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Luís Cláudio Rodrigues Ferreira  
Presidente e Editor

Av. Afonso Pena, 2770 – 15º andar – Savassi – CEP 30130-012 – Belo Horizonte/MG – Brasil – Tel.: 0800 704 3737  
www.editoraforum.com.br / E-mail: editoraforum@editoraforum.com.br

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# Digital and Intelligent Public Administration: transformations in the Era of Artificial Intelligence\*

## *Administração Pública digital e inteligente: transformações na era da inteligência artificial*

Juan Gustavo Corvalán\*\*

Universidad de Buenos Aires (Argentina)  
corvalanjuang@gmail.com

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**Abstract:** This article addresses the impact of the digital era and it specifically refers to information and communication technologies (ICT) in Public Administration. It is based on the international approach and underscores the importance of incorporating new technologies established by the United Nations and the Organization of American States. Thereon, it highlights the Argentine Republic national approach towards ICT, and how it has moved towards a digital paradigm. It then emphasizes on the challenges and opportunities that emerge from the impact that artificial intelligence has in transforming Public Administration. Finally, it concludes that the key challenge of the Fourth Industrial Revolution is to achieve a boost towards a Digital and Intelligent Administration and government, which promotes the effectiveness of rights and an inclusive technological development that assures the digital dignity of people.

**Key words:** Digital government. Digital administration. Information and communications technology. Intelligent administration. Artificial intelligence and public administration.

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\*\* Professor of Administrative Law at the University of Buenos Aires (Autonomous City of Buenos Aires, Argentina). Ph.D. in Legal Sciences, University of Salvador. Visiting Professor of the Master in Digital Law at the University of Paris 1 Pantheon-Sorbonne and 2 year Post-doctorate by the same university. Administrative and Tax Litigation Judge of the Autonomous City of Buenos Aires and currently serves as Deputy Attorney General in Administrative and Tax Litigation for the Superior Court of Justice of the Autonomous City of Buenos Aires. E-mail: corvalanjuang@gmail.com.

**Resumo:** Este artigo aborda o impacto da era digital e se refere especificamente às tecnologias de informação e comunicação (TIC) na Administração Pública. Baseia-se na abordagem internacional e ressalta a importância de incorporar novas tecnologias estabelecidas pelas Nações Unidas e pela Organização dos Estados Americanos. Destaca a abordagem nacional da República Argentina em relação às TIC, e como se moveu para um paradigma digital. Em seguida, enfatiza os desafios e oportunidades que emergem do impacto que a inteligência artificial tem na transformação da Administração Pública. Finalmente, conclui que o desafio fundamental da Quarta Revolução Industrial é conseguir um impulso para uma administração e governo digital e inteligente, que promova a eficácia dos direitos e um desenvolvimento tecnológico inclusivo que assegure a dignidade digital das pessoas.

**Palavras-chave:** Governo digital. Administração digital. Tecnologia da informação e comunicação. Administração inteligente. Inteligência artificial e Administração Pública.

**Summary:** **1** Introduction – **2** The Government and Public Administration in the digital era. The importance of ICT on the international scope – **3** ICT Normative System in Argentina – **4** The transformation of the Administration from the ICTs – **5** Towards an optimum digital and intelligent Administration – **6** Transformation over transformation: the development of artificial intelligence – **7** Conclusion – References

## 1 Introduction

The first industrial revolutions radically changed the societies of the last three centuries. Currently, we are going through the Fourth Industrial Revolution, which is linked to the development of disruptive technologies that will transform the world we live in (biotechnology, nanotechnology, robotics, among others).<sup>1</sup> In an extreme synthesis, the digital revolution and artificial intelligence no longer place computers, machines and software as mere tools to improve our physical capabilities. Actually, we are witnessing a profound transformation of the human being and his environment. In essence, this monumental change is originated in two major phenomena: 1) the radical transformation in the way data is processed and the information in many activities that could only be performed by our brains; 2) the exponential change of space and time notions.<sup>2</sup>

Based on the explosion of information and data<sup>3</sup> we are going through, the information flow that continuously transforms the information and knowledge

<sup>1</sup> Both the World Economic Forum and the International Labor Organization (ILO) stand out that the world is undergoing a fourth industrial revolution. See The Centennial Initiative on the Future of Labor. Informative note. International Labor Office, p. 2, 2015 and, The future of jobs. Skills and Labor Strategy for the Fourth Industrial Revolution. World Economic Forum, p. 1, January 2016, Global Challenge Insight Report, available at <<https://www.weforum.org/reports/the-future-of-jobs>>; on the conceptual aspects of this denomination (fourth industrial revolution).

<sup>2</sup> See: SCHWAB, Klaus. *The Fourth Industrial Revolution*. Barcelona: Debate, 2016. See BANDANDIER, Georges. *Disorder, Theory of Chaos and Social Sciences*. Buenos Aires: Gedisa, 2012. p. 160.

<sup>3</sup> To get an idea, you can measure, in real time and on a global scale, the flow generated from the use of the main tools of information and communication technologies. For example, on May 29, 2017, in one (1) minute 2,432,440,845 emails were sent, 458,090 tweets were posted, 63,980 photos were published on Instagram, 3,629,947 searches were done on Google, and on the web processed 2,702,994 Gigabytes. Source: Internet Live Stats <<http://www.internetlivestats.com/one-second/>> [accessed 29/05/17].

society increases exponentially.<sup>4</sup> Thus, in addition to addressing the classic challenges (guaranteeing the effectiveness of multiple rights), those that come from the digital age are added.<sup>5</sup> For example, the *digital breach must be reduced*<sup>6</sup> and, at the same time, *digital dignity* must be ensured as an integral part of self-determination<sup>7</sup> and human dignity.<sup>8</sup> In a scenario where a part of the human being becomes “digital”, the task of protecting the *digital identity*<sup>9</sup> of the people acquires a central role.

In this scenario of growing complexity, the Government and the Public Administration face unprecedented challenges that we summarize into two major issues: (1) how to reconfigure state power internally (new approaches, structures, systems, procedures, etc.) and externally its relation with the citizenship; (2) on the other hand, how to ensure that new technologies optimize the effectiveness of rights in general and, in particular, to ensure sustainable and inclusive development that reduces inequitable existing gaps in society.

<sup>4</sup> From a certain point of view, the so-called “administrative law of information” is conceived in the light of the information society and the so-called “knowledge society”. Expand in PITSCHAS, Rainer. Administrative law of information. In: SCHMIDT – ASSMAN, Eberhard; PAREJO, Luciano; PITSCHAS, Rainer; *Page 1 Innovation and Reform in administrative law*. 2. ed. Seville: Global Law Press, 2012.

<sup>5</sup> The digital age is the result or effect of a combination of political, economic and cultural ideas and statements rooted in cybernetic styles that have been articulated to define and periodize a certain interval of recent history and to fabricate a technified vision of the future. The digital age is, like all ‘new times’ and the new terms associated with them, a chronological and also cultural construction. LOVELESS, Avril; WILLIAMSON, Ben. *New learning identities in the digital age*. Madrid: Narcea, 2017. p. 39.

<sup>6</sup> The “digital breach” is understood as the “separation between people (communities, States, countries) that use Information and Communication Technologies (ICT) as a routine part of their daily lives and those who do not have access to them and even if they do, they do not know how to use them. SERRANO, Arturo; MARTÍNEZ, Evelio. *The digital breach: Myths and Realities*. Baja California: Editorial UABC, 2003. p. 8. Available at <[www.labrechadigital.org](http://www.labrechadigital.org)> [consulted 07/04/2017]. In this sense, the Inter-American Commission on Human Rights recognized that, under the principle of universal access, “expanding access and closing the digital breach” goes hand in hand with the need for the State to ensure that private actors do not impose barriers disproportionate or arbitrary access to the Internet or use its core services. (IACHR) Annual Report 2013. *Report of the Office of the Special Monitoring for Freedom of Expression Chapter IV – Freedom of Expression and Internet – OEA/Ser.L/V/II.149 – Doc 50*. December 31, 2013. Paragraph 17). In this sense, the Ibero-American Letter of Electronic Government in its Preamble affirms that they are firmly committed to reducing the digital breach and making the Information Society and Knowledge an opportunity for all, especially through the inclusion of those who are in danger of being left behind”.

<sup>7</sup> RODOTÁ, Stefano. *The right to have rights*. Madrid: Trotta, 2014. p. 182. PITSCHAS, RAINER. Administrative Law of Information. In: SCHMIDT – ASSMAN, Eberhard; PAREJO, Luciano; PITSCHAS, Rainer; *Page 1 Innovation and Reform in administrative law*. 2. ed. Seville: Global Law Press, 2012. p. 226, 227 and 236, speaks of a paradigm shift in the administrative law of information, where each individual must be able to decide on his own responsibility and autonomy between the possibilities and risks generated by freedom of communication (see especially p. 236).

<sup>8</sup> Article 51 of the Civil and Commercial Code of the Nation establishes that “The human being is inviolable and in any circumstance has the right to the recognition and respect of his dignity”. See: MEZZAROBBA, Ordes; SILVEIRA, Vladmir Oliveira da. The principle of the dignity of human person: A reading of the effectiveness of citizenship and human rights through the challenges put forward by globalization. *Revista de Investigações Constitucionais*, Curitiba, v. 5, n. 1, p. 273-293, jan./abr. 2018.

<sup>9</sup> Identity is specified as a relational concept, which is why data privacy changes in meaning. The digital identity must respect three essential privacy criteria: 1. It must make explicit the data flow to allow control by the person concerned; 2. Respect the principle of “minimizing” the data, treating only those necessary in a given context; 3. Impose limits on connections between databases. Expand in RODOTÁ, Stefano. *The right to have rights*. Madrid: Trotta, 2014. p. 173-186.

Generally, it is not just a question of “adapting” the Government and the Administration to the digital file, to the web or to social networks. In essence, we must transform everything that surrounds the public power and its link with people. For example, in addition to guaranteeing access to information<sup>10</sup> and communication technologies, the fundamental right to engage in a digital relationship with the *Public Administration*<sup>11</sup> must be enforced, just as an environment of technological preparation must be created, to promote the development of social technology and inclusive technology. It is important to understand that the factors that determine that people and communities adapt to certain technologies are not the same, and that is why technological innovations are those that have to adapt to social contexts.

On this basis, the work herein aspires to develop certain basic approaches that reflect the inevitable transition towards an optimum digital and intelligent Administration, as a result of the process of transformation of systems, processes and structures that are linked to the cardinal principles of optimization and maximization by the influence of Information and Communication Technologies (ICT). Specifically, an intelligent and digital Administration at the service of the rights of the people presupposes guaranteeing its optimal functioning in a process of permanent innovation.

## 2 The Government and Public Administration in the digital era. The importance of ICT on the international scope.

Thanks to writing, the human data processing system was radically altered. Fundamentally, this disruptive technological innovation complemented the brevity

<sup>10</sup> On this right, see: SCHIAVI, Pablo. Régimen jurídico de la acción de acceso a la información pública en el Uruguay. *Revista de Investigações Constitucionais*, Curitiba, v. 2, n. 2, p. 137-168, maio/ago. 2015; PERLINGEIRO, Ricardo. A codificação do direito à informação na América Latina. *A&C – Revista de Direito Administrativo & Constitucional*, Belo Horizonte, ano 14, n. 56, p. 209-227, abr./jun. 2014; VALIM, Rafael. El derecho fundamental de acceso a la información pública en el Derecho brasileño. *Revista de Investigações Constitucionais*, Curitiba, v. 3, n. 1, p. 169-181, jan./abr. 2016; PERLINGEIRO, Ricardo; DÍAZ, Ivonne; LIANI, Milena. Princípios sobre o direito de acesso à informação oficial na América Latina. *Revista de Investigações Constitucionais*, Curitiba, v. 3, n. 2, p. 143-197, maio/ago. 2016.

