

Scientific
Journal of
**Applied
Social and
Clinical
Science**

**THE IMPACT OF NEW
TECHNOLOGIES ON
INDIGENOUS PEOPLES
AND THE IMPORTANCE
OF DIGITAL INCLUSION
IN THE INFORMATION
SOCIETY**

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INTRODUCTION

In the age of information society, the use of new technologies is part of man's daily life, regardless of the territory they live in, color, race, religion or social class they occupy in society.

In fact, new technologies generate a better quality of life for human beings, and the internet has been the greatest tool in the dissemination of information and knowledge, and its effects are already rooted in the practices of today's society.

The use of new technologies promotes advances for society, however, on the other hand, those who do not have the necessary tools or have not acquired the capacity to understand the use of Information and Communication Technologies (ICTs) are considered a digital excluded, which, consequently, originates social exclusion.

And it is in this scenario that an important portion of Brazilian society, which have always been excluded from access to information and knowledge, since the appearance of the first means of communication, are digitally excluded, namely indigenous peoples.

Thus, this research aims to analyze the importance of indigenous peoples in digital inclusion, seeking to know the public and private measures for creating access and use of electronic media, seeking to establish the importance of new technologies for the indigenous population.

DEFINITION OF THE INFORMATION SOCIETY

From the 20th century, the reconfiguration of society took place within the scope of the new Information and Communication Technologies (ICTs), motivated by the two world wars and the industrialization of the West, in what is known as the Post-Industrial

Revolution or Information Revolution.

The term "Information Society" emerged precisely in the 1970s, notably in Japan and the USA, in the context of discussions about what would be the "post-industrial society" and what would be its main attributes.¹

At that time, policy makers noticed that information and knowledge were playing an increasingly important role in various sectors of society, such as social, cultural and political, and not just in economic sectors, as occurred in the industrial age. The spread and effective use of information and knowledge were becoming decisive factors in the development of society.

In the post-industrial era, knowledge decomposes the spirit of direct work, and the production of value is found in immaterial characteristics. Soon, innovation became the most important raw material to generate growth with development in society.

For the late indoctrinator, Roberto Senise Lisboa, knowledge is the basis of the current economy, and lectures:

While the Industrial Revolution aimed at developing the production of tangible or tangible goods, the information revolution had the purpose of developing production technologies, through the accumulation of knowledge and facilitating its access to all people. The informational revolution therefore takes care of access to intangible or intangible goods. And how, through them, access to tangible and tangible goods becomes possible [...] The information age is not just a slogan, but a fact; the knowledge-based economy really is a new economy, with new rules, requiring new ways of doing business. The knowledge economy is anchored on three pillars: a) knowledge permeates everything we buy, sell and produce; b) knowledge assets, that is, intellectual capital, became more important for companies than financial and physical assets; c) prospering in the new economy

1. BRASIL. Ministry of Science and Technology. National Council of Science and Technology. White Paper: science, technology and innovation. Brasília: MCT, 2002. p. 2.

and exploiting these new assets means greater use of new management techniques, new technologies and new strategies.²

However, the concept of knowledge and information are commonly confused, but there is a big difference between them.

Information is understood and analyzed, and then validated or at least accepted as an assumption. It is portrayed as a set of restructured data that aims to generate information, whether about something or someone.

Knowledge refers to information gained through experience and learning. It is the state of knowing something, and can be defined as the use of received information.

Information and knowledge are used to characterize the new society in view of the new technological and productive standard, becoming fundamental factors of socioeconomic development.

The reality that the current society expresses itself in the technical, organizational and administrative transformations, which have as main factor, the information and the knowledge, propitiated by the technological advances.

According to Daniel Bell, technology is the use of scientific knowledge to specify ways to do things faster.³ Therefore, Communication and Information Technologies (ICT's) are for today's society what energy sources were for the industrial age.

The use of Information and Communication Technologies (ICT) has modified the way of production, and generated the dissemination of information, and the internet is the main means that has consolidated in the transformation of society.

Currently, society is experiencing a new

2. LISBOA. Roberto Senise. **Law in the Information Society**. Available on the website: <<http://www.egov.ufsc.br/portal/sites/default/files/direitonasociedadadedainformacao.pdf>>. Accessed on: 14 Aug. 2022.

3. BELL, Daniel. The advent of post-industrial society: an attempt at social prediction. Trans. Heloysa de Lima Dantas. São Paulo: Cultrix, 1973. p. 171.

