welfare) (Massensini, 2001).

Considering the historical trajectory of citizenship and three basic rights which sustain it, it is possible to affirm that welfare and a dignified life in society are hinged on the full exercise of citizenship (Caraça, 2007, p. 154).

The evolution of Information and Communication Technologies (ICTs) has added a new dimension to the concept of citizenship, which now includes the exercise of rights and responsibilities in the digital environment. According to Snyder (2016), Bustamante (2010) and Castells (2003), digital citizenship, known also as active citizenship or hyper citizenship, are technological activities that measure the interaction of rights and responsibilities, individual and collective, driven by the citizens' freedom of expression. Digital citizenship represents full exercise in political, social and economic participation through the use of ICTs (Silveira, 2010). Snyder (2016) defines this concept as a way of life where ethics, morality and the responsible use of technology guarantees individual and collective security. Wright (2008, p. 6), on the other hand, affirms that digital citizenship is the "ability to participate in society on-line," characterizing life in a connected world.

Although the ICTs have changed the daily dynamics of life, they reinforce the responsibility of the State in providing support for progress, justice and modernity. In this manner, they guarantee freedom, value, respect and the citizen's role as producer and transmitter of knowledge (Caraça, 2007; Pereira, 2007; Zorrinho, 2007). But even with the efforts to overcome the hurdles of cost and training, the divisions in cultural, educational

and information access enhance the inequalities in the provision of citizenship, distancing it from equity and power of decision (Pereira, 2007, p. 528). However, the exercise of digital citizenship can enable collective practices that render individual necessities compatible with those of collective social groups (Covre, 2001).

In the wider context of digital citizenship, as previously discussed, the citizen's online practice does not occur in an isolated manner, but involves a series of interconnected elements that are fundamental to guarantee the full exercise of rights and responsibilities in the digital environment. Ribble (2011) defines nine essential elements for the exercise of digital citizenship: a) digital access: full electronic participation in the realm of the social group; b) electronic commerce: electronic purchase and sale of goods and services; c) digital communication: electronic exchange of information; d) digital literacy: process of teaching and learning about technology and its use; e) social etiquette: electronic patterns of conduct and/or social behavior; f) digital regulation: civil responsibility over work and digital practices; g) digital rights and responsibilities: freedom extended to all in the digital world; h) health and digital well- being: physical and psychological well-being in a world of digital technology; and i) digital safety (self-protection): electronic precautions to guarantee safety. The nine elements proposed by Ribble contribute to the quality advancement of digital citizenship (Diniz, 2014, p. 10). These elements contribute to improve the quality of digital citizenship, promoting more inclusive and democratic practices (ibid., p. 10).

Among the essential elements for the exercise of digital citizenship, digital literacy stands out as a crucial point, especially when we consider the relation between technology access and the capacity to use it in a full and informed manner. In this context, "informational literacy cannot be isolated from digital literacy, as they are convergent" (Cardoso et al., 2012, p.4), especially because "without the cognitive abilities leading to the development of information technology, one does not acquire digital literacy" (Silva, 2012, p. 40). Another important factor for the convergence is that, especially with the use of the internet, information sources proliferate rapidly. It becomes, therefore, increasingly relevant for an individual to have full command of digital literacy, in order to select information and make decisions in his or her professional life.

For Ryynänen (2004), digital literacy constitutes a basic human right throughout a person's entire life, because without it the citizen is incapable of exercising other rights. In this sense, "promoting information literacy means empowering people to reach their potential in information society." According to Unesco (2005), "digital literacy involves a continuum of learning, enabling individuals to achieve their goals, develop their knowledge and potential, and participate fully in the community and wider society" (Cardoso et al., 2012, p. 308).

The development of abilities in digital literacy for the exercise of digital citizenship, by means of informal training offered by the inclusion programs at the Telecenters (it is, in reality, a training that goes beyond formal education received at school), can operate as a link between individuals who are in "digital divide" and their cultural barriers.

These links enable a greater access to the different thematic areas required for the full exercise of citizenship of individuals with limited

education and low social condition, allowing for greater equity of opportunities in the digital environments (Silva, 2012).

Aspects of methodology

In order to propose the Case Study which is the object of this article, i. e., the elaboration of the correlations between the Telecenters, Citizenship, ICTs and the Internet, as well as the conceptual model presented in the next section, various exploratory and inferential studies were carried out throughout the research process (see Figure 1). Due to the lack of space, a summary of this methodological path is presented below.

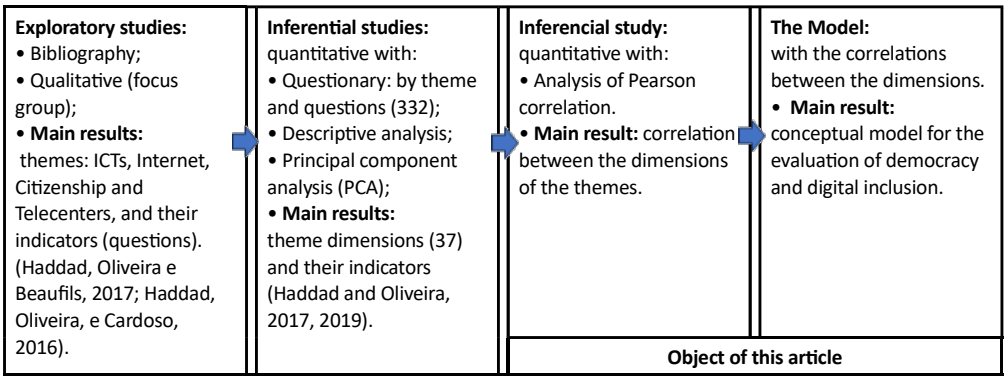
This section is organized in three parts: population and location, data collection and preliminary studies (exploratory and inferential studies up to Principal Component Analysis (PCA). Pearson's methodology of correlations will be presented in detail and, lastly, the justification for not using an already existing conceptual model will be presented.

