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Automated decision-making in public administration in Latin America

A comparative approach to its application
in Brazil, Chile, Colombia and Uruguay

by Patricio Velasco Fuentes & Jamila Venturini



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Text by Patricio Velasco Fuentes and Jamila Venturini.

Translation by Jennifer Marshall.

Design and layout by Rocío Rubio, based on previous work by Constanza Figueroa.

Contents

Chapter 1: Introduction	5
1.1 Presentation	5
1.2 Automated decision-making in the public sector in Latin America	5
1.3 Cases considered and elements relevant to their analysis	7
1.4 Development of the cases and methodological approach	9
Chapter 2: Characterization of the cases under consideration	11
2.1 Institutional design behind the technological system	11
2.2 Regulatory and institutional context	14
2.3 State of implementation	15
2.4 System design and implementation in the local context	16
Chapter 3: The use of technologies in public administration and their impact on human rights	19
3.1 The role of consent in the handling of personal information by public authorities	19
3.2 Potential impact on human rights	21
Chapter 4: Transparency, citizen engagement and evaluation of the initiatives implemented	25
4.1 Transparency and citizen engagement	26
4.2 Evaluation and auditing of the initiatives	27
Chapter 5: Final considerations and recommendations	30

Chapter 1: Introduction

1.1 Presentation

The goal of this report is to understand the Latin American regional scenario in the context of the emergence of various initiatives involving the application of automated technologies for the practice of public administration. In particular, we are interested in understanding the implications of technologies that could be classified as or have been introduced under the title “Artificial Intelligence” (AI), their impact on fundamental rights and how their deployment is understood in the regulatory and institutional context of four countries in the region. It is an analysis complementing four national case studies developed with support from Derechos Digitales which were conducted in Brazil, Chile, Colombia and Uruguay during the second half of 2020.

The report is divided into five chapters. This first chapter introduces the study and situates the comparative analysis. The second chapter will seek to best describe and characterize the cases in comparison with one another. The third chapter will discuss the evaluated systems’ potential impact on the exercise of human rights, while the fourth chapter will emphasize the mechanisms for transparency, citizen engagement and evaluation of the initiatives studied. The final chapter will conclude the analysis and present recommendations for the implementation of automated technologies in public administration.

This report is one of the products connected to the “Artificial Intelligence and Inclusion in Latin America” strategic area developed by Derechos Digitales as part of the Cyber Policy Centers (CPC) network, which enjoys support from the International Development Research Center (IDRC).

1.2 Automated decision-making in the public sector in Latin America

The goal of this report is to document how the application of AI or automated decision-making technologies for the development or implementation of public policies could affect the exercise of fundamental rights in four Latin American countries. However, assigning categories to the technologies implemented presents some problems. The concept of AI covers different kinds of applications and has been considered insufficient and even confusing when it comes to analyzing specific implementations; in this context, the idea of Automated Decision Making (ADM) has been adopted as an alternative to refer to these systems.

As the 2019 Algorithm Watch report mentions: “Algorithmically controlled, automated decision-making or decision support systems are procedures in which decisions are initially—partially or completely—delegated to another person or corporate entity, who then in turn uses automatically executed decision-making models to perform an action. This delegation—not of the decision itself, but of the execution—to an algorithmically controlled system, is what needs our attention. In comparison, Artificial Intelligence is a fuzzily defined term that encompasses a wide range of controversial ideas and therefore is not very useful to address the issues at hand. In addition, the term ‘intelligence’ invokes connotations of a human-like autonomy and intentionality that should not be ascribed to machine-based procedures. There are systems that would not be considered Artificial Intelligence by most of today’s definitions, like simple rule-based analysis procedures, which can still have a major impact on people’s lives, such as in the form of scoring systems for risk assessment.” (Algorithm Watch, 2019)¹

1 In Algorithm Watch (2019) Automating Society, page 9 and following. Available at <https://algorithmwatch.org/en/automating-society-2019/>

In the case of Latin America, while efforts by governments to promote their initiatives under the heading of AI can be found, these efforts are still nascent, though increasingly widespread,² as we shall see in the following chapters. Nonetheless, though the cases analyzed do not strictly fall under what is commonly called AI, they do show attempts at using technology to aid in decision-making and government administration, thus constituting a new form of intermediation with potential impact on the exercise of rights and the very functioning of the public sector. Although the systems presented here are not necessarily—in their current form—used to make decisions autonomously and independently, they do find a common denominator in their role of organizing and classifying large volumes of information contained in various databases. In this sense, they are different from other initiatives requiring the use of technology, such as for digitization processes, electronic government or surveillance. Furthermore, in many cases they are introduced by the governments implementing them as incorporation of AI or automated decision-making in their administration.

Efforts to integrate technological developments with the potential for automated or semi-automated decision-making in public administration, based on the intensive use of data, should be understood in the context of two main considerations: on the one hand, the fact that Latin American countries have been classified by various international institutions as developing countries;³ and on the other, how technology is presented by these same stakeholders as a vehicle capable of favoring development, furthering their promise of efficiency and solving complex problems.

The relationship between the ambition for development and the promise of technology is particularly significant in Latin America. The region has historically faced a series of challenges in terms of inclusion and equality in multiple dimensions of social life, due to which the expectation of efficiency mobilized by technological systems becomes very attractive for the exercise of public administration. Moreover, in a context of sustained economic crisis—prone to deepening in the face of increasing poverty and unemployment⁴—the use of technologies that aid in decision-making is aligned with a bundle of neoliberal responses seeking to use public resources more “efficiently” and thus reduce and target expenditures, especially in social policies and programs.⁵

However, the region equally faces a series of challenges at the institutional level, including difficulties in assembling an institutional structure capable of regulating nascent developments such as the application of automated data processing technologies or those for predictive modeling, preferred for the analysis of complex databases. Furthermore, we must consider the argument highlighted in the Government AI Readiness Index, regarding the inability of some governments in the region to successfully include populations made up of indigenous people, women, and sexual dissidents in public measures and policies for

2 For more information see <https://www.derechosdigitales.org/wp-content/uploads/glimpse-2019-4-eng.pdf>

3 See, for example, United Nations Organization (2020). World Economic Situation Prospects - Annex. Available at: https://www.un.org/development/desa/dpad/wp-content/uploads/sites/45/WESP2020_Annex.pdf

4 See: <https://www.cepal.org/es/comunicados/pandemia-provoca-aumento-niveles-pobreza-sin-precedentes-ultimas-decadas-impacta> (in Spanish) / <https://www.cepal.org/en/pressreleases/pandemic-prompts-rise-poverty-levels-unprecedented-recent-decades-and-sharply-affects> (in English)

5 In fact, the use of technology to facilitate monitoring of the delivery of social benefits can be seen as a regional tendency in the last few years, with a recent emphasis on the implementation of social scoring systems, as in the system analyzed in Chile. The premise is that these systems would help scarce resources reach those “who need them most.” See: <https://www.derechosdigitales.org/13900/vigilancia-control-social-e-inequidad/> (in Spanish).

government assistance, which often results in a lack of administrative data that could have significant implications when it comes to “automating” inequality.⁶

Besides these particularities, both regulatory and technological advances in the area of AI have been broadly led by developed countries, with a notable lack of participation from the Global South, and specifically Latin America, in the debate over these advances,⁷ which leads to the invisibility of the evolving context and of social needs in the region. It is important to remember that although these kinds of technology may represent progress in terms of efficiency in public administration, there are legitimate concerns surrounding their implementation, due to the possible increase in discrimination toward historically vulnerable groups and the potential impact on fundamental rights.⁸

In light of this observation, and identifying progress in the adoption of systems of this kind in the region, this study seeks to critically evaluate, based on empirical research, how initiatives for the use of automated or semi-automated technologies have been developed and implemented in Brazil, Chile, Colombia and Uruguay, countries with distinct institutional landscapes and regulatory frameworks that have significant impact on the way in which the systems are incorporated into the practice of public administration.

We seek to understand the role that these technologies are acquiring in the design and implementation of public policies, with the goal of compiling recommendations for reference, so that their eventual implementation may be consistent with the protection and promotion of human rights throughout the region.

In particular, the goal of this comparison is to probe how diverse technologies have been contemplated in the design of public policies, studying which definitions and operations underpin their deployment, and how the different regulatory and institutional contexts found around the region are understood. Evaluating the way in which countries in the region seem to react to the offer of new technologies by different agents, rather than strategically projecting how these developments can be included in the design of public interventions, is of particular interest.

Below we provide a brief description of the cases considered, highlighting those aspects that are significant in the context of each location.

