E-CITIZENSHIP: THE DIGITAL CITIES PROGRAM, A TOOL FOR A NEW MODEL OF CITIZENSHIP IN BRAZIL
E-Cidadania: Programa Cidades Digitais, uma ferramenta para um Novo Modelo de Cidadania no Brasil

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ABSTRACT

The main objective of this study is to discuss, from a contemporary perspective, how public policies which introduced the concept of digital cities have giving new meanings for the model of citizenship in Brazil and at the same time being an introduction to smart cities projects in near future. What this research is trying to demonstrate is how the digital cities program and its deployments can be a trigger to a new citizenship model in the country. The start point of this study was the concept of citizenship in the context of the dynamics of digital cities. The methodological path followed by the researchers was a qualitative exploratory and bibliographical approach, which begin with the state of art of various aspects of citizenship within the perspective of the public policy that implemented the digital cities program. As a result, it was observed that when there is a massive penetration of digital technologies in the society, in particular in the public sector management, the implementation of citizenship occurs more easily; however, there is still a large portion of the population that remains outside of this process, no longer because of difficulties to have access to internet, which was a limiting factor in the past, but for not understanding the mechanisms of participation and interaction, the new possibilities of internet access nor the importance of using information, what may configure a case of digital illiteracy.
Keywords: Public policies; Digital cities; Digital citizenship; Digital literacy.

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E-citizenship: The digital cities program, a tool for a New Model of Citizenship in Brazil

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RESUMO

O objetivo principal deste estudo é discutir, em uma perspectiva contemporânea, como as políticas públicas que introduziram o conceito de cidades digitais vêm dando novos significados para o modelo de cidadania no Brasil e ao mesmo tempo sendo uma introdução aos projetos de cidades inteligentes no próximo futuro. O que esta pesquisa tenta demonstrar é como o programa cidades digitais e suas implantações podem ser um gatilho para um novo modelo de cidadania no país. O ponto de partida deste estudo foi o conceito de cidadania no contexto da dinâmica das cidades digitais. O caminho metodológico percorrido pelos pesquisadores foi uma abordagem qualitativa exploratória e bibliográfica, que partiu do estado da arte de diversos aspectos da cidadania na perspectiva das políticas públicas que implantaram o programa cidades digitais. Como resultado, observou-se que quando há penetração massiva das tecnologias digitais na sociedade, em particular na gestão do setor público, a concretização da cidadania ocorre com mais facilidade; no entanto, ainda existe uma grande parcela da população que permanece fora desse processo, não mais por dificuldades de acesso à internet, que era um fator limitante no passado, mas por não compreenderem os mecanismos de participação e interação, a novas possibilidades de acesso à internet nem a importância do uso da informação, o que pode configurar um caso de analfabetismo digital.
Palavras-chave: Políticas Públicas; Cidades Digitais; Cidadania Digital; Alfabetização Digital.

INTRODUCTION

The Digital Cities Program in Brazil was planned with the objective of bringing together digital technologies and city management, in order to modernize and expand access to public services, promoting the overall development of cities. This is a subject that has been revised constantly, as digital cities are part of the process, among others, to foster citizenship through initiatives that promote a certain level of equity among citizens. Its structure reduces the distance between individuals with regard to access to new opportunities, which nowadays refers to the inclusive aspects considered between citizenship and digital technologies.

Brazil is following global investments trends in projects like this, concerning the creation and maintenance of digital cities, which assume a broader dimension as far as the analysis of changing vectors of capital investment, of the role of the citizens and the instrumentalization of public management. However, as far as development is concerned, it is a common sense that just accessing technologies is no longer a sufficient condition for individuals to be part of the well-known Knowledge Society[1] in which digital mechanisms are deeply understood and used. So, it is necessary to be more than that; it is necessary to be an "informational literate" to, in fact, be inserted in this new paradigm.

Regarding informational literature, Cuevas and Simeão (2011) argued that it is related to the ability to obtain greater autonomy in the selection, evaluation and processing of information, and also to the development of skills throughout life, understanding that it is about developing skills to access and to use information and communication technologies, and to learn skills to operate digital resources and electronic media.

The concept of citizenship has been changing throughout history and subject of several updates as society also changes. The contemporary concept of citizenship converges to public policies that try to implement digital cities programs, since it fosters improvements in the quality of life for the citizens of a certain country.