Population and location

The population was constituted by the users of 84 of the 302[6] Telecenters installed (but not necessarily in operation) in Belo Horizonte, MG (See Table 1 and Figure 2). The Telecenters in operation (of the types installed in low-income communities, schools, or those installed in other government organs) in the city had the support of the Municipal Government by means of the Information Technology Company of the City of Belo Horizonte (Prodabel).

As for the participants, they are all users of the Telecenters and belong to a low-income social class (family income ranging between 1 and 3 minimum salaries). Their age range is between 18 and 70 years; they vary in levels of education, marital status or profession, and comprise retired and unemployed people.

Figura 1 – Percurso metodológico do estudo global



Fonte: Haddad, 2019.

Table 1 – Number of telecenters according to typology

Managemen	Telecenter typology	Active Telecenters	
		N.	%
NGOs/Associations	Community	52	17,2
BH City Hall - SMED	IT Labs in municipal public schools	172	57,0
BH City Hall - FMC	Cultural Centers	16	5,3
BH City Hall - Prodabel	CRC	2	0,7
BH City Hall - SMED	IT Labs in vocational schools	3	1,0
BH City Hall - SMPL	BH Cidadania, CRAS, etc.	41	13,6
Others	Various	19	6,3
Total		302	100

Source: Prodabel Inclusion Board, 2017.

It was our option to include the online survey link on the Prodabel website and in the work space of all the computers in functioning Telecenters. Once the stage of data collection was concluded, a sample of 641 participants was obtained from 84 Telecenters. We had 291 female and 350 male participants.

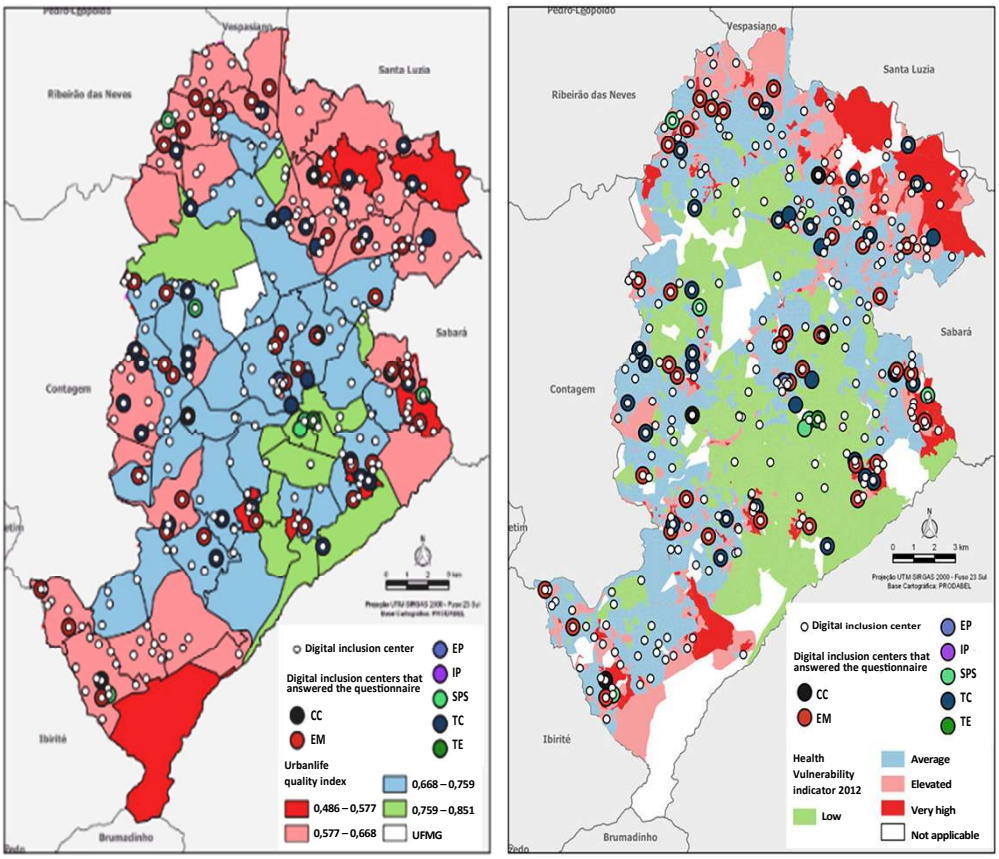
In order for the statistical analyses to be effective, 126 questionnaires considered incomplete were eliminated. In this manner, a sample of 84 Telecenters with different characteristics and 515 participants who completed the online questions was obtained.

In relation to the number of participating users for each type of Telecenter, attention is brought the fact that the highest number of valid questionnaires (249) came from 34 Telecenters located in low-income communities (of the 52 existing in these areas). Next, 126 valid questionnaires came from Telecenters in the Information Labs of public municipal schools (of the 175 Telecenters available in this category). Thirdly, only 11 valid questionnaires came from the 7 Telecenters inserted in Municipal Secretariat for Social Policies equipment (of the 41 available).