1.3 Cases considered and elements relevant to their analysis

The research was conducted with the inclusion of four cases, one per country. They were selected considering the centrality of the technological initiatives for developing the specific public policy on which they seek to have impact, and they should be evaluated in terms of the particular national context surrounding them. Moreover, effort was made to guarantee diversity in the topics addressed (employment, social assistance, justice and health), as well as in the contexts and modes of implementation, as shall be seen.

6 Oxford Insights (2020) Government AI Readiness Index, page 35. Recovered on February 13, 2021, from <https://www.oxfordinsights.com/government-ai-readiness-index-2020>

7 Jobin, A., Ienca, M., & Vayena, E. (2019). The global landscape of AI ethics guidelines. *Nature Machine Intelligence*, vol. 1 no. 9, 389–399. Recovered on February 22, 2021, from <https://www.nature.com/articles/s42256-019-0088-2.pdf>.

8 Rodrigues, R. (2020). Legal and human rights issues of AI: Gaps, challenges and vulnerabilities. *Journal of Responsible Technology*, 4. <https://doi.org/10.1016/j.jrt.2020.100005>

1.3.1 Brazil: National Employment System (Sistema Nacional de Empleo, SINE)

This is a project developed based on an agreement between the Brazilian government and the global technology firm Microsoft, to facilitate the reintegration of unemployed people in the labor market. It seeks to incorporate AI tools to generate profiles for unemployed workers, registered in the National Employment System (SINE), with the goal of presenting them with job offers and possibilities for personalized professional training, theoretically better suited to their needs for reinsertion in the job market.

Two contextual elements are important to keep in mind when evaluating this case. First, the size of the Brazilian workforce, which in 2020 was over 86 million people,⁹ presenting a highly significant potential universe of impact for the application. Moreover, one must consider the difficulties of internet access as a factor conditioning the program's possibility for success. According to data from the Brazilian Internet Steering Committee (Comitê Gestor da Internet no Brasil, CGI.br), in 2019 approximately 47 million people had no access to the internet, which means that nearly a quarter of the population lacked network access.

1.3.2 Chile: Child Alert System

This is a computerized system implemented as a pilot project in Chile, in the context of establishing a new institutional structure for child protection. Its objective is to estimate and predict the level of risk to children and adolescents of suffering any violation of their rights in the future, using analysis of data from various administrative sources. In practice, it generates a “risk index” that enables classification of cases by order of priority to help the government stay a step ahead and intervene preventively. Furthermore, the system has been set up as a platform for registration, management and monitoring of cases of children and adolescents identified as being at high risk.

Of the country's 17.5 million inhabitants, the population under 18—the applicable age for consideration by the system—is just over 25% of the total, defining a potential program target population of just over 4.2 million children/adolescents. According to UNICEF data,¹⁰ nearly 23% of the child and adolescent population in Chile—more than 907,000 people—live in a situation of multidimensional poverty. This point is relevant since the socioeconomic situation of the children/adolescents' homes can affect the violation of their rights.

1.3.3 Colombia: PretorIA

This is a project of the Colombian Constitutional Court whose aim is to aid in the process of selecting cases for legal protection of fundamental rights (tutela), which fall under the Court's jurisdiction. The system's goal is to classify or label the tutela sentences based on previously defined and codified categories. As a result, it presents information on summary sheets indicating the presence or absence of the categories in a text. It facilitates the preparation of statistics and the identification of recurring themes in its legal decisions, as tools for decision-making.

A pertinent element for evaluating the PretorIA case is the sustained increase in the quantity of tutela requests submitted to the Constitutional Court. In the period from 2009 to 2019, these requests grew from 370,000 to 620,000, which demonstrates the existing overload in processing tutela requests received by the court.

9 Assessment prepared by the Central Intelligence Agency, recovered on February 11, 2021 from <https://www.cia.gov/the-world-factbook/countries/brazil/#economy>

10 Information recovered on February 11, 2021, from <https://www.unicef.org/chile/media/3371/file/Infancia%20en%20cifras.pdf> (in Spanish)

1.3.4 Uruguay: Coronavirus UY

Coronavirus UY is a free mobile app, made available by the Uruguayan Ministry of Health, that makes it possible to monitor symptoms related to COVID-19 and receive care from health professionals using telemedicine functionality; to identify contact with people who come to be infected with COVID-19; and to provide access to information on the evolution of the pandemic in Uruguay. Since June 15, 2020, it has incorporated Google and Apple Application Programming Interface (API) for contact tracing using Bluetooth low energy.

In the Uruguayan case it is interesting to observe the implementation of this initiative in a context of relative regulatory and institutional maturity as regards digitalization of the public sector. The country is recognized in the region not only as a leader in electronic government initiatives, but also as one of those with the most advanced personal data protection standards. It is necessary to add that Uruguay is one of the countries with the highest internet penetration among its population, being the only country considered in the study offering guaranteed universal access by household.

1.4 Development of the cases and methodological approach

The case studies were conducted by researchers residing in the countries under consideration, based on guidance and a standardized methodology made available by Derechos Digitales, which sought to identify:

1. The national context in which the system is implemented, including: statistics on the socio-demographic distribution of the population in the country (in terms of age, sex, urban/rural distribution, immigration), as well as on the penetration of information technologies.
2. The regulatory and institutional context for implementation, including: the existing regulatory framework and its interpretation, as well as the existence of supervisory institutions and self-regulation agreements.
3. The data infrastructure involved, including: details on the application analyzed (stage of development, institutions involved, etc.) and specific information on the data used (source, mode and legal basis for obtaining personal information, representativity of the data in relation to the country's socio-demographic distribution, variables considered, mechanisms for transparency and accountability related to data collection and processing, etc.)
4. The decision-making process behind the implementation, including: the institutions involved in diagnosing the problem, the projected timeframes for design and development, the instances of citizen participation in decision-making, how technical evaluation of the system is handled, the role of international cooperation and cooperation with private agents in the design and implementation of the system.
5. The technological design, including: the origin of the system adopted, considerations surrounding impact on human rights, how analysis of the solution's efficiency will be conducted, auditing and mechanisms for transparency, review and correction.

The survey of information was developed during the second half of 2020.¹¹ Due to the context of the pandemic, much of the investigation focused on secondary documents, giving special attention to the review of public documents, academic publications, press releases and requests for information submitted to government

¹¹ A detailed analysis of the different aspects of each implementation may be found in each of the country-specific reports, available at <https://ia.derechosdigitales.org>.

agencies. This kind of approach was preferable in a context where the possibility of in-person meetings to conduct interviews was practically impossible. In some cases interviews were conducted remotely.

An important element to keep in mind, which can be seen in each of the country reports, relates to the level of implementation of the programs and policies analyzed, as well as the accessibility of public information on each of them. Claiming that the initiatives were not fully deployed, on more than one occasion the authority responsible for a technological system's implementation restricted or limited access to information about it, either because the information was unavailable or for considerations connected to the stage of development of the cases. These questions will be primarily addressed in the fourth chapter of this report.

Chapter 2: Characterization of the cases under consideration

The goal of this chapter is to provide a comprehensive look at the initiatives under consideration, proposing to evaluate the differences and similarities in design of the technological system, the institutional context facilitating it and its connection to private agents, its stage of development and the regulatory environment surrounding implementation of these technologically mediated public policies.

We want to understand how coordination leading to the assessment, design and execution of the initiatives behind the cases under consideration occurs between public and private agents. These coordination efforts must be understood within the legal and institutional framework existing in each country. This is important because, as Chlebna and Simmie have argued,¹² the different institutional assemblies at regional and national levels, and their co-evolution with technological change, is one of the basic reasons for why new technologies enjoy greater support in some countries than in others.

On the other hand, we have to consider the way in which these technological systems interrelate in the face of problems that go beyond merely technical solutions. We thus discuss the way in which a solution to a public problem is articulated, creating a socio-technological network that includes human and non-human agents, in a specific historical and institutional context. Addressing these considerations from the very conception of the technological system is essential, especially when it comes time to develop the assessment justifying it since, as Aizenber and van den Hoven point out: “Engineering solutions to complex socio-ethical problems, such as discrimination, are often developed without a nuanced empirical study of the societal context surrounding the technology, including the needs and values of affected stakeholders.”¹³

Finally, the role that private agents may play in setting up these solutions is of utmost importance, since it implies a differentiated agency by one sector of society in the resolution of problems of a public nature. In this regard, in 2019 the AI Now Institute included among its emerging concerns a growing privatization of public infrastructure through technological automation processes.¹⁴ When it comes to designing the different implementations, we can think of the privatization of public administration itself, and we consider such measures to be highly relevant for evaluating these developments in the region.

