

DIGITAL TRANSFORMATION POLICIES: *A comparative view between Chile and Colombia from a human rights perspective*

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ABSTRACT

The purpose of this article is to analyze comparatively the progress of the digital transformation policy of Chile and Colombia concerning international guidelines to visualize difficulties, challenges, and prospects for the implementation of public policy in Colombia. For the development of this objective, it is important to consider that the policy processes derived or adjusted after the 4.0 or digital revolution, postulate as a problem the incorporation of digitization in the concrete actions of the State and the adaptability, sensitization to government processes, an element that represents a challenge in terms of guaranteeing human rights in a highly technified context. In effect of the above, the present work is approached from a comparative methodological approach, in which the Atlas.ti and Nodexl software are used to establish the identification of patterns or differential factors between the two countries under study, allowing the correlation of characteristic elements of the policies focused on addressing the new normality or "neonormality". This allows concluding that, within the perspective raised, Colombia has not yet developed a full exercise of guarantee of rights articulated to the digitization policies, which is a challenge for the State management, as well as a strategic approach to consolidating good practices that contribute to the improvement of administrative management in the field of digitization and the generation of public value.

Keywords: Digital Public Policy, Chile, Colombia, revolution 4.0, human rights, best practices.

RESUMEN

El propósito del presente artículo es analizar de manera comparada los avances de la política de transformación digital de Chile y Colombia respecto de pautas internacionales con el fin de visibilizar dificultades, retos y perspectivas de la implementación de la política pública de Colombia. Para el desarrollo de este objetivo es importante considerar que los procesos de política derivados o ajustados después de la revolución 4.0 o revolución digital, postulan como problema la incorporación de la digitalización en las acciones concretas del Estado y la adaptabilidad, sensibilización a los procesos de gobierno, elemento que supone un reto en materia de garantía de derechos humanos en un contexto altamente tecnificado. En efecto de lo anterior, el presente trabajo se aborda desde un enfoque metodológico comparado, en el cual se hace uso del Software Atlas Ti y Nodexl para establecer la identificación de patrones o factores diferenciales entre los dos países objeto de estudio, permitiendo la correlación de elementos característicos de las políticas enfocadas a abordar la nueva normalidad o

“*neonormalidad*”. Esto permite concluir que, dentro de la perspectiva planteada, Colombia aún no ha desarrollado un pleno ejercicio de garantía de derechos articulados a las políticas de digitalización, lo cual supone un reto para la gestión de Estado, así como un enfoque estratégico de consolidación de buenas prácticas que aporten a la mejora de la gestión administrativa en el campo de la digitalización y la generación de valor público.

Palabras Clave: Política Pública Digital, Chile, Colombia, revolución 4.0, derechos humanos, buenas prácticas.

INTRODUCTION

This article develops a comparative analysis of the national policy for digital transformation and artificial intelligence of Colombia - document Conpes 3975 and the digital agenda of Chile from the perspective of Human Rights in light of the principles, international standards, and practical guidelines that guide state action in the different stages of the cycle of a public policy with a human rights approach, especially those proposed by the Inter-American Commission on Human Rights.

Public policies of digital transformation are developed in the understanding that they are a mechanism of State action after the 4.0 revolution in Colombia and Chile, which seek an adequate implementation and the construction of good practices, however, from the international guidelines on the subject, it is established that Colombia does not comply with an adequate, efficient and competent approach in this State action for Chile.

Reflections on the challenges brought about by the use of ICT, the Fourth Industrial Revolution, and its applications in Artificial Intelligence are presented under the rationale that technologies are not an end in themselves, but constitute a tool at the service of humanity to achieve the effective exercise of rights but above all a greater guarantee and respect for the human dignity of all members of society. Finally, some conclusions and sources of consultation are presented.

1. Components of the Colombia and Chile Digital Policy

This section of the document is dedicated to identifying the components of the public policy of digital transformation in Chile and Colombia within the framework of the industrial revolution 4.0 in the Latin American context. In this sense, it is important to remember that according to Oszlak's (2013) postulates, open government and digital government approaches have a direct relationship with the New Public Management - NGP, a school of public administrative thought that postulates a change in the forms of management in the understanding that transforms the hierarchical approach attributed to the bureaucratic rationality of the State (Weber; 1999) towards a citizen-centered management exercise and with a horizontal perspective based on processes (Barzelay, 1998; DAFP, 2017).

It is worth considering that, although the trends of open government and digital government are products that arose due to the oil crisis in the 1970s, these trends themselves are focused on the paradigm of effectiveness, efficacy, and efficiency. This is without neglecting the factors of social development, State-Society articulation, and the visualization of institutional actions as a factor of better management. These aspects can be identified in the main pillars of these two trends. In the case of open government, the pillars are participation, transparency, and collaboration and, on the other hand, in the case of digital government, the pillars of accountability and State-citizen co-production are added to these pillars. Therefore, it can be said that digital government is an evolution of open government.