At the Center for the Reconditioning of Computers (CRC), under the auspices of Prodabel, 47 questionnaires with valid answers were attained from a single location. Furthermore, 55 valid questionnaires were obtained from 5 Telecenters in cultural centers (of the 16 available). From the other types of Telecenters, located in two different places (from the 18 available), 27 valid questionnaires were received.

The 515 participating users are distributed along 168 districts, vilas[7] or favelas in the city, which is very representative, considering that there are 487 of these official settlements in Belo Horizonte. Nine districts, vilas and favelas stand out, which can indicate that the users prefer to attend the Telecenters located next to their homes. The Telecenters are distributed all over the municipal territory, the majority of them located in areas where the indicators of quality of life and health figure amongst the lowest in the city (Figure 2).

Figure 2 – Participating Telecenters in the study, distributed by municipal territory and indicators of quality of life and health of the areas where they are located



Source: Belo Horizonte Municipal Government, Prodabel, 2017.

Data collection

This was done by means of a questionnaire elaborated with eight open questions for sociodemographic characterization, 332 closed questions, with 332 indicators. Of these, 116 were part of the exploratory phase, and the remaining derived from other studies and from the theoretical-conceptual investigation. These questions were evaluated in a scale similar to Likert, of 1 to 5 (through the Qualtrics system), and 25 open questions without the Likert scale (Haddad, 2019).

The process of primary data collection was simple and random. The Telecenter users who were at the centers at the time of the study answered the questionnaires on a voluntary basis. The questionnaire that included measurement indicators of the perception of ICT impact and of usage of digital inclusion programs (Telecenters) in the exercise of digital citizenship was available online during a period of 44 days in the Telecenter computers.

We received a number of over 700 answered questionnaires, characterizing a random non-parametric sample, as it did not present a normal distribution (ibid.). The answers were classified and analyzed, considering their limitation due to the fact that the distance between the answers cannot be measured. However, this limitation is acceptable for social phenomena. In this manner, a series of qualitative factors were transformed into quantitative or variable ones, enabling the obtention of measurable answers over the four themes (ICT, Internet, Telecenter and Citizenship), in a gradual manner and with different intensities.

The data was migrated from Qualtrics to Excel and then exported to SPSS. After being collected, the data was grouped and treated statistically using different methods, with the aim of attending to the various objectives of the study as a whole.

Preliminary statistical analyses

Initially, a descriptive statistical analysis was performed. Through this analysis, based on the sample means and the intensity grading of the Likert scale, we obtained a perception of the importance of the proposed indicators for each surveyed question. These analyses were presented on frequency tables, including sample mean and sample standard deviation. With these statistics and indicators, it was possible to extract the first conclusions for the general comprehension of the sample/universe and for preliminary explorations of the data in relation to the objectives of the research (Haddad, 2019; Haddad, Oliveira and Beaufils, 2017). Even considering the elevated number of indicators per question, we opted to maintain them, thus guaranteeing the integrity of the data, the celerity of the research and the detailed analysis of aspects from earlier studies (Haddad, 2019; Haddad, Oliveira and Alturas, 2022, 2023).

Next, the dimensions of each theme (ICT, Internet, Telecenter and Citizenship) were defined by means of Principal Component Analysis (PCA). This method enabled the reduction of the set of correlated indicators (variables) into another set with a smaller number of non-correlated variables, designated as principal components or dimensions. This

procedure reduced the complexity of the data interpretation and enabled the analysis of these dimensions in order to use them as inputs, explanatory variable metrics or explained in other statistical techniques or models.

To ensure the quality of the analyses, criteria such as sample eigenvalues, explained variance (above 50%) and Cronbach's alpha (Pestana and Gageiro, 2014; Larueano and Botelho, 2017). We also applied the Kaiser--Meyer-Olkin Measure of Sampling Adequacy (KMO) and the Bartlett test to verify the quality of the correlations among the variables. With acceptable results according to the literature,[8] we proceeded with the statistical analyses, including the coefficient of correlation linear of Pearson, R, to assess the degree of association (positive or negative) and the intensity of the variables (dimensions), as well as their contribution for the individual variances.

Of the 332 items analyzed, 47 dimensions were identified and distributed according to this form: passive dimensions: 3 dimensions (Social Rights, Civil Rights and Political Rights); active citizenship: 3 dimensions (Social Interaction, Digital Access and Digital Literacy); ICTs: 11 dimensions, of which 6 were for "contributions of the ICTs" (Social Exclusion, Training and Communication, Dependency, Updating and Integration, Social Participation and Politics, Social Consciousness), 3 for "feelings towards the ICTs" (Autonomy, Restlessness, Know-how); 2 for internet: (Opportunities, Threats); Telecenters: 20 dimensions – of these 4 were for "the Telecenter enables" (Training/Learning, Accessibility/ Integration, Reconversion/Intervention, Optimization); 5 were for "reasons to visiting" (Socialization, Lack of Knowledge, Restrictions, Digital Accessibility, Digital Inaccessibility); 5 for "activities" (Active Participation, Searching and Sharing Information, Leisure, Development, Communication); 2 for "manager" (Community Promotion and Community Service); and 4 for "improvements" (Development, Quality Maintenance, Extension of Operation, Expansion of Services).