2.1 Institutional design behind the technological system

One of the central aspects in evaluating these initiatives relates to who develops it and how the link to the public institutional structure is established. In this area, it is critical to highlight that most of the initiatives analyzed arose as proposals by private organizations of different kinds, which were then adopted by the government agents in charge of the related public policies. Later it will be key to situate this development in

12 Chlebna, C. and Simmie, J. (2018) New technological path creation and the role of institutions in different geo-political spaces, *European Planning Studies*, 26:5, 969-987, DOI:10.1080/09654313.2018.1441380

13 Aizenberg E. and van den Hoven J. Designing for human rights in AI. *Big Data & Society*. July 2020. Pages 1-2 DOI:10.1177/2053951720949566

14 Crawford Kate, Roel Dobbe, Theodora Dryer, Genevieve Fried, Ben Green, Elizabeth Kaziunas, Amba Kak, Varoon Mathur, Erin McElroy, Andrea Nill Sánchez, Deborah Raji, Joy Lisi Rankin, Rashida Richardson, Jason Schultz, Sarah Myers West, and Meredith Whittaker. AI Now 2019 Report. New York: AI Now Institute, 2019, Pages 36 and following https://ainowinstitute.org/AI_Now_2019_Report.html.

the institutional and regulatory context of the countries under consideration, which reveals different levels of institutional preparation not only for the implementation of these kinds of technological solutions, but also for establishing criteria to guide subsequent public-private interactions.

The Brazilian case is the most explicit in creating a link between a global private company and addressing a public issue; it provides some clues to the interests that such agents may have in establishing this type of agreement, even when it does not involve immediate economic benefit. The agreement signed between Microsoft and the Brazilian government proposes to update the National Employment System (SINE) by including artificial intelligence technologies that would make it possible, after candidates register with SINE, to link them to job listings. Accordingly, it is relevant to observe that while the agreement with the company was signed in late 2020, Microsoft had been involved since 2019 in a “proof of concept” for the use of AI in workforce intermediation based on the SINE database in some cities.

An important aspect of the coordination between the Ministry of Economy and Microsoft relates to the limits of the partnership established: while on the one hand care is taken to indicate that the company is not the guarantor of the activities undertaken—thus signaling a potential evasion of responsibility—some official documents related to the initiative mention the possible integration of data on the most in-demand skills and the most common job opportunities in a statistical tool owned by Microsoft known as LinkedIn Economic Graph to facilitate analysis of local needs and market qualification. While no specific mention is made of this issue in the agreement that was ultimately signed, the comment indicates that access to SINE information could be valuable for the development of Microsoft’s businesses,¹⁵ although the model as configured assumes private financing of the initiative; in other words, the Government contributes no financial resources to the initiative, whose execution remains the responsibility of the Ministry of Economy.

The development of the Child Alert System (Sistema Alerta Niñez), in the Chilean case, concerns a partnership between a private Chilean university and another institution of higher learning from New Zealand, who are coordinating the agreement with the new institutional structure for protecting children. In this case, the way implementation of the system began as a pilot project, still lacking the full institutional structure to back it, is important. This has led to clear difficulties where tracing the decision-making criteria used in implementing the system is concerned. In fact, there are two public agencies involved in the system’s implementation: the Undersecretary of Social Evaluation and the Undersecretary for Children, the latter based on the initiative’s funding, via a competitive procurement process that included only one bidder.

For its part, the development of PretorIA in Colombia cannot be understood without background knowledge of how the Prometea system was implemented in Argentina’s legal system. Prometea, developed by the Artificial Intelligence Laboratory (Laboratorio de Inteligencia Artificial) of the Universidad de Buenos Aires (IALAB), is a direct precedent to the implementation of PretorIA, a precedent which, as shall be seen below, is also revisited in development of the solution applied in the Colombian case. Thus, we again see a link between institutions of higher education—the Universidad del Rosario in Colombia and the Universidad de Buenos Aires—in which the Constitutional Court also participates as the system is developed. As in the case from Brazil, funding for the initiative is private, although it is coordinated based on the Transformational Leadership Alliance for the Justice Sector [la Alianza Liderazgo Transformacional por el Sector Justicia] (managed out of the Universidad del Rosario), which received support from various private organizations and companies in the country. The model therefore involves public power, the academy and the private sector in the system’s design and implementation. It is interesting to highlight how, since the Court does

15 More than the possibility of developing new business, the processing of data obtained from the agreement with the Brazilian Ministry of Economy represents a way of transferring government intelligence to the private sector, and from the South to the Global North, facilitating the deepening of geopolitical inequities as well.

not have its own funds, implementation of the system had to be conducted via a funding process external to the Court itself.

In the Uruguayan case, the appearance of Coronavirus UY is shaped based on public-private partnerships, for both development and funding of the initiative. In this case it is interesting to see how the application's development is understood in the specific context of health care provision existing in the country, where the government plays a fundamental role through an Integrated Health System, as well as the integration of the health system with the Agency for the Development of Electronic Government and Information Society and Knowledge (Agencia de Gobierno Electrónico y Sociedad de la Información y del Conocimiento, AGESIC). On the other hand, development of the application itself was undertaken *pro bono* by various private actors, among whom the GeneXus company stands out, without a public request for proposals for its development.

Thus we can observe that, for all the initiatives implemented, companies and partnerships among private actors—such as the partnerships between universities in the Chilean and Colombian cases—are a central component of their design and development. The distinguishing features are primarily related to the source of funding for each and the way in which the technological solutions are incorporated in each country's existing institutional structure. The latter point is an issue because each is different due to the level of development of the very institutions responsible for the technological implementation—which in the Chilean case entails establishing them in parallel with the system—as well as in the way each initiative is connected to various government agencies.

Nonetheless, regardless of the institutional framework that surrounds or should surround each initiative (in terms of the exercise of public powers), or if these are considered necessary for the functioning of each initiative, the presence of private actors is a significant common denominator.

Finally, it should be mentioned that the analyzed initiatives were developed based on direct interactions and are primarily funded privately (and, therefore, apart from the government budget), a fact that means other branches of public administration or legislative power, responsible for approving the government budget, are not involved in their development either. The interventions thus seem to be one-off and limited by design. This characteristic complicates the mapping of implementation of similar systems by civil society and academic organizations, since the possibilities for interaction among private agents and different entities or agencies—and, in the case of Brazil, at different levels of management—are very broad, and the agreements established are not centralized under a specific State agency.

At any rate, the absence of financial investment by the government does not mean that there are no other kinds of support, which can range from infrastructure and human resources for implementation to access to public databases. The latter can represent a valuable economic resource for addressing established institutional arrangements, as becomes clear in the case of Brazil and the potential transfer of intelligence to Microsoft, as mentioned above.¹⁶ The model is not new: Zuboff, in developing the concept of surveillance capitalism, sees how the strategies for primitive accumulation of data by technology firms include access to corporate or government databases.¹⁷

16 Various authors even recognize the existence of an economy based on the collection and mining of data. See, for example: Zuboff, S. (2018) "Big Other: capitalismo de vigilancia e perspectivas para uma civilizando de informando" in Bruno, F. et al. (2018) *Tecnopolíticas da vigilância: Perspectivas da margem*. São Paulo, Boitempo.

17 Zuboff, S. (2019). *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*. Nueva York: PublicAffairs.

2.2 Regulatory and institutional context

As might be expected, all the technological implementations considered have been affected by the regulatory and institutional context existing in each country of implementation. Here we would like to summarize which aspects of the local legal framework can be significant when evaluating the way the systems in question were incorporated.

In the case of Brazil, the technological intermediation offered by Microsoft via the SINE system involves the automated handling of personal information, which means that Law 12.965/2014 (Civil Rights Framework for the Internet) and Law 13.709/2018 (Comprehensive Personal Data Act) provide the regulatory framework of greatest interest. Both laws set forth a series of rights pertinent to the case, including the need for express consent for processing personal data found in the Civil Rights Framework for the Internet and the possibility of human review of automated decisions, present in Article 20 of the Comprehensive Personal Data Act. However, this latter article was subject to veto in terms of the review being done by a natural person, opening up space for it to be done in an automated manner and with no application of human judgment. In terms of institutions, Brazil has a National Personal Data Authority that was recently incorporated, but it is characterized by serious limitations on its independence. In fact, it is one of the most militarized institutions of its kind in the world.¹⁸

In Chile, the implementation of the Child Alert system is associated with a new institutional structure for child protection, where its principal exponent is found in the Municipal Offices for Children, which function at the municipal level. The link between a new institutional structure and a new technological system is relevant here since feedback mechanisms between a technology that is in the testing stage and a newly installed institutional structure are not contemplated. This is especially significant when it comes to understanding the place of technological solutions in the process of establishing a new public policy. From a regulatory perspective, data handling meets the consent requirements set forth in Law 19.628, on Privacy Protection. However, the consent describes the processing of data needed for targeting services, without making explicit the system-specific creation of predictive ranking or indicators.