<sup>11</sup> For example, the Constitutional Court of Costa Rica considers that this right is violated if the website is deleted as a mechanism for the administrations to manage the appointments and procedures for accreditation as drivers and obtaining a driver’s license. According to the Court, “... it is a regressive decision detrimental to the fundamental right of the administrators to interact electronically with the public authorities. In fact, if the mechanism had already been made available to users and subsequently discontinued, it implies a regressive decision, which significantly limits the mechanisms by which users can contact the Administration. Therefore, it is necessary to estimate this end of the appeal in order to order the authorities of the Road Safety Council to maintain the mechanism already indicated as a way to ensure the protection of the right recognized in this resolution “(Constitutional Chamber of the Court Supreme Court of Costa Rica, Javier Gerardo Martínez Burgos, 06/06/2014, recital VI, available at <[http://jurisprudencia.poder-judicial.go.cr/SCIJ\\_PJ/busqueda/jurisprudencia/jur\\_Documento.aspx?param1=Ficha\\_Sentencia&param2=1&nValue1=1&nValue2=647532&tem1=&param7=&strTipM=T&Result=2](http://jurisprudencia.poder-judicial.go.cr/SCIJ_PJ/busqueda/jurisprudencia/jur_Documento.aspx?param1=Ficha_Sentencia&param2=1&nValue1=1&nValue2=647532&tem1=&param7=&strTipM=T&Result=2)> [accessed 04/07/2017]).

of oral communication,<sup>12</sup> managed to “fix” the information,<sup>13</sup> and by means of it the following three major problems of brain storage were overcome: i) finitude of the processor (the brain extinguishes with death); (ii) limited, skewed, distorted and partial storage capacity;<sup>14</sup> iii) the inability to store data or complex information, especially numerical data.<sup>15</sup> However, just as writing radically changed human life, the world wide web (www), the phenomenon of the Internet and ICT have profoundly transformed societies in the last decades, and this can be exemplified on the international scope of organizations (United Nations – hereinafter UN – and the Organization of American States – hereinafter OAS). Below, the most relevant points regarding the approach that the UN gives to the phenomenon of ICT are pointed out.

*In the First place*, the phenomenon of ICT is inextricably linked to the notion of *Electronic Government*.<sup>16</sup> Thus, in 2012, the United Nations presented a report called “Electronic government for the people”, which deals with six major aspects. First, the state of the digital government is analyzed in all Member States.<sup>17</sup> Second, it focuses on advances in the provision of online services by States. Third, the adoption of an integrated governance approach is proposed. Fourth, support for the provision of multichannel services is encouraged. Fifth, the existing digital breach is recognized, and its reduction is proposed by the reconciliation of vulnerable populations. Sixth, given its expansion, it provides a current picture and outlines the challenges that are presented.<sup>18</sup>

That is to say, the UN states that the States must implement public programs and policies tending to correct the existing instabilities in societies regarding equal access to the benefits that the use of ICT could provide.

<sup>12</sup> CALVET, Louis-Jean. *History of writing*. Buenos Aires: Paidós, 2008. p. 14.

<sup>13</sup> MANES, Facundo; NIRO, Mateo. *The Argentine brain*. Buenos Aires: Planet, 2016. p. 63-64.

<sup>14</sup> According to MANES and NIRO, the time that elapses between the incorporation of information and its requirement plays a preponderant role in human memory, since this is not a faithful reflection of what happened, but rather is a creative act. Each memory is reconstructed every time it is evoked (MANES, Facundo, NIRO, Mateo, *The Argentine brain*. Buenos Aires: Planet, 2016. p. 68, and MANES, Facundo, NIRO, Mateo. *Planet*, 2014. p. 126-127).

<sup>15</sup> HARARI, Yuval Noah. *From animals to Gods*. Buenos Aires: Debate, 2016. p. 139-142.

<sup>16</sup> “Electronic Government” means the application of Information and Communication Technologies (ICT) to the operation of the public sector, with the aim of increasing efficiency, transparency and citizen participation. Definition of the Organization of American States, available at: <<http://portal.oas.org/Portal/Sector/SAP/DemovementModernizaci%C3%B3ndStatesandGovernability/NPA/GovernmentProgram/tabid/811/Default.aspx>> [consulted 07/04/2017].

<sup>17</sup> Regarding the first point, the UN considers that there are six major drawbacks to the development of digital government: 1) lack of infrastructure and human resources capacity; 2) gaps between supply and demand for electronic services; 3) lack of investment in ICT; 4) lack of technical skills; 5) the high costs of technology; and 6) ineffective government control.

<sup>18</sup> Challenges include a lack of infrastructure and human resource capacity, gaps between the supply and demand of electronic services and the lack of investment in ICT. Expand in UN. Department of Economic and Social Affairs. United Nations Study on Electronic Government. *Electronic Government for the People*, 2012, p. 41.

*Secondly*, from the perspective of the United Nations, the three branches of government have specific roles. The Legislative Power, in the creation of an enabling regulatory environment and in the use of ICTs in a compatible way – not violating – the international law. The Judiciary, in contributing to democracy and respect for human rights. The Executive Branch, in ensuring effective and transparent institutions that recognize the governance of networks in development cooperation

### **a) The UN approach about ICT**

When addressing this issue, the United Nations has a central idea the transformation of societies to take advantage of innovation and new technologies in favor of social and economic inclusion, environmental sustainability and peace. The UN states that ICT-related advances open new and great opportunities. These include: 1) they have the potential to provide new solutions to development and economic growth problems, and contribute to poverty eradication; 2) promote access to information and knowledge; 3) provide great possibilities for accelerating human progress, overtaking the digital breach and developing knowledge societies; 4) help communities to develop inclusive technologies that reflect their own priorities and needs; and 5) have the ability to reduce time and distance.<sup>19</sup>

It also proposes that ICTs provide opportunities to achieve higher levels of development. It is said to be an effective tool for increasing productivity, generating economic growth, promoting job creation, improving the quality of life and promoting dialogue between people, nations and civilizations. According to the UN, they should be used as an instrument to support the efforts of States to overcome poverty. Summarizing, ICTs must be easy to use, accessible, affordable, adapted

<sup>19</sup> On all these issues, see: General Assembly Resolution No. RES/70/93 A-B, 15/12/15, item B; General Assembly, resolution No. A/RES/70/1, 21/10/2015, recital 9.b, p. 2. 3; General Assembly, resolution No. A/RES/71/101 A-B, 23/12/2016, recital 4, p. 4; Latin American Center for Administration for Development, Ibero-American Letter on Electronic Government, p. 5; General Assembly, resolution No. A/71/307, 05/08/2016, whereas clause 11, p. 4; Latin American Center for Development Administration, Ibero-American Letter for Electronic Government, approved by the IX Ibero-American Conference of Ministers of Public Administration and State Reform, Pucón, Chile, May 31 and June 1, 2007, adopted by the XVII Ibero-American Summit of Heads of State and Government, Santiago, Chile, 10 November 2007, Resolution No. 18 of the Santiago Declaration, p. 5; General Assembly, resolution No. A/RES/70/1, 21/10/2015, p. 16; General Assembly, resolution No. A/RES/71/101 A-B, 23/12/2016, recitals 16.6 and 16.10, p. 29; Latin American Center for Administration for Development, Ibero-American Letter on Electronic Government, p. 7; Economic and Social Council, resolution No. E/HLPF/2016/6, recital 5 (also ICTs – according to the UN – pose challenges and risks, as they could lead to a new increase in disparities both within and among countries ); General Assembly, resolution No. A/RES/71/212, 21/12/2016, whereas clause 1, p. 4; Resolution General Assembly No. RES/70/93 A-B, 15/12/15, item B; Resolution General Assembly No. RES/70/93 A-B, 15/12/15, item B; General Assembly, resolution No. A/RES/71/212, 21/12/2016, whereas clause 1, p. 4; General Assembly, resolution No. A/RES/70/1, 21/10/2015, whereas clause 15, p. 6; Economic and Social Council, resolution E/HLPF/2016/6, whereas clause 31, p. 9; World Summit on the Information Society, p. 2, document WSIS-03/GENEVA/4-S, 05/05/2004.



to local needs – in terms of language and culture –, conducive to sustainable development and respect the rights of children and adolescents.<sup>20</sup>

However, one of the tools that ICTs have to develop and/or implement is the Internet. The United Nations has said that the transforming effect of the Internet serves as a model and platform for all technologies. ICT tools, forums and platforms could be used more effectively for people to learn from each other, to foster science driven by citizenship and to spread other technologies through societies. Based on this approach, information technology platforms such as social networks and broadband cellular telephony can serve to exchange knowledge, information, experience and advice on policies, measures, partnerships, the technologies and results of relevant research and development. As a result, *technology infrastructure is seen as a public good*.<sup>21</sup>

### **b) The OAS approach about ICT**

The OAS offers a similar standpoint to the one we have synthesized in the previous point. In essence, the OAS Charter promotes the use of new technologies based on the configuration of four main objectives and postulates summarized below: 1) joint efforts to achieve a comprehensive development, encompassing the scientific and technological field; 2) to stimulate the use of technology oriented towards the integral improvement of the human beings and as a foundation for democracy, social justice and progress; 3) promote scientific research and promote technological advances for its integral development; (4) to promote science and technology through teaching, research and technological development activities, and dissemination programs.<sup>22</sup>

Through different reports and recommendations, the Inter-American System has highlighted the implications of ICT and the Internet. Thus, it develops a focus related to five major aspects. First, the characteristics and benefits of ICTs are detailed; second, it analyzes the role of the media, especially the Internet; third, it specifies which role of the State should have; fourth, emphasis is placed on reducing the so-called “digital breach”; and fifth, the issues related to the implementation of e-government or the digital government are analyzed and highlighted.<sup>23</sup>

<sup>20</sup> Expand in World Summit on the Information Society, Document WSIS-03/GENEVA/4-S, 12/05/2004, recitals 8, 9, 11, 14 and 51.

<sup>21</sup> See Economic and Social Council, resolution E/HLPF/2016/6, whereas clause 28, p. 8.

<sup>22</sup> See OAS Charter, sections 30, 47, 48 and 51.

<sup>23</sup> IACHR. Annual Report 2013. *Report of the Office of the Special Rapporteur for Freedom of Expression*. Chapter IV (Freedom of Expression and Internet). OEA/Ser.L/V/II.149. Doc. 50. December 31, 2013; IACHR. Annual Report 2016, volume II. *Report of the Office of the Special Rapporteur for Freedom of Expression*. Chapter III. Approved by the IACHR on March 15, 2017; Latin American Center for Development Administration, *Ibero-American Charter for Electronic Government*, approved by the IX Ibero-American Conference of Ministers of Public Administration and State Reform, Pucón, Chile, May 31 and June 1, 2007, adopted by the XVII Ibero-American Summit of Heads of State and Government, Santiago, Chile, 10 November 2007, Resolution No. 18 of the Santiago Declaration.

### 3 ICT Normative System in Argentina

As we will see herein after (point 4), at the national level a digital normative system similar to that implemented in the Autonomous City of Buenos Aires since 2008<sup>24</sup> was outlined. Basically, the regulatory framework of the Government and the Digital Administration in Argentina at the national level is composed of laws,<sup>25</sup> decrees,<sup>26</sup> resolutions<sup>27</sup> and provisions.<sup>28</sup>

From a macro viewpoint, there are two major national laws that regulate ICT. On the one hand, Law No. 26,522<sup>29</sup> on the Audiovisual Communication Service. Its objectives include building an information and knowledge society that prioritizes media literacy and eliminating gaps in access to knowledge and new technologies.<sup>30</sup> The other relevant norm is the so-called “Argentine Digital Law” (No. 27.078), which declares the development and resources associated with information and communication technologies (Section 1) to be of public interest.