Statistical analyses of the correlations between dimensions

For the analyses between the dimensions, the coefficient of Pearson's correlation was applied (Cohen, 1988). We refer here to the dimensions of the ICTs and those of the internet with those of the Telecenter; the dimensions of the ICTs and those of the internet with those of (active) digital citizenship and passive citizenship; and those of the Telecenter with (active) digital citizenship and passive citizenship.

It should be highlighted that this research lies in the realm of Social Studies and many authors (Cohen, 1988; Field, 2009; Maroco, 2011) defend that Pearson's ρ values in the range of 0.3 to 0.5, positive or negative, represent a good/ excellent linear correlation, indicating some relation between the variables. This was the reference adopted to determine the existence of a correlation between the variables, comparing ρ values with the level of significance.

The statistical significance level (α) of 0.5 was adopted. Thus, when the ρ value ≤ 0.05, we considered the correlation as statistically significant. On the other hand, when the ρ value > 0.05, we considered that the correlation was not statistically significant (Oliveira 2008; Pereira and Patrício, 2016).

Finally, we highlight that in more conservative analyses, this interpretation of the ρ value can vary according the field of knowledge and the objectives of the study.

Conceptual model

The option for not working with a model in the initial stage of the research process, nor in the exploratory stage that followed it was due to the fact that we initially had no evidence nor scientifically relevant data regarding the dimensions of digital inclusion and citizenship, much less about the relations of cause and effect of these two themes.

Had we opted to test a model at the beginning of the research, the probability of it being incomplete, inadequate for the population group under study and lacking in theoretical and empirical foundation would be great. This would result in an easily questionable model, which would limit and possibly hinder the correct definition of the methodological approach for a detailed and well-founded research study.

Case study of the correlations between the dimensions

We present, below, the statistical results that determine the degree of association between the internal dimensions of the four themes: Telecenter, ICTs, Internet and Citizenship (passive and active).

Correlations between the dimensions: Telecenter, ICTs, and the Internet

The results in Table 2 complement the results of the literature presented, indicating the perception of the Telecenter (as well as the reasons for attending it, the activities developed therein, the role of the manager and the necessary improvements) as a place where one may have access to the ICTs, and are strongly correlated to them. It is at the Telecenters that low-income populations have a cost-free access to the ICTs; it is there that these populations can use the ICTs for training, communicating, becoming updated and integrating socially. It is where they can participate politically in meetings of participatory budget, for example. This contributes for a greater awareness of the everyday problems of community life. The more one considers how much the ICTs help in training and communication, in updating and social integration, in social and political participation, and in social consciousness, the stronger is the perception that the Telecenters are fundamental for digital accessibility, for searching and sharing information, leisure, community promotion and service. Furthermore, in today's society, the Telecenters help to decrease the digital divide and digital exclusion (a dimension that is in opposition to the use of the Telecenters).

It becomes evident that lack of knowledge and the restrictions to the use of the ICTs are correlated in the opposite sense to the use of the ICTs. Curiously, active participation in the activities accomplished in the Telecenters does note correlate to training, communication and consciousness in the use of ICTs, perhaps because the latter are understood as being prior prerequisites to this participation. We also verified that social exclusion is oppositely correlated with the use of the Telecenters, i.e., the less one uses the Telecenters, the greater the social and digital exclusion may be regarding the use of the ICTs. On the other hand, dependency on ICTs does not correlate to the use of the Telecenter.

What stands out is that the more autonomy one has, as well as know-how in relation to the ICTs and perception of the use of the internet as an opportunity, the more the Telecenters are utilized as spaces for equity in social opportunities. However, the use of the internet is also viewed as a threat, which leads us to infer that this correlation may be associated to people who do not have access to the internet, which becomes a strong factor of social and digital exclusion. The internet as a threat may also be correlated to its use for illicit purposes.

Table 2 – Correlations between the dimensions associated to the Telecenters and the associated dimensions to the ICTs and those of the internet