The PretorIA case is understood in the context of a process modernizing legal processes in the face of an increase in review requests received by the Constitutional Court. Accordingly, its scope of execution is limited to the process of selecting briefs, following Colombia's established judicial review procedures. Due to the foregoing, the impact that its implementation could generate is likewise limited to that process and, with the information currently available, does not imply any potential impact on subjective rights.

The emergence of Coronavirus UY cannot be explained absent the COVID-19 pandemic which began in 2020. It is thus understood as a reactive development which, nonetheless, manages to be situated in a context particularly conducive to its implementation: the existence of universal public health insurance and prior processes of technological implementation in the area of health in Uruguay, including the National Electronic Medical History and telemedicine. Furthermore, in the Uruguayan case we must take into account that we are dealing with a country seen as a model in terms of electronic government, which means that several public administration procedures are digital and that there are personal data protection regulations

18 See: ZANATTA, Rafael; SANTOS, Bruna; CUNHA, Brenda; SALIBA, Pedro; GOULART DE ANDRADE, Eduardo. Perfil das Autoridades de Proteção de Dados Pessoais: civis ou militares?. São Paulo: Associando Data Privacy Brasil de Pesquisa, 2020. Available at: <https://www.observatorioprivacidade.com.br/wp-content/uploads/2020/10/Perfil-de-Autoridades-de-Prote%3a7%3a3o-de-Dados.-Data-Privacy-Brasil.pdf>

that are recognized internationally as a regional model since 2008: Law 18.331.¹⁹ As in Brazil and Colombia, Uruguay also has an authority responsible for the regulation and control of personal information.

It is interesting to note that, given the differences described above, the four countries considered in the case studies are signatories of the Recommendation of the Council on Artificial Intelligence, developed by the Committee on Digital Economy Policy of the Organisation for Economic Co-operation and Development (OECD).²⁰ The foregoing does not preclude that, currently, the level of institutional development for the protection of fundamental rights in each country is not only dissimilar, but also potentially in contradiction with the principles endorsed.

At any rate, it is interesting to highlight how two aspects commonly considered relevant for evaluating personal data protection—robust laws and a dedicated institutional structure—do not necessarily lead to successful coordination for the protection of the rights in question, as demonstrated by the Brazilian case in light of the presidential veto of human review of automated decision-making, or flexibility in terms of the need for consent for new data processing activities by the public sector, as shall be seen below.

2.3 State of implementation

The following briefly presents the level of development or implementation of the cases considered.

In the Brazilian case, changes to SINE began in early 2019, while the presentation of the agreement with Microsoft took place in October 2020. Currently the project is in its first phase of implementation.

For Chile, the process formally began with the launch of the bidding process for “Construction of the Child Alert Targeting Instrument” in September 2018; development of the instrument was completed in June 2019 and currently the system is in the execution stage of the pilot plan.

PretorIA was introduced in Colombia in November 2018 as a design test. Its final design is currently under review, and full deployment is expected during 2021.

In Uruguay, Coronavirus UY was developed and introduced in March 2020; it is currently being implemented in its fourth version, which has gone through various updates.

So it can be observed that, in general and with the exception of the Uruguayan case, institutional adjustments and designing or adapting the technological system take around one year, after which there may or may not be explicit periods of testing or piloting. Against that backdrop, several of these initiatives share a lengthy period of development or operational testing prior to full implementation, without necessarily being open to advocacy from different stakeholders during this development or testing period.

In fact, as is best illustrated by the Brazilian case, implementation directly follows concept testing, with no

19 In 2012, the European Commission recognized that legislation for data protection in Uruguay offered an adequate level of protection for personal data. See: Implementing Decision 2012/484/EU. Commission Implementing Decision of 21 August 2012 pursuant to Directive 95/46/EC of the European Parliament and of the Council on the adequate protection of personal data by the Eastern Republic of Uruguay with regard to automated processing of personal data [notified under document C(2012) 5704]. Available at: <https://eur-lex.europa.eu/legal-content/ES/TXT/?qid=1557085422448&uri=CELEX:32012D0484> (In Spanish) and <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32012D0484> (In English)

20 The document can be read at: <https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0449>

design for a participation process open to society or the conduct of impact studies. On the contrary, the period between the pilot and implementation is often used to adjust the institutional processes needed for formalizing contracts, which in the case of Colombia meant facilitating an appropriate funding mechanism, which was only possible with the involvement of new agents in implementation.

It is also concerning that the results obtained in the pilot stage are not necessarily decisive for defining the adoption or rejection of the system, instead being used to guide eventual adjustments. Furthermore, intermediate evaluations of success or failure in the proposed objectives are not necessarily based on a robust, well-known methodology nor are they submitted for public analysis to subsidize decision-making around implementation. The Brazilian case again offers an interesting example, since sources within the entity directly involved in the project report that the profiling feature had not yielded good results.

2.4 System design and implementation in the local context

One significant element in evaluating the relevance of the technological solutions deployed is related to whether these examples reflect ad hoc designs to address the situation encountered in the region's countries or if, on the contrary, they are adaptations of previously existing systems. This distinction is important, since it may provide evidence of a prior assessment that justifies the technological solution by having identified those aspects of the system that should be adapted to the national reality.

In the case of SINE, we would theoretically be looking at an original solution in the face of Brazil's reality. However, it's important to note that Microsoft has prior experience in designing "job matching" systems, like the one being implemented in Brazil. Data used by the system to link job seekers to job opportunities include the following elements: nationality, academic preparation, professional goals and municipalities of interest. Based on available information, the system sets up the possible match between the worker's profile and available job opportunities, to then guide the development of job interviews and, ultimately, record the opening as filled. Once the combination of a job offer and a candidate has been produced, the hiring company has access to the candidate's personal contact information (name, phone number and e-mail address). As can be seen, the mediation offered by the system developed by Microsoft uses different kinds of data, an issue that will be analyzed in greater detail further on (and which can be reviewed in depth in Chapter 4 of the corresponding case study).

In the Chilean case, the Child Alert System stems from an initiative developed at the Auckland University of Technology (AUT) in New Zealand, specifically via the AUT Ventures company, which is a branch of that institution, and the Adolfo Ibáñez University in Chile. It is interesting to note that while the New Zealand university is public, its Chilean counterpart is private. Thus, Child Alert can be understood as an adaptation of predictive risk modeling developed in New Zealand. However, in the local adaptation of the system, the bid that sealed the deal did not present any preventive tool, instead proposing resource targeting. That is, the translation and adaptation of the technical solution originally proposed entailed a change in the main objective, emphasizing the ability to target the use of public resources that adopting the system could imply.

At any rate, implementation of the system was conceived of as one more element in the decision-making process in the new Municipal Offices for Children. The data feeding the system come from a series of government information sources and administrative records, an issue that shall be discussed in terms of its implications in the following chapter (and which is addressed in Chapter 4 of the Chilean case study).

PretorIA, in Colombia, proposes to increase the efficiency of the process of selecting cases for protection of fundamental rights ("tutela") received by the Constitutional Court, using text analysis of the information contained in legal records. Accordingly, it is important to highlight that this selection process has traditionally been performed autonomously and at the discretion of the Constitutional Court, without the criteria

guiding the decisions necessarily being known publicly. One key element in the development of this case is related to the mode in which the system's functions were communicated. While in the beginning PretorIA was presented with functions similar to those of Prometea—the Argentinian system that includes predictive capabilities—it ended up being deployed in Colombia without such functions. It currently operates by automating the planning processes for cases presented to the Constitutional Court, based on previously established criteria. We thus have a case of adaptation with respect to the original, but which caused problems in the process of communicating to the public.

In the Uruguayan case, the first version of Coronavirus UY, launched in March 2020, involved a proprietary initiative, while the second version, from June 2020, includes a local adaptation of the contact traceability model developed by Apple and Google. The first version, which lacked the traceability model, was presented by the GeneXus company just two days after the first cases of COVID-19 appeared in Uruguay and led to the existence of a series of agreements between the company, the Ministry of Health and AGESIC. The agreements included the way in which citizen information would be processed in managing the technological solution.

Behind all this, it is possible to observe the influence of external elements and solutions in the design of local applications in each country. A central element, therefore, is the lack of national assessments justifying each proposed development prior to its implementation. On the contrary, a common aspect is that their implementation corresponds to contingent adaptations or a reactive decision responding to a proposal by private agents or others outside the government.

This could mean conditioning the assessment that would justify the deployment of each system, to the extent that the adaptation or implementation decision may come—at least in part—in response to a prior technological proposal, thus excluding the possibility of alternative developments to those proposals, by other local providers or the government itself, an element that stands out when considering that three of the cases involved from the start adapting initiatives developed in other contexts.