On the other hand, it is important to point out that the elaboration or construction of public policies associated with open government or digital

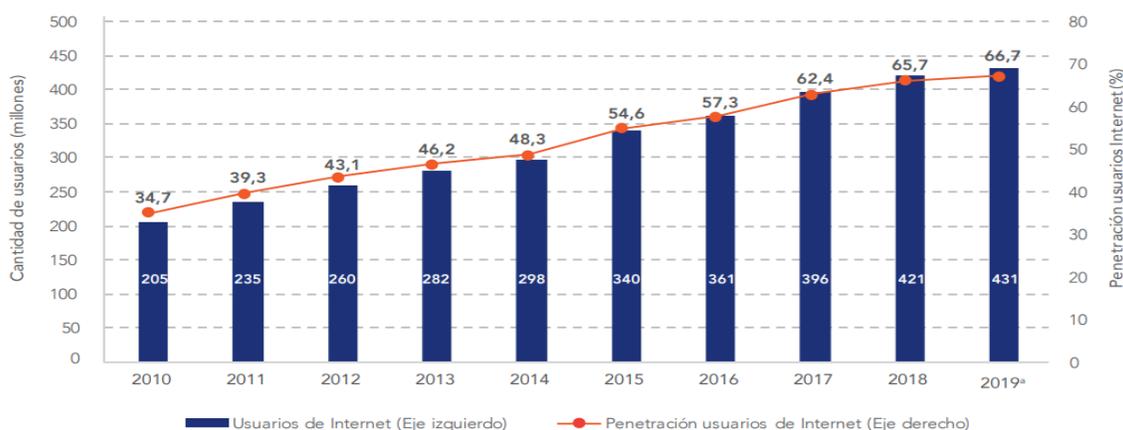
government issues pose an important challenge in terms of the reduction of procedures, which can be read as electronic government, but also from a perspective of visibility in which an opening of data traditionally associated with the administrative sphere can be established and which require strengthening through the critical perspective of the citizenry. In the same way, it is important to identify that public policy management generates goods and services, its operational core aimed at guaranteeing fundamental rights, which within policy approaches such as these will make possible results associated with a public value (Bardach, 1998; Subirats, 1992; Matamoros, 2013).

Articulated in the above, Lugo and Iturburu (2019) point out that digital policies have a high level of implementation of new technologies, with strategies associated with the construction of adaptation processes, digital literacy, and internet use. In this line, it is possible to establish a level of progress of communication policies in countries where it can be understood that communication and technology processes can operate not only within the framework of a sectoral action but can operate transversally in the State, and generate adaptability from the citizenship with technical and technological capabilities that allow resizing, within the framework of the Revolution 4.0, the management of the State and the actions of

societies even associated with the use of technologies or mobile devices.

Likewise, it is worth considering that the development of technology and the generation of the use of devices in society and state developments can establish the frame of reference and management articulated to new normality (neo normal), but also generate frameworks of transparency, information dissemination, construction of collaborative ties that allow an improvement in decision making and the establishment of new ways of governing, generating social trust and political, social, economic and even cultural transformation in the sense of adaptability and acceleration posed by the new technologies, in itself the digital era.

From Riorda's (2014) perspective, this implies understanding that in the new forms of governance there cannot be actions of excellence in government without a good development in the field of communications, which is a topic of interest and relevance in Latin America, to the extent that this issue is part of the other issues of the 2030 agenda and even of the implementation of the Sustainable Development Goals (SDGs). In this regard, ECLAC (2021) shows how the process of internet penetration in the region derived from policies has been growing during the period from 2010 to 2019, as can be seen in the following chart:



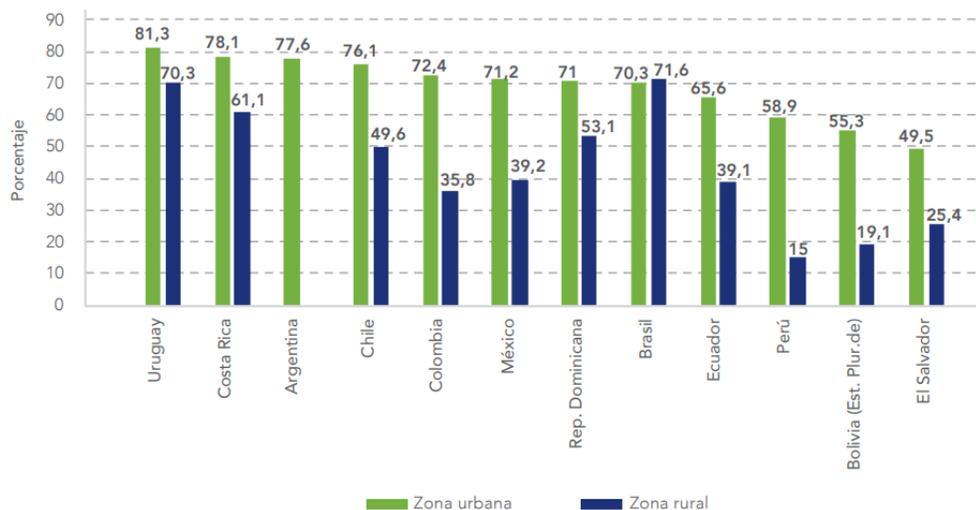
Fuente: CEPAL con base en Unión Internacional de Telecomunicaciones (UIT), ITU World Telecommunication/ICT Indicators database, octubre 2019.
* Estimaciones.

Figure 1. Latin America and the Caribbean, Internet penetration and Internet users, 2010 – 2019

As can be seen in the image, the difference between the initial and final year exceeds by more than 100% the internet access in the region, in a decade in which growth oscillates from three to a maximum of seven percentage points per year. Therefore, it should be considered that the adjustments of public policy in digital matters in the region, not only respond to a trend of technological transformation, but to a need resulting from the industrial revolution 4.0 and its effects on the political, social, economic, and cultural levels, which is reflected in the practices

of access to information, in its use and in the possibilities of having an informed and critical citizenship (Schwab, 2021).