Dimensions associated to the Telecenter		Contributions of the ICTs						Feelings towards the ICTs			Internet	
		Social Exclusion[2]	Training and Communication[1]	Dependency[2]	Up-dating/ social integration[1]	Social participation and politcs[1]	Conciousness[1]	Autonomy[1]	Restlessness[2]	Know-how[1]	Opportunity[1]	Threat[2]
Telecenter	Training/ Learning	-0,230***	0,457***	-0,076	0,352***	0,347***	0,343***	0,345***	-0,147**	0,438***	0,415***	-0,163***
	Accessibility/ Integration	-0,181***	0,346***	-0,052	0,322***	0,329***	0,304***	0,274***	-0,151**	0,337***	0,404***	-0,075
	Reconversion/ Intervention	-0,191***	0,405***	0,002	0,399***	0,308***	0,316***	0,328***	-0,085	0,398***	0,470***	-0,106*
	Optimization	-0,015	0,079	-0,052	0,235***	0,196***	0,101*	0,227***	0,069	0,134**	0,178***	0,041
Reasons for attending or not	Socialization	-0,083	0,307***	-0,045	0,248***	0,220***	0,250***	0,280***	-0,080	0,245***	0,320***	-0,115*
	Lack of knowledge	0,093	0,065	0,111*	0,046	0,172***	0,108*	0,019	0,139**	0,010	0,076	0,144**
	Restrictions	0,077	-0,181***	0,131**	0,061	-0,076	-0,032	-0,048	0,193***	-0,132**	-0,116*	0,184***
	Digital accessibility	-0,143**	0,256***	-0,079	0,197***	0,142**	0,228***	0,264***	-0,128**	0,285***	0,326***	-0,102*
	Digital inaccessibility	0,039	0,025	-0,090*	0,018	0,049	0,034	0,034	0,081	0,028	0,038	0,017
Activities	Active participation	-0,024	0,028	-0,025	0,205***	0,127**	0,025	0,235***	0,101*	0,127**	0,149**	0,068
	Searching and sharing information	-0,167***	0,281***	-0,054	0,271***	0,208***	0,200***	0,325***	-0,045	0,385***	0,287***	-0,094*
	Leisure	-0,140**	0,059	-0,137**	0,173***	0,050	0,054	0,221***	0,025	0,148**	0,114*	0,006
	Development	-0,106*	0,223***	-0,078	0,202***	0,142**	0,124**	0,202***	-0,036	0,230***	0,170***	-0,119**
	Communication	-0,022	0,059	0,028	0,212***	0,133**	0,088	0,256***	-0,005	0,214***	0,196***	0,004
Manager	Community promotion	-0,129**	0,330***	0,018	0,392***	0,334***	0,219***	0,339***	-0,012	0,298***	0,368***	-0,062
	Community service	-0,082	0,158**	0,004	0,319***	0,290***	0,174***	0,289***	0,023	0,193***	0,264***	-0,014
Improvements	Development	-0,131**	0,303***	-0,044	0,298***	0,205***	0,262***	0,240***	-0,037	0,264***	0,276***	-0,099*
	Quality maintenance	-0,088	0,311***	-0,067	0,292***	0,245***	0,257***	0,213***	-0,004	0,243***	0,372***	-0,081
	Extension	0,006	0,243***	0,023	0,236***	0,304***	0,200***	0,218***	0,102*	0,217***	0,317***	0,021
	Service expansion	-0,058	0,197***	-0,031	0,270***	0,173***	0,177***	0,188***	-0,012	0,181***	0,233***	-0,021

Pearson correlations –A statistical significance: $p < 0.050$*; $p < 0.010$ **; $p < 0.001$***
Significance: borderline statistic; orange color: negative; gray color: positive.
Source: Haddad, 2019.

Correlations between the dimensions: ICTs and the Internet

The results presented in Table 3 reinforce previous results, showing that the internet is assessed, above all, by the opportunities it provides. The more one considers that the ICTs aid in training; communication; updating; social integration; social participation and politics; and social consciousness, the stronger is the perception that the use of the internet really is an opportunity. Curiously, social participation and politics is also ambivalent, as it can be associated to the internet as a threat, for its potential use in participative events.

One observes, however, that the more the internet is represented as a threat: a) the stronger is the representation of the ICTs as a factor of people's dependence, especially in relation to the internet itself; b) and more significant, is the representation of the ICTs as possible factors of social exclusion – in other words, it is the contrary, in the sense that for the ICTs to be perceived as preventive to exclusion and as real factors of integration, the internet needs to be accessible to everyone, and seen as an opportunity.

This highlights not only the importance of the ICTs, but also of using them effectively, as well as the importance of free and open access to the internet, for the opportunities of information access it provides.

Table 3 – Correlations between the dimensions associated to the ICTs and those of the internet

Dimensions associated to the ICTs		Internet	
		Oportunities[1]	Threats[2]
Contributions	Social exclusion	0,014	0,652***
	Training and communication	0,562***	-0,143**
	Dependency	0,068	0,413***
	Updating and social integration	0,546***	-0,090
	Social and political participation	0,524***	0,202***
	Social consciousness	0,491***	-0,076
Feelings	Autonomy	0,377***	-0,099*
	Restlessness	-0,012	0,453***
	Know-how	0,420***	-0,069

Pearson correlations –A statistical significance: p < 0.050*; p < 0.010 **; p < 0.001***
Significance: borderline statistic; orange color: negative; gray color: positive.
Note: MCA generated factors refer to: 1– positive contributions and 2– negative contributions.
Source: Haddad, 2019.

Correlations between the dimensions: ICTs, the Internet and Citizenship (digital and passive)

As Table 4 shows, there are two strong correlations between the dimensions of citizenship (social rights, civil rights and political rights) and the following dimensions: training and communication; updating and social integration; social and political participation; and social consciousness. All of them are associated to the contributions of the ICTs. This means that the more one perceives the ICTs as important for helping people in their technical training, facility in communication, participation at the community at the social and political levels, as well as in having consciousness of the problems and realities involving them, the greater is people's capacity for exercising of citizenship in all its ramifications, at the social, civil and political levels.

From this we can infer the role of the ICTs in the combat of social exclusion. In corroboration with these results, it becomes clear that the more people feel socially excluded, the fewer are the social, civil and political rights they consider they have. We also verify that there is no significant statistical relation between the dimensions of citizenship and those associated to dependency, which may be associated to the ICTs. That is, we consider that this dependency does not influence in the exercise of citizenship.