The concept of citizenship is being reframed due to digital technologies, but it is still closely related to the exercise or constitution of the individual's rights and duties and, in face of this new model of organization of the society, it is born the term "e-citizenship".

The State is the element responsible for ensuring citizenship and, through the digital cities program, individuals have the possibility to intervene in the State's actions, thereby exercising digital citizenship. The correlation of themes occurs to the extent that public policies legitimize in favor of citizens' actions in the face of the challenges of a technological society.

Pischelota (2016) considers information and communication technologies (ICT) as an essential component for many of human activities, realizing that the digital exclusion can become social, political, economic, and cultural too. Thus, the myth of technology as a key element in social development has been destroyed by a growing emphasis on the role of the human being, a true protagonist of this change. Therefore, what we designate as digital citizenship is strengthened as the State, through digital inclusion programs, develops actions that have the principle of empowering citizens to understand and to use ICT.

Public policies in their various dimensions are instruments that are operationalized through programs, actions and decisions taken by national, state or municipal governments, with the participation, directly or indirectly, of public and / or private entities, which aim to ensure certain rights to the citizens of various groups in society or for a specific social, cultural, ethnic or economic segment.

So, civil rights ensured by law (according to the Brazilian Federal Constitution) configure exercise of citizenship as they also meet specific social, cultural, ethnic, or economic niches. The basis or axes of public policies which address directly on digital citizenship and inclusion converge to put in evidence thousands of Brazilians excluded from this digital wave, who do not have access to internet and are losing job opportunities, since they are not taking any advantage from digital contents; therefore, not participating effectively and critically in the so called knowledge society.

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[1] https://www.encyclopedia.com/social-sciences/applied-and-social-sciences-magazines/knowledge-society

1 DIGITAL CITIES IN BRAZIL

Cities have been suffering serious consequences due to the high speed of unplanned urbanization. The growing imbalance is inevitable, especially with regards to the needs of the population and the capacity of public management to promote orderly and sustainably development in urban centers.

The utilization of strategies such as digital cities programs was in response to these requirements through a more agile, participatory, and integrative management model, based on the use of digital technologies. A digital infrastructure needs to be set up for the provision of services and for free access to the internet in certain urban areas, as well as other applications which are part of the program. Applications such as the possibility to modeling spatial information systems, which simulate urban environments, supporting city planning projects and the formation of virtual communities in organizing access and dissemination of useful information to the citizens.

This concept was developed with the purpose of creating an interrelation between the dynamics of cities and the new technologies of communication and information. According to Bonilla and Pretto (2011), categories such as digital inclusions, wireless network infrastructure and electronic government (digital gateways and information content) are part of this relationship.

For Silveira (2010), nothing is transforming more human reality than technology in all its facets. Extensive and profound changes have taken place in society through digital technologies, which have already demonstrated their intense economic potential, both for the creation of new and more qualified jobs, as well as for generation of income. The processes gained more amplitude for new models of production, consumption and, mainly, for knowledge generation and distribution. Considering this approach, it highlighted structural changes in the world economy, which was made possible by massive investments in telecommunications infrastructure.

In all the meanings of the term "cybercity", is evident that there is a strong relationship between cities and the new information and communication technologies. Digital cities are the result of the impact of digital technologies in urban spaces in contemporary cities. So, in general, the term "cybercity" would be translated as cities where there are already present a digital infrastructure and, in this sense, almost all major contemporary cities might be called a "cybercity".

It is a concept that aims to place emphasis on new information and communication technologies in interface with the urban space, whether to promote social bonding or digital inclusion. Thus, "cybercity" might be also a city of "cyberculture" where citizens can get more information, space management can get more data, and political, cultural, and economic activities are more alive (Levy, 1999; Lemos, 2007)

According to Lévy (1999), Cyberculture is linked to the evolution of cyberspace and it is not related only to the physical infrastructure of equipments and internet users, but also by the set of information and communication connections in the cyberspace.