However, it is important to establish that the implementation frameworks of this type of public policies have a differential approach associated with the levels of land density, geographic area, and even access of the State to the areas administered by the State. One way to visualize this is given by the difference in the implementation of these public policies in rural and urban areas, as shown in the following chart:



Fuente: Observatorio Regional de Banda Ancha (ORBA) de la CEPAL con base en las encuestas de hogares del Banco de Datos de Encuestas de Hogares (BADEHOG). La información de Brasil, República Dominicana y México proviene de la UIT World Telecommunications Indicators Database, 2020, y la información de Colombia proviene de la Encuesta de Calidad de Vida del DANE.

Nota: Los datos de Chile y Ecuador corresponden al año 2017.

Figure 2 Selected Latin American and Caribbean countries, Internet users by urban and rural area, 2018 (Percentage over total population in each area)

In relation to this image, it can be established that, except in the case of Brazil, the levels of attention in rural areas still constitute a challenge for attention in terms of digital policy, but also in the field of implementation of global institutional references (Muller, 2006) such as the SDGs and the 2030 agenda itself. This in itself makes it possible to identify that while the industrial revolution 4.0 postulates a change in the relationship processes between technology and people and technologies and public, private, and

supranational organizations, in terms of public policy the challenge of changing the paradigm of traditional administration emerges, updating knowledge in terms of management, process, normative construction, etc., to improve the quality and efficiency of the public sector and to improve the quality of the public sector (Surel, 2018).

In the same way, it can be noted that within the context of Figure 2, there is a similarity in

reference between Chile and Colombia, where there is a percentage difference of four points in the implementation of digital public policy in urban areas and a difference of fourteen points in the implementation of the same policy in rural areas. In effect of the above, and articulated to the object of study in the following lines is an approach to the progress in terms of digital policy in Colombia and Chile.

1.1. Colombia's Digital Policy

In the case of the implementation of Colombia's public policy, the Ministry of Information and Communication Technologies (MINTIC) proposes an approach to the digital process as follows:

(...) the Digital Government policy defines the guidelines, standards, and strategic projects that allow the digital transformation of the State to be carried out, to achieve a better interaction with citizens, users, and stakeholders, allowing to

satisfactorily meet needs, solve public problems, enable sustainable development and, in general, create public value (n.d.).

As can be seen in this fragment, the initial development of Colombia's digital policy is aimed at the digital transformation of the State, and the articulation between government and citizens, but in the latter case it postulates visibility of issues associated with users and interest groups associated with the policy. At this point, therefore, it can be established that this policy is thought of as the ecosystem of interactions with the public, private, social, and even supranational actors, aimed at solving public problems as a commitment to social welfare and generation of public value (Buenhombre & Vanegas, 2017; Bozeman, 1998).

Accordingly, in the development of this policy, a total of two (2) components and five (5) purposes are articulated within the operational framework of this public policy, as follows:



Figure 3 Components and Objectives of Colombia's Digital Policy

Source: <https://gobiernodigital.mintic.gov.co/portal/Politica-de-Gobierno-Digital/>

According to Figure 3, there is a correlation between ICT for society and the State, an element that allows establishing a factor of progress concerning the challenge of overcoming the gaps in terms of access to technologies, an aspect that constitutes an element of contribution to the guarantees in terms of technological rights or third generation rights. Hand in hand with the above, it can be established that there is a

correlation between the institutional part, the social part, and the approach to the technological part, which constitutes a triangle of operations of the Colombian digital policy.

It is to be considered that the three enablers of the policy components place special emphasis on this triad, but also the identification of state purposes aimed at the recovery of social trust, the

enhancement of the efficiency of the state response to social demands, and the construction of advances in state policies or actions based on evidence (Tapia Góngora, 2011). On the other hand, it can be established that the two final purposes are associated with the strengthening of citizenship and territories, in other words, a commitment to strengthen citizen expressions and their contexts in different parts of the country is established.

In effect of the above, it is noteworthy that the development of Colombia's digital policy finds a clear articulation with the international guidelines associated with the possibility of generating access, development, and potentialities that allow overcoming inequalities and strengthening the dynamics of innovation, strengthening industry and infrastructure, which is part of Goal 9 of the SDGs. Reflecting on these sections, it is important to take into account that the situation of Colombia's regions, especially in border areas, presents weaknesses in terms of interconnection and state attention within the framework of policies differentiated by gender and ethnicity (Buenhombre, 2017; Buenhombre & Moreno, 2014).

In summary, it can be noted that the development of Colombia's public policy has significant

progress in terms of the pillars of participation, transparency, and collaboration, in addition to having a special emphasis on overcoming inequalities, but in terms of operability, a major challenge can be identified, associated with the intervention of subregional and local contexts where there is no state presence, and where people in vulnerable conditions live. These aspects are the subject of the following chapter.

1.2. Chile's Digital Policy

Chile's Digital policy is characterized by principles such as: being people-centered, a Digital State by design, an open and collaborative approach by default, a Data-driven Government, and the construction of a Proactive State (Gob Digital Chile, 2019), important to note that, within the analysis process the process of operationalization of Chile's policy is not focused on the look of digital government, but presents a clear bet towards the Open State.