Table 4 – Correlation between the dimensions associated to the ICTs and the Internet *versus* those of the citizenships

TIC		Citizenship					
		(Active) Digital citizenship			(Passive) Citizenship		
		Social interaction	Digital access	Digital literacy	Social rights	Civil rights	Political rights
ICT Contributions	Social exclusion	-0,173***	-0,093*	-0,120*	-0,130**	-0,162**	-0,146**
	Training and communication	0,485***	0,385***	0,443***	0,324***	0,385***	0,434***
	Dependency	-0,057	-0,001	-0,066	-0,005	-0,042	-0,052
	Updating and social integration	0,470***	0,338***	0,380***	0,366***	0,390***	0,408***
	Social and political participation	0,414***	0,300***	0,325***	0,222***	0,287***	0,398***
	Social consciousness	0,420***	0,339***	0,349***	0,290***	0,343***	0,377***
ICT Feelings	Autonomy	0,359***	0,315***	0,320***	0,263***	0,291***	0,325***
	Restlessness	-0,144**	-0,147**	-0,154***	-0,152**	-0,145**	-0,105*
	Know-how	0,407***	0,384***	0,336***	0,264***	0,303***	0,331***
Internet	Opportunity	0,601***	0,499***	0,543***	0,425***	0,471***	0,576***
	Threat	-0,100*	-0,024	-0,074	-0,117**	-0,109*	-0,045

Pearson correlations –A statistical significance: $p < 0.050$*; $p < 0.010$ **; $p < 0.001$***
Significance: orange color: negative; gray color: positive
Source: Haddad, 2019.

The results obtained for the correlations associated to the contributions of the ICTs and those of digital citizenship follow our previous comment about citizenship. All in all, the more the ICTs are considered important for: technical training; facility in communication; social, political and community participation; social consciousness of the problems and realities that surround us; and prevention of social exclusion, the stronger is the perception of social integration, digital inclusion and digital literacy. In other words, it means that the capacity of the participants to exert digital citizenship will be greater.

Correlation between the dimensions: (active) digital citizenship and (passive) citizenship

According to Table 5, we observe strong correlations between the dimensions of digital or active citizenship (social interaction, access to digital technologies and digital literacy) and the dimensions of (passive) citizenship – social, civil and political rights. This means that the more digital citizenship is perceived as important for the resolution of various issues, both personal and online community-related, the greater is the use of the internet for social and political participation, increasing proficiency in usage of the ICTs and using them responsibly for social welfare, to fight against social exclusion, to become informed and to develop online government services, etc.

Therefore, the greater this perception of digital citizenship is, then people's capacity for exerting (passive) citizenship in all its ramification also increases. At the social level this means: having food, housing, work, leisure. At the civil level it means: being free, having freedom of ideas; being able to hear and speak. And at the political level it means: being able to manifest oneself freely, participate in social and political movements, being able to speak and fight for one's rights, etc.

Table 5 – Correlations between the dimensions associated to (active) digital citizenship and those of (passive) citizenship

(Active) digital citizenship	(Passive) citizenship		
	Social Rights	Civil Rights	Political Rights
Social interaction	0,526***	0,592***	0,684***
Access to digital technologies	0,464***	0,499***	0,533***
Digital literacy	0,395***	0,433***	0,522***

Pearson correlations –A statistical significance: $p < 0.050$*; $p < 0.010$ **; $p < 0.001$***
Significance: orange color: negative; gray color: positive.
Source: Haddad, 2019.

Correlation between the dimensions: Telecenter, (Active) digital citizenship and (Passive) citizenship

The results presented in Table 6 reinforce, in a clear and statistically justified manner, the evidence previously described in this study concerning the central argument of the research: Telecenters contribute for the exercise of citizenship. It is through them that the largest part of their attending population has access to the ICTs, deemed essential for the exercise of digital citizenship.

The more one considers that the Telecenters offer opportunities for the aspects of: training and learning; accessibility and integration; reconversion and intervention; optimization; socialization; digital accessibility; active participation; information searching and sharing; leisure; communication; using

Table 6 – Correlations between the dimensions of the Telecenter and those of (active and passive) Citizenship

Dimensions of the Telecenter		Citizenship					
		(Active) Digital citizenship			Passive citizenship		
		Social interaction	Digital access	Digital literacy	Social rights	Civil rights	Political rights
Telecenter	Training and learning	0,543***	0,406***	0,387***	0,482***	0,522***	0,519***
	Accessibility and integration	0,540***	0,367***	0,366***	0,404***	0,462***	0,435***
	Reconversion and intervention	0,529***	0,386***	0,441***	0,420***	0,458***	0,493***
	Optimization	0,236***	0,066	0,168***	0,153**	0,198***	0,210***
Reasons for attending the Telecenter or not	Socialization	0,295***	0,159***	0,281***	0,196***	0,229***	0,279***
	Lack of knowledge	0,086	0,058	0,029	0,066	0,063	0,108*
	Restrictions	-0,140**	-0,153**	-0,148**	-0,050	-0,093*	-0,073
	Digital accessibility	0,257***	0,219***	0,215***	0,213***	0,290***	0,315***
	Digital inaccessibility	0,006	-0,071	0,030	-0,042	-0,040	0,014
Activities	Active participation	0,166***	0,035	0,150**	0,029	0,074	0,187***
	Information searching and sharing	0,369***	0,231***	0,279***	0,235***	0,312***	0,379***
	Leisure	0,160***	0,026	0,143**	0,026	0,104*	0,161***
	Development	0,230***	0,092*	0,173***	0,170***	0,230***	0,268***
	Communication	0,196***	0,155***	0,171***	0,122**	0,152**	0,215***
Manager's role	Community promotion	0,430***	0,265***	0,378***	0,309***	0,299***	0,407***
	Community service	0,270***	0,181***	0,306***	0,175***	0,181***	0,294***
Improvements	Development	0,371***	0,230***	0,281***	0,265***	0,322***	0,388***
	Maintenance and quality	0,467***	0,372***	0,333***	0,303***	0,378***	0,470***
	Extention	0,346***	0,281***	0,296***	0,225***	0,262***	0,377***
	Service expansion	0,320***	0,252***	0,255***	0,246***	0,312***	0,348***

