

Harnessing Technology to Modernize Public Administration in Latin America

Abstract– *Latin American governments have invested heavily in digital tools, open data portals and online platforms to renew public administration, yet the region still struggles with fragmented services, low trust and persistent inequalities. This paper examines how technology can realistically contribute to modernizing public administration, moving beyond optimistic e-government narratives to focus on institutional capacity, governance arrangements and citizen experience. Drawing on recent literature and emblematic initiatives such as the Montevideo “Por Mi Barrio” app and regional efforts to integrate administrative records on children, we develop an integrative view of how digital technologies interact with organisational routines, legal frameworks and political incentives. The analysis advances three main arguments. First, technology does not automatically improve transparency or efficiency; instead, it tends to amplify existing strengths and weaknesses in public institutions. Second, the most promising initiatives combine robust data infrastructures, clear governance rules and meaningful citizen engagement rather than isolated ICT projects. Third, the coexistence of cutting-edge experiments and deep territorial and social gaps makes questions of equity and inclusion central to any reform agenda. Based on a simple framework that distinguishes between front-office innovation, back-office integration and system-level data governance, the paper offers practical lessons for policymakers on prioritising interoperability and data quality, investing in human capabilities and aligning digital projects with broader governance reforms.*

Keywords - *Public administration, Digital transformation, Transparency.*

I. INTRODUCTION

Public administration in Latin America is under intense pressure. Citizens demand better services, more transparency and tangible improvements in their quality of life, while fiscal space remains tight and political cycles are often short. In this context, digital technologies are frequently presented as a way to “leapfrog” structural limitations, promising faster procedures, real time information and more responsive governments. In practice, the picture is more complex. Many countries have made visible progress in connectivity, digital portals and online services, yet inequalities in access, institutional fragmentation and limited data governance continue to constrain the transformative potential of these tools [1], [2].

At the same time, Latin America is not starting from scratch. The region has a rich history of public sector reforms, from earlier waves of new public management to more recent experiments with open government, participatory budgeting and performance based management [3]. Digital transformation

is now superimposed on this institutional landscape. It offers opportunities to integrate information across sectors, to monitor programmes in real time, and to redesign services around life events rather than bureaucratic silos. However, it also raises new risks, including the possibility that digital channels reproduce the exclusion of those without reliable internet access or digital skills, and that algorithmic tools embed or amplify existing biases [4], [5].

Connectivity indicators illustrate both progress and persistent gaps. According to World Bank and International Telecommunication Union data, the proportion of individuals using the internet reached roughly 84 to 85 percent in Brazil by 2024 and close to 82 percent in Peru, while Chile surpassed 94 percent by 2023 and Colombia reached just above 73 percent in 2021 [6], [7], [8], [9]. These figures show important advances compared with a decade ago, but they also reveal significant differences between and within countries. Poorer households, rural communities and migrant populations are more likely to be left behind, which means that digital by default strategies may inadvertently increase inequality if they are not accompanied by inclusive policies.

Recent research on digital government underscores that technology matters less as a stand alone artefact than as part of broader governance arrangements. Studies of digital government and sustainable development emphasise that the impact of digitalisation depends on how it is embedded in institutional frameworks, regulatory regimes and accountability mechanisms [1]. Analyses of digital government in Latin America show that open government strategies and online platforms can enhance transparency and participation, but they also face political resistance, capacity constraints and fragile inter institutional coordination [2]. Experiments with civic technologies illustrate both the promise and the limits of platform based participation. The Montevideo app “Por Mi Barrio” allows residents to report urban problems and follow their resolution, yet its success depended on strong municipal leadership, clear workflows for responding to complaints and sustained collaboration between civil society and government [10].

Another important trend is the growing use of administrative data to monitor social policies and improve service delivery. International experiences in health and education show that high quality administrative data, when linked across sectors, can be a powerful resource for targeting interventions, evaluating programmes and reducing inequalities [11], [12]. In Latin America, regional initiatives led by UNICEF and the Statistical Conference of the Americas are promoting the integration of administrative records related to children and adolescents, highlighting both the potential and the governance challenges of data sharing between agencies [13]. These efforts are directly relevant for public administration modernisation because they require clear institutional roles,

robust data protection and a culture of evidence based decision making.