Within the "Digital Transformation Strategy of the State" (Gob Digital Chile, 2019), the government of Chile presents the following scheme:



Figure 4 Chile's digital policy care model

Source: (Gob. Digital Chile, 2019, p. 30)

Based on Figure 4, it is possible to establish the primacy of the citizen and the use of technologies associated with the development of the Government where the use of data as part of the monitoring scheme is established, there is more

data science as a support for decision making and the approach to information that articulates the digital public policy of Chile.

Articulated with the above, within the operational model of the policy it is possible to establish a development associated with the new public management, the generation of information interoperability, and the answers that the city gets from the State. It is important to consider that this type of model is closely associated with the new public management, in which the axis of the system is the citizen and there is a high paradigm associated with efficiency, efficacy, and effectiveness.

In the same way, as in the case of the Colombian policy, the digital policy in the case of Chile has a direct articulation with the approaches of the SDGs in terms of issues associated with the industry, innovation, and infrastructure. The element that comes into play, with the approach of technical, technological, and institutional approaches that seek a foundation portal of administrative approaches to results, as well as evidence-based policies. This is supported, by the processes of attention to the citizen and the generation of public values that are raised in the body of the public policy.

By way of summary, it can be noted that both the Colombian and Chilean digital policies, attend to the theoretical principles of open government in terms of participation, transparency, and collaboration, however, it is important to note that in the Chilean case there is a strategic advance in the digital perspective to the extent that postulates within the operational and management approach of public policy an advance towards the open state, a differential aspect with Colombia where there is a technical line associated with the digitization of the state as a challenge to build collaboratively and with management processes associated with continuous improvement.

On the other hand, it is important to highlight that every public policy involves in itself attention linked to fundamental rights, that is why for the case of public policies of digital order in the Colombian and Chilean cases identification of

the Human Rights approaches is established in the following chapter.

2. Management Mechanisms and Human Rights within the Digital Policies

The Inter-American Commission on Human Rights is clear in establishing the importance of the human rights approach guiding all State action and being incorporated into all measures adopted by the States, especially in the public policies they formulate. Thus, public policies with a human rights approach are concentrated in a specific sector of the State structure and fail to include other sectors that directly or indirectly impact the protection of rights, identifying over the years great difficulties for the States in complying with the recommendations aimed at promoting structural reforms. The Commission, therefore, established practical guidelines so that the States and other State actors can use them to harmonize the measures adopted with the structural recommendations issued by the Commission in the area of public policies with a human rights approach (CIDH, 2018).

The following is a comparative analysis of the Public Policies of digital transformation of Chile and Colombia from the Human Rights approach, bearing in mind that as stated by the Observatory of the Digital Ecosystem regarding the countries of Latin America and the Caribbean of CAF, about the countries of Latin America and the Caribbean, among which are Chile and Colombia, which have different stages of digital transformation as evidenced in the following table regarding some specific items such as infrastructure, connectivity, household digitalization, production digitalization, digital industries, production factors, competition, among others (Observatorio del Ecosistema Digital de América Latina y el Caribe de CAF, 2017, p. 20).

País	Infraestructura		Conectividad		Aplicación de la tecnología		Aplicación de productos		Indicadores de calidad		Factores de producción		Competencias		Indicadores y equidad		Índice	
	2010	2020	2010	2020	2010	2020	2010	2020	2010	2020	2010	2020	2010	2020	2010	2020	2010	2020
Argentina	36	58	72	84	47	72	56	63	26	43	32	62	81	94	53	74	51	69
Barbados	40	61	67	80	55	70	69	69	33	47	41	62	88	100	59	74	57	70
Bolivia	25	38	38	59	26	47	15	38	24	26	16	24	86	99	19	63	30	49
Brasil	37	58	68	80	47	68	59	65	23	43	33	61	67	95	68	77	51	68
Chile	56	65	72	81	51	70	74	76	34	44	37	62	83	94	65	82	60	72
Colombia	43	58	59	79	46	68	79	81	25	43	28	61	91	96	66	77	55	71
Costa Rica	48	58	72	84	50	70	26	63	26	43	31	61	86	95	60	79	50	69
Ecuador	28	43	49	67	39	52	28	67	22	27	20	31	83	96	61	67	40	56
Jamaica	32	37	52	63	31	47	31	39	27	29	23	30	32	73	51	63	35	47
México	36	58	60	79	48	68	41	63	20	43	23	61	71	92	66	76	46	67
Panamá	34	44	63	74	47	54	41	67	15	27	22	33	73	94	52	68	44	58
Paraguay	28	37	48	61	41	48	15	38	21	24	11	23	88	92	37	64	35	48
Perú	33	45	49	72	41	47	17	48	21	23	19	26	70	88	60	61	38	52
R. Dominicana	32	38	48	59	29	48	31	47	19	21	17	25	78	83	60	66	39	48
Trinidad & Tobago	41	60	73	82	52	70	69	69	25	45	30	62	45	92	69	76	52	70
Uruguay	43	59	74	83	52	70	61	73	25	44	38	63	60	91	63	77	53	70
Venezuela	30	44	53	69	42	48	32	67	18	27	28	35	75	94	54	68	41	57
LAC (*)	37	55	62	78	46	65	50	64	23	39	28	54	73	93	63	74	48	65

Source: CAF's Observatory of the Digital Ecosystem in Latin America and the Caribbean

LAC (*) Average of CAF's 17 Latin American and Caribbean shareholder countries. El Salvador, Guatemala, Haiti, Honduras, and Nicaragua are not included in the LAC average estimate. LAC average estimate.