In addition, the above could influence whether or not the adaptation and installation processes for these systems include an appropriate adaptation to the local context, as found in the Colombian case, laying the groundwork for the appearance of conflicts of expectations with regard to the public communications issued. Or that, as in the Chilean case, the technical opportunities the system offers be reoriented toward targeting resources instead of anticipating or preventing risks.

Finally, as we have already mentioned, beyond any potential internal feedback among the agents involved in the initiatives, there seems to be little will among public agents to evaluate the relevance and need for the proposed technological solutions, even though the preliminary results may be unconvincing. In other words, the decision to adopt a technological system seems to be predefined with initial acceptance of the proposal, which would provide evidence of the limited capacity for evaluation and planning by public institutions in the installation of these systems.

Summary of Chapter 2

From the perspective of the institutional and implementation context of the systems considered, it is possible to note that the cases mainly respond to a proposal by private agents to the public apparatus, which does not necessarily entail an initial assessment by the government entities for implementing the system in question, nor a strategic plan for how to do so. Review of the brief history of implementation of the four systems analyzed seems to point, moreover, to there being scant leeway for an initiative to be interrupted, despite a lack of evidence of its effectiveness. To this we add the absence, in most cases, of adequate regulatory frameworks or strong supervisory institutions that would seek to establish minimum guarantees on the implementation of systems that seek automation, and which are based on intensive data processing.

Finally, the way in which the technological solutions are implemented depends on the existing institutional structure and the coordinating links among diverse public and private agents. The above is particularly relevant when we talk about both the moderation of existing plans (in the Brazilian and Colombian cases) and the installation of a new institutional structure (Chile) or the response to a contingency that resonates with a prior planning effort (as happened in Uruguay).

Chapter 3: The use of technologies in public administration and their impact on human rights

This chapter evaluates the potential effects of the technological solutions studied with respect to their potential impact on human rights, as well as how their implementation could affect the practice of public administration. Both categories are relevant, since they address the way in which, behind the design and deployment of a technological system, a series of values linked to the system are verified, as well as how these are integrated in the regular workflow of public officials.

It is important to note that the regulatory guidance that human rights offer must be “translated” and implemented based on the diverse ways of knowing that incorporate the existence of technological solutions into the practice of public administration. As Latonero mentions, “Since human rights principles were not written as technical specifications, human rights lawyers, policy makers, social scientists, computer scientists, and engineers should work together to operationalize human rights into business models, workflows, and product design.”²¹

The above implies that the success of this kind of initiative requires not only adequate assessment and design, but also the development of government infrastructure and experience for the application of technology.²² This includes the creation of technical support teams within the very structure of public administration that make oversight of the correct application of the systems possible, and developing capacity for their use among officials involved in the implementation of the proposed developments. As a result—and having addressed the need to conduct follow up of both the technologies themselves and the public policies that make use of them—any agreements reached between governments and the institutions that have been engaged with the technology or in its development should be periodically examined, taking into account maintenance as just one of the aspects associated with the need to evaluate the systems’ operation.

3.1 The role of consent in the handling of personal information by public authorities

A central element of this investigation is the way in which the technological applications considered could affect the exercise of fundamental rights in their specific implementation contexts. In particular and considering that three of the four initiatives involve the direct handling and processing of personal information,²³ special emphasis will be placed on the safeguards considered by the initiatives in that area.

In the Brazilian case, the lack of explicit, targeted informed consent for processing personal information by SINE is significant, because there is an exception in the Brazilian regulations when the execution of public policies requires the processing of data. Although theoretically the law prohibits the State from transferring

21 Latonero, Mark (2019). *Governing Artificial Intelligence: Upholding Human Rights and Human Dignity*. Data & Society. Page 25. Available at: <https://datasociety.net/library/governing-artificial-intelligence/>

22 This is one of the recommendations given in a recent study in the region; for more information see Ortiz Freuler, J. and Iglesias, C. (2018). *Algoritmos e Inteligencia Artificial en Latin America: Un Estudio de implementaciones por parte de Gobiernos en Argentina y Uruguay*, World Wide Web Foundation. Available at: https://webfoundation.org/docs/2018/09/WF_AI-in-LA_Report_Spanish_Screen_AW.pdf (In Spanish) and <https://webfoundation.org/research/how-are-governments-in-latin-america-using-artificial-intelligence/> (in English)

23 Although according to currently available information PretorLA essentially does not gather or aggregate personal data in its operation, it is important to consider that the system processes a bundle of information extracted from judicial texts that could include the personal information for individuals involved in the cases.

personal information held in public databases to legal persons of private law, therefore including Microsoft, a series of exceptions makes such transfer possible in practice. In this specific case, from the perspective of current regulations, the existence of a cooperation agreement between the Ministry of Economy and Microsoft may be sufficient to legitimate the practice. Therefore, the scope given by Brazilian regulations for data processing for public policy purposes is important, even when the law safeguards the principles for protecting data held by public institutions.

In Chile, with regard to the Child Alert System, it is important to remember that informed consent is provided by the guardians of the children/adolescents when the former are contacted by the Municipal Offices for Children case manager. However, the document makes no reference to the effective processing of information handled by the system, nor its potential implications in the configuration of rankings that guide government action. It is presumed that such processing would be required for targeting benefits, but at any rate, what such a procedure entails needs to be made explicit. This is important, keeping in mind that the target population for the public policy are children and adolescents, whose rights must be especially safeguarded, and particularly considering that Chile has ratified the UNICEF Convention on the Rights of the Child and its Third Optional Protocol, which allows children to file complaints directly with the UN Committee on the Rights of the Child when their rights are violated.

Regarding the PretorIA case in Colombia, in terms of a system oriented to contributing to human efforts in selecting tutela dockets, the processing of personal information corresponds to the process found in the ordinary jurisdictional function of the Constitutional Court. The installation of PretorIA would not entail a significant change in the Court's procedures, which means that, at this stage of the review process, personal information would not be relevant to the selection of cases. Thus, and with the information available to date on the model to be applied, it would not be possible to infer any impact on subjective rights as a result of the system's operation.

In the Uruguayan case, Coronavirus UY is an application enabling the centralization of services and related information with epidemiological relevance. National authorities state that the application's database is registered with the personal data protection authority, under the name of the Ministry of Public Health (MSP). The application requires free, specific, informed and unambiguous consent from users for its functioning. However, there are several hypotheses around data transmission contemplated in Uruguayan regulations that allow access by other government agencies or private entities without the need for consent. These include, for example, the transfer of personal health information for public health, emergency or epidemiological study purposes once it has been separated to protect the identity of the owners. Likewise, the data protection law authorizes the use of anonymized data for statistical purposes. Furthermore, under the public health emergency, Ruling No. 2/020 authorizes the processing of health data related to the pandemic with no prior informed consent. Information provided by the GeneXus company, in charge of developing the application, indicates that the system is interoperable with "all government systems."²⁴

Emphasizing the way in which technological solutions address the problem of personal information and its handling can give us a better idea of how national institutional structures operate in the countries considered in this study. It is especially concerning that special powers may be set up regarding processing of personal data for the implementation of public policies, when the implementation of that policy is mediated by private agents, as in the Brazilian case. Likewise, the lack of transparency in the design and execution of these systems—which will be analyzed in detail in the following chapter—seems to be shown in the manner in which consent is configured for the application of systems like Child Alert. The approach to handling

24 Source: GeneXus, 2020, https://genexus.blog/es_ES/general-interest/aplicacion-coronavirus-uy-detras-de-la-pantalla/ (In Spanish)

personal information is different in the Uruguayan case, where the integration of data protection regulations is successfully verified by the existence of an agency activating the safeguarding of civil rights. Even so, it must be pointed out that there is a relatively wide margin for the sharing of data—including sensitive data, such as information related to health—between public agencies and private entities.

Although that margin could be shown to be necessary for the implementation of public policies, particularly in the context of the pandemic, the role of a national data protection authority is critical for guaranteeing that data sharing takes place within the standards established by law. Therein lie the main challenges in the Brazilian and Chilean cases, considering that both countries lack an independent, functional institutional structure for monitoring this kind of transaction. To the above we can add the absence of prior studies on the impact on human rights from the initiatives analyzed.

3.2 Potential impact on human rights

In contexts like the ones presented, the implementation of technological solutions for the practice of public administration is shaped largely by a logic of institutional reactivity, whether to decisive contingencies (such as the COVID-19 pandemic) or to proposals from private agents. It thus becomes important to evaluate how these kinds of technological solutions can eventually affect the way in which public policies are executed, safeguard fundamental rights and involve citizens in the exercise of government operations.