In essence, in Argentina the regulation of new technologies could be approached from four main standpoints: a) concept of ICT and Big Data; b) Importance of ICTs; c) ICT as a human right; and d) The role of the State and Public Administration.

#### a) Concepts: TIC and *Big Data*

In our country, rules have defined ICT as a set of resources, tools, equipment, software, applications, networks and means that allow the compilation, processing, storage and transmission of information, such as voice, data, text, video and images, among others. The ICT service, at the same time, comprises the confluence of networks, both fixed and mobile, which provide users with the ability to receive and transmit information and data in general.<sup>31</sup>

<sup>24</sup> CORVALÁN, Juan Gustavo. Towards a Digital Public Administration, *Issues of Administrative Law*, Erreius, Buenos Aires, 2017, Year II, p. 621-645, August 2017.

<sup>25</sup> See Law No. 25,506 of 12/14/2001, Law No. 26,685 of 06/30/2011 and Law No. 27,078 of 12/28/2014.

<sup>26</sup> See Decree No. 267 of 12/29/2015, No. 434/2016 of 01/03/2016, Decree No. 1030/2016 of 09/15/2016, Decree No. 1265/2016 of 12/15/2016, Decree No. 1273/2016 of 12/19/2016, Decree No. 1306/2016 of 12/26/2016, Decree No. 1131/2016 of 10/28/2016, Decree No. 1063/2016 of 04/10/2016, Decree No. 888/2016 of 07/22/2016, Decree No. 561/2016 of 04/6/2016 and Decree No. 1301/2016 of 12/23/2016.

<sup>27</sup> See Resolution No. 11-E/2017 of 01/07/2017, Resolution No. E 171/2017 of 03/30/2017, Resolution No. E 33/2017, of 03/30/2017, Resolution No. E 32/2017 of 28/03/2017, Resolution N° E 37/2016 of 12/20/2016 and Resolution N° E 399/2016 of 05/10/2016.

<sup>28</sup> Provision No. 9/2016, Undersecretariat of Digital Government, B.O. 12/15/2016.

<sup>29</sup> Published on 10/10/2009.

<sup>30</sup> Prior to the enactment of Law No. 26,522, in Argentina, it governed Law No. 22,285 (Adla, XL-D, 3902) of Broadcasting. The latter, in addition to being sanctioned during the last military dictatorship, was aimed only at the regulation of radio and television. At the same time, it was advancing on complementary systems such as community antennas. The current Law on Audiovisual Communication Services aims at a broader scope; regulates all communication services.

<sup>31</sup> Law No. 27,078, December 18, 2014, section 6, paragraph g) and section 55; Decree No. 267/2015, 12/29/2015, section 6, subsection (i).

Global trends in ICT evidence the convergence of technologies around data processing and information that influence decision making and process optimization. The regulatory rules characterize this phenomenon as *Big Data*,<sup>32</sup> a notion that implies a “high volume, high speed and high variety of active information in the effective demand, innovative forms of information processing to improve understanding and decision making.”<sup>33</sup> It is important to point out that in Argentina the *Big Data Observatory* (within the scope of the National Executive Power) has been created and its objectives are: to analyze the technological evolution; create secure and sustainable platforms; promote the use of Big Data in public security and in the fight against crime; and establish exchanges with provincial, municipal and private entities in the implementation of their use. Specifically, in the area of public management, mass data analysis should focus on maximizing the objectives, in terms of efficiency and effectiveness, improving the quality of services to the citizen from the optimization of budgetary resources.<sup>34</sup>

### **b) The human right to have access to ICT**

In the national regulatory field, the aim is to build an information and knowledge society, through the development of mechanisms for the promotion, deconcentration and encouragement of competition for the purpose of cheapening and universal use of new ICTs.

The importance of new technologies lies in i) they are a preponderant factor in technological and productive independence; (ii) enable citizens to exercise the rights to freedom of expression and access to information<sup>35</sup> freely; (iii) play an important role in strengthening democracy,<sup>36</sup> education, cultural identity and the

<sup>32</sup> Resolution 11-E/2017, Ministry of Information and Communication Technologies of 06/01/2017, whereas clause 4 and 6.

<sup>33</sup> See THOUROT, Patrick; KOSSI AMETEPE, Folly. *Big Data, opportunit eu menace pour l’assurance?* Paris: RB  dition, 2016. p. 41. The twenty-first century is characterized by an explosion in the storage and flow of information and data. As SADIN says, “Data spreads that proliferate everywhere following exponential curves, and that are housed in server farms or data centers are increasingly disseminated on the surface of the planet,” SADIN,  ric. *Increased humanity*. Buenos Aires: CajaNegra, 2017. p. 77 and 79.

<sup>34</sup> Resolution 11-E/2017, Secretariat of Information Technologies and Communications, whereas clause 10 and section 2.

<sup>35</sup> BELLOCHIO, Luc a. Access to public information in Argentina with particular reference to personal and institutional data protection. *A&C – Revista de Direito Administrativo & Constitucional*, Belo Horizonte, ano 16, n. 65, p. 39-51, jul./set. 2016; MARTINS, Ricardo Marcondes. Direito fundamental de acesso   informa o. *A&C – Revista de Direito Administrativo & Constitucional*, Belo Horizonte, ano 14, n. 56, p. 127-146, abr./jun. 2014.

<sup>36</sup> On the idea of democracy, see: SALGADO, Eneida Desiree. Essay on the constitutional promises of democracy and republic. *Revista de Investiga es Constitucionais*, Curitiba, v. 4, n. 3. p. 85-100, set./dez. 2017. On the relation between democracy and social control, see: BITENCOURT, Caroline M ller; PASE, Eduarda Simonetti. A necess ria rela o entre democracia e controle social: discutindo os poss veis reflexos de uma democracia “n o amadurecida” na efetiva o do controle social da administra o p blica. *Revista de Investiga es Constitucionais*, Curitiba, v. 2, n. 1, p. 293-311, jan./abr. 2015; BITENCOURT, Caroline M ller; RECK, Janri  Rodrigues. Democracia deliberativa, teoria da decis o e suas repercuss es no controle social das despesas em sa de. *Revista de Direito Econ mico e Socioambiental*, Curitiba, v. 8, n. 1, p. 121-147, jan./abr. 2017.

economic, industrial and technological development of people; iv) are essential when defining a strategic country project in the context of a globalized world; and v) are considered as an instrument to increase productivity, create jobs and improve the quality of life for all.<sup>37</sup>

However, ICT is closely linked to the concept of freedom of expression, which has been conceived as a fundamental right by various international organisms.<sup>38</sup> And while access to communication services is not identified as a specific human right per se, international treaties address many dimensions of communication, including the press, access to information, and the influence of ICTs. In some treaties, legitimate restrictions on communication are also defined.<sup>39</sup> In this way, and by making a dynamic interpretation of the terms, it can also be understood that “press freedom” is not restricted only to paper support, but also encompasses digital media.

On the other hand, the national legislator in the Law “Argentina Digital” No. 27.078 expressly stated that “... the human right to communications and telecommunications”, recognizing ICT as a “preponderant factor in technological independence ...” (section 2). But in addition, the connection between human rights and ICTs is clearly visible, taking into account aspects related to access, vulnerable groups, privacy and net neutrality. Let’s see.

## **b) 1. Access**

Among the objectives established with respect to ICT, the defense of the human being and respect for personal rights are essential. These goals are in line with international human rights organisms, in particular those related to freedom of expression; the Convention on the Protection and Promotion of the Diversity of Cultural Expressions adopted by the General Conference of UNESCO; American Convention on Human Rights (Section 13 (1)); Declaration of Principles on Freedom of Expression adopted by the Inter-American Commission on Human Rights (section 13.3, subsection 3).<sup>40</sup> In addition, at the local level, they are related to sections 14, 32 and 75, paragraphs 19 and 22 of the National Constitution.

<sup>37</sup> See Law No. 26.522 of Audiovisual Communication Services in the Argentine Republic of 10/10/2009, section 1; Law No. 27.078, 12/18/2014, section 2; Decree No. 267/2015, 12/29/2015, paragraph. 1 of the whereas clause; and World Summits of the Information Society of Geneva and Tunisia of 2003 and 2005, adopted by Law No. 26.522, in its Note to Article 1, 9.

<sup>38</sup> International Covenant on Civil and Political Rights (1966, section 19, paragraph 2); Convention on the Rights of the Child (1989, art. 13); International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families (1990, section 12); Convention on the Rights of Persons with Disabilities (2006, section 21); ; European Convention on Human Rights (1950, article 10); American Convention on Human Rights (1969, section 13, paragraph 1); African Charter on Human and Peoples’ Rights (1981, section 8)

<sup>39</sup> World Conference on International Telecommunications, UCIT, 2012. Available at <<https://www.itu.int/en/wci12/Documents/WCIT-background-brief2-S.pdf>>.

<sup>40</sup> Law 27.078, 18/12/2014, section 2; and law 26.522, section 3, subsection d) and notes to sections 2 y 3, first paragraph.

It is important in this regard to recall the interpretation of the highest court in the region, the Inter-American Court of Human Rights, and the importance of the double aspect of the right to freedom of expression in its Advisory Opinion 5/85: “Freedom of expression is a cornerstone of the very existence of a democratic society. It is indispensable for the formation of public opinion and for the community, when exercising its options, to be sufficiently informed. Therefore, it is possible to affirm that a society that is not well informed, is not totally free “. Freedom of expression is, therefore, not only a right of individuals but of society itself.<sup>41</sup>

In the case of audiovisual media services, they are considered to be an act of public interest, of fundamental importance for the socio-cultural development of the population, through which the inalienable human right to express, receive, disseminate and investigate information, ideas and opinions.<sup>42</sup>

### **b) 2. Vulnerable groups**

The national legislator prioritizes media literacy and the elimination of access gaps to knowledge and new technologies. On this basis, education, communication and information are presented as constitutive elements for “the well-being of human beings”.

The guiding idea is to ensure that certain vulnerable social groups – individuals with disabilities, the elderly and users with special social needs of any kind – have access to the service on terms comparable to other users, accordance with the provisions of the specific regulations.<sup>43</sup>

### **b) 3. Privacy**

In any communication carried out by means of TICs – telecommunications networks and services, among others – it is considered a violation of rights of their interception, as well as their subsequent registration and analysis unless a competent judge so decides. Regarding the activity of Big Data mentioned above, the need for the participation of the Directorate for the Protection of Personal Data (the enforcement authority) is of vital importance.<sup>44</sup>

<sup>41</sup> See IACHR, Compulsory Membership of Journalists, Advisory Opinion OC-5/85, Series A, No. 5, paragraph.

<sup>42</sup> Law No. 26,522, section 77.

<sup>43</sup> See Law No. 26,522 of Audiovisual Communication Services in the Argentine Republic of 10/10/2009 in its Note to sections 2 and 3. Law No. 26,522, section 3, paragraph e) and Law No. 27,078, December 18, 2014, section 62, subsection c).

<sup>44</sup> Law No. 27,078, 12/18/2014, section 5; Law No. 25.326 on Protection of Personal Data of 10/4/2000, section 29; and Resolution 11-E/2017, whereas 14.