As evidenced in the above table, the unequal development between nations in the Latin America and Caribbean region is latent, hence the definition of goals by pillar and country supports the determination of concrete objectives and goals to reduce inequality in terms of digital development between the different nations of the region (CAF, 2017), which, attending to the object of this study, the analysis is made between the digital public policies of Chile and Colombia, from the approach in human rights for Colombia to reach the average level of developed countries.

Digital Agenda Policy, Chile 2013-2020:

From a Human Rights perspective, the Digital Agenda Chile 2013-2020 promotes gender equality for women in digital environments, thus, in the XI Regional Conference on Women in Latin America and the Caribbean held in 2010 by the Economic Commission for Latin America and the Caribbean (ECLAC), the need to facilitate women's access to new technologies and promote media that are egalitarian, democratic and non-discriminatory was recognized, ECLAC has also favored the creation

of a working group specially dedicated to gender in the Plan of Action for Latin America ELAC 2015, which states that ICTs are tools for economic development and social inclusion for women in the Latin American region (Gobierno de Chile, 2018).

In this regard, it should be noted that the member states of the United Nations in 1967 approved the declaration on the elimination of discrimination against women since it constitutes an offense against human dignity and calls on States to adopt measures to abolish existing laws, customs, regulations, and practices that constitute discrimination against women and to ensure adequate legal protection of the equal rights of men and women (Naciones Unidas, 1979).

The Digital Agenda, Chile 2013-2020 establishes that overcoming this gap goes beyond increasing connectivity, and the presence of women in the industry and the economy associated with Information and Communication Technologies, since it must address issues such as violence, online harassment against women, and gender on the Internet (web and social networks), in addition to the reproduction of stereotypes at the level of digital content and video games, so it advocates the creation of platforms and digital educational resources with a gender perspective, and also advocates the creation of online content and resources by and for women (Gobierno de Chile, 2018).

For the above, it is noteworthy that currently, specifically to counteract inequality and discrimination against women, gender in addition to the strategies contained in the Digital Agenda Chile 2013-2020 there is a widespread way to raise awareness and denounce such inequality and it is through cyberfeminism, a concept that links technology, internet and social values for the benefit of equity (Catalán, 2017; Sánchez & Fernández, 2017), in the same way, there are cyberfeminist movements, one of them currently very active worldwide has been the "#MeToo", to denounce abuse and sexual assault (Thissen, 2018), hence cyberfeminism and cyberfeminist movements contribute to attack inequality and discrimination addressed by the Digital Agenda Chile 2013-2020 being able to be considered coadjuvants for the achievement of such purposes.

For some authors, the concept of the digital divide can be subdivided into three types: that of access, based on the difference between people who can access ICT or not, that of use, based on people who know how to use them or not, and that of quality of use, based on the differences between the users themselves (Morales *et al.*, 2016); The above in the framework of the Digital Agenda Chile 2013-2020 means to guarantee access, use, quality to women and with a gender perspective, to information technologies and telecommunications to contribute to the reduction of existing digital gaps in reality.

Villarejo *et al.* (2016) indicate that the digital divide can be manifested at three levels: access, inclusion, and advanced uses, where the first one focuses on the difficulties to access the network, determined by technological, financial, and training barriers, mainly when taking into account to what extent (frequency of use) and how (for what purpose) the Internet is used. The concept of the second digital divide then appears when comparing occasional Internet users with regular users and a third digital divide about the use made of the network, i.e., what has come to be called advanced uses, with the adoption of the latest applications developed (Ragnedda, 2017). However, the digital divide, today, depends on other factors such as educational level, professional career, and access to work, in

addition to the cultural level and social, family, and social background.

On the other hand, Chile seeks to safeguard the rights of consumers on the Internet, this is how the Chile Digital Agenda 2013-2020 refers to the collaborative economy models, and offer of services through the use of technologies that have emerged and prospered in Chile thanks to the Internet, consequently, the rights of individuals or quality guarantees for this service must be made effective, precisely because the development of the Internet has facilitated access to content by opening new channels of marketing, dissemination, new online business models have emerged, creation and distribution of content; it is required to evaluate the need to regulate matters such as copyright, access to information and culture (Government of Chile, 2018).

And, it is that the use of new technologies becomes increasingly necessary, since, to replace physical spaces, the latter created and reinforced communication channels that assimilate to such spaces for the performance of daily activities. This is how today, platforms such as Zoom, Microsoft Teams, Google Meet, and Cisco Webex, among others, are known, so the use of new technologies must be regulated by rules, because without legal regulation, the use of these would be disorderly, and could even cause problems for users, Therefore, the relationship between law and new technologies is a bilateral relationship of mutual contribution (Díaz & Castro, 2021), hence it is important to advance in the normative development of issues such as, for example, the virtual associationism that arises from the replacement of physical spaces by virtual ones where human beings and organizations interact with each other.