In this regard, the SINE case is particularly interesting. The system involves a transition from human intermediation²⁵ to a largely algorithmic basis for assigning job openings, as well as a change in the criteria for listing jobs, due to which the direct effect of including technology is clear in terms of its role in administration of public policy. Moreover, the operation of these tools enables the development of profiles to aid in assigning openings; these calculations could eventually restrict job opportunities to certain populations, whether due to the poor quality of available data or the replication of human biases, without being easily recognized by the different parties involved.²⁶ Even more problematic is that these kinds of processes are used by one of the so-called Big Tech companies, which is playing a role as broker in the biggest job market in the region and in a regulatory context that, for now, makes the right to human review of algorithmic decision-making impossible. Thus, the algorithmic intermediation enabled by Microsoft increases the imbalance in terms of information and capacity for decision-making by citizens, considering that there is no clarity surrounding the technical specifications of the model implemented, nor on how it was trained.

In the Chilean case, it is essential to clarify some points regarding the “false positives” that the Child Alert System may issue. Given that the system draws on data from different government and administrative sources (Vital Statistics, the Ministry of Education, the “Chile Crece Contigo” [Chile Grows with You] program, etc.), it can replicate biases inherent to those sources. This is particularly relevant in the possibility for overestimation associated with databases that mainly contain information for people who have already

25 Although SINE has had since at least 2010 an electronic system for accessing possible job openings, the supply was primarily based on a list of pre-defined occupations, which is now proposed to be replaced by criteria generated based on a profile analysis mediated by AI.

26 Systems intended to automate the selection of individuals in the private sector have shown biases in hiring, for example discriminating against women candidates. See, for example, the case of the tool used at Amazon: <https://www.businessinsider.com/amazon-built-ai-to-hire-people-discriminated-against-women-2018-10>. The situation is particularly illuminating regarding the difficulties involved in identifying and solving potential biases in this kind of system. In the case of solutions involving a diverse collection of agents, this could be even more complex.

been subject to public policy interventions in the past, which could affect positioning in the ranking of children and adolescents from disadvantaged socioeconomic sectors and increase the stigmatization to which they may be subject.²⁷ At the same time, this could lead to overlooking possible violations of children's and adolescents' rights in sectors with higher incomes, which are in no way exempt from risk. Finally, there are differences in the number of variables included in the predictive model focused on the mothers of the children/adolescents compared to the variables included on the fathers. This could be explained by how the public policies that feed the predictive model, such as the "Chile crece contigo" program (targeted to accompanying newborns and infants), gather less information on fathers than on mothers, which does not eliminate the need to have better public data. The representation made by the predictive model of the reality in Chile has wide margin for improvement, especially when it comes to integrating field work done by the Municipal Offices for Children.

In the Colombian case, and as long as the process for reviewing cases soliciting protection of fundamental rights is discretionary on the part of the Constitutional Court, the implementation of PretorIA, in its current state of development, could potentially lead to a greater level of citizen knowledge of the Court's role. According to announcements, PretorIA would make public the criteria used in reviewing the cases. In this case, the installation of a technological system entails setting up ahead of time the question by which the process will be guided. This does not eliminate the need to accompany and evaluate possible new ways rights could be affected, for example based on biases in the selection of cases as a result of the algorithmic mediation. The potential to know the criteria used in reviewing the cases and the results of their processing would make it possible to systematically address that question in the future.

In the case of Coronavirus UY, while it is a design adapted to respond to a contingent need, it seems better to situate it within the existing institutional ecosystem in Uruguay. However, there are contextual elements that could affect the system's objectives: not only are downloading and using the application voluntary, but also, even considering the country's universal internet access plans, there are technical requirements—related to the version of the operating system on mobile phones—for full application functionality. That is, citizens are required not only to be able to access the network from a smartphone, and to be willing to download and use the application, but they must also verify updates to the software on their personal devices.

This is joined by issues such as how using the application impacts phone battery performance, among other criticisms that have been left by users in app stores. Thus, it is important to understand the success of solutions like that proposed by Coronavirus UY based on an appreciation allowing for the inclusion of daily use experience. In addition, the contact tracing system's effectiveness (later renamed "exposure alert" in the case of the Apple and Google protocol), requires achieving a high level of population penetration: as shown by different studies, for these technologies to have a significant impact in the public health strategy

27 In this regard, it is important to circle back to the reflections developed based on predictive police analysis systems and their potential for reinforcing stigmatization of and social stereotypes regarding certain groups and locations, once their use led to a certain kind of government intervention. For more information see Brayne, S. (2020) *Predict and surveil*. New York: Oxford University Press. Page 268 and following.

requires adoption by between 40% and 60% of the population,²⁸ even when lower rates would be helpful in cases where they are applied together with other, more traditional strategies.²⁹

As of December 2020, around 17% of the population was using the application, which leads to questions about the effectiveness of its use, both for programming individual protection measures in case of exposure and from the perspective of developing public policies based on the information gathered. Accordingly, the possibility that use is concentrated in the higher-income social strata is of particular concern, due to the system and device requirements mentioned above; it therefore may offer biased data that will be used to guide government action.

As can be seen, the implementation of technological solutions in public policies must be evaluated depending on the type of system proposed and its role in the process of executing the intervention the policy operates. Certainly, what is happening with Pretoria, as a system operating in the context of a limited process, is not the same as what could happen with Coronavirus UY, which requires citizens' active interface with the device and whose effectiveness is tightly bound to mass adoption of the technological solution. However, the critical considerations that have been noted regarding the Brazilian case seem to be applicable to all the cases: it is essential to consider the role and interference of private entities in the practice of public administration, especially for evaluating if they are managing to prepare citizens for the free exercise of their rights, as the efficient deployment of government action is being benefitted. In the cases analyzed, it is not clear that this is happening, which makes future evaluation of the implementation of these technological systems necessary.

28 Luca Ferretti, Chris Wymant, Michelle Kendall, Lele Zhao, Anel Nurtay, Lucie Abeler-Dörner, Michael Parker, David Bonsall, Christophe Fraser, Quantifying SARS-CoV-2 transmission suggests epidemic control with digital contact tracing, *Science* 08, May 2020, available at: <<https://science.sciencemag.org/content/early/2020/03/30/science.abb6936/tab-pdf>>

29 Patrick Howell O'Neill, No, coronavirus apps don't need 60% adoption to be effective, *MIT Technology Review*, June 5, 2020, available at: <<https://www.technologyreview.com/2020/06/05/1002775/covid-apps-effective-at-less-than-60-percent-download/>>

Summary of Chapter 3

For the Brazilian and Chilean cases, the handling and processing of personal information is key, as these are undertaken by the government institutional structure to execute public policies in the absence of clear limits and regulatory guarantees. In Brazil, informed consent is not required for reusing data gathered under the scope of SINE, even though this could mean processing by new, private agents; while in Chile, consent is not appropriately explicit regarding the effective processing of information from children and adolescents. In Uruguay, successful institutional coordination between the regulations and the data protection agency would allow better safeguarding of fundamental rights, although the context of the public health emergency implies a series of exceptions with regard to the need for consent.

The need for consent increases in relevance given the potential impact that the algorithmic intervention entails on the exercise of rights by the people affected. Again, the cases of Brazil and Chile are of particular concern, once the system can enable the automation of unequal treatment by the government and, as a result, lead to greater exposure to processes of stigmatization and discrimination.

Chapter 4: Transparency, citizen engagement and evaluation of the initiatives implemented

This chapter presents analysis of the cases in terms of any public participation mechanisms considered for their design and evaluation, the transparency policies of the cases studies and mechanisms for evaluation and auditing. It is important to evaluate these elements separately, mainly because the ability of public machinery to be accountable to citizens for these kinds of implementation is essential for setting up public policies that can be considered legitimate by different stake holding communities and sectors.

Both citizen participation and mechanisms for evaluating the initiatives respond to an orientation for building trust around the execution of public policies, an issue that is critical for complex technological systems. As highlighted by the European Commission: “it is important to build AI systems that are worthy of trust, since human beings will only be able to confidently and fully reap its benefits when the technology, including the processes and people behind the technology, are trustworthy.”³⁰

The above is particularly significant in a context in which the technological systems are presented as highly complex and difficult for laypersons to understand. For Cath, “the cultural logic of the ‘complicated inscrutable’ technology is often used to justify the close involvement of the AI industry in policy-making and regulation. Generally, the industry players involved in these policy processes represent the same select group that is leading the business of online marketing and data collection. This is not a coincidence.”³¹ Thus, efforts to build social trust in the application of technologies for public administration can be affected by the existence of interests created to favor inscrutability, both of the systems themselves and of their role in the decision-making process for executing public policies.

Because it involves systems with the potential to affect fundamental rights and how operation in the public sphere can lead to discriminatory practices or decisions of different types, access to information on their implementation and on the justifications leading to their adoption is, in itself, a right. The right of access to information, set out in the Inter-American Human Rights System as an integral part of the right to freedom of expression, is recognized, guaranteed and regulated in the four countries analyzed, with obligations for proactively providing information, or “active transparency,” and obligations to respond to requests for access to information by citizens, or “passive transparency,” with limited grounds for justifying the denial of delivering information.