Pearson correlations –A statistical significance: $p < 0.050$*; $p < 0.010$ **; $p < 0.001$***
Significance: borderline statistic; orange color: negative; gray color: positive.
Source: Haddad, 2019.

the ICTs for community promotion and quality community service; expansion and extension of services; then stronger is the perception that the ICTs are in fact essential for the exercise of (active and passive) citizenship. Curiously, leisure is not associated to social rights and digital access, possibly due to the lack of essential resources for the survival of this low--income population, thus placing leisure at a lower level of priorities.

The active participation in Telecenters, as a fundamental dimension for the exercise of active citizenship, is associated to social interaction, digital literacy and political rights. These factors indicate that the population using them believes that, by means of social integration, political participation and fighting against social exclusion, it is possible to conquer the other civil and social rights.

These rights are reinforced as far as the dimension of "lack of knowledge" and "social inaccessibility" are presented as statistically non-significant. However, the dimension "restrictions for usage" appears as statistically significant, but in an opposite sense. In other words, the greater is the perception of restrictions in using the Telecenters – whether it is lack of knowledge, lack of access opportunity, rules of usage or the poor quality of the services and equipment offered – the smaller is the perception of the exercise of citizenship.

These findings highlight the importance of the Telecenters as an integral part of public policies of digital inclusion. They are relevant for social and economic development and for the political participation of citizens who have no condition of accessing the ICTs and the internet, which are fundamental resources for living and participating in the network society.

Proposal for a model for the evaluation of public initiatives of digital inclusion

With the methodology presented in the Aspects of Methodology section, we have been able to sustain our reasoning empirically (Haddad, 2019), which enables us to propose a possible model that integrates the different associated dimensions: a) Telecenter, ICTS – and internet -, citizenship and digital citizenship – respectively, passive and active citizenships.

In this manner, we deducted possible cause and effect relations between the entities/ dimensions considered, that represent digital inclusion as a contribution for the exercise of citizenship, especially through the Telecenter programs. We will now propose a model and gradually discuss the stages involved in its construction. At the end, an integrated proposal will be presented.

The first stage consisted in correlating and proving the importance of the use of the ICTs and internet at the Telecenters (see Table 2); in this way, the first part of the proposal for the model is suggested (see Figure 3). After that, we correlated and confirmed the importance of the internet – and of the digital worlds – for the correct use of the ICTs (see Table 3); and, accordingly, the second part of the model is suggested (see Figure 4).

In the third part of the proposal for a model, the importance of the ICTs and internet was correlated to the exercise of (active and passive) citizenship (see Table 4; see Figure 5). It was equally important, based on the arguments of some authors (Snyder, 2016; Wright, 2008; Covre, 2001; Diniz, 2014; Silveira, 2010; Pereira, 2007) and on the results we obtained, to

Figure 3 – Part of the proposed model of the influence of the Telecenters in the use of the ICTs and the internet

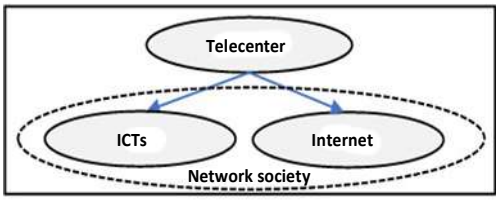


Figure 4 – Part of the proposed model of the influence of the internet in the use of the ICTs

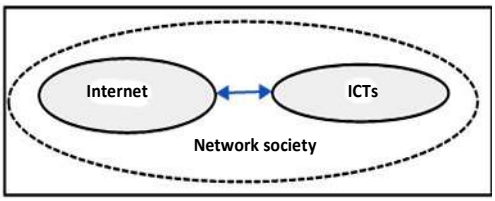


Figure 5 – Part of the proposed model of the influence of the ICTs and the internet for citizenship

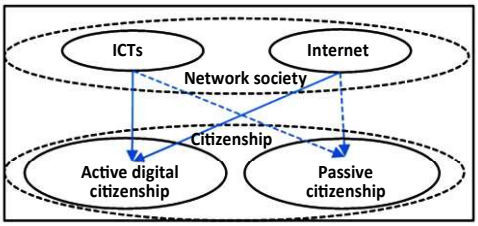


Figure 6 – Part of the proposed model of the influence of (active) digital citizenship and (passive) citizenship

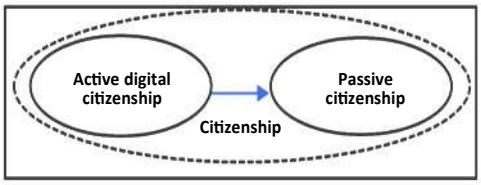


Figure 7 – Part of the proposed model of the influence of Telecenters in the exercise of citizenship