#### **b) 4. Impartiality on the net**

Each user must be guaranteed the right to access, use, send, receive or offer any content, application, service or protocol through the Internet without any restriction, discrimination, distinction, blocking, interference, obstruction or degradation. For these purposes, the law establishes bans related to providers of ICT<sup>45</sup> Services. It is useful to remember that, in the late twentieth century, in our country, the Internet was included in the constitutional guarantee that protects freedom of expression.<sup>46</sup>

#### **b) 5. ICT as universal service**

In the administrative law, there are several denominations and discussions around the categories of public service<sup>47</sup> or essential services,<sup>48</sup> and the so-called universal services. The legislator has called the Universal Service as a dynamic concept which purpose is to enable the access of all the inhabitants of our country, regardless of their domicile, economic income or capacities, to the ICT services, provided in conditions of quality and at a fair and reasonable price (sections 18 and 19, Law 27,078).<sup>49</sup> In the Argentine Republic, the development of ICT is part of the so-called Universal Service.<sup>50</sup>

This service is governed by the General Regulation of the Universal Service<sup>51</sup> issued by the National Executive Power. Basically, Universal Service means "... the set of services and programs, variables in time, intended for the general population, of a certain quality and at affordable prices, which must be accessible regardless of their geographical location and their social, economic and physical impediments.<sup>52</sup> "Equality of opportunity, flexibility and adaptability, internal consistency, efficiency, transparency and stability are the general principles of the Universal Service.<sup>53</sup>

<sup>45</sup> Law No. 27.078, 12/18/2014, sections 56 and 57. The latter article establishes the following prohibitions: "The providers of ICT Services shall not: a) Block, interfere, discriminate, hinder, degrade or restrict the use , sending, receiving, offering or accessing any content, application, service or protocol except judicial order or express request of the user. b) Set the price of access to the Internet by virtue of the contents, services, protocols or applications that will be used or offered through the respective contracts. c) To arbitrarily limit the right of a user to use any hardware or software to access the Internet, as long as they do not harm or damage the network.

<sup>46</sup> Decree 1279/97, section 1. An overview of the Internet in Argentina can be seen in "Internet in Argentina. How are we today? ", Center for Studies in freedom and expression and access to information, available at: <<http://www.palermo.edu/cele/pdf/investigaciones/Mapping-ARG-CELE.pdf>>.

<sup>47</sup> Recall that the classic characteristics of public services are compulsory, regularity, continuity and universality. Expand in CORVALÁN, Juan Gustavo. Origin, evolution and concept of public service. *Journal of Administrative Law*, Buenos Aires, n. 64, p. 367-410, 2008.

<sup>48</sup> As it is called Decree No. 843/2000.

<sup>49</sup> See <http://www.enacom.gob.ar/su> [consulted 07/04/2017].

<sup>50</sup> Law No. 27.078, Title IV, Chapter I.

<sup>51</sup> Annex, Decree No. 558/2008 (which amended the provisions of Decree No. 764/2000).

<sup>52</sup> Decree No. 558/2008, Annex, Article 2.

<sup>53</sup> Article 3, Decree No. 558/2008, Article 3.

### c) The State and Public Administration Position. National State Modernization Plan

The national legislator considers that ICT has a social function.<sup>54</sup> On this basis, the State should encourage this function, starting with planning, competition and employment generation by establishing clear and transparent guidelines that favor the sustainable development of the sector, seeking accessibility to ICT for the people.<sup>55</sup>

In 2016, the National Executive Power established the State Modernization Plan, which seeks to place the Public Administration at the service of the citizen. The guiding principles of this plan are efficiency, effectiveness and quality of services, although these categories are crossed by the impact of social networks, the development of mobile applications and open government policies during the last years.<sup>56</sup>

The State Modernization Plan can be tackled by analyzing four great aspects. First, on the basis of considering the design of a flexible and results-oriented Public Administration, promoting simple structures and organizations, focused on service to citizens and improving their quality of life. Secondly, due to the fact that the use of new technologies (ICTs) is promoted and aimed at responding more quickly and effectively to the demands of society. Third, because it guides the public management to generate effective channels of communication, participation and citizen control,<sup>57</sup> based on ethics<sup>58</sup> and transparency. Fourth, it focuses on

<sup>54</sup> On the social function of Administrative Law, see: BALBÍN, Carlos F. Un Derecho Administrativo para la inclusión social. *A&C – Revista de Direito Administrativo & Constitucional*, Belo Horizonte, ano 14, n. 58, p. 33-59, out./dez. 2014; BITTENCOURT NETO, Eurico. Estado social e administração pública de garantia. *Revista de Direito Econômico e Socioambiental*, Curitiba, v. 8, n. 1, p. 289-302, jan./abr. 2017; RODRÍGUEZ-ARANA MUÑOZ, Jaime. El Derecho Administrativo ante la crisis (El Derecho Administrativo Social). *A&C – Revista de Direito Administrativo & Constitucional*, Belo Horizonte, ano 15, n. 60, p. 13-37, abr./jun. 2015; GABARDO, Emerson. O princípio da supremacia do interesse público sobre o interesse privado como fundamento do Direito Administrativo Social. *Revista de Investigações Constitucionais*, Curitiba, v. 4, n. 2, p. 95-130, maio/ago. 2017.

<sup>55</sup> See Law No. 27,078, 12/18/2014, section 2.

<sup>56</sup> On December 10, 2005, Ministries Law No. 22,250 was amended and, among other modifications, created the Ministry of Modernization. On 01/03/2016, Decree 436/16 was sanctioned. This Plan intends to modernize its predecessor of the year 2001, provided for in Decree No. 103/01 of 07/08/2001.

<sup>57</sup> On the participation and citizen control, see: BITTENCOURT, Caroline Müller; BEBER, Augusto Carlos de Menezes. O controle social a partir do modelo da gestão pública compartilhada: da insuficiência da representação parlamentar à atuação dos conselhos populares como espaços públicos de interação comunicativa. *Revista de Direito Econômico e Socioambiental*, Curitiba, v. 6, n. 2, p. 232-253, jul./dez. 2015; SCHIER, Adriana da Costa Ricardo; MELO, Juliane Andrea de Mendes Hey. O direito à participação popular como expressão do Estado Social e Democrático de Direito. *A&C – Revista de Direito Administrativo & Constitucional*, Belo Horizonte, ano 17, n. 69, p. 127-147, jul./set. 2017; CARMONA GARIAS, Sílvia. Nuevas tendencias en la participación ciudadana en España: ¿socializando la gestión pública o socializando la responsabilidad política? *A&C – Revista de Direito Administrativo & Constitucional*, Belo Horizonte, ano 16, n. 66, p. 29-60, out./dez. 2016.

<sup>58</sup> RODRÍGUEZ-ARANA MUÑOZ, Jaime. Caracterización constitucional de la ética pública (Especial referencia al marco constitucional español). *Revista de Investigações Constitucionais*, Curitiba, v. 1, n. 1, p. 67-80, jan./abr. 2014.

the articulation and interrelation of public sector action with the private sector and non-governmental organizations.<sup>59</sup>

As will be explained below, the general principles emerging from the national digital regulatory system are related to optimization, continuous improvement, innovative practices and strengthening “mutual trust” between the Administration and the citizen. In general terms, among others, regulations were structured to regulate the following four major segments: 1) Document management and electronic filing; 2) Management systems; 3) Paperwork handled in different places and digital services, and (4) those relating to the administrative organization. Let’s look very briefly.<sup>60</sup>

First. The main objective of documentary management and the electronic file is to ease document management, reduce deadlines in the processing of each file and its public follow-up. To do so, its principles will be access and durability.

Second. The management systems are oriented to obtain the following objectives: to increase the productivity; achieve transversal solutions; avoiding that the citizen has to contribute information already available in the Administration; increase the level of computer security; have statistical information on procedures and performance management. This, starting from making effective the principles of homogeneity and cohesion of the development model.

In addition, interoperability and integration of management systems, as well as prevention, detection and care of computer incidents, should be promoted. In essence, it is postulated that the technological infrastructure should be: robust, scalable and sustainable.<sup>61</sup> In this line, an integrated system of cover, numbering, tracking and recording of movements of all actions and records of the National Public Sector<sup>62</sup> was created, acting as a platform for the implementation of electronic records management.

Third. It implements a system of distance paperwork and digital services for citizens, which aims to create digital channels such as mobile applications and social networks, and remote signature of human and legal persons. To ensure that these objectives can be achieved, the principles of user customization, flexibility, traceability, accessibility, usability, measurement, re-engineering and simplification of the aforementioned procedures were established.<sup>63</sup>

<sup>59</sup> Decree No. 434/2016, Annex, recital, presentation and objectives.

<sup>60</sup> See Axis 1, points 1, 2, 4.3 and 5, Axis 3, item 1, and recital 3 of the State Modernization Plan, Decree No. 434/2016, 01/03/2016.

<sup>61</sup> Scalability is understood to be the adaptability and responsiveness of a system with respect to its performance as the number of users of the system increases significantly. Although it seems a clear concept, the scalability of a system is a complex and important aspect of design. See <<http://www.juntadeandalucia.es/servicios/madeja/contenido/recurso/220>> [consulted 07/04/2017].

<sup>62</sup> The system created was called Electronic Document Management (GDE) by Decree No. 561/16 dated 04/06/2016.

<sup>63</sup> See Axis 1, point 3, of the State Modernization Plan, Decree No. 434/2016, 01/03/2016.



Within the framework of these procedures, the Digital Platform arises, composed of various portals and applications and, essentially, the creation of the Digital Profile of the Citizen, instrumented as the medium through which people can access the services provided by the State. The central idea of implementing remote procedures is linked to the strategy of unifying services and procedures online, thus providing the possibility of carrying out procedures through the different tools and services inserted in the platform, as well as consulting such services, requesting shifts and access information through various channels.<sup>64</sup>

From our perspective, remote digital services and procedures, as well as the digital platform or the digital profile of the citizen, are linked to the “integrated governance approach” and the principle of user centrality developed by the UN. Thus, this “model” is based on integration and unification, in order to centralize the point of entry of the provision of services in a single portal where citizens can access all the services provided by the Government, regardless of which governmental authority provides them.<sup>65</sup>

Fourth. At the level of the administrative organization, reference is made to the reworking of structures and procedures, and the emphasis is placed on conflict reduction. The principles on which the organization is based are the re-engineering of processes, optimization, systematization and homogeneity. And, moreover, this presupposes a control panel system and a system of indicators for measurement.<sup>66</sup>

In essence, the regulatory regime relating to all these processes, rights, principles and guarantees is related by providing tools to citizens and society, regarding facilitation<sup>58</sup>, broad access,<sup>67</sup> the durability of information,<sup>68</sup> reduction

<sup>64</sup> Recital 6 of Decree No. 87/17 of Digital Platform of the National Public Sector of 02/02/2017. The Digital Platform is composed of Internet Portals and Mobile Applications; the Paperwork Guide; the Citizen’s Digital Profile; Telephone Answering Services; the Public Offices that provide face-to-face services, Simple Text Messaging Services (SMS), and Care Services provided through Social Networks, see articles 1 and 2 of Decree No. 87/17 of Digital Platform of the National Public Sector 02/02/2017.

<sup>65</sup> Department of Economic and Social Affairs, United Nations Study on Electronic Government, 2012, *Electronic Government for the People*, p. 67. According to the United Nations, the e-Government approach must be guided by the principles of efficiency, citizen participation, universal access and user centrality. Department of Economic and Social Affairs, United Nations Study on Electronic Government, 2012, *Electronic Government for the People*, p. 87.

<sup>66</sup> See Axis 3, points 1, 2 and 3 of the State Modernization Plan, Decree No. 434/2016, 01/03/2016. Reengineering is the “fundamental review and radical redesign of processes to achieve dramatic improvements in critical and contemporary performance measures, such as cost, quality, service and speed.” HAMMER, Michael; CHAMPY, James. *Reengineering*. Barcelona: Editorial Norma, 1994. p. 3-4.