4. CASTELLS, Manuel. **The network society: the age of information, economy, society and culture**. Translation by Roneide Venancio Majer. 1ª vol., 8ª ed. em. e ampl. São Paulo: Paz e Terra, 2005.

social and economic paradigm, in view of the facilitation of access to information, mainly due to access to the global telecommunications network. These new paradigms have, according to sociologist Manuel Castells, the following characteristics:⁴:

- Information is the raw material: contrary to past centuries, when the dominant objective was to use information to master technologies, in today's society technologies are developed so that man can act on information.
- Penetrability: the effects of new technologies have a high insertion in human activity, whether individually or collectively, and therefore all these activities are affected by new technologies.
- Predominance of network logic: characterized by dynamism, complex interactions and causality of results.
- Flexibility: technology allows new knowledge, enables adaptations and has a high capacity for continuous improvement.
- Growing technological convergence: technological development allows the interconnection of telecommunications, optoelectronics, computers, which all become interconnected in different areas of knowledge.

In view of the current scenario, the expression "*Information Society*" appears as a concept to define the current society, since the use of Information and Communication Technologies (ICTs) are essential instruments for the formation of the new society. In

addition to the expression “Information Society”, there are many titles to define the new digital era.

For Manuel Castells, we live in the “*network society*”, a term he used to define the effects that technologies are causing in the current period.

The sociologist defines the “*network society*” as a society consolidated in a virtual space that exceeds in time and space. For Castells, the network society was born with the advent of Communication and Information Technologies (ICTs), which is intensified by the use of the internet, and it is through it that knowledge, information and ideas are shared in a reduction of time and space.

Anthropologist Marc Augé designates the current society as “supermodernity” and emphasizes that it is dressed by what he calls “figures of excess”, having as characteristics, the superabundance of time, that is, everything happens quickly, and as a result, excesses of information and events supervene, in addition to the idea of space, in which everything proceeds in the reduction of the environment.

The author also points out the exaggeration of the ego, which for him is the existence of the loss of mentions caused by society, which, in turn, leads to individualism or individualization.

In the concrete reality of today’s world, places and spaces mix and interpenetrate. The possibility of non-place is never absent from any place. The return to the place is the resource of those who frequent non-places (and who dream, for example, of a secondary residence rooted in the depths of the earth). Places and non-places oppose each other (or attract each other), like the words and notions that allow them to be described.⁵

Marc Augé still asserts that:

5. AUGÉ, Marc. **Non-places: Introduction to an Anthropology of Supermodernity.** Translation by Maria Lúcia Pereira. Campinas: Papirus, 1994. p. 98.

6. AUGÉ, Marc. **Non-places: Introduction to an Anthropology of Supermodernity.** Translation by Maria Lúcia Pereira. Campinas: Papirus, 1994. p. 110

7. BAUMAN, Zygmunt. **Liquid modernity.** Translation by Plínio Dentzien. Rio de Janeiro: Jorge Zahar Editor, 2001. p. 17-18.

“It is in the anonymity of the non-place that the communion of destinies is experienced in solitude. There will therefore be room tomorrow, perhaps there will already be room today, despite the apparent contradiction of terms, for an ethnology of solitude”.⁶

For the anthropologist, everything is happening in every time and place, and, for that reason, man today is the consequence of an excess of information.

For the philosopher and sociologist Zygmunt Bauman, the current society is defined as “liquid modernity”, since it lives in constant changes without having time to solidify.

What leads so much to talk about the “end of history”, “post-modernity”, the second modernity” and “over-modernity”, or to articulate the intuition of a radical change in the arrangement of human coexistence and in the social conditions under which life-politics is carried out today, is the fact that the long effort to accelerate the speed of movement has reached its “natural limit”. Power can move with the speed of the electronic signal – and so the time required for the movement of its essential ingredients has been reduced to instantaneity. In practical terms, power has become truly extraterritorial, no longer limited, nor even slowed down, by the resistance of space (the advent of the cell phone serves well as a symbolic “coup de grâce” in dependence on space: access to a telephone point itself is no longer necessary for an order to be given and carried out. It no longer matters where the one who gives the order is – the difference between “near and “distant”, or between wild space and civilized and orderly space is about to disappear).⁷

Despite the countless definitions, the current society is basically computerized and

communicational, formed mainly by advances in technology, whose basic goal is to obtain, store, process and disseminate information.

All the technological mechanism of the post-industrial society has the computer and the internet as the main input in the process of social development, since the new paths make possible the power of communication and speed of information dissemination, which in previous times did not occur.