In terms of digital connectivity, Chile facilitates the inclusion of all, as of January 2015, in Chile more than twelve million people use the Internet and twenty-four million devices that interconnect citizens, companies, and institutions, under different technological modalities and service platforms, thus, to achieve real digital, inclusive and egalitarian development, the Agenda establishes that connectivity must be addressed from a broader perspective. For example, in

Chile there are still serious socioeconomic, geographic, and age differences in Internet access; almost 1.6 million households do not have it, a gap that can be explained by the coverage in rural areas and the cost of the service, which especially affects the lower income population, where the reduction of the gap occurs when there are real opportunities for Internet access and coverage: public schools with free broadband, communes with public Wi-Fi access, on the other hand, 4G service coverage is not yet available in vulnerable areas or rural and extreme areas, only 2% of the population has access to the Internet through fiber optics to the home (Gobierno de Chile, 2018).

Hence, digital inclusion has become a central issue for governments around the world, being understood as a form of social insertion essential for the growth of any community, digital inclusion has also been defined as a policy or set of policies that arise from the recognition of the importance of ICT in society, which in turn calls for state action to enable individuals to access them (Chacón *et al.*, 2017).

To ensure that all of Chile is digitally connected, with high speed and quality networks accessible to all, the Chile Digital Agenda 2013-2020 aims to reduce the digital divide by making quality digital services accessible at affordable prices for all Chileans, according to the digital inclusion policies promoted by the Agenda, so that consumers and businesses enjoy a higher quality data connectivity service, therefore, the goals of the Digital Agenda 2020 are aimed at digitally connecting all regions of the country with robust and quality infrastructure; to reach 90% of households with broadband, aiming for 75% in rural households, with 20% of all households having fiber optic coverage in their neighborhoods, 90% of municipalities having public Wi-Fi zones, achieving an average Internet access speed of at least 10 Mbps by 2020, and most public schools having a broadband connection with speeds in line with technological availability. In terms of private investment in telecommunications, to reach levels close to OECD averages in terms of per capita investment (Gobierno de Chile, 2018).

For Corzo and Alvarez (2020), the new challenges arising from the technological evolution framed in Industry 4.0 has generated asymmetric gaps in Latin American countries evidenced in the little research and generation of scientific publications in the region compared to the most competitive countries and under current conditions, it is not possible to evolve rapidly towards the benefits of the fourth industrial revolution, especially in automation and robotics; however, the acceptance of the same by executives in the Latin American region marks opportunities in terms of adopting new technological challenges in the industry.

Colombia's digital transformation and artificial intelligence policy

The national policy for digital transformation and artificial intelligence-Conpes 3975 of 2019, whose general objective is to increase the generation of social, economic value through the digital transformation of the public sector and the private sector, by lowering barriers, strengthening human capital and developing enabling conditions, so that Colombia can take advantage of the opportunities and face the challenges related to the 4RI, has four specific objectives: decrease the barriers that prevent the incorporation of digital technologies in the private and public sectors to facilitate the digital transformation of the country, create enabling conditions for digital innovation in the public and private sectors in order to be a mechanism for the development of digital transformation, strengthen the competencies of human capital to address the 4RI in order to ensure the required human resources and develop enabling conditions to prepare Colombia for the economic and social changes brought about by artificial intelligence (Conpes 3975, 2019).

To achieve these objectives, the national policy for digital transformation and artificial intelligence has an action plan and specific lines according to each of the specific objectives, as follows: in relation to specific objective one, it contains the following lines of action: decrease barriers related to lack of culture and lack of knowledge to address the adoption and

exploitation of digital transformation in the private sector, develop regulatory and institutional adjustments to favor the adoption of digital transformation in key components of business productivity and improve the performance of the digital government policy, to address the adoption, exploitation of digital transformation in the public sector; in relation to specific objective two, it addresses the action lines: international partnerships for innovation, design and implementation of initiatives to foster entrepreneurship and digital transformation, promote ICT-based innovation in the public sector, implement high-impact initiatives supported by digital transformation.

For its part, in relation to specific objective three, the action plan contained in Conpes 3975 of 2019, contemplates the lines of: generating enabling conditions that favor the development of digital competencies during the educational trajectory, corresponding to the challenges of technological transformations, developing capabilities and competencies to enhance the interaction of the educational community with emerging technologies to take advantage of the opportunities and challenges of the 4RI or industry 4.0, configuration of innovation ecosystems oriented to generate appropriation of the innovative culture to encourage social and economic development, international alliances for the training of talent, preparation of education with priority in AI, which contributes to the development of competencies for the 4RI and finally in relation to the specific objective four the following lines are addressed: generate the enabling conditions to promote the development of AI, promote the development of digital technologies for the 4RI in Colombia.

From a human rights approach based on the action plan contained in the national policy for digital transformation and artificial intelligence, human rights, with the understanding that they are fundamental and essential for the creation of public policies on digital transformation and artificial intelligence, since the implementation of technological tools associated with machine learning for decision making, the privacy of individuals, the transparency of the management of artificial intelligence systems and platforms in

the public sector, have generated a variety of social, ethical and legal problems (Lepri, Oliver and Pentland 2021), which need to be addressed and analyzed when planning, developing projects, and artificial intelligence strategies.