<sup>67</sup> Creating means and channels for the citizen to express, petition and participate in the public policy cycle. See Axis 4, point 3 of the State Modernization Plan, Decree No. 434/2016, 01/03/2016.

<sup>68</sup> Incorporating the procedures at a distance through digital services, making it easier for users to access the digital information platform and administrative services. See Axis 1, point 3 of the Modernization Plan for the State, Decree No. 434/2016, 01/03/2016 and Decree No. 1063/16 of 04/10/2016, which approved the Platform for Distance Procedures (TDA) as means of interaction of the citizen with the Administration, through the reception and transmission by electronic means of presentations, requests, written, among others.

of deadlines,<sup>69</sup> inclusion digital,<sup>70</sup> among others. From a regulatory point of view, the digital government presupposes an open, innovative and promoting citizen participation.<sup>71</sup>

#### 4 The transformation of the Administration from the ICTs

In the last decades, the right to a “good administration” has gained force from its constitutional recognition in some European<sup>72</sup> texts. Basically, this right<sup>73</sup> aims to strengthen relations between the citizen and the Administration.<sup>74</sup> The norms that allude to the right to a “good administration” are integrated with two great aspects: on the one hand, on the recognition and effectiveness of “access rights”; on the other, on the basis that the Public Administration respects certain standards of action, which will help, if necessary, to determine if the damage derived from the administrative action or lack of action should give raise to liability.<sup>75</sup>

In relation to Access Rights, we can mention the following: right to *petition*; to *participate*;<sup>76</sup> in political,<sup>77</sup> economic, cultural<sup>78</sup> and social<sup>79</sup> life; right of access to

<sup>69</sup> See Axis 1, point 1 of the Modernization Plan of the State, Decree No. 434/2016, 01/03/2016.

<sup>70</sup> Incorporating channels and digital processes that contribute to accelerate the times and improve the quality of the answers. See Axis 4, point 1 of the Modernization Plan of the State, Decree No. 434/2016, 01/03/2016.

<sup>71</sup> See Transverse Axis 5, of the State Modernization Plan, Decree No. 434/2016, 01/03/2016.

<sup>72</sup> This supra right is expressly set out in Section 41 of the European Charter of Fundamental Rights and Section II-101 of the European Constitution. In turn, it is regulated in section 97 of the Italian Constitution. See, MARZUOLI, Carlo. Transparency of the Administration and the right to information of citizens in Italy. In: GARCÍA MACHO, Ricardo (Coord.). *Administrative law of information and transparent administration*. Madrid: Marcial Pons, Juridical and Social Editions, 2010. p. 178.

<sup>73</sup> It is also claimed that it stems from the “right to a good government”, which is defined as a form of exercise of power in a country characterized by features such as efficiency, transparency, accountability, participation of society civil society and the rule of law. In addition, the Government’s determination to use available resources for economic and social development. See PÉREZ DE ARMIÑO, Karlos (Dir.). *Dictionary of humanitarian action and development cooperation*. 2. ed. Barcelona: Icaria; and BILBAO: HEGOA, 2000, quoted in GONZÁLEZ IGLESIAS, Miguel Ángel. Good Government, Good Administration and Economic Development, *Administrative Law – Administrative Law*, Buenos Aires, n. 61, 2007. p. 629.

<sup>74</sup> The need to clarify and strengthen citizen relations with the Administration correlates with its legal-organizational problems. See RUFFERT, Matthias. From the Europeanisation of administrative law to the European administrative union. In: VELASCO CABALLERO, Francisco; SCHNEIDER, Jens-Peter. *The European Administrative Union*. Madrid: Marcial Pons, Juridical and Social Editions, 2008. p. 103 et seq. Here the author addresses this problem in relation to the European administrative union. See also, PONCE SOLÉ, Juli. *Administrative procedure, globalization and good administration*. Valladolid: Lex Nova, 2001. p. 106 et seq., And BLASCO DÍAZ, José Luis. The sense of administrative transparency and its legislative concreteness. In: GARCÍA MACHO, Ricardo (Coord.). *Administrative law of information and transparent administration*. Madrid: Marcial Pons, Juridical and Social Editions, 2010. p. 134.

<sup>75</sup> See PONCE SOLÉ, Juli. Public Law and Good Administration. *Argentine jurisprudence*, Buenos Aires: Abeledo Perrot, 2011. Online appointment: 0003/015562.

<sup>76</sup> See section 14 of the CN; Section XXIV of the American Declaration of the Rights and Duties of Man; Section II-101 (4) of the Treaty on European Constitution.

<sup>77</sup> Section 39 of our National Constitution establishes the right of initiative of citizens to submit bills. Also, Section XX of the American Declaration of the Rights and Duties of Man; in accordance with section 21 of the Universal Declaration of Human Rights; section 25 of the International Covenant on Civil and Political Rights and section 23, paragraph a) of the American Convention on Human Rights.

<sup>78</sup> See section 15 (1) (a) of the International Covenant on Economic, Social and Cultural Rights.

<sup>79</sup> See section 23 et seq. Of the Universal Declaration of Human Rights.

“*public services and economic services of general interest*”,<sup>80</sup> to essential services and to universal services; right of access to public information;<sup>81</sup> to files,<sup>82</sup> records and registers; right of access to the public service and to justice; among many others linked to economic, social and cultural rights.

On the other hand, the concept of “good administration” is integrated with standards under which those rights must be guaranteed, and also on the basis of certain requirements that public officials must fulfill in the exercise of “public powers”. That is, it aims to objectify and specify the standards and parameters on the exercise of the public function and the services and benefits that the State must guarantee. For example, the Administration must respect *quality* standards and should guide its action in an *equitable*,<sup>83</sup> *positive*, *humanitarian* and *expeditious*<sup>84</sup> way, under a regime of *participation*<sup>85</sup> and *transparency*.<sup>86</sup> It also establishes that its action is carried out within a *reasonable time*, in a context of *proximity to the citizen* and that its decisions are *rational*, *effective*<sup>87</sup> and *coordinated*,<sup>88</sup> among many other issues.<sup>89</sup>

<sup>80</sup> See section 30, paragraph 1 of the new Statute of Catalan autonomy approved by Organic Law 6/2006. See PONCE SOLÉ, Juli. *Administrative procedure, globalization and good administration*. Valladolid: Lex Nova, 2001. p. 84.

<sup>81</sup> See SCHIAVI, Pablo. Información pública en clave de neoconstitucionalismo. *A&C – Revista de Direito Administrativo & Constitucional*, Belo Horizonte, ano 14, n. 57, p. 13-45, jul./set. 2014; BUTELER, Alfonso. La transparencia como política pública contra la corrupción: aportes sobre la regulación de derecho de acceso a la información pública. *A&C – Revista de Direito Administrativo & Constitucional*, Curitiba, v. 14, n. 58, p. 61-106, out./dez., 2014.

<sup>82</sup> Section II-101 (2) (b) of the Treaty on European Constitution.

<sup>83</sup> Section 11 of the International Covenant on Economic, Social and Cultural Rights, paragraph 2 (b), states that States parties must ensure, “against hunger” “... an equitable distribution of food ...”. The highlight is not from the original.

<sup>84</sup> These standards are required of States Parties against the request made by a child or its parents, to enter or leave a State party. See Section 10, paragraph 1, of the Convention on the Rights of the Child.

<sup>85</sup> The National Constitution provides for the “*necessary participation*” of consumer and user associations in the control bodies. See section 42, last paragraph of the CN.

<sup>86</sup> From a sector of Spanish doctrine, it is affirmed that transparency can be traced back to the content of the principle to a good Administration. See BLASCO DÍAZ, José Luis. The sense of administrative transparency and its legislative concreteness. In: GARCÍA MACHO, Ricardo (Coord.). *Administrative law of information and transparent administration*. Madrid: Marcial Pons, Juridical and Social Editions, 2010. p. 133.

<sup>87</sup> The Argentine National Constitution in section 42, last paragraph, refers to “*effective procedures*” for the prevention and resolution of conflicts and the regulatory frameworks of national public services. According to section 7 of the International Convention on the Elimination of All Forms of Racial Discrimination, States parties “... *undertake to take immediate and effective action*”. section 11 (2) (a) of the International Covenant on Economic, Social and Cultural Rights also requires States parties to use their “*natural resources*” in an “*effective*” manner. Section 19 (2) of the Convention on the Rights of the Child also provides that States Parties shall take all protective measures to ensure “*effective procedures*” for the establishment of social programs. Section 24 (3) also provides that States Parties undertake to take “*all effective and appropriate measures*” to abolish traditional practices that are harmful to the health of children. For its part, Section 29 (1) (a) of the above-mentioned Convention requires States parties to develop the child’s personality, abilities and mental and physical ability “to the maximum extent possible”. All the highlights do not belong to the original. In the National Law of Administrative Procedure, Decree-Law 19,549, establishes the following principles that should govern the procedure (Section 1, paragraph b): speed, economy, simplicity and efficiency in procedures.

<sup>88</sup> See sections 9.3, 31.2 and 103 of the EC.

<sup>89</sup> See PONCE SOLÉ, Juli. *Administrative procedure, globalization and good administration*. Valladolid: Lex Nova, 2001. p. 97-132.

At the same time as this right to “good administration” was developed, the Internet phenomenon was accelerated and expanded, and information and communication technologies were developed and extended. However, in general terms, Administrative Law has not linked both phenomena. Basically, new technologies have been conceived in the following terms: they serve to “update” the format in matters related to administrative files, documents, notifications, signature, among others.

In our view, the digital administration presents itself as a true paradigm shift, anchored in substantial and not merely instrumental transformations that *go far beyond* the concept of “good administration”.<sup>90</sup>

*First.* As we have pointed out in the introduction, the technological revolution we are going through is radically changing all disciplines and all sectors on a global scale. It is a transcendental change that is conceived in the light of the concept: “Fourth Industrial Revolution”.<sup>91</sup> Among many other consequences, this implies that it is not enough to “apply” new technologies to existing problems. These are new ways of understanding the relationship between society and technology; new types of specialization in the social field that are associated with activities of science, technology and innovation. Here is a key concept: “*inclusive technology*”. The focus should be on how social needs can drive and transform technology and innovation,<sup>92</sup> in order to reduce technological gaps, promote adequate technological infrastructure, and other objectives. As the UN states, allowing access to technologies will be a key element, and especially in the case of minorities, vulnerable or underrepresented groups.<sup>93</sup>

*Second.* It is crucial to emphasize the concept of “*social technology*”. It is called “society of social technology” to the new social forms of valuing and applying knowledge, defined as the “development of knowledge applied by and for each individual, in a society organized to intensively apply science and technology in resolution of social problems”.<sup>94</sup> This notion is associated with three phenomena. On the one hand, it is important to understand the factors that determine people and communities to adopt certain technologies. On the other, we must consider the resistance of communities to adopt new or innovative approaches. Here it is

<sup>90</sup> On the main transformations of Public Administration in the 21<sup>st</sup> century, see: BITENCOURT NETO, Eurico. Transformações do Estado e a Administração Pública no século XXI. *Revista de Investigações Constitucionais*, Curitiba, v. 4, n. 1, p. 207-225, jan./abr. 2017; CORREIA, José Manuel Sérvulo. Os grandes traços do direito administrativo no século XXI. *A&C – Revista de Direito Administrativo & Constitucional*, Belo Horizonte, ano 16, n. 63, p. 45-66, jan./mar. 2016.

<sup>91</sup> Expand in SCHWAB, Klaus. *The Fourth Industrial Revolution*. Barcelona: Debate, 2016.