In this apparatus, the late Liliana Minardi Paesani preaches:

Information, thanks to the diffusion of the computer, became a commodity, a collection of data recorded in the form of magnetic impulses. Not only the content is considered, but also the form, which is measurable with absolute precision in terms of production cost and market value. This way, information becomes new raw material, belonging to the special genre of intangible goods. The productive organization transforms the material treatment unit into an information treatment unit.⁸

The use of Information and Communication Technologies (ICT), in particular the use of the internet, has materialized in the dissemination of information and knowledge, and its effects are already rooted in the practices of today's society.

The use of new technologies promotes advances for human beings, however, on the other hand, those who do not have access to technologies are in the abyss of digital exclusion, which consequently leads to social exclusion.

Bearing in mind, therefore, that the current society is recomposed in the use of Information and Communication Technologies (ICT), there is a need for the individual to interact with technological development, in which the relationship between machine and man is becoming increasingly interconnected.

DIGITAL INCLUSION FOR SOCIAL INCLUSION

Technological development every day brings about significant changes in human life, and it is after the emergence of the computer and the internet that current society was compelled to get used to the technological phenomenon.

The new technologies, known as Information and Knowledge Technologies (ICTs), are increasingly present in our daily lives, transforming human life in an accelerated way. Your collaboration has brought improvements in the quality of life of society, whether in the social, economic, educational, and even in the environmental and health areas.

Since the emergence of the first technologies, man has been compelled to adapt to each one of them. However, this molding quickly transformed into integration, making the use of technology indispensable for the daily life of each individual.

First there were the maps, then the compass and the clocks, and so follows the technological evolution: becoming increasingly difficult to imagine the world without these technologies, as in the case of today's society, without the use of the internet.

When experiencing the phenomenon of technological evolution, society is increasingly faced with the need to digitally include all citizens in this new reality.

To be part of this new phenomenon and to be inserted in the technological world, it is essential to provide appropriate resources so that the individual can live in the digital age, because every day it becomes more impossible not to use new technologies.

Including an individual digitally means democratizing access to Information and Communication Technologies (ICTs), since

8. PAESANI, Liliana Minardi. **Computer law: commercialization and international development of software.** 3ª. ed. São Paulo: Atlas, 2001. p. 24.

a person who is digitally included is able to understand the new society and improve their quality of life, based on the use of technological tools.

Thus, the term “digital inclusion” was born in the face of the intense development of Information and Communication Technologies (ICTs), which aims to provide all citizens with equal access to new technologies. Digital inclusion serves to guarantee that all citizens, regardless of color, race, religion or social class, are able to enjoy the potential of the technological instruments of communication and information. When undertaken correctly, these can contribute to improving the living conditions of these individuals.

When disposing of digital inclusion, André Lemos conceptualizes:

Digital Inclusion today means the population's access to the digital world, equalizing potential in a diverse geographic, social, age and intellectual world; in an attempt to guarantee not only the empowerment/training of the individual to use the equipment, but to encourage the exercise of the rights guaranteed to each citizen such as education, access to information and participation in the activities of the social nucleus that he is in, guaranteeing the construction of his citizenship.⁹

Ana Iasbel B. Paraguay quoted by Gladison Luciano Perosini also conceptualizes what digital inclusion means:

Digital Inclusion is to generate equal opportunities in the information society. Whether from the observation that access to modern means of communication, especially the Internet, generates a differential for citizens in terms of learning and their

capacity for financial ascension [...]¹⁰

According to the authors, digitally including a citizen does not mean making technological equipment available, but enabling him to use new technologies.

In this sense, Maria Helena Silveira Bonil and Paulo Cesar Souza de Oliveira, when quoting Manuel Castells, state that:

A digitally excluded person has three main ways of being excluded. First, it does not have access to the computer network. Second, it has access to the communication system, but with a very low technical capacity. Third, (for me it is the most important way of being excluded and the one that is least talked about) is being connected to the network and not knowing which access to use, what information to look for, how to combine one piece of information with another and how to use it for life. This is the most serious because it widens and deepens the most serious exclusion in all of history; is the exclusion of education and culture because the digital world increases extraordinarily.¹¹

Therefore, including a citizen digitally is not only about providing computers and internet access, it is essential to enable them to take advantage of Information and Communication Technologies (ICTs), and thus be considered digitally literate.

When conceptualizing what digital literacy is, Pedro Demo states:

Digital literacy means an essential ability to read reality and be aware of it at the very least, to earn a living, and above all to be something in life. In particular, it is essential that the included control their inclusion.¹²

A digitally literate person has minimal ability to understand and use the resources made available by new technologies, because

9. LEMOS, André. (org). **Digital city: portals, inclusion and networks in Brazil**. Salvador: EDUFBA, 2007. p. 31.

10. PEROSINI, Gladison Luciano. **Digital and technological inclusion in the information society [electronic book]**. 1st ed. Rio de Janeiro. Autography, 2017. p. electronics.