The literature on governance, risk and compliance in Latin America also offers useful insights for understanding the institutional side of digital transformation. Research on corporate social responsibility, reputation and confidence in the banking sector shows how transparency, stakeholder engagement and internal control systems shape trust in organisations [14], [15]. More recently, work on the three lines model applied to Latin American companies has emphasised the importance of clear roles between management, risk and compliance functions for preventing misconduct and aligning incentives [16]. Although these studies focus on private or mixed sector organisations, their core message about the need for robust governance architectures is directly applicable to public administrations adopting digital tools and data driven processes.

Against this background, this paper addresses a simple but demanding question: how can Latin American governments harness technology in ways that genuinely modernise public administration, instead of adding layers of complexity or reproducing old problems in digital form. To answer this question, the study conducts an integrative review of recent academic and policy literature on digital government, administrative data and governance in the region, and combines it with descriptive evidence on connectivity and digital service provision. The focus is not on a single country or programme, but on cross cutting patterns and lessons that can inform reformers across Latin America.

The contribution of the article is threefold. First, it synthesises findings from diverse strands of literature into an accessible framework that distinguishes between front office innovation, back office integration and system level governance of data and algorithms. Second, it grounds this framework in concrete regional examples, including urban civic platforms, integrated children data systems and digital service initiatives. Third, it articulates practical recommendations for policymakers, emphasising the alignment between digital initiatives and broader governance reforms, the centrality of human capabilities and the need for robust ethical and legal safeguards.

The rest of the paper is organised as follows. The next section reviews the literature on digital government, administrative data and governance in Latin America. The third section describes the methodology used for the integrative review and the selection of quantitative indicators. The fourth section presents and discusses the main findings, including a comparative table on internet use and a synthetic figure illustrating the relationship between connectivity and digital government reform. The fifth section offers conclusions and policy implications.

II. LITERATURE REVIEW

Digital government and public administration reforms are now well established fields of research. At a global level, studies on big data for development highlight both the promise of more granular, timely information and the risks of exclusion, bias and over reliance on opaque algorithms [4]. In the health sector, the debate on high quality systems in the Sustainable Development Goals era underscores that data and digital tools must be combined with strong institutions, accountability and citizen voice to deliver meaningful improvements [11]. Similar arguments have been made in education, where work on returns to schooling has long pointed to the central role of institutional quality and governance in shaping the benefits of public investment [12].

In the specific domain of digital government, recent research focuses on how online services, data infrastructures and platform based tools reshape public sector work and citizen government relations. [1] analyse digital government and sustainable development, arguing that digital transformation can support more inclusive and efficient policies when it is integrated into a coherent strategy that aligns institutional, technological and regulatory dimensions. They caution that digitalisation is not a panacea and draw attention to the risk of deepening existing inequalities if access and skills gaps are not addressed. Building on this line of work, recent empirical studies use the United Nations E-Government Development Index (EGDI) to show how online services, telecommunications infrastructure and human capital jointly shape the quality of e-government and its contribution to the Sustainable Development Goals, highlighting that weaknesses in any of these dimensions can limit the effectiveness of digital government initiatives [17], [18].

Latin America has emerged as a rich laboratory for studying these dynamics. [2] provide a detailed analysis of digital government in the region as a challenge for open government public management, emphasising the tension between transparency oriented reforms and entrenched practices of opacity and clientelism. Their work shows that while many countries have adopted digital government strategies, implementation often remains partial, with significant differences across ministries, territories and policy sectors. This fragmentation is exacerbated by limited interoperability between information systems and by regulatory frameworks that have not fully adapted to the demands of data governance and digital accountability.