On the other hand, there is considerable evidence regarding the importance of processes for the participation of citizens and stakeholders in the design and assessment of technologically mediated public programs and

30 Patrick Howell O’Neill, No, coronavirus apps don’t need 60% adoption to be effective, MIT Technology Review, June 5, 2020, available at: <https://www.technologyreview.com/2020/06/05/1002775/covid-apps-effective-at-less-than-60-percent-download/>

31 Cath, C. (2018). Governing artificial intelligence: ethical, legal and technical opportunities and challenges. *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, n. 376(2133). Web. <http://doi.org/10.1098/rsta.2018.0080>

policies.³² Furthermore, there are reported cases of successful citizen participation experiences mediated by technology in the region,³³ which could be pertinent when considering mechanisms that facilitate citizens' critical engagement with the proposed interventions.

4.1 Transparency and citizen engagement

Consideration of compliance with transparency and citizen participation actions allows us to focus on the way in which the design of policies that include AI technologies takes responsibility for including citizens and civil society as an agent with critical capacity over the practice of public administration. A characteristic common to the cases evaluated is the relative opacity of the implementations and a low level of public engagement in designing the solutions.

In the case of SINE, and in the context of developing the digital transformation plan that led to the SINE+Microsoft agreement in Brazil, an investigation was conducted with system users. The survey invited 80 people, including workers, company representatives and SINE professionals, and is configured as the only instance of citizen engagement in the initiative's development. The existence of a deliberative council with citizen participation—alongside members of government and businesses—capable of exercising social control over the handling of resources designated for policies to aid in and fight unemployment, is noteworthy. This council was not consulted on the implementation of the agreement with Microsoft, but in 2019 union representatives protested against an initiative that involved making information on workers open to the private sector.³⁴ Aiming for the policy's active transparency, a main instance is set up: periodic reports on the initiative's impact on public policy regarding workforce intermediation, specifying neither the criteria for evaluating these reports nor their periodicity. Regarding the passive transparency mechanisms considered, Brazilian regulations contemplate the right to explanation of automated decision-making.³⁵

For the Chilean case, during the development of the tender that led to the Child Alert System, the only consultation mechanism found was the interview of five experts in data handling and child protection. No active transparency mechanisms regarding implementation of the policy are contemplated, and the Chilean legal system does not include the right to explanation regarding decision-making via automated mechanisms. The current state of system implementation, classified as "pilot" phase since March 2019, has

32 See more at Van Zoonen, L. (2016). Privacy concern in smart cities. *Government Information Quarterly*. Available at: <http://dx.doi.org/10.1016/j.giq.2016.06.004> and Bolívar, M. (2018), "Creative citizenship: the new wave for collaborative environments in smart cities", *Academia Revista Latinoamericana de Administración*, Vol. 31 No. 1, pp. 277-302. Available at: <https://doi.org/10.1108/ARLA-04-2017-0133>

33 Bermeo Andrade, Helga, González-Bañales, Dora Luz, Hernández Umaña, Iván, & Calderón Pinedo, Mónica. (2018). Participación ciudadana a través de las TIC en el diseño de política pública en Colombia. *Cuadernos de Administración (Universidad del Valle)*, 34(60), 3-17. <https://www.redalyc.org/journal/2250/225057030002/>

34 See: http://portalfat.mte.gov.br/wp-content/uploads/2019/05/Ata-152%C2%AA-RO-CODEFAT_26.03.2019.pdf (In Portuguese)

35 The right to explanation refers to the possibility of the holder of personal data to request information on the criteria and procedures applied in automated decision-making. Although it is not part of the European Union General Data Protection Regulation, it has been widely discussed in that context. See: Selbst, A. Powles, J., (2017), Meaningful information and the right to explanation, *International Data Privacy Law*, vol. 7, N° 4, pp. 233-242, <https://doi.org/10.1093/idpl/ix022>.

likewise been used by the authority responsible to justify the low level of publicly available information on the initiative.

In the Colombian case, the process leading to the deliberation in review of the cases by the Constitutional Court is currently classified as confidential. However, it can be argued that the process of implementing PretorIA has led to the development of practices favoring access to information on the process of selecting tutela dockets, particularly through making the record of selection hearings available on a YouTube channel. At any rate, the project lacks major active transparency initiatives beyond those mentioned during its implementation.

For the Uruguayan case, active instances of citizen engagement were not contemplated in the development of the Coronavirus UY application. However, it is necessary to note that the application's source code is available to citizens via direct request to AGESIC. According to the Ministry of Public Health, the opening of the source code is intended to provide transparency and offer guarantees to the population on the handling of data gathered by the application.³⁶ Moreover, it is important to add that Uruguayan regulations include the right to challenge personal assessments with legal implications that may have been produced using automated data processing.

A broad review of the four cases considered in this respect indicates a clear shortcoming in the inclusion of citizen debate and engagement processes, pertaining not only to the design of the public policy but also to the testing and improvement of the technological systems considered. Likewise, it is possible to confirm deficiencies regarding the active transparency of the initiatives, an issue that goes beyond the existence of proprietary codes (as in the cases of SINE and Child Alert) or of their eventual disclosure, and which directly relate to the low availability of information on the execution status and format of the cases. This is information that, for most of the initiatives studied, could only be obtained via formal public information requests, i.e. passive transparency mechanisms; and even then, these were discovered to be limited in some cases, such as the Chilean, on the grounds that they did not have the required information. This shows that while the right of access to information may be formally recognized in the different countries, there are still important challenges in its implementation. On the other hand, in the Brazilian case the existence of the right to explanation stands out in the data protection regulations as a positive trend in the region. Even so, considering that it involves a recently implemented law and with a guarantee authority that faces serious challenges, it will remain to be seen over time how that right is made effective in practice.

4.2 Evaluation and auditing of the initiatives

A central component for critical evaluation of the performance of these initiatives is the existence of formal evaluation bodies, as well as auditing processes that facilitate accountability for potential errors in the operation of the technological systems.

In the Brazilian case, it is essential to remember the implications of the presidential veto of the right to review automated decisions, which had been contemplated in the Comprehensive Law on Data Protection. Following application of the veto, the effects of review are limited, making exercise of the right in question difficult. The same regulations include considerations for reparations to victims of errors made by automated systems and also contemplate the possibility of establishing reparation actions for collective damages. This element could be significant, for example, in a case of discriminatory handling of the information used by the system in its operation. In regards specifically to the system implemented with SINE, it is necessary to

36 Source: Ministry of Public Health. 2020, <https://www.gub.uy/ministerio-salud-publica/politicas-y-gestion/informacion-sobre-aplicacion-coronavirus> (In Spanish)

add that there are no specific system audits included in the currently available work plan. The agency responsible for its implementation has explained that the audits applied to the public enterprise that maintains the system will also be applied to the SINE system. The work plan mentioned above also includes the preparation of periodic reports on the system's impact on the process of workforce intermediation, but there are no details on to whom the reports are oriented, their periodicity or active publication.

In the case of Child Alert, the implementation of the system in Municipal Offices for Children was accompanied by a plan for evaluating the policy with participation from institutions such as the World Bank and the United Nations Development Programme. The results of these evaluation processes have not yet been disclosed. Additionally, and specifically as regards the technological systems in question, an algorithmic audit will be developed to evaluate possible biases in the configuration of the rankings issued by Child Alert. As with information on the program evaluation process, the audit results, the criteria by which the system will have been reviewed and the organization in charge of the evaluation are not yet known.

For PretorIA, there are no known evaluation processes at this stage of program implementation, as is the case with respect to auditing processes for reviewing the selection of tutela dockets. However, the Constitutional Court has sent notice that it will publish its source code as well as the tutorials and user manuals for the tool, which would create better conditions for external review. At any rate, as of now there are no formal commitments to that end.

Regarding the Coronavirus UY case, no programs are known yet for evaluating its successful functionality or processes for auditing the application's operations. It is important to highlight that, as mentioned earlier and in contrast to the other cases, access to the source code facilitates autonomous review of the system by civil society, as has been recognized by the Ministry of Public Health itself.³⁷

In light of these observations, it is possible to indicate that, as a shared characteristic, there are significant shortcomings in the design of the initiatives studied with respect to their mechanisms for evaluation and auditing. Some initiatives fail to even contemplate them, and in those cases where they are included, it is unknown what the evaluation's objectives, criteria, timeframes or managing organizations will be. It is necessary to encourage institutional design that includes evaluations and public audits starting with the implementation process, including in testing phases, to discover what the potential effective impact could be of deploying the public policy, as well as to identify improvements to guarantee better efficiency in responding to the issues that are proposed or the potential need for interruption due to inadequate achievement of its objectives.