11. BONILLA, Maria Helena Silveira; PRETTO, Nelson de Luca. (orgs). **Digital inclusion: contemporary controversy**. [eBook]. 2º v. Salvador: EDUFBA, 2011. p. 492.

12. DEMO, Pedro. **Digital inclusion: increasingly at the center of social inclusion**. Available on the website: <<http://revista.ibict.br/inclusao/article/view/1504/1691>>. Accessed on: 15 Aug. 2022.

by being inserted in the digital age, the individual will not be excluded from the new reality.

Ricardo Yong, when relating digital inclusion to digital literacy, prescribes:

(...)digital inclusion means enabling people to fully use technological resources effectively, as tools that contribute to the social, economic, intellectual and political development of citizens. It is the necessary learning for the individual to interact in the world of digital media, being able not only to know where to find the information, but also to qualify it and make it useful for his day to day. If you are talking about adding to the fundamental and essential skills of reading / writing those of dealing with electronic media - connecting to the network, carrying out research, performing routine tasks.¹³

The digitally literate individual has the ability to understand and use the countless possibilities that the digital world offers, being able not only to know where to find information, but also to institute it and make it beneficial to their daily lives. In this sense, Irineu Francisco Barreto Junior and Cristina Barbosa Rodrigues, provide:

[...] Education, which is undoubtedly the great tool for social inclusion in developing countries, will not be fully achieved without the technological training of users of digital media and without offering access to new technologies, either by universalizing telecommunications services or by encouraging the implementation of terminals with free or low-cost access, such as, for example, telecentres installed in strategic locations with easy access for users, such as bus terminals, subway and train stations, schools and public libraries, etc. However, it is not enough for the government to offer only technological instruments – computers, internet, etc. It

is necessary to introduce content, quality, training and monitoring in digital inclusion programs.¹⁴

The main objective of digitally including an individual is to make Information and Communication Technologies (ICTs) a common instrument, since these are inserted in the daily life of today's society. Thus, the challenge of digital inclusion is to provide technological tools to enable people to use new technologies.

Thus, the individual who does not have a computer, or access to the internet, or the necessary knowledge to use Information and Communication Technologies (ICTs) are digitally excluded. This way, digitally literate a person constitutes in providing the technological tools available and empowering the individual for new opportunities.

However, when it comes to digital inclusion, social inequality is one of the most serious threats that makes digital inclusion impossible for many people, since the most economically needy do not have a computer or access to the internet, or even do not have the ability to use new technologies.

Those with more economic power are the first to have access to Information and Communication Technologies (ICTs), but the less economically disadvantaged are the ones who suffer most from digital inclusion, since they cannot keep up with the new knowledge caused by technological evolution, causing social exclusion.

According to research by Internet World Stats, an international website that aims to conduct international online market research in more than 250 countries, demonstrating worldwide internet users, reveals that in July 2022, in Africa, only 46.8% of its inhabitants

13. YOUNG, Ricardo. **Digital inclusion and the millennium goals: social inclusion**. 1º v. Institution: ``Instituto Ethos de Empresas e Responsabilidade Social``. p. 97. 2006.

14. BARRETO JUNIOR, Irineu Francisco; RODRIGUES, Cristina Barbosa. **Digital exclusion and inclusion and their effects on the exercise of fundamental rights**. Available on the website: <<https://periodicos.ufsm.br/REDESG/article/view/5958/pdf#WwVy6CBv-Uk>>. Accessed on: 20 Sept. 2022. p. 05-06.

live connected to the digital world, compared to 89.6% of Europeans and 93.4% of North Americans.

The data show the technological gap that separates some countries from others, as predicted in African countries, where less than half of the population is connected compared to the richest countries in Europe and North America, which are almost 100% connected to new technologies.

In this sense, the international survey ICT Facts and Figures 2021, carried out by the International Telecommunications Union (ITU), a specialized agency of the United Nations (UN) for Information and Communication Technologies (ICTs), revealed a global growth in the use of the internet after the pandemic from Covid-19, which paralyzed face-to-face activities, rising to 4.9 billion in 2021, from an estimated 4.1 billion in 2019, i.e. a 17% increase in the world's population. However, ITU data show that despite the global growth in the use of Information and Communication Technologies (ICTs), it remains deeply uneven in relation to underdeveloped countries with developed ones.¹⁵

It is estimated that 37% of the world's population, that is, 2.9 billion people, have never used the internet. Of these 2.9 billion, an estimated 96% live in developed countries. However, among the 4.9 billion connected, many hundreds of millions only have access to the internet through reduced speed, which limits the use of their connection, or rarely use it through shared devices.