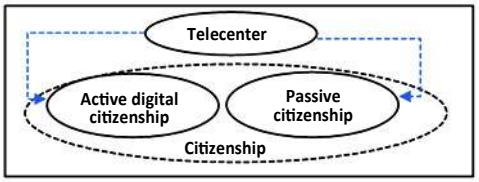
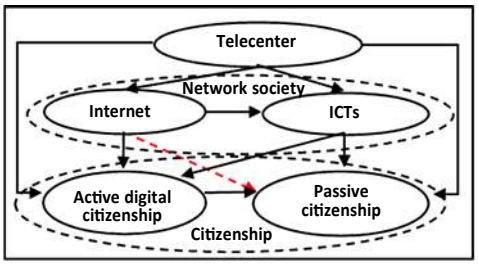


Figure 8 – Proposed model to be tested in future studies



Source: Haddad, 2019.

highlight the fundamental importance of the ICTs, of their correct use as essential tools and sources of knowledge for a fuller exercise of citizenship (see Table 5), as we propose in the fourth part of the model (See Figure 6).

We thus return to the central goal of the investigation, which is to prove that the Telecenters, as a cost-free program for offering ICTs and internet (see Table 6), contribute directly and indirectly to the exercise of citizenship, as we suggest in the last part of the proposal for a model (see Figure 7). In Figure 8, we present the complete and integrated model, which we intend to test and validate in future studies.

Final considerations

According to the methodology path developed here, the theoretical-conceptual revision carried out and the results we obtained from

the various studies that substantiate the present investigation, we propose a conceptual model for digital citizenship. This model englobes and integrates various indicators correlated to digital citizenship, implicitly contributing to the understanding of the great importance of digital inclusion programs, especially for people living in conditions of social vulnerability. This model may be improved, tested and validated in other studies. We hope, nonetheless, to have contributed for a wider and more precise definition of the concept of digital citizenship, demonstrating the importance of Telecenters, especially in offering opportunities for information, training and the abilities they promote, in the preparation and assertion of full citizenship in democratic societies, increasingly more technological and functioning in network.

Emphasizing, in this manner, the goals that were proposed, we found statistically relevant associations, or significant correlations, indicating that: a) the more the participants consider that their usage of the ICTs will bring them benefits and positive contributions, the better they feel in relation to the ICTs and the greater is the importance they give to having access to the internet. However, the more they feel that the internet is a threat, the stronger is their perception of the ICTs as causes of people's dependence; also, more significant, is their perception of the ICTs as possible factors of social exclusion. In other words, those who do not dominate the ICTs nor feel at ease in the digital realm cannot take action. The internet is highly relevant in terms of the opportunities it offers: b) the more the participants perceive digital citizenship as important for solving community and personal questions online, the greater is the capacity that people have to exert (passive) citizenship in all its ramifications, at the social, civil and political levels; c) on the one hand, the more the participants perceive the ICTs as important for helping people (in their technical training, in their ability to communicate, etc.), the greater is the capacity that people have in exerting citizenship (in the social, civil and political contexts). On the other hand, the higher the perception of the restrictions in the use of the Telecenters (lack of knowledge, lack of opportunity to access them, etc.), then smaller is the capacity felt for the exercise of (active and passive) citizenship; the more the participants consider that the Telecenters offer opportunities for training and learning, accessibility and integration, etc., the stronger is their perception that, in effect, the Telecenters contribute and are essential for the exercise of (active and passive) citizenship.

As final conclusions, therefore, we deem that a): digital citizenship, or active citizenship, in the digital realm, cannot be dissociated from passive citizenship; b) citizenship cannot be dissociated from the use of the ICTs, nor from usage of the Telecenters; and c) the ICTs cannot be dissociated from access and use of the internet, nor from the usage of the Telecenters, as the present research study has demonstrated.

At the present moment, when democracies are threatened by disinformation strategies, the responsibility of the State for policies of social inclusion become even more relevant. It is necessary, however, to evaluate the impacts of the policies of digital inclusion in the development and exercise of citizenship, particularly among more vulnerable social groups, in order for them to participate more effectively in the online society, solidifying the basis for a new democracy.

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Notes

(1) MPGO (2010); MCT 2010.

(2) In Brazil, 77,8% of the population owns a cell phone (Mais de 87%..., 2024).

(3) The criterion for economic classification in Brazil is an instrument used to differentiate the population, placing it in different classes, from 'A' to 'E', where 'A' represents the highest class and 'E' the lowest. This classification is done according the Minimum Wage (MW): A(+20MW), B(10to 20MW), C(4 to 10SM), D(2 to 4MW), and E(up to 2MW) (Alves, 2016).

(4) https://valor.globo.com/brasil/noticia/2023/12/06/ibge-60-pontos-percentuais-dos-brasileiros-vivem-com-at-1-salrio-mnimo-por-ms.ghtml.

(5) These low-income communities were previously known as favelas, a term now avoided (Translator's note).

(6) Data available on June 10, 2017. Belo Horizonte Municipal Government site. Available at: http://portalpbh.pbh.gov.br/pbh.

(7) Vilas are low-income districts with more urban infra-structure than favelas (Translator's note).

(8) KMO= 1 -0.9 very good factor analysis; KMO= 0.8 -0.9 good factor analysis; KMO= 0.7-0.8 average factor analysis; KMO= 0.6 -0.7 fair factor analysis; KMO= 0.5-0.6 poor factor analysis; and KMO < 0.5 unacceptable factor analysis. Adapted from Pestana and Gageiro (2014, p. 521).

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