Lemos (2007) explains the term "cybercities" (cyber city, digital city, digital village) by analyzing four categories: (a) the first one refers to a government project (private and/or civil society), which creates a representation of a particular city on web space; (b) another possibility is to understand "cybercity" as the establishment of an infrastructure (services and access to internet in a given urban area). Therefore, nowadays, new technologies such as the wireless technologies have caused transformations in urban mobility and, consequently, new designs of "cyber cities"; (c) simulation of urban spaces to assist in city planning and; (d) creation of virtual cities for the implementation of virtual communities, which shall use the city metaphor for the organization, access, and navigation of information.

Many authors may have different denominations for digital city or "cybercity"; and in particular, Lemos (2007) refers to digital city or "cybercity" as "world city". He also considered them as: informational city, transactional city, centers for digital information exchange in the world economy or global city. All these denominations refer to the same revolution, the revolution caused by the new communication and information technologies; and Lemos (2007) actually considers as the most important changes in the development of urban networks since the beginning of the last century. The main outcome is the movement towards a real-time city management and a development of hyper connected infrastructure networks (Castells, 1999).

In Brazil, The Digital City program, under the coordination of the Ministry of Science, Technology, Innovation and Communication, was created and institutionalized by the Act No. 376 of August 19, 2011to provide the installation of a network of optical fibers and internet connection points in government agencies and

institutions of public use (Rede Cidade Digital, 2006, Redes Regionais de Cidades Digitais, 2006)[2]. In addition, the Act No. 376 states the creation of Apps for mobile devices and training programs for public servers, to improve local city management in selected cities.

The main objectives of the Digital City Program are to expand the quality and transparency in public services and management provided to the general population, the democratization of the internet access, promotion of a creative and sustainable economy, the creation and development of contents of public interest, the construction of collaborative environments in open networks and the encouragement of local development.

The program intended to interconnect the city administration through a network of fiber optics and establish a public network of access to the World Wide Web using radio stations and Wi-Fi signal, which are responsible for giving internet access to the population in public spaces. This program and its actions are managed by public agencies linked directly to the city management board.

Among many benefits generated by the execution of the digital city program, in the short term, one of the most relevant is the significant reduction of costs on data transport and communication in public governance. In the long run, other benefits were the increase in efficiency of public management, the encouragement and strengthening of the digital economy, and the consolidation of the communication infrastructure necessary for the implementation of large businesses agglomerates.

These factors, when combined with the perception of progress by the population, have the capacity to promote radical changes in society, especially with regard to the exercise of citizenship, justifying the relevance of the program.

To make the Digital Cities project feasible, a systemic and integrated vision of the city is essential. It is the full responsibility of city managers and public servers to provide a quality, efficient and transparent management of resources, promoting citizenship, encouraging the population to participate in city management mechanisms.

For the implementation of the Digital City program, some pre-requisites are essential, such as the investments in network infrastructure. Regardless of the technological model adopted, the infrastructure needs to be correctly sized to guarantee the data flow, anticipating rapid increase of data flows in the near future. Initially, it was suggested the implementation of infrastructure equipments that could interconnect the various city administration departments, to save resources with telecommunications, as the basis of the implementation of mobile Apps and citizen services.

Secondly, it was considered the premise that information is a basis of citizen's rights and that communication between government and society is essential. Effective communication between the population and the various social actors (State, Institutions, and other stakeholders) constitute the formation of a digital culture.

It is a public managers' responsibility to guarantee communicational effectiveness, to offer the necessary infrastructure and to promote actions, which lead to democratic access to the whole population. Their responsibilities go beyond the sole transmission of data and information, but also consider education and fostering local development. These demands for communication, education and digital inclusion are the basic triad capable of promoting a new social dynamic with more participation of population, promoting the insertion of new entrepreneurs in the virtual world.

However, the flexibility is mandatory, as there are many different realities in Brazilian cities. The program is just a guideline with the objective of facilitating the construction of an innovative ecosystem aimed to promote the development of society. Thus, the best start for programs like the Digital City program is to think about the creation of an infrastructure for ICT, providing concrete improvements in public management and in citizens' lives.

For the implementation of this program, cities have received funds from the federal government to build fiber optic networks, interconnecting local public agencies. Other investments were also done aiming the development and availability of the e-government mobile Application to be used by city management agencies, training of public workers and internet free access in public spaces such as squares, parks, and bus stations. Cities, which implemented the program with their own resources, focused mainly on the free distribution of internet signals, as a way of expanding access to public management services and promoting digital inclusion development.