Thus, the human rights approach in the public policy of digital transformation in Colombia is not evident, however, it is presumably immersed in it, but not in a broad way or relation to all the lines, but specifically, in the lines aimed at reducing barriers related to the lack of culture and lack of knowledge to address the adoption, exploitation of digital transformation in the private sector, generating enabling conditions that favor the development of digital competencies during the educational trajectory corresponding to the challenges of technological transformations, developing capabilities and competencies to enhance the interaction of the educational community with emerging technologies to take advantage of the opportunities and challenges of the 4RI or industry 4.0, the configuration of innovation ecosystems oriented to generate appropriation of the innovative culture to encourage the social and economic development of Colombia.

Regarding human rights associated with artificial intelligence, it should be noted that few are the studies that analyze these precepts jointly, taking into consideration the implications and impacts that artificial intelligence may have on the fundamental rights of all individuals (Aguilar 2021), it is necessary to contemplate human rights in a dynamic and aggregate manner with the applications of artificial intelligence, which implies a complex task due to the conflicts that may have the programming and adoption of human rights in this technological development in the public sector (Martinez 2019), precisely because national strategies require contemplating the impact that artificial intelligence may have on human rights, as well as minimizing the risks that are linked to the protection of human rights so it must be instituted as the basis of the strategies and with a commitment to each of the rights of the different areas that involves the implementation of artificial intelligence applications, for example in the public sector (Bradley et al., 2020).

Among the human rights that can have positive or negative impacts by the application of artificial intelligence in the public sector are freedom of expression, which is altered by the expansion or censorship when communicating and expressing ourselves on digital platforms, as well as controls on accessing or obtaining information, another case is the right to privacy, which is violated or protected by large intelligent systems, (Gascón, 2020), among others.

Therefore, human rights in the context of the development of artificial intelligence, as well as national strategies, should be analyzed in depth, so that human rights prevail and are applied in the necessary regulatory framework that allows the easy development of intelligent platforms and systems (Iglesias, et al. 2020). In this way, it is possible to observe the need to study and examine the different elements that make up national artificial intelligence strategies from human rights perspectives (García and Ruvalcaba, 2021).

Also the OECD, presents the principles of inclusive, sustainable growth and well-being, human-centered values and justice, transparency and explainability, robustness and security, accountability and responsibility (Recommendation of The Council on Artificial Intelligence, 2019) and guidelines within which are to invest in research and development of artificial intelligence, promote and encourage a digital ecosystem in artificial intelligence, providing an agile artificial intelligence policy ecosystem, artificial intelligence capacity building and labor transformation (Recommendation of The Council on Artificial Intelligence, 2019), good practices for the promotion, implementation and development of artificial intelligence, and a framework under which to work to foster innovation and trust in artificial intelligence, while ensuring respect for human rights and democratic values; although Colombia is adhered to these OECD principles, unfortunately, given the recent issuance of the public policy of digital transformation and artificial intelligence, to date they are not implemented, nor are there any actions in regulation, norms and specific measurements, which slows down innovation, the advancement

of artificial intelligence, and does not allow an adequate use of the socioeconomic benefits provided by this technology. (Conpes 3975, 2019).

3. Best practices, challenges, and recommendations

As can be seen in the development of digital public policies in Colombia and Chile, there is a component of the approach to technologies and the possibility of generating awareness in both institutions and citizens concerning information technologies and ICT communications, to the extent that these tools can generate an enhancement of information, a citizen awareness linked to data and control of the actions of public institutions.

From the perspective of Schwab (2016), the world is currently going through new normality derived from the 4.0 revolution or digital revolution, whereby the citizen becomes more sensitive to information processes, an element that allows greater control and monitoring of public institutions and officials, not only in information processes for consultation but also from approaches to dialogue and connectivity mediated by social networks.

It is for this reason that digital public policies will mediate in the framework of the development of capabilities, skills, and abilities in both citizens and public officials, which results in a process of harmonization of technological progress versus the use, and appropriation of these advances and the management of devices that are increasingly common in the space of everyday life, so it is necessary to identify the most relevant factors of the digital policy of Colombia and Chile to determine good practice approaches, therefore, below are some factors that can illustrate the comparative development of these two policies.

3.1. Themes reiterated in Colombia's and Chile's policies

At this point, when analyzing the policies of these two countries through Atlas. Ti, it can be

identified that in the case of the Colombian policy there is a greater interest in institutional processes, contrary to Chile, whose maximum

level of influence is at the digital level, as follows:



Figure 5 Concurrence of terms Colombian case

Source: Own elaboration with Atlas. Ti 9.0



Figure 6 co-occurrence of words Chilean case

Source: Own elaboration with Atlas. Ti 9.0

It is observed that, in the Colombian case, the level of concurrence is focused on the concept of entity, information, service, citizens and in an average way in terms such as digital,

architecture, development, and public, which allows establishing that the progress of the digital policy from the digital manual document for Colombia, establishes a high level of

commitment to the institutional levels and strengthening of management if the level of concurrence of words that refer to this document is taken into account.

On the other hand, concerning the Chilean case, it can be identified that the most recurrent concepts are associated with topics such as digital, platforms, service transformation, and institutions, and likewise, it can be established that there is a medium level of concurrence associated with concepts such as information, citizens, management, and technology, therefore, it is established as an observation that within the focus of interest of the digital public policy of Chile is focused on technical, technological and management changes that allow the strengthening of institutions and the capabilities of the State to meet the needs of citizens.