<sup>92</sup> In Habitat III, it was concluded – among other aspects – that access to multiple intelligent ICT solutions and low pollution technology is an environment conducive to inclusive economic growth and to promoting prosperous and innovative cities. Point 7.

<sup>93</sup> See UN, Economic and Social Council, Resolution E/hlpf/2016/6, item II.

<sup>94</sup> GOÑI ZABALA, Juan José. *The technology*. Madrid: Díaz de Santo, 2012. p. 342.

important to establish public policies aimed at social and community participation. Finally, for technologies to work, they have to be adapted to the context and culture of the place. This phenomenon is called “*technological preparation*”.<sup>95</sup>

*Third.* The right to a “good administration” was conceived and developed without being compatible with the impact of new technologies. The notions that integrate it are necessary but not enough to understand and address this paradigm. In our opinion, instead of referring to “good administration”, it is preferable to speak of an “optimal administration”,<sup>96</sup> which includes the principle of maximization.<sup>97</sup>

*Fourth.* On the basis of the two principles outlined above, administrative law must incorporate new postulates and innovative categories of key importance in the digital age. Among others, we refer to the principles of digital accessibility, digital security, digital literacy, digital inclusion, service integrity, affordability, internal consistency, user customization, preservation, traceability, interoperability, durability, robustness, scalability, usability, technological sustainability, web neutrality and technological adaptation.<sup>98</sup>

In an example, with the appearance of the *electronic or digital administrative route*, it is essential to ensure the following principles<sup>99</sup> in the treatment of information

<sup>95</sup> According to the UN, social technologies are fundamental to change attitudes, attitudes and behaviors. See UN, Economic and Social Council, Resolution E/hlpf/2016/6, item II, 13-15.

<sup>96</sup> To optimize implies to consider the set of different criteria, to evaluate the relative weight of the individual points weighting them, to later look for the best situation not in the atomic sense, but integral. HÖFFE, Otfried. *The political project of modernity*. Buenos Aires: Fondo de Cultura Económica, 2008. (Translation by Peter Storandt Diller).

<sup>97</sup> Maximizing, in turn, is related to the concretion or pursuit of obtaining the highest possible degree of “something” in particular. HÖFFE, Otfried. *The political project of modernity*. Buenos Aires: Fondo de Cultura Económica, 2008. p. 323. (Translation by Peter Storandt Diller). In international covenants we can find the express reference to the principle of maximizing international standards. For example, section 12 of the International Covenant on Economic, Social and Cultural Rights stipulates that States recognize the right of everyone to the “highest possible level of enjoyment” of their physical and mental health. Accordingly, Section 6 (2) of the Convention on the Rights of the Child states that: “States Parties shall ensure to the maximum extent possible the survival and development of the child.” In a similar vein, Section 18 (1) provides that “States Parties shall use their best endeavors to ensure recognition of the principle that both parents have common obligations with regard to the upbringing and development of the child.” Accordingly, Section 24 (1) provides that: “States Parties recognize the right of the child to the enjoyment of the highest attainable standard of health and services”. Section 2 of the above section states that States shall ensure “full implementation” of this right.

<sup>98</sup> Expand in Latin American Center for Development Administration, Ibero-American Charter of Electronic Government.

<sup>99</sup> In the area of the Autonomous City of Buenos Aires, see sec. 6.3<sup>o</sup> Annex A (e) of Law No. 3,304 (Text Consolidated by Law No. 5.666); sec. 12 (e), sec. 31<sup>o</sup> B Annex (i) and sec. 36<sup>o</sup> D (i) of National Law N<sup>o</sup> 25,506; whereas 6 (i) of Decree No. 518/2013; whereas 6 (e) and sec. 1 (i) of Decree No. 398/2013; sec. 8<sup>o</sup> C (e) and sec. 13<sup>o</sup> D (e) of Decree No. 1181/2008 and its amendment Decree No. 124/2014; whereas 3 (e) of Resolution No. 17-GCABA-MJGGC/09; whereas 3 (e) of Resolution No. 130-SECLyT/14; sec. 2<sup>o</sup> G (i), sec. 3 (e) and sec. 8 (i) of Decree No. 2007/03; whereas 3 (e) of Resolution No. 118-SECLyT/16; whereas 4 (e) of Resolution No. 17-SECLyT/11; whereas 3 (e) of Resolution No. 191-SECLyT/14; whereas 5 (e), whereas 6 (e), whereas 14 (e), whereas 15 (i), sec. 3rd Annex (i) and sec. 4 th Annex (i) of Provision No. 16-MGESYA/16; whereas 3 (e) of Decree No. 567/2012; whereas 3 (e) of Resolution No. 317-SECLyT/13; whereas 4 (e) and whereas 5 (e) of Decree No. 155/2015; whereas 4 (e) and whereas 5 (e) of Joint Resolution No. 4-MGOBGC-MMGC-SECLyT/15; whereas 6 (e) and whereas 20 (e) of Decree No. 696/2010; whereas 6 (e) of Decree No. 287/2010; whereas 6 (e) of Decree No. 6/2011; whereas

and data: integrity, inalterability, durability, conservation and safeguarding.<sup>100</sup> In short, an optimum digital and intelligent Administration must promote and develop modernization and innovation;<sup>101</sup> continuous improvement and continuous updating; as well as the systematization,<sup>102</sup> standardization,<sup>103</sup> harmonization,<sup>104</sup> streamlining – focused on reducing deadlines<sup>105</sup> – and simplification.

## 5 Towards an optimum digital and intelligent Administration

The Fourth Industrial Revolution will bring about major transformations over constitutional states,<sup>106</sup> including rethinking the way in which state powers are organized and how sustainable and inclusive development must be ensured. Although legal systems tend to achieve the effectiveness of rights<sup>107</sup> – attempting to develop useful and efficient mechanisms for their protection<sup>108</sup> – , a profound

6 (e) of Decree No. 765/2010; whereas 3 (e) of Decree No. 350/2014; whereas 3 (e) of Resolution No. 16-SECLyT/16.

<sup>100</sup> In the area of the Autonomous City of Buenos Aires, see Resolution No. 118-SECLyT/16, whereas 3 and Resolution No. 191-SECLyT/14 and section 6.3 Annex a of Law No. 3,304 (Text Consolidated by Law No. 5,666).

<sup>101</sup> Among others, in the Autonomous City of Buenos Aires, see section 1 of Law No. 3,304 (Text Consolidated by Law N° 5.666); whereas 1 and 10 of Resolution No. 130-SECLyT/14; recital 3 of Decree No. 935-08; Decree No. 398/2013, whereas 3 and 15; recital 1 of Resolution No. 118-SECLyT/16; whereas 1, 4, 8 and 10 of Decree No. 105/2013; whereas 10 and 13 of Resolution No. 12-GCABA-SECLyT/11 (procedure for contracting under reverse auction mode); whereas 5, 22, 23 and 24 of Decree No. 567/2012; whereas 1 and 21 of Decree No. 155/2015; whereas 1, 8 and 27 of Joint Resolution No. 3-MMGC-SECLyT/14; whereas 15, 16 and 17 of Decree No. 350/2014, among many others.

<sup>102</sup> From a normative point of view, these principles are related to the action and effect of organizing information according to some system; that is, to adjust several things similar to a common procedure or standard. In the Autonomous City of Buenos Aires, see sec. 4.1° Annex A (e) and sec. 7.2° Annex A (i) of Law No. 3,304 (Text Consolidated by Law No. 5.666); Decree No. 105/2013, whereas 14 (e); Decree No. 567/12, p. 29 (e); Decree No. 287/2010, whereas p.18 (e); Decree No. 224/13, whereas p.10 (e); Joint Resolution No. 1-MMGC-MJGGC-MHGGC-SECLyT (approves electronic administrative procedure of LOyS module), whereas p.7 (e); Decree No. 350/2014, whereas p.22 (e).

<sup>103</sup> On the basis of this principle, it is sought to put into harmony, avoid discordances and contradictions within systems or concepts that must concur to the same end, and which is expressly provided for in section 7.2 of annex to (e) of the Plan Modernization of the Public Administration of the CABA (Law No. 3,304, Text Consolidated by Law N° 5.666).

<sup>104</sup> In the Autonomous City of Buenos Aires, this principle is present in the following norms: Art. 4.4. Annex A, art. 6.2° Annex A of the Modernization Plan for Public Administration. Law No. 3,304 (Text Consolidated by Law No. 5,666); Decree 518/2013 (Digital signature), whereas 4; Decree 398/2013 (Digital signature), whereas 5; Decree No. 1181/2008, whereas 3 and its amendment Decree No. 124/14; Decree No. 1181/08, whereas 3 and its amendment Decree No. 124/2014; Resolution No. 575-SECLyT/14, paragraph 4; Resolution No. 130-SECLyT/14, paragraph 2; Decree No. 2007/03, whereas 8; Resolution No. 118-SECLyT/16, whereas 12, among others.

<sup>105</sup> In the CABA, see, among others, art. 6.3° Annex A Modernization Plan for Public Administration. Law No. 3,304 (Text Consolidated by Law No. 5,666); Decree 494/2011 Electronic Notifications, Whereas 11; Decree No. 398/2013, Whereas 6.

<sup>106</sup> Expand in BALBÍN, Carlos. *Treaty of administrative law*. T. 1. Buenos Aires: The Law, 2011. p. 41 et seq.; and CORVALÁN, Juan Gustavo. *Administrative Law in transition*. Buenos Aires: Astrea, 2016. p. 1-69.

<sup>107</sup> Section 4 of the Convention on the Rights of the Child provides that States Parties "... shall take all administrative, legislative and other measures to give effect to the rights recognized in this Convention."

<sup>108</sup> For example, section 8 of the Universal Declaration of Human Rights states that everyone has the right to an "effective" remedy before the competent national courts. Accordingly, article 6 of the International

change of focus is required on the legal transformations that are produced by the irruption of technologies that are modifying beings and their relations with the environment in a radical way. From our point of view, law in general, and administrative law in particular, should promote mutations on the basis of considering four major aspects linked to the digital age and the exponential development of artificial intelligence.

*First*, the digitization of the Administration is produced by the use of new technologies, from the perspective of people and their rights.<sup>109</sup> The main challenge is to ensure that citizens as a whole have access to all the services provided by governments through the implementation of ICT.<sup>110</sup> It is no longer just a question of ensuring the validity of classical principles (legality, transparency, proportionality, etc.),<sup>111</sup> or of analyzing the reconfiguration and transformation of certain notions or postulates that take on other dynamics from the development of ICTs, as with the principles of cooperation, collaboration, coordination, progressiveness, equality and adaptation<sup>112</sup>).

*Secondly*, it is not just a question of adapting classical procedures to technology, as if it were a question of replacing a typewriter with a basic computer in state offices. Nor is it plausible to continue developing or attempting to adapt a concept that has been adapted in Europe essentially alien to the digital transformation of recent years (so-called “good administration”). The task that awaits us is similar or much more disruptive than the one that had to cross the societies with the emergence of the electricity and the chain of assembly in the late nineteenth and twentieth century. The radical change we are going through substantially alters intra-Administration relations and systems (*interorganic and inter-administrative relations*) and the links and interactions between citizens and the Administration. Just as writing and writing processes molded organizations and procedures, the digital age and ICTs transformed these interactions by rendering

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Convention on the Elimination of All Forms of Racial Discrimination (approved by Law No. 17,722) speaks of “effective remedies”. In addition, section 11 (1) of the International Covenant on Economic, Social and Cultural Rights stipulates that States Parties shall: “... take appropriate measures to ensure the effectiveness of this right,” referring to the right to an adequate standard of living including food, clothing and housing.