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[2] https://redecidadedigital.com.br/

In 2013, the digital cities program was included as part of the Growth Acceleration Program (PAC), a major program supported by the Brazilian Federal Government. At that time, the program selected 262 cities with population up to 50,000 people. In 2016, the program was re-structured, so that funds would only be available with congress amendments. According to the Ministry of Science, Technology, and Innovation, it is being already distributed in five regions of the country and 166 cities with full implementation; and Regional Digital City Networks star being developed.[3]

Nowadays, the concept of the Digital Cities program expanded to a broader concept, becoming the Smart Cities Project. The meaning of "smart cities" uses 70 indicators and involves aspects such as the integration between mobility, urbanism, environment, energy, technology, innovation, economy, education, health, security, entrepreneurship and governance, now presented in more than 500 Brazilian cities.

Thus, the implementation of digital cities in Brazil meets the need to modernize public management tools and expand access to public services, as well as promoting the development of Brazilian cities through technology. The main goal is to provide access to public information, so that everyone can use those data, in compliance with the open data plan of the Ministry of Science, Technology and Innovations (MCTIC, 2020)[4].

However, considering this, the key to success implies in choosing and implementing a model, which considers local realities. So, appropriate choices for current and future solutions can represent the difference between the failure or the success of this program.

2 DIGITAL CITIZENSHIP CONCEPTS AND PERSPECTIVES

The understanding that a modern social organization is supported by the fulfillment and exercise of civil rights and duties is a fundamental principle of life in society for every citizen, regardless of nationality, ethnicity, or belief. It means that the possibility of enjoying social, cultural, and even natural resources, as well as the need to respect the laws and rules, are the basis of the practice of digital citizenship.

Citizenship is notoriously a term associated to life in society and has become a reference to studies that focus on politics and its conditions to exercise it, in both ancient and modern societies. The changes in the socioeconomic structure have affected the evolution of the concept and its practices of citizenship, shaping them according to the needs of each period. From this evolution in the meaning of citizenship, a new concept was developed: digital citizenship or e-citizenship. Its re-signification occurs from the insertion of technologies, which confirms it as a right for all citizens.

According to Silveira (2010), historically, the concept of citizenship has been linked to the concept of physical space or shared territory. The ancient Greek philosopher Aristotle stated that the "polis" couldn't extend beyond the reach of the citizens' voice, because its essence is the democratic dialogue, which manifests itself in the Àgora[5] as a meeting point.

Baracho (1994), when making a semantic analysis of the expression "citizenship", reveals that it derives from the Latin "civita", which means city, referring to the Greek expression "polis", ancient city-states; this is the type of organization attributed by most of historians to the traditional concept of citizenship. From this point of view, citizenship is restricted to the political participation of certain social classes and citizens are those who lived in the city and participated in its life and businesses.

According to Bonavides et al (2009), the contemporary concept of citizenship includes a perspective in which citizens are not those who votes, but individuals who have the means to exercise the vote in a conscious and participatory way.

Morgado and Rosas (2010) argued that the use of digital media shall benefit citizens, in the sense that help them to carry out public policies in terms of integration, cooperation and equity. But not only that, it is already changing the way citizens participate and oppose to ideas in a democratic regime. Even though the idea that those technologies have great potential of changing the form of citizenship awareness, it is very difficult to predict what effectively happens, despite specific empirical evidence of their action.

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[3] http://regionais.redecidadedigital.com.br/
[4] https://www.mctic.gov.br/mctic/opencms/indicadores/DadosAbertos.html
[5]Ágora was an ancient Greek city that served as a meeting ground for various activities of the citizens.

Therefore, citizenship is the condition of access to social (education, health, security and social security and pension) and economic (fair wages, employment) rights, which allows citizens to develop all their potential, including an active and organized participation in the construction of a collective life in a democratic regime.

It is difficult to think about the implementation of digital cities without considering their impacts on the exercise of citizenship. As seen above, the concept of citizenship has gone through several phases and adaptations, from the classic meaning which is associated to the participation of individuals in their communities to the contemporary, which explains that citizenship is part of a set of rights that give them the possibility of actively participate in the life and government of people (Dallari, 2004). Those who do not have citizenship are marginalized or excluded from social life and decision-making processes, remaining in an inferior position within the social groups (Carvalho, 2003).