Data presented by the International Telecommunication Union (ITU) point to an extreme gap between digital availability and real connection. The ITU report demonstrates that there are major economic barriers to accessing a broadband network.

Both the Internet World Stats survey

15. ITU. **ICT Facts and Figures 2016**. Available on the website <<https://www.itu.int/itu-d/reports/statistics/facts-figures-2021/>>. Accessed on: 11 Oct. 2022.

and the International Telecommunication Union (ITU) survey revealed that developed countries, that is, the economically stronger ones, are ahead in the use of Information and Communication Technologies (ICTs).

In Brazil, according to research by the IBGE (Brazilian Institute of Geography and Statistics) through the Continuous PNAD - Continuous National Household Sample Survey, published on 09/16/2022, revealed that in 2021, 15.3% of Brazilians did not use the internet, so to speak, the equivalent of 28.2 million people. The main reasons why people who did not access the internet were not knowing how to use the technology, lack of interest and the high price of the service.

The survey also revealed that in 2021, the internet was used by 84.7% of the Brazilian population over 10 years of age, that is, 155.7 million people, with the Midwest and Southeast regions leading in internet use, while the North and Northeast, regions with the highest poverty indicators in the country, have the lowest access rates.

IBGE data showed that in Brazil the poorest are the ones who suffer the most from digital exclusion, since they are the least financially favored, and therefore, do not have the resources to acquire the ability to understand Information and Communication Technologies (ICT)

Sociologist Sérgio Amadeu da Silveira, when pointing out the consequences of social inequality in the face of digital inclusion, states:

[...]While a young person from the wealthy layers of society has access to cyberspace and all sources of information available on billions of sites spread across the globe, the teenager from the impoverished layers is deprived of interacting with content producers, observing them, questioning them and copying their files. For the person included in the network, navigation

stimulates creativity, allows research on numerous topics and finds the result of their search more quickly. Those who are disconnected are unaware of the informational ocean, making it impossible to find basic information, to discover new themes, to awaken new interests.¹⁶

According to the sociologist, the most economically disadvantaged suffer from digital exclusion, which then generates social exclusion, since these people are restricted to basic information, discovering new opportunities, and awakening to new interests, increasingly contributing to underdevelopment, since new technologies are essential for the survival of society.

Including a citizen digitally is an arduous task, since it is not enough just to provide tools for new technologies, but it is also necessary to train them. This training aims to bring quality of life in various areas of human life.

Digital inclusion focuses on the individual's digital training, but for those who are already in the context of social exclusion, the theme of digital inclusion must have a special focus.

And it is in this approach that we have an important portion of Brazilian society that have always been excluded in terms of access to information and communication, that is, they have always been excluded since the appearance of telecommunications, electronic circuits and the combination of Information and Communication Technologies (ICTs), namely, indigenous peoples.

In Brazil, according to data from the last Demographic Census carried out by the IBGE (Brazilian Institute of Geography and Statistics), in 2010, there were 896,917 indigenous people, of which 572,083 lived in rural areas and 324,834 lived in urban areas. The data also reveal that in all Brazilian states, including the Federal District, there are indigenous populations, and in the five

regions of Brazil, the North Region is the one that concentrates the largest number, 305,873 thousand - approximately 37.4% of the total. In the North Region, the state of Amazonas is the largest with a number of indigenous people, representing 55% of the total.

However, in 2022, the data will be updated with the 2022 Census, the first to be carried out since 2010.

In view of the intense indigenous population present in Brazil, Information and Communication Technologies (ICTs) can never be neglected for these peoples, however, better understanding the importance of digitally including an indigenous citizen is essential in the face of their culture and needs.

BRAZILIAN INDIGENOUS PEOPLES

The indigenous population in Brazil established housing in the national territory thousands of years before the arrival of the Portuguese, in 1500. It is not known exactly what the number of indigenous people was when the Portuguese arrived in Brazil, but the most accepted estimates suggest that there were approximately five to seven million Indians in the Brazilian national territory.