Based on what has been observed, it can be identified that terms such as information, citizenship, and technology, are terms that converge in the case of the two countries, which

in contrast to the approaches of contemporary public administrative thinking, are incorporated or associated with the approach of the new public management-NGP, which prioritizes the citizen as the axis of administrative management, challenges are postulated in terms of results and the center of management orbits around the citizen (Oszlack; 2013; DNP, 2014; Barzelay, 1998).

2. Analysis of thematic relationships

From the analysis process, it is important to identify that both Chile and Colombia, despite the differences in the structuring of public policy, have thematic articulation processes in concepts that are specific to the digital government approach as a trend derived from the new public management, which in turn constitute a mandatory step for the planning and management processes of state actions in this area.

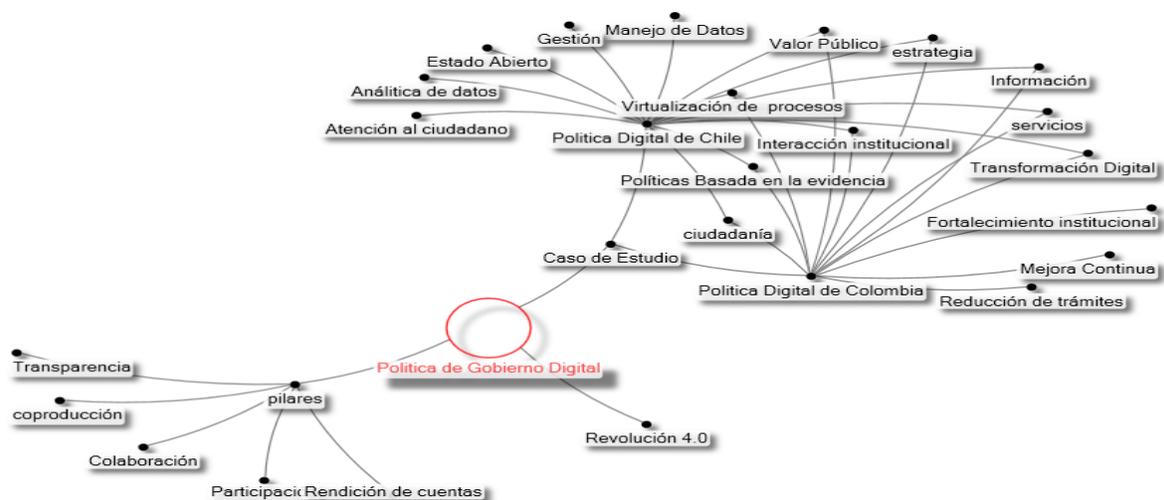


Figura 7 Red de relaciones temáticas en las políticas digitales de Chile Y Colombia

Source: Own elaboration with Nodexl.

In this image, it can be seen that the pillars of digital government are a reference approach, and operationally these are reflected in processes of building public value, information management, digital transformation, strengthening of public

organizations, visualization of processes, evidence-based policies, and citizenship so that based on this description, it can be established that the levels of association between the policies of these countries have a level of articulation in

terms of approach processes, technology management and dimensions of analysis.

However, it is also worth considering that the Chilean case has a greater focus on digital design and an open state, which allows a more comprehensive approach, taking into consideration the mechanisms and tools associated with data management, and the culture of innovation, which is implemented in decision making. It is important to clarify that the emphasis of Chile's policy has these elements within the context of the documentary drafting of the State presentation and is shown in a major advance to the actions taken by Colombia, but also represents a challenge in terms of inclusion and digital literacy for the remote populations of the country.

Therefore, it is important to establish that although both countries have made significant progress, the case of Colombia can take an example from the dynamics of laboratories, observatories and institutional management carried out by Chile from the human rights approach, which not only contribute to government management, to social trust, but are a reference for the real and effective guarantee and realization of economic, social and cultural rights, in itself of human rights, but a reference for the real and effective guarantee and realization of economic, social and cultural rights, in itself of human rights, as well as the enhancement of the new digital rights, access to technology, which are a constant challenge not only as juncture policies but with structural policies or State policies, even more so given that in Colombia there is a National Human Rights Strategy, which seeks to be the guiding framework for State action to ensure the effective enjoyment of rights of all Colombians, based on participation and dialogue, hence the national policy should seek to promote, ensure respect for human rights, protection of citizens' data, other rights, according to principles of justice, freedom, non-discrimination, transparency, privacy, being the role of human rights the fundamental axis of the same for its realization in reality within the framework of respect for human dignity.

Conclusions

In the case of Chile and Colombia, the efforts of their policies are focused on the services provided to citizens through the digital transformation of processes and procedures that allow the interaction and implementation of public policies, in this sense it is expected to make the entities and their interactions with their peers more efficient and place the citizen at the center of the institutional interaction.

The components of the policy allow a procedural focus, in this way it is possible to determine the decision making in the implementation of the policy: while Chile aims at strengthening institutional trust, Colombia aims at the inclusion of the citizen in institutional interactions for the prioritization of the needs of the population, while Chile aims at the legitimacy of the institutions, Colombia aims at the legitimization of state actions. Although both nations aim at different purposes, both use the tools of virtualization, digitization of state processes, and database analytics to achieve their goal.

The treatment of databases is an important axis to perform data analytics that turns out to be the inputs for better state decision making, it comes into play how this information is captured, what means are used, and what information is required for analytics, delimiting what is public and what is private, what information is private in the domain of the citizen and what information is public for the management of state databases that allow performing analytics for better decision making.

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