Once again it becomes germane to remember that, although in the cases analyzed financial resources may have been primarily provided by agents external to the government, it is foolish to imagine that these programs represent no cost to public administration. Thus it is essential that they be able to undergo periodic evaluation processes, with results available to citizens, indicating not only whether any impact on fundamental rights or potential security breaches have been detected, but also whether they have proven effective for the goals they pursue. Otherwise, they should be subject to review of the relevance of maintaining them.

37 Source: Ministry of Public Health. 2020, <https://www.gub.uy/ministerio-salud-publica/politicas-y-gestion/informacion-sobre-aplicacion-coronavirus> (In Spanish)

Summary Chapter 4

In all the cases considered, a lack of systematic efforts to develop instances involving citizen engagement and the evaluation of diverse stakeholders has been documented. Likewise, the public information available on the programs considered is generally poor in quantity and quality in the absence of requests for information from authorities.

Similarly, the instances for evaluation and auditing of the implemented initiatives—where these exist—do not constitute a central aspect of them: they are not reported together with the original design, much less being subject to consultation.

Of all the dimensions of analysis considered, this is the one presenting the greatest space for developing the integration of mechanisms that lay the groundwork for the trustworthy application of technological systems in public administration.

Chapter 5: Final considerations and recommendations

The kind of technological systems considered, beyond the specific label applied to them, implies the inclusion of a new level of complexity in the practice of public administration—in this case a machine-like practice—that must be heard publicly. This not only stems from the principle of transparency in the practice of public administration but is also mainly due to the fact that the implementation of technologies like those analyzed here involves an orientation toward efficiency regarding public administration that must be proven in practice. Even if so proven, it can never serve as a justification for the violation of rights; on the contrary, public scrutiny is required to stay ahead of this violation, rather than face its consequences.

We are thus witnesses to a new mechanism that could widen the democratic legitimacy gap in the region, where active transparency procedures are often deficient and instances for citizen participation are not the norm. This additional layer of data processing entails a series of adaptation and training challenges for the government workers in charge of running these programs; in the analyzed cases there is a lack of deeper reflection on how to prepare these workers for their role with the inclusion of these kinds of systems. A lack of institutional preparation is visible at different levels with respect to the challenges involved in the inclusion of technologies like those considered here.

Institutional capacity in countries around the region can also be questioned with regards to the relative enthusiasm for adopting this kind of technology, as can be observed in the cases analyzed. Our observations on the existence of personal data protection regulations and of an independent monitoring authority with the necessary capacity for relevant supervision and safeguarding are particularly relevant here, notwithstanding the other hierarchical or political checks on the institutions running the systems. However, the institutional structure can likewise find itself questioned by contingent factors. In their absence, incapacity or lack of sufficient powers, the effective exercise of rights in the case of violations stemming from the intervention of systems implemented by the government depends on access to other mechanisms for justice by the affected populations, as well as the preparation of the different actors operating in the administrative and legal system to face the complexities found in this kind of situation. It is important to have counterbalancing mechanisms that guarantee the possibility of adequately exercising the rights positively assigned. This also makes the management of processes anticipating these risks particularly relevant: an evaluation of the impact on individual rights.

Initiatives such as those reviewed sound an important alarm regarding the scope and limits of informed consent for the use and processing of data by government institutions, where this consent is taken as the basis for the legitimacy of processing information using ever more advanced systems. Here it is important to safeguard the principle of the purpose and relevance of the information gathered, an issue that can potentially be questioned in terms of the way systems like Child Alert are configured. In contrast, recourse to imprecise legal figures for processing personal data would provide a formal lawfulness that may be inadequate for the effective protection of rights, or insufficient as a legitimate expression of democratic will on the margins of government action on personal information.

We cannot ignore the issue of the political economy of the systems implemented and their connection to government administration. We aim here to question the scope that private companies—such as Microsoft—acquire in public administration, particularly in mediating efforts linking the technological systems to plans and policies designed by governments. It is certainly not that the inclusion of private actors is in and of itself problematic; but it can become so when there are no assessment, evaluation and auditing processes contemplated by the diverse stakeholders, starting with the design of the initiatives and even following their implementation.

Another relevant aspect to consider is related to the temptation for branding of technologies as artificial intelligence applications. This is especially significant in the case of PretorIA, where the name itself declares a function that for now has little to do with the technological system implemented. It is clear that processes for public communication around these systems and their implementation must be truthful and specific, in terms of both social expectations linked to their implementation and the potential conflicts that could arise from them.

Finally, it is important to consider the results of a recent study conducted in the region focused on the use of technologies and their role in public administration. As Gómez et al. indicate: “over 70 percent of survey respondents were not familiar with a use case implemented in the service of social good.”³⁸ This clearly signals the need to better coordinate the relationship between public policies that involve technological solutions and the different social actors who are, directly or indirectly, affected by this kind of system.

The considerations mentioned above must be understood in a context of increasing public debate over the implementation of new technologies and, in particular, their role in the practice of public administration. The above is demonstrated in the context of increasing priority given by countries in the region to developing strategies or ethical guidelines for implementing artificial intelligence technologies.³⁹ However, “Despite the growth of ethical frameworks, AI systems continue to be deployed rapidly across domains of considerable social significance—in healthcare, education, employment, criminal justice, and many others—without appropriate safeguards or accountability structures in place.”⁴⁰ Accordingly, recent studies in the region have documented the importance of the development of government infrastructure, ensuring transparency and accountability, and the importance of risk evaluation mechanisms prior to the implementation of automated systems.⁴¹

In the aforementioned context, and without excluding the future production of specific public policy recommendations for implementing technological systems, it is possible to indicate two broad groups of recommendations in response to the information gathered in the four cases. On the one hand we have the fundamental issue of how these technologies are governed, here considering both the technological systems and the data that these need for operation, and the coordination of public and private agents in the delivery of public services; on the other hand, it is also necessary to note these systems’ role in the region’s democratic deficit, as regards the design and execution of public plans and policies.

In terms of technological governance, it is possible to tease out various dimensions of the problem. First, the legal and institutional systems covering implementation of the systems are themselves considered; in this sense, the existence of up-to-date regulations contemplating, for example, the difference between the handling and processing of personal data are essential aspects. But the regulations must be complemented

38 Gómez, C. May, C. Martínez, C., Martín del Campo, A. (2020) La inteligencia artificial al servicio del bien social en América Latina y el Caribe. IDB. Available at: <https://publications.iadb.org/publications/spanish/document/La-inteligencia-artificial-al-servicio-del-bien-social-en-América-Latina-y-el-Caribe-Panor%C3%A1mica-regional-e-instant%C3%A1neas-de-doce-paises.pdf> (in English)

39 Aguerre, C. (2020). Estrategias nacionales de IA y gobernanza de datos en la región. In C. Aguerre, (Ed.). *Inteligencia Artificial en América Latina y el Caribe. Ética, Gobernanza y Políticas*. Buenos Aires: CETyS Universidad de San Andrés. Available at: <https://www.scribd.com/document/469135840/Castano-La-gobernanza-de-la-Inteligencia-Artificial-en-América-Latina-compressed>

40 Crawford Kate, Roel Dobbe, Theodora Dryer, et al. (2019) Op. Cit. Page 58.

41 Ortiz Freuler, J. and Iglesias, C. (2018) Op. Cit.

by the existence of autonomous public agencies for safeguarding personal information that are not subject to contingent pressures from the government, and which facilitate an institutional framework where citizens can find trustworthy answers to any potential pitfalls in the exercise of their fundamental rights that may arise from the use of their personal data. Second, it is important to contribute to the development of polices that have mechanisms for participation, evaluation and auditing and which prepare citizens for the exercise of their rights and allow for the generation of conditions making a legitimate practice of government action possible.

In line with the issue of the legitimacy of government action, it is necessary to address the issue of new technologies and their ability to make the practice of public administration (even more) opaque. Citizen engagement, evaluation and auditing are central mechanisms for this purpose, since they facilitate enrichment of the programs' (and systems') design; but, above all, they make it possible to bring to light how the installation of technological systems is not a process that happens free of problems. Any deployment of technology takes place in a space with political tensions, where the danger is in pretending that the systems considered may ignore, hide or offset these tensions with nothing more than the very claims of efficiency underpinning them. In summary: digital technocracy is insufficient for safeguarding citizens' human rights, much less for appropriating the legitimacy of government action.

Faced with the continuous development of new technologies it is imperative to have a shared referential regulatory horizon that facilitates, guides and limits the actions of the diverse actors involved, from citizens to private enterprise and, above all, the government. Latonero puts it well: "In order for AI to benefit the common good, at the very least its design and deployment should avoid harms to fundamental human values. International human rights provide a robust and global formulation of those values."⁴²



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