There are many names for the people who inhabited Brazil before the Portuguese invasion, whether native, aboriginal, original, autochthonous or indigenous. But the more technical definition is given by the United Nations in 1986, which provides:

Indigenous communities, peoples and nations are those who, relying on historical continuity from pre-invasion and colonization societies that developed in their territories, consider themselves distinct from other sectors of society, and are determined to conserve, develop and pass on to future generations their ancestral territories and ethnic identity, as the basis

16. SILVEIRA, Sérgio Amadeu - **Digital divide: misery in the information age**. 1ª ed. São Paulo: Foundation: Perseu Abramo, 2001. p. 17

of their continued existence as peoples, in accordance with their own cultural standards, social institutions and legal systems.¹⁷

The Brazilian indigenous population is formed by a little-known cultural and social heterogeneity, but these peoples are proving to be increasingly present in our society.

From the 1500s to the 1970s there was a significant decline in indigenous peoples, and many of them became extinct. Epidemics, exterminations, and even slavery were reasons for this reduction. The disappearance of these peoples came to be seen as a historical event, something to be regretted. However, from the 1980s onwards, this scenario began to show signs of change, and the indigenous population grew again.

As of 1991, the Demographic Census began to include the indigenous population in its data, demonstrating that since then there has been a significant increase. The percentage of indigenous people in relation to the Brazilian population increased from 0.2% in 1991 to 0.4% in 2000, which according to the Census totals 734 thousand people, that is, an annual increase of 10.8% of the population, the highest growth rate in relation to the other categories.

However, even in the face of population growth, indigenous peoples, for the most part, still remain on the margins of the cultural standards of current society, which encourages and imposes rules that the Indian is not a civilized population and cannot be part of everyday social life, thus generating social exclusion and racial discrimination of indigenous peoples.

For Helena de Biase, project coordinator at the Department of Education at FUNAI,

Brazilians treat indigenous people in two ways, one romanticized and the other labeled:

For many there are two types of Indian. The pure Indian - who lives in the forest, wears no clothes and feeds on what he hunts - and who deserves humanitarian aid. The impure Indian - who lives in the city and wears white clothes - is lazy, lazy and self-seeking. Indians are considered a primitive stage of humanity. People think that when they start to evolve and fight for their rights, they stop being Indians.¹⁸

For Helena, the exclusion of indigenous peoples lies in their invisibility, since society does not consider the Indian as a citizen who guarantees rights and duties. Invisibility to indigenous people entails lack of access to fundamental rights, such as lack of access to health, education, work, culture, as well as the availability of access to information and communication through new technologies, since society encourages the understanding that technology is not part of indigenous daily life, and cannot be used by such a population.

However, the use of new technologies is necessary for the physical and cultural survival of the indigenous population, as including them digitally aims to promote knowledge among different indigenous peoples, foster cultural diversity, maintain tradition and customs within the logic of the information society, in addition to being able to express social claims and even policies and economies, among other countless benefits.

Thus, including indigenous peoples in the technological world will not entail the denial of their roots and cultures differentiated from the "white man", on the contrary, they will be reaffirming their origin and cultures, as well as promoting respect and appreciation of the indigenous for the whole society.

17. MINISTRY OF EDUCATION. **The Brazilian Indian: What you need to know about indigenous peoples in Brazil today.** Brasília: Ministry of Education, Secretariat for Continuing Education, Literacy and Diversity; LACED/National Museum, 2006. p. 27.

18. METHODISTA. Ethnic exclusion: Indian – a special citizen. Available on the website: <<http://portal.metodista.br/pastoral/reflexoes-da-pastoral/exclusao-etnica-indio-um-cidadao-especial>>. Accessed on: 12 Oct. 2022.

THE IMPORTANCE OF THE DIGITAL INCLUSION OF INDIGENOUS PEOPLES

In a globalized world, the individual who does not have the capacity or does not have the digital tools is considered digitally excluded, therefore he is a social excluded.

In this context, the use of new technologies is an essential tool for the inclusion of indigenous peoples, since the survival of a population that has already suffered from social exclusion for many years is necessary.

The main objective of connecting the Information and Communication Technologies (ICTs) to indigenous populations is the possibility of promoting them as culturally differentiated peoples, allowing them to perpetuate and strengthen their culture and tradition, in addition to promoting communication between different indigenous peoples, extending and disseminating the indigenous movement.

Pierre Lévy, when discussing the importance of including indigenous peoples in the information society, states:

These technologies must be used as tools for the defense of indigenous rights. Development for indigenous peoples must be a process that combines traditional culture with new technologies and new hopes. It is to unite the indigenous tradition with the new concepts of technology and its information society, without losing its cosmovision.¹⁹

Thus, providing the use of Information and Communication Technologies (ICTs) to indigenous populations is not just providing access to computer networks, nor training them to use them. But also, I allowed that population to spread their culture, as well as ensure their political and social participation in issues related to their rights.