<sup>109</sup> Latin American Center for Development Administration, Ibero-American Charter for Electronic Government, p. 4.

<sup>110</sup> Department of Economic and Social Affairs, United Nations Study on Electronic Government, 2012, *Electronic Government for the People*, p. 65.

<sup>111</sup> See CASSAGNE, Juan Carlos. *The great principles of public law*. Buenos Aires: The Law, 2015; CASSAGNE, Juan Carlos. El nuevo constitucionalismo y las bases del orden jurídico. *Revista de Investigações Constitucionais*, Curitiba, v. 2, n. 1, p. 167-224, jan./abr. 2015.

<sup>112</sup> See especially, IACHR. Annual Report 2013. *Report of the Office of the Special Rapporteur for Freedom of Expression*. Chapter IV (Freedom of Expression and Internet). OEA/Ser.L/V/II.149. Doc. 50. December 31, 2013. Parr.15.

obsolete or inapplicable many of the principles and rules that were justified by the existence of a system based on paper and printing.

*Thirdly*, and as a consequence of the above, administrative organization, and its classic categories such as hierarchy, avocation, concentration, decentralization, deconcentration, etc., as well as procedures, were conceived under a conception of space and time radically different. At present, we are witnessing a real *universe of immediate*, since the sequential or chronological time begins to be diluted. Something similar happens with the space, since in many cases it is irrelevant a specific physical<sup>113</sup> place or to speak of presence and absence in the same terms that in other times.<sup>114</sup> If a digital system is established to link the Administration with citizens, as a rule it is not plausible to speak of a physical territorial or spatial deconcentration where there are displacements of infrastructure and human resources. A similar mutation occurs with responses and interactions through social networks and organic theory.

That is to say, a paradigm that does not necessarily involve an office or a ticket desk that must be opened is being consolidated, but rather that the citizens-Administration relationship is intertwined in the light of the concept of a single digital portal or by the so-called “unique digital window”.<sup>115</sup> It is a phenomenon that in Argentina is grouped under the denomination of “integrated approach of government” where the digital services “go” towards the computer or towards the mobile device of the citizens.<sup>116</sup> That is why it is so important to recognize the fundamental right to relate digitally with the Administration. In this regard, it is useful to highlight a fairly recent and novel example that occurs in the area of the Autonomous City of Buenos Aires.

The recent enactment of Law No. 5,629 is a milestone in relation to one of the most used ICTs by citizens: we refer to social networks. Through this norm, the local legislator creates the System of Transparency, Publication and Communal Information, which seeks to facilitate the participation of citizens in the decision-making process and in the control of public affairs (Section 2). In this sense, it is expressly foreseen that the Publication and Communal Information System is constituted by the web page<sup>117</sup> and the *social networks of the Commune*. In this

<sup>113</sup> BALANDIER, Georges. *The mess*. Buenos Aires: Gedisa, 2012. p. 159-160.

<sup>114</sup> LUHMANN, Niklas. *Society of society*. Mexico: Herder, 2007. p. 909.

<sup>115</sup> This does not mean that many offices have to disappear. The approach proposed here is not binary, but rather a complementarity is anchored in simplification and facilitation (both postulates derived from the new cardinal principles that govern the Public Administration: optimization and maximization.) See more in CORVALÁN, Juan Gustavo Towards a Digital Administration, *Issues of Administrative Law*, Erreius, Buenos Aires, 2017, p.621 y following.

<sup>116</sup> On all these issues, see CORVALÁN, Juan Gustavo. Towards a Digital Administration. *Issues of Administrative Law*, Erreius, Buenos Aires, 2017, p. 621 et seq.

<sup>117</sup> In this context, section 8 of Law No. 5,629 states that: “The Commune shall have a web page configured with the X.gob.ar commune domain, X being the number of the corresponding Commune, which shall be



way, the communal public authority is legally obliged to *create accounts in the main social networks and, if already used, forces them to maintain them* (Section 16). It is even required that the information provided through the commune's website, be adapted to social networks and disseminated through them (Section 17).<sup>118</sup>

## 6 Transformation over transformation: the development of artificial intelligence

To the three aspects that we have treated in the previous point, we add a fourth and last one that is, undoubtedly, the most disruptive of all. In line with the above, we agree with the position of the European Parliament that humanity is at the threshold of an era in which increasingly sophisticated *robots, bots, androids* and other forms of artificial intelligence seem to be the engine that will trigger a new industrial revolution that is likely to affect all strata of society.<sup>119</sup>

The concept or notion of artificial intelligence is infrequent in the legal arena, so it is important to briefly develop how it is possible to speak of an "artificial intelligence" coming from powerful computers.

For this, we must approach what we mean by human intelligence. Essentially, human beings possess relatively autonomous cognitive capacities<sup>120</sup> or qualities<sup>121</sup> that are often classified in "intelligence profiles" or "multiple intelligences."<sup>122</sup> They are social intelligence, linguistic (or musical) intelligence, logical-mathematical intelligence, interpersonal and intrapersonal or emotional<sup>123</sup> intelligence, fluid intelligence,<sup>124</sup> among others.<sup>125</sup> Among the different aspects of the concept "intelligence", *the common element is the ability to process information to solve*

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administered exclusively by the Board Communal. a) The registration of the domain must be done by the Government of the Autonomous City of Buenos Aires and the renewal of the domain will be in charge of this one. b) The design and maintenance of the Web Page will be in charge of each Community Board, always respecting the compliance with this Law".

<sup>118</sup> In addition, section 19 establishes the following prohibitions: "In no case shall the contents, information and everything that emanate from the Community Board and the Advisory Council, when published on the virtual platforms created in this law, may be disseminated in a personal capacity, nor can individual content of any *comunero* be linked to these contents, except in the case that the integration of the Community Board in its entirety is portrayed or is an event carried out by the commune."

<sup>119</sup> European Parliament resolution of 16 February 2017 with recommendations to the Commission on civil law rules on robotics (2015/2103 (INL)), Introduction, points A and B. Available at <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P8-TA-2017-0051+0+DOC+XML+V0//ES>, [seen on 06/20/2017]

<sup>120</sup> See GARDNER, Howard. *The reformulated intelligence*. Madrid: Paidós, 2010. p. 115.

<sup>121</sup> See KAYSER, Daniel. *Dictionary of Cognitive Sciences*. 1. ed. Buenos Aires: Amorrortu, 2003. p. XXIII.

<sup>122</sup> See GARDNER, Howard. *The five minds of the future*. Buenos Aires: Paidós, 2013. p. 17; and Fund of Economic Culture. *Structures of the mind: the theory of multiple intelligences*. Mexico, 1987.

<sup>123</sup> See BACHRACH, Stanislaw. *In Change*. 5. ed. Buenos Aires: South American, 2015. p. 395-396.

<sup>124</sup> See MANES, Facundo; NIRO, Mateo. *Usar el cerebro*. Buenos Aires: Planeta, 2017. p. 115.

<sup>125</sup> See GARDNER, Howard. *The reformulated intelligence*. Madrid: Paidós, 2010. p. 62 and ss.

problems.<sup>126</sup> Basically, our brain controls the ability to process information<sup>127</sup> from the environment and our own body,<sup>128</sup> which it uses to evaluate and choose future courses of action. Here the decision-making process<sup>129</sup> and the evaluation process, which consists in *selecting, cutting out and organizing the available information, comes into play*.<sup>130</sup>

Once this has been clarified, we can say that, based on human intelligence, multiple and diverse technological innovations have been developed, and the one that concerns us here has to do with the processing of information to solve problems and to make decisions from the called intelligent algorithms. Artificial intelligence is based on intelligent algorithms<sup>131</sup> or learning algorithms that, among many other purposes, are used to identify economic trends or personalized recommendations.<sup>132</sup> An algorithm can be defined as an accurate set of instructions<sup>133</sup> or rules,<sup>134</sup> or as a methodical series of steps that can be used to make calculations, solve problems and make decisions.

Artificial intelligence systems use algorithms and various techniques to process information and solve problems or make decisions that could only be made by our brains. In the end, just as the brain extracts, selects, trims and

<sup>126</sup> Howard Gardner conceives of intelligence as a "... biopsychological potential for processing information that can be activated within a cultural framework to solve problems or create products that have value for a culture" (the standout belongs to me). And then the same author states that: "Intelligences are neural potentials that are activated or not depending on the values of a given culture, the opportunities available in that culture and the decisions made by each person and/or family, their teachers and other people" (GARDNER, Howard, "The Reformed Intelligence", Madrid: Paidós, 2010. p.52-53). Google's director of engineering, Ray Kurzweil, defines intelligence as the "... ability to solve problems with limited resources, including time constraints" (KURZWEIL, Ray. *The Uniqueness Is Near*). Manes and Niro allude to fluid intelligence as the set of resources that an individual has to adapt to the environment or the "... ability to solve new problems by discovering the relationships that exist between things and independently of the knowledge acquired throughout the life" (MANES, Facundo, NIRO, Mateo. *Using the Brain*, Buenos Aires: Planet, 2017, p. 114-115).

<sup>127</sup> BENÍTEZ, Raúl; ESCUDERO, Gerard; KANAAN, Samir; MASIP RODÓ, DAVID. *Inteligencia artificial avanzada*. Barcelona: UOC, 2013. p. 14.

<sup>128</sup> From a biological point of view, DNA is an essential carrier of genetic information. GERARD, Michael; GERALD, Gloria. *The book of biology*. Madrid: Ilus Books, 2015. p. 354.

<sup>129</sup> On questions about the decision-making process in people, see KAHNEMAN, Daniel. *Think fast, think slowly*. Barcelona: Debate, 2012. p. 569-590.

<sup>130</sup> Expand in MANES, Facundo; NIRO, Mateo. *The Argentine brain*. Buenos Aires: Planet, 2016. p. 269-270, 274-275 and 301, and the same authors in MANES, Facundo; NIRO, Mateo. *Use the brain*. Buenos Aires: Planet, 2017. p. 130.

<sup>131</sup> Expand in DOMINGOS, Pedro. *The master algorithm: how the quest for the ultimate learning machine will remake our world*. New York: Basic Books, 2015. p. 1 and ss.; HARARI, Yuval Noah. *Homo Deus*. Autonomous City of Buenos Aires: Debate, 2016. p. 99-107; BOSTROM, Nick. *Superintelligence*. 2. ed. Spain: Tell, 2016. p. 29, and KURZWEIL, Ray. *The uniqueness is close*. Berlin: Lola Books, 2012. p. 302.

<sup>132</sup> Expand in PALMA MÉNDEZ, José; MARÍN MORALES, Roque. *Artificial intelligence*. Madrid: McGraw-Hill, 2011. p. 683; and ABU-MOSTAFA, Yaser. Automatic learning techniques. *Research and Science*, Barcelona, 2013, April, p. 50-53.

<sup>133</sup> DEUTSCH, David; EKERT, Arthur. Beyond the quantum horizon. *Research and Science*, Barcelona, 2012, November, p. 79.

<sup>134</sup> BENÍTEZ, Raúl; ESCUDERO, Gerard; KANAAN, Samir; MASIP RODÓ, DAVID. *Advanced artificial intelligence*. Barcelona: UOC, 2013. p. 14.

organizes the information available to make decisions, artificial intelligence does the same, but with other methods and at another speed.<sup>135</sup>

However, it is important to clarify two issues that are intuitively commonly thought when analyzing the extent to which robots or computers can be “smart.” In the first place, artificial intelligence is undervalued because it is argued that it is impossible to reproduce the human brain in machines, given its complexity and the absence of reliable data to determine its full functioning. While the latter is correct, the fact remains that this objection obliterates the fact that artificial intelligence does not have to resemble the human brain to successfully perform certain activities that could only be attributed to human intelligence. In addition, it is important to keep in mind that the development of artificial intelligence does not consist – at least exclusively – imitate or copy the human brain. It uses various methods to process information and solve problems or make decisions, just as aviation engineers did not imitate or copied the method and/or learning techniques of birds to build modern aircraft.