Silveira (2010) argues that thinking about the formation of a citizen implies in fostering a critical perception of the limits and possibilities, risks and opportunities that exist in the participation of the communication flows in the internet. More than that, it is necessary to stimulate citizens to participate in the city's communication process, which it is vital to democratic life and the construction of the city.

As far as digital citizenship is concerned, Cazeloto (2008) argued that it presupposes the overcoming of a phase of digital inclusion, and it is conditioned to issues such as democratization of internet and processes related to the evolution of digital technologies. However, the implementation of this new perspective of citizenship still requires a long way to go and demands great efforts to fully reach the status of a connected society, even with the speed of the huge changes brought by the technological revolution.

The extension of the concept of digital citizenship involves essential principles and values for conscious access to technology services. In other words, it is necessary to educate society to use the internet with discernment and responsibility, to promote mutual respect among individuals and be consistent with capabilities and interactions proposed by the digital cities program.

CONCLUSION

As an important outcome from this study, researchers understand that, in order to implement a digital city program, firstly, it is crucial to build a systemic and integrated vision of the city, leaving to public managers the challenges of providing quality services and an efficient and transparent administration of resources; also, inserting the population in the digital world, encouraging participation in local management mechanisms and, finally, promoting the full understanding of the concept of citizenship.

In order to support the physical implementation of digital cities projects, it is necessary to set up a network of fiber optics to interconnect all local public agencies. The limiting factors are related to the lack of funds to build the technological and communication infrastructures, along with the need to educate the population to think and act within the digital context.

The challenge, however, is to introduce clear and structured policies which are essential for the progress of digital inclusion strategies in Brazil. These policies shall be strategically directed to the various segments of society in order to meet their goals.

Based on the premise that information is an unquestionable right and communication between local government and society is crucial to the success of any program, an effective communication among these actors (State, Institutions and Citizens) signifies the formation of a digital culture. Moreover, an effective plan involving both public and private initiatives is required to provide appropriate training programs for the population, to meet the needs of a modern citizen. As a matter of fact todays impact of the Covid 19 Pandemia is pushing society, in Brazil and everywhere to a Tipping Point into the Digital Era that may hopefully lead, using advance technologies, to foster E-Citenship.

It is part of the public managers' duties to ensure effective communication and proper technical infrastructure, as well as to promote its democratization for the population to guarantee communicational effectiveness, having appropriate access to the digital world. Actions that go beyond a mere communication access to information, but enhancing education tools, fostering local development.

The demands for communication, education and digital inclusion are part of the basic triad capable of promoting a new social dynamic for people participation and local development, encouraging the insertion of new entrepreneurs in the virtual world (Becker, 2009).

If there is any doubt about the establishment of the digital cities program, it is because, on one hand, there is an intense and rapid introduction of technologies in public management, which shall require certain skills and competence from citizens to understand the extent of internet use. On the other hand, what is presented is an absence or discontinuity of public policies that validate digital inclusion initiatives, suggesting new perspectives for this new digital world, strengthening the democratization of access to information and forming citizens to live in this new city model.

The conclusions of this study may suggest that programs such as the digital cities program are a great step for the development and implementation of smart city projects. In addition, in the execution of the digital cities program, citizens are required to be more conscious of their needs by participating in local decision-making processes, what shall demand better education level and institutions with a more extensive range of digital tools, as well as a more democratic access to technologies. Those citizens, who have already developed information skills, shall understand the need for quality information to deal with problems related to their own lives, to the community and society. As a matter of fact already Brazil started recently an initiative on Sustainable Smart Cities[6].

Finally, this paper aimed to contribute to an in-depth understanding on concrete contributions of programs such as the Digital Cities Program as a change and transformation agent for a new digital citizenship concept. In addition, it provides emphasis to the importance of the conceptual evolution of citizenship and its multiple and diverse repercussions, as a possible support to a broader view of the relationship between State, institutions, and society in this new digital environment. In fact Brazil is already moving toward a Program on Sustainable Smart Cities.

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[6] https://agenciabrasil.ebc.com.br/en/geral/noticia/2019-07/brazil-launches-initiative-sustainable-smart-cities

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