Therefore, the availability of new technologies is essential for human development. This way, indigenous populations must be inserted digitally, like other societies.

However, Brazilian indigenous peoples were never considered a preference in social inclusion programs, since the unworthy ethnic group is considered a minority in society, but it is in the meantime that the digital inclusion of the indigenous population is extremely important.

The means of communication, in particular the internet, are of fundamental importance in the dissemination of informative content and images, mainly because there are no geographic or physical barriers to limit the spread of information.

On the importance of access to the network, Thaís Colasso states:

The availability of a network, accessible to everyone anywhere, favors the universalization of knowledge and the democratization of technology, ceasing to be an exclusive monopoly of rich countries or even of the economic elite of poor countries. Although we are aware that the Internet will not solve all of humanity's problems, we can state that the expansion of information technology will serve as a mechanism for the liberation and independence of geographically isolated communities.²⁰

For indigenous peoples, the internet both provides a relationship between peoples of the same ethnic group, as well as the exchange of knowledge and information between other peoples, converting knowledge and knowledge no longer as an exclusive privilege of a certain group, class or caste.

This way, digital inclusion starts to have a mitigating role for indigenous peoples, being considered in its social dimension, an important aid factor for the social inclusion of

19. LÉVY, Pierre. **Cyberculture**. Translation by Carlos Irineu da Costa. 1st ed. São Paulo: Editora 34, 2000. p. 126.

20. COLAÇO, Thaís Luzia. **Inclusão digital dos povos da floresta**. In: ROVER, Aires (Org.). Digital inclusion and electronic government. 1. ed. Zaragoza: Pressas Universitarias de Zatagoza, v. 1, 2008. p. 101.

this class.

Eliane Portiguar, emphasizing the struggle of indigenous peoples in digital inclusion, teaches that:

Is it a challenge for Brazilian indigenous peoples to be included in the information society, due to the fragility of their intellectual rights, their intellectual property? Yes! But it is a challenge that must be overcome through awareness, training, technical training, the creation of indigenous databases to guarantee the entire historical collection, guaranteeing their patents. Traditional culture undergoes evolutions with modernism and technologies. These technologies must be used as tools for the defense of indigenous rights. Development for indigenous peoples must be a process that combines traditional culture with new technologies and new hopes.²¹

The internet becomes an important tool for the social inclusion of indigenous peoples, as it is through it that their cultures, traditions, claims, needs, and especially the social roles of indigenous peoples in Brazilian society can be disseminated and immortalized throughout the world.

Information and Communication Technologies (ICTs) arrived for indigenous peoples as an essential tool for human development. Before, the natives only observed the “white man”, but now it is the “white man” who begins to observe the culture of the indigenous population.

This is why the inclusion of indigenous peoples in the information society is so important, since, with it, culture, tradition and customs can be disseminated and eternalized in today’s society.

In this context, public policies and corporations that aim at the inclusion of indigenous peoples arise, as will be studied below.

21. POTIGUARA, Eliane. The inclusion of forest peoples in the information society. Available on the website: <<https://undime.org.br/noticia/a-inclusao-dos-povos-indigenas-na-sociedade-de-informacao>>. Accessed on: 13 Oct. 2022.

22. CONJUR. Peoples of the Forest Network connects Brazilian indigenous villages. Available on the website: <https://www.conjur.com.br/2003-set-16/rede_povos_floresta_interliga_aldeias_indigenas_brasil>. Accessed on: 13 Oct. 2022.

POLICIES OR PROGRAMS FOR DIGITAL INCLUSION OF THE BRAZILIAN UNWORTHY POPULATION

The digital inclusion of indigenous peoples began recently and has been developed mainly through partnerships between the public and private sectors, aiming at the social and digital inclusion of those who have always been considered minorities by society and forgotten in accessing and using information and communication.

Faced with the inequality and social discrimination that has always surrounded the indigenous population, it has led these peoples to organize themselves into associations to demand their social participation, as currently, digital inclusion.

One of these cases is the project called “Rede Povos da Floresta”, which is an initiative of the CDI (Committee for the Democratization of Informatics), a non-governmental organization (NGO), partner of the Committee for the Democratization of Informatics (CDI) with Star One, a satellite company in Brazil, and is supported by the Satellite Commission of Acre, which has as some of its main objectives, to interconnect Brazilian indigenous villages, through the Internet and strengthening the culture of ancestral peoples.