Second, many technological advances where artificial intelligence is present are naturalized. If an intelligent machine begins to perform certain activities in which it equals or improves the information processing capacity of a human brain, it is often said that this is a matter of computation and that it is not a true “intelligence”. If the iPhone’s voice assistant, Apple’s Siri, gives us intelligent answers, we often think it is not “so” smart because it often fails, or because it is not able to recognize what we express, beyond that in other cases provide efficient responses in less than a second. What is important here is to understand that just as the brain extracts, selects, trims and organizes the information available for decision making, artificial intelligence does the same, with other methods and at another speed.

However, artificial intelligence systems play an increasingly important role in the explosion of information and data in which we are immersed. *Artificial intelligence is essential because it optimizes the process of extracting useful information or data.* Information is knowledge to the extent that intelligent activities can find relevant patterns. And here we come to a very important aspect that we illustrate with an example. *Google* does not need to know the grammatical structure of different languages to do reasonably reasonable translations, which at least involve a basic understanding of information written in another language, but learns from the patterns it extracts from information and data. In conclusion, there are several non-mutually exclusive ways in which artificial intelligence equals,

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<sup>135</sup> Expand in BOSTROM, Nick. *Superintelligence*. 2. ed. Spain: Tell, 2016. p. 29, and KURZWEIL, Ray. *The uniqueness is close*. Berlin: Lola Books, 2012. p. 302.

enhances, and/or maximizes the results of many intelligent human activities, through continuous and exponential optimization of information processing.

Thus, as a result of the exponential advances of this technology, private organizations and incipient public organizations are mutating considerably. That is to say, we are in a sort of deep transformation on another transformation that had begun to expand from the notions of open Government and electronic or digital Government. Artificial intelligence, to a large extent, recasts the challenges, and opportunities about those categories.<sup>136</sup> Let's look at this in some specific ways.

Public Administrations will be able to use artificial intelligence systems so that the state services or procedures can be provided through a digital voice assistant, in the way that Apple's *Siri* works (they could also do it through *chatbots*<sup>137</sup>). In fact, if you have an iPhone and enable the Siri feature, try calling 911 just by saying that you call it, and the wizard will. Even with this technology, it is much easier to guarantee the centrality of the user through the single or digital portal.

In addition, the use of artificial intelligence can optimize the flow of data and information available to Administrations and resolve issues that previously required multiple steps, procedures and phases. Or, even, they could not even be solved. A well-trained artificial intelligence, with access to information flow, simplifies and exponentially facilitates the activities of an organization and can obtain results that would be impossible to achieve with human brains. For example, based on the digitization of patients' medical records, an artificial intelligence system could guarantee them and health authorities a follow-up and access to health data, exponentially optimizing medical care and allowing citizens' access to that information from a digital assistant. We cannot extend much more here on these questions, which we will present in an ongoing investigation.

However, these brief samples will radically transform the organization, procedures and steps that are taking place today in the public domain. This could be multiplied in relation to the vast majority of the services provided by the Administration. For example, making complaints or complaints from digital assistants with which it is perfectly possible to interact by voice or, that the state enables a technology similar to a chat in which data and information are processed in such an efficient way that the citizen does not have to go through a myriad of web pages to try to find the exact information that he needs, in a digital world that

<sup>136</sup> See Latin American Center for Administration for Development, Ibero-American Charter on Electronic Government, 2007, Chapter II: The Right to Electronic Government. Information available on the official CLAD website: <<https://www.clad.org/acerca-de/clad>> [consulted 12/07/2017]. See also, whereas 6 of the Modernization Plan for the State, Decree No. 434/2016.

<sup>137</sup> "A chatbot is a chat agent that interacts with users in a particular domain or on a certain topic with natural language." Go HUANG, Jizhou; ZHOU, Ming; YANG, Dan. *Extracting Chatbot Knowledge from Online Discussion Forums*. International Joint Conference on Artificial Intelligence, California, 2007, v. 7, p. 423-428.

every day grows exponentially. If it is argued that this is difficult or impossible to implement, we believe that this is largely due to misunderstanding of this technological innovation. The State's current spending on services in a classic manner (buildings, desks, office cleaning, paper, etc.) far exceeds that demanded by certain artificial intelligence systems, just as it is much less costly to relate to the citizen from social networks. For these and many other reasons, *access to artificial intelligence will be one of the most important rights in the coming years.*

In the short term, however, there are also many challenges to ensuring the compatibility of the development of artificial intelligence with the domestic law of States and with existing international law. Smart algorithms are used to capture all of our data, to recommend what to look for, where to go, what to do, how to get to a place faster, to diagnose diseases, to prevent them, etc. And the first paradox is noticed by the fact that artificial intelligence cannot provide a detailed explanation about how a particular result is reached. That is to say, in principle it is not possible to establish how the algorithm evaluates and weighs the data and the information that it processes, what generates the phenomenon called "black box".<sup>138</sup>

We could make a long list of the opportunities, challenges, and risks that arise from the exponential growth of this technology, although in our opinion, as far as public law is concerned, all efforts towards fulfillment of two main objectives, which are: on the one hand, to use artificial intelligence systems to enhance the effectiveness of rights; and, at the same time, to promote a regulatory framework linked to its development, which may be similar to the phenomenon that emerged from the emergence of ICTs at the UN scope.<sup>139</sup>

Without prejudice to the two objectives outlined above, in our view, the most complex and indispensable challenge of the coming years is to make artificial intelligence compatible with human rights, especially when we consider the incipient configuration of two scenarios: 1) how to guarantee human intervention against intelligent algorithm decisions or predictions; 2) how much human intervention is necessary to ensure that the result of information processing and data is

<sup>138</sup> It is called a "black box" system to the computational tool in which one understands the data entered and the results, but does not understand the underlying procedure. Here the code is inscrutable because the program "evolves" and humans cannot understand the process that followed the programming to achieve a certain solution. See BARRAT, James. *Our final invention*. Mexico: Paidós, 2014. p. 92.

<sup>139</sup> For example, UNESCO encourages the creation of an enabling legislative environment in the field of ICT. Along the same lines, the UN argues that the development of technologies, research and national innovation must be supported, guaranteeing a normative environment conducive to industrial diversification and the addition of value to basic products. In addition, States should refrain from using information and communications technology in contravention of international law. See General Assembly, resolution No. A/71/307, 05/08/2016, whereas 8, p. 4; General Assembly, resolution No. A/RES/70/1, 21/10/2015, whereas 9.b, p. 23 and General Assembly, resolution No. A/RES/71/101 A-B, 23/12/2016, whereas 4, p. 4.

legitimate, respectful and promotes the effectiveness of human rights. In this last aspect, it should not be overlooked that data protection experts are reflecting on human intervention in relation to algorithms<sup>140</sup>. And much more so, if we realize that public authorities will use artificial intelligence systems.<sup>141</sup>

## 7 Conclusion

We are undergoing an unprecedented revolution, which in large measure explains how difficult it will be to adapt bureaucratic organizations to such a transformation. From our perspective, we must accelerate the transition from three broad categories: digital literacy, digital culture and technological preparation.

In Latin America in general, and in Argentina in particular, there are multiple differences between people, districts and vulnerable areas. Citizens who are connected to the Internet and those who do not (we refer here to the reduction of the digital separateness) cannot be treated in the same way. And not all administrations are symmetrical in terms of infrastructure and development. However, this does not prevent the state from advancing on several fronts at the same time and accelerating the transition to adapt to this new revolution of space and time.

Otherwise, the longer it takes, the more the citizen loses. For example, the multiple problems of the Internet and social networks (all issues related to cybercrime and privacy) have long affected many people who are connected, regardless of whether they live in different Argentine provinces (Formosa, Tierra del Fuego, etc.), or in Brazil,<sup>142</sup> France or Italy. Something similar happens with the implementation of the electronic or digital file.

When administrations save days in physical transfers, and in several respects in relation to paper, the time that is “won” is the same for a citizen of a province of southern Argentina (as Neuquén), with respect to another of the north (Salta).

<sup>140</sup> RODOTÁ, Stefano. *The right to have rights*. Madrid: Trotta, 2014. p. 302.

<sup>141</sup> Expand in CORVALÁN, Juan Gustavo. Artificial Intelligence and Human Rights (Part I). *Journal DPI*, Constitutional Journal and Human Rights, Autonomous City of Buenos Aires, 2017, no. 156, 03.07.2017, <[http://dpicuantico.com/area\\_diario/doctrina-en-dos-paginas-diario-constitucional-and-rights-humans-nro-156-03-07-2017/](http://dpicuantico.com/area_diario/doctrina-en-dos-paginas-diario-constitucional-and-rights-humans-nro-156-03-07-2017/)>; and CORVALÁN, Juan Gustavo. Artificial Intelligence and Human Rights (Part I), *Journal DPI*, Constitutional Journal and Human Rights, Autonomous City of Buenos Aires, 2017, no. 157, 10.07.2017, <[http://dpicuantico.com/area\\_diario/doctrina-en-dos-paginas-diario-constitucional-and-rights-humans-nro-157-10-07-2017/](http://dpicuantico.com/area_diario/doctrina-en-dos-paginas-diario-constitucional-and-rights-humans-nro-157-10-07-2017/)>; CORVALÁN, Juan Gustavo. Inteligencia artificial: retos, desafíos y oportunidades – Prometea: la primera inteligencia artificial de Latinoamérica al servicio de la Justicia. *Revista de Investigações Constitucionais*, Curitiba, v. 5, n. 1, p. 295-316, jan./abr. 2018; CORVALÁN, Juan Gustavo. Administración Pública digital e inteligente: transformaciones en la era de la inteligencia artificial. *Revista de Direito Econômico e Socioambiental*, Curitiba, v. 8, n. 2, p. 26-66, maio/ago. 2017.

<sup>142</sup> ÁVILA, Ana Paula Oliveira; WOLOSZYN, André Luis. A tutela jurídica da privacidade e do sigilo na era digital: doutrina, legislação e jurisprudência. *Revista de Investigações Constitucionais*, Curitiba, v. 4, n. 3, p. 167-200, set./dez. 2017.

And this also applies to the benefits to vulnerable people, such as the fact that the Public Administration or in the judicial sphere, an artificial intelligence system is implemented to ensure that visually impaired people can use voice assistants to perform different procedures (as could happen with a technology similar to the voice assistants that Apple has on their iPhone or other similar). Here it is very important to emphasize on one aspect. The fact that certain technologies are very far from the possibilities of a district or of certain public administrations, does not prevent that they can be implemented at low cost. For example, an intendant or commune chief, can establish a link with the citizen live, from the use of a social network such as could be Facebook Live. And this interaction is very low cost, along with other current expenses that are linked to prints, photocopies, transfers (fuel, cars, crash risks, etc.). This is not to say that face-to-face contact must be eliminated. On the contrary, it is a question of opening channels (multichannel approach) so that citizens can access all the services provided by governments through the implementation of ICTs.

For these and other reasons, the focus needs to be changed. While it is not easy for bureaucracies to adapt to a new industrial revolution, the key is given by a reconfiguration of Public Administration from the concept of inclusive innovation and the promotion of new technologies from the perspective of people and their rights.<sup>143</sup> It is about transforming governments and administrations to make them digital and intelligent from an inclusive technological development.

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<sup>143</sup> To a large extent, the starting point for this to happen is linked to the implementation of Decree 436/16, which approved the National State Modernization Plan.

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