Civic technologies and open government platforms are another important strand of the literature. [10] study the Montevideo app “Por Mi Barrio,” a platform that allows citizens to report urban issues such as potholes, broken lights or illegal dumping, and to follow their resolution. Their analysis shows that the impact of such platforms depends on governance arrangements that define how different actors share responsibilities, how data flows across units and how citizen feedback is integrated into decision making. They identify three mutually reinforcing “orders” of governance: the technical infrastructure, the organisational routines and the political

discourses that shape how the platform is understood and used. This perspective is highly relevant for Latin American public administrations that are considering similar tools.

At the same time, the region has developed significant experience in the use of administrative data for policy purposes. [4] points out that administrative records, if properly integrated, can provide a continuous and detailed view of social phenomena, complementing traditional surveys. UNICEF and its regional partners have recently supported diagnostics and recommendations to integrate administrative records related to children, emphasising the importance of data quality, interoperability and robust governance mechanisms to protect privacy and ensure ethical use [13], [19]. New work on children administrative data linkage and integration in Latin America, including experiences from Chile and Uruguay, illustrates how national statistical offices and line ministries can collaborate to develop platforms linking administrative data and improve the monitoring of child rights [20]. These experiences underscore that modern public administration requires both technological capacity and institutional arrangements that enable data sharing while safeguarding rights.

Governance, risk and compliance research adds another layer to this picture. Studies of corporate social responsibility and reputation in the Peruvian banking sector show that transparency, stakeholder engagement and consistent ethical behaviour are critical for building trust in organisations [14], [15]. In parallel, the three lines model applied to Latin American companies argues that effective risk management and prevention strategies depend on clearly defined roles between operational management, risk and compliance oversight and independent assurance functions [16]. These insights are highly applicable to public administrations that are adopting digital tools, because the governance of data, algorithms and digital infrastructures requires similar clarity of roles and responsibilities.

The broader governance literature also remains relevant. [3] emphasise that contemporary public administration operates in complex governance networks, where multiple actors share authority and responsibility. This means that digital reforms cannot be understood solely as intra bureaucratic initiatives; they involve interactions with private technology providers, civil society organisations and international partners. The experience of health systems reforms in low and middle income countries, where new technologies were introduced within existing institutional constraints, shows that without attention to power relations and incentives, reforms are unlikely to deliver their promised benefits [11].

Finally, debates on artificial intelligence regulation are increasingly relevant for digital public administration. [5] analyse comparative legal frameworks for regulating artificial intelligence in Latin America and Africa, arguing for harmonised laws that balance innovation with the protection of fundamental rights. Although their focus is broader than the public sector, their proposed model highlights key elements such as cross regional collaboration, shared ethical guidelines

and joint regulatory bodies that could inspire regional approaches to algorithmic governance in public administration.

Taken together, this literature suggests that technology can be a powerful catalyst for modernising public administration in Latin America, but only if it is embedded in robust governance frameworks, supported by high quality data and implemented with a clear focus on equity and citizen trust. The next section explains how the present study builds on these insights through an integrative review and the use of comparative indicators.

III. METHODOLOGY

This study adopts an integrative qualitative methodology that combines a structured literature review with descriptive analysis of secondary quantitative data. The goal is not to produce a formal meta analysis, but rather to synthesise findings from diverse sources into a coherent analytical narrative about technology and public administration in Latin America.

The literature review followed three steps. First, a search strategy was implemented using academic databases such as Scopus and Web of Science, complemented by Google Scholar, to identify peer reviewed articles published between 2014 and 2025 on digital government, public administration, administrative data and governance in Latin America. Key terms included combinations of digital government, e government, open government, civic tech, administrative data, Latin America, public administration, governance and risk. This search was complemented by targeted queries for specific authors and works already known to be relevant, such as studies on “Por Mi Barrio,” digital government and sustainable development, digital government in Latin America and regional administrative data initiatives [1], [2], [10], [13].

Second, inclusion criteria were applied to focus on high quality and relevant sources. Priority was given to articles in recognised journals indexed in Scopus or Web of Science, as well as official reports from organisations such as the World Bank, the United Nations, UNICEF, the Food and Agriculture Organization and regional statistical bodies. Sources had to provide empirical evidence, conceptual frameworks or policy analysis related to digital tools, data or governance in the context of public administration. Publications that could not be verified, lacked clear institutional backing or did not provide sufficient detail on methods and data were excluded.

Third, the selected documents were read in depth and coded thematically. The coding focused on several dimensions: type of technological intervention (front office service delivery, back office integration, data infrastructures, civic tech platforms), governance arrangements (institutional roles, legal frameworks, participation mechanisms), observed impacts (efficiency, transparency, inclusion, trust) and identified challenges or risks. Insights from literature on governance, risk and compliance, particularly in Latin American contexts, were integrated to enrich the analysis of institutional arrangements [3], [14], [15], [16].

In parallel, secondary quantitative data were compiled from official sources to provide a comparative picture of digital readiness in selected Latin American countries. The main indicator used was the percentage of individuals using the internet, as reported in the World Development Indicators dataset of the World Bank, based on data from the International Telecommunication Union [6], [7], [8], [9]. For each country, the most recent year with available data was used, along with the exact value reported. This indicator does not capture all aspects of digital development, but it offers a simple proxy for the potential reach of online public services and digital platforms.

The analysis proceeds by first synthesising qualitative findings from the literature into an interpretive framework that distinguishes between front office innovation, back office integration and system level governance of data and algorithms. It then uses the connectivity data to illustrate the uneven landscape across Brazil, Chile, Colombia and Peru, and to discuss how these differences condition the possibilities for digital public administration reforms. The results and discussion section combine conceptual analysis with illustrative examples drawn from the literature and from regional initiatives on administrative data integration and civic tech.

This methodological design has some limitations. The focus on published literature and official data may under represent informal innovations or subnational experiments that have not yet reached academic or international audiences. Moreover, the use of a single quantitative indicator simplifies the multidimensional nature of digital development. Nevertheless, the combination of rigorous literature review and trusted data sources provides a solid foundation for drawing lessons that are relevant across countries and policy areas.

IV. RESULTS AND DISCUSSION

A. A three-level view of technological modernization

The literature suggests that technological modernisation of public administration in Latin America can be understood along three interrelated levels.

The first level is front office innovation, which includes the digitalisation of services that citizens directly experience, such as online portals for tax payments, civil registry procedures or social programme enrolment. Initiatives such as the Montevideo “Por Mi Barrio” app exemplify how digital tools can reshape the interface between citizens and local administration, turning smartphones into channels for reporting problems and monitoring their resolution [10]. When designed with user centred approaches, accessible language and simple workflows, these tools can reduce transaction costs, increase responsiveness and generate a sense of co production of public services.

The second level is back office integration, which concerns the internal information systems, databases and administrative records that support policy implementation. Here, the integration of administrative data emerges as a central driver of

modernisation. Initiatives to link education, health and social protection records to better understand the situation of children and adolescents illustrate how improved data infrastructures can enhance both efficiency and equity [13], [20]. This level often remains invisible to citizens, yet it determines whether their interactions with the state are coherent or fragmented, and whether policies can be targeted and evaluated effectively.

The third level is system level governance of data and algorithms. As digital tools proliferate and administrative data are increasingly linked, the need for clear legal frameworks, ethical guidelines and institutional arrangements to govern their use grows stronger. Research on high quality health systems emphasises that data and digital tools must be embedded in accountability structures that guarantee equity, transparency and learning [11]. Studies on corporate governance and risk management in Latin America highlight the value of the three lines model, where management, risk and compliance functions have distinct but coordinated roles, and independent assurance provides oversight [16]. In the digital public administration context, this translates into the need for data protection authorities, internal audit and compliance units, and citizen oversight mechanisms that can monitor digital projects and algorithmic tools. Work on comparative AI legal frameworks suggests that regions such as Latin America can benefit from harmonised approaches that set minimum standards for transparency, accountability and redress [5].

Taken together, these three levels show that technology driven modernisation is not merely about acquiring software or building portals. It requires redesigning processes, clarifying institutional roles and adopting regulatory safeguards. The next subsections examine how these levels play out in Latin America, using connectivity data and illustrative cases to deepen the analysis.

B. Connectivity as a necessary but insufficient condition

Table 1 summarises the most recent available data on individuals using the internet for four Latin American countries that are often cited as reference points in regional digital debates.

TABLE 1.
INDIVIDUALS USING THE INTERNET IN SELECTED LATIN
AMERICAN COUNTRIES (LATEST AVAILABLE YEAR)

Country	Year	Individuals using the internet (percent of population)	Data source
Brazil	2024	84.46	World Bank, ITNETUSERP2BRA via FRED [6]
Chile	2023	94.5	World Bank, ITNETUSERP2CHL [8]
Colombia	2021	73.03	World Bank WDI, reported via CEIC [9]
Peru	2024	81.96	World Bank, ITNETUSERP2PER via FRED [7]

These figures illustrate several important points. First, connectivity levels are relatively high in Brazil, Chile and Peru,

and moderately high in Colombia, suggesting that a majority of citizens in these countries can potentially access online public services. Second, the variation between countries is substantial. Chile is close to near universal internet use, while Colombia still has more than a quarter of its population offline, and subnational differences are likely even more pronounced. Third, the time dimension matters: Chile's data refer to 2023, while Colombia's most recent available figure is for 2021, indicating both differences in connectivity and in data reporting.

A simple line graph using the values in Table 1 can be constructed as follows. On the horizontal axis, the four countries are placed, and on the vertical axis, the percentage of individuals using the internet. Each country is represented by a point corresponding to its value, and a line connects the points to visualise the pattern. The resulting figure would show Chile at the top, with a value of 94.50 percent, followed by Brazil and Peru in the low eighties, and Colombia in the low seventies. The chart can be titled "Individuals using the internet in selected Latin American countries, most recent year" and the footnote should indicate that the data come from the World Bank World Development Indicators, based on International Telecommunication Union sources, with series codes ITNETUSERP2BRA, ITNETUSERP2CHL, ITNETUSERP2PER and the corresponding WDI indicator for Colombia.

This simple visualisation underscores a central message of the literature. Connectivity is a necessary condition for digital government reforms to reach citizens, but it is not sufficient. A country such as Chile, with very high internet use, still faces significant challenges in integrating its information systems, reaching rural communities and addressing social inequalities. Conversely, countries with somewhat lower connectivity can still implement effective digital government initiatives if they design inclusive strategies that combine online channels with in person support, and focus on the most critical services.

Moreover, connectivity data do not reveal the quality, affordability or stability of internet access. Studies on digital government and sustainable development emphasise that the benefits of digitalisation depend on complementary investments in skills, infrastructure and institutions [1]. For example, if poor households rely exclusively on prepaid mobile data plans, they may be able to access messaging applications but not complex government portals that consume more data or are not designed for mobile devices. Similarly, public institutions in rural areas may have weak connections or outdated equipment, limiting their ability to use digital tools for service delivery.

C. Front office innovation: platforms, portals and citizen experience

Front office innovations in Latin America have often focused on visible portals and platforms. National "single window" portals for procedures, municipal websites and mobile applications have multiplied over the past decade. The Montevideo "Por Mi Barrio" platform is one of the most

extensively studied examples, and it offers valuable insights into the conditions for success [10].

The analysis by [10] shows that the platform did not simply automate existing complaint processes. Instead, it reconfigured relationships between citizens, technologists, civil servants and political leaders. Citizens became active reporters of urban problems, using their phones to send geolocated complaints that were publicly visible. Municipal departments had to adapt their workflows to respond to these complaints in a timely and transparent manner. Civil society organisations played a bridging role, translating citizen demands into actionable categories and advocating for follow up. Political leaders used the platform as evidence of responsiveness, but they also had to accept higher levels of transparency regarding unresolved issues.

This experience highlights two broader lessons. First, digital platforms can democratise information about service quality and create new channels for participation, but only if they are accompanied by changes in organisational practices. If complaints are not acted upon, platforms can quickly become symbols of frustration rather than empowerment. Second, the governance of platforms matters. Clear rules about who is responsible for what, how data are managed and how decisions are communicated are essential to sustain trust and avoid conflicts.

Other front office initiatives in the region include online portals for business registration, tax payments and social programme applications. Evaluations of such portals often report reductions in processing times and increased convenience for users with reliable internet access. However, qualitative studies also document barriers such as complex interfaces, lack of accessibility for people with disabilities, limited language options and the persistence of parallel paper based procedures. These obstacles remind us that modernisation is not only about adding digital channels but about redesigning processes and placing user experience at the centre.

D. Back office integration: administrative data and coherent services

Back office integration is less visible, yet it is crucial for modern public administration. Administrative records generated by schools, clinics, social protection programmes and civil registries contain rich information about citizens' interactions with the state. When these records are fragmented, duplicated or inconsistent, public administration becomes inefficient and citizens experience fragmented services. When they are integrated with appropriate safeguards, they can support targeted interventions, reduce duplication and improve accountability [4], [13].

The Latin American experience with administrative data on children and adolescents illustrates both the potential and the complexity of back office integration. Diagnostics supported by UNICEF and regional statistical bodies reveal that many national statistical offices in the region are making progress in integrating administrative records, but that legal, technical and

organisational barriers remain significant [13], [19]. Countries differ in their readiness to link data across sectors, to standardise variables and to implement privacy preserving technologies. The reports emphasise that integration is not simply a technical exercise, but a governance challenge that requires clear mandates, inter institutional agreements and robust data protection frameworks.

Recent work on children administrative data linkage and integration in Latin America, including experiences from Chile and Uruguay, shows how integrated statistical records can support better policymaking. In Uruguay, the national statistical office's integrated system of records and surveys links more than four hundred datasets from different providers, enabling analyses that were previously impossible [20]. These infrastructures allow policy makers to track trajectories of children across education, health and social protection systems, identify gaps and monitor interventions.

Examples from other sectors reinforce these lessons. In health, integrated data systems are pivotal for monitoring service quality and equity, particularly in the context of universal health coverage goals [11]. In fisheries and environmental management, the Food and Agriculture Organization documents how digital technologies and data systems can support sustainable governance, but also warns that small scale producers may be disadvantaged if systems are designed without their participation [21]. These cases emphasise that back office integration must be accompanied by capacity building for public servants and careful consideration of the distributional consequences of data driven governance.

In the Latin American context, back office integration is also linked to broader debates on state capacity and inequality. Research on returns to schooling and labour market outcomes shows that educational inequalities are deeply rooted and interact with regional and socio economic disparities [12]. Integrated administrative data can help map these inequalities more precisely and design targeted interventions, but they also raise questions about privacy, consent and ethical use. Without clear rules and oversight, integrated data systems could be used for surveillance or discriminatory practices.

E. System level governance: risk, ethics and regulation

As digital tools and data driven methods become more central to public administration, system level governance becomes indispensable. This includes legal frameworks for data protection, institutional arrangements for overseeing digital projects and ethical guidelines for algorithmic decision making.

Latin American countries have made progress in adopting data protection laws, often inspired by European models such as the General Data Protection Regulation. However, the implementation and enforcement of these laws remain uneven, and many public institutions still lack comprehensive data governance policies. Research on the three lines model applied to Latin American companies suggests that clear delineation of roles between management, risk functions and independent assurance can improve prevention and accountability [16]. Translated to public administration, this could mean assigning

explicit responsibilities for data governance to specific units, strengthening internal audit capacities to review digital projects and establishing independent bodies to oversee algorithmic systems.

At the international level, the Intergovernmental Panel on Climate Change demonstrates how large scale, data intensive assessments can be governed through transparent procedures, peer review and clear communication of uncertainties [22]. Although the subject matter is different, the principles of transparency, participation and rigorous methodology are applicable to digital public administration as well.

In the specific domain of artificial intelligence, [5] argue that developing countries in Latin America and Africa face particular challenges due to fragmented legal landscapes, limited regulatory capacity and uneven adoption of AI technologies. Their proposed model for harmonising AI laws emphasises cross regional collaboration, shared ethical principles and joint regulatory bodies. For public administrations in Latin America