The first villages to join the project and receive the necessary infrastructure to access the world wide web are: *Ashaninka*, located in the municipality of Marechal Thaumaturgo, in Acre and connected to the internet network since 2003; to *Yawanawa*, located near the city of Tarauacá, also in Acre, and to *Sapukay*, in Angra dos Reis, RJ.²²

The “Povos da Floresta” Network constituted conditions for the exchange

of experiences between different Brazilian indigenous groups, encouraging cooperation between them, and even enabling the creation of a virtual community.

Another project is the Rede Floresta Topawa Ka'á (forest network in the Parakanã dialect), sponsored by Eletronorte, a company in the electricity sector in Brazil, which I built four points in operation, all conducted by the indigenous people themselves. This is also the case of the Telecentro of the Baniwa, an indigenous tribe from the Alto Rio Negro, and maintained by the NGO ISA (Instituto Socio-Ambiental).²³

The *Baniwa* indigenous tribe, completely isolated, as they can only be reached by boat, on a journey of 700 kilometers, lasting three days, from the nearest municipality, which is São Gabriel da Cachoeira, which, in turn, is about 800 km from Manaus.

And even in the face of this distance and isolation, the *Baniwa* tribe is connected to the internet.

Another Telecenter point was installed in 2003 at the Federation of Indigenous Organizations of Rio Negro (Foirn), which represents 750 indigenous communities with 35,000 Indians. The work of installing the Telecentre is jointly carried out by Gesac, Foirn, the Ministry of Education, and the NGO "Instituto Socioambiental" (ISA) - which also operate at the Pamaáli School -, and the multinational IBM.²⁴

Another village that is isolated but connected to the world wide web is the Kumenê village, located in the Uaçá reserve, in Oiapoque, 590 kilometers from Macapá, and is the most isolated village in the state of Amapá. To reach the village, it takes 20 hours

23. ISA. The villages, within the network. Available on the website: <<https://terrasindigenas.org.br/pt-br/noticia/41095>>. Accessed on: 13 Oct. 2022.

24. ISA. **The antennas of distant Brazil**. Available on the website: <<https://terrasindigenas.org.br/noticia/31839>>. Accessed on: 13 Oct. 2022.

25. G1. **Advances in technology in a village change the daily lives of Indians in Amapá**. Available on the website: <<https://g1.globo.com/ap/amapa/noticia/2014/05/avanco-da-tecnologia-em-aldeia-muda-cotidiano-de-indios-no-amapa.html>>. Accessed on: 13 Oct. 2022.

by boat across three rivers, the Oiapoque, Uaçá and Urukauá, departing from the nearest municipality, which is Oiapoque. However, the navigation time to the village can be longer, depending on the influence of the tide.²⁵

In addition to the aforementioned programs, initiatives such as these are growing every year in our country, but at a slower pace in the face of technological advances, and for many indigenous people's technology is a reality that is far from being achieved.

Thus, it is the obligation of the State and the private sector to promote the digital inclusion of indigenous peoples, which will enable an improvement in their quality of life, in addition to publicizing and promoting integration and socialization among peoples, and generating their social inclusion.

FINAL CONSIDERATIONS

New technologies have caused transformations in human life, among them, the spread of information and knowledge, which consequently generate improvements in the quality of life of society.

The use of Information and Communication Technology (ICT) plays an important role for the indigenous population, as it can be a vehicle for supporting and fostering the cultural diversity that exists in society, in addition to maintaining and promoting self-determination, tradition and customs within the logic of the information society. Still, it aims to be able to express social demands and even policies and economies that were practically impossible before, among other countless benefits.

Therefore, the use of Information and

Communication Technologies (ICTs) by indigenous peoples is not just about providing access to the world wide web, or simply enabling them to understand new technologies; it is, in fact, the combination of these issues with the possibility of using such technology as a way of promoting and eternalizing its cultures in the world, in addition to providing political and social rights and claims.

Despite the use of Information and Communication Technology (ICT) being something non-existent for the indigenous population, some tribes have already started to use technological resources for autonomous purposes.

The participation of the private sector, influenced by the so-called social

responsibility, is another outstanding fact, which can be distinguished at the business level, which demonstrates that digital inclusion is no longer just a public measure.

Partnerships between the public and private sector, and the third sector (NGOs, Foundations, etc.), began to promote the inclusion of the indigenous population, but the delay in expanding digital inclusion programs is still far from being a real reality.

The fact is that the digital inclusion of indigenous peoples aims to benefit the promotion of their culture, traditions and customs, in addition to enabling communication with other peoples, and being a means of disseminating the protection of the rights of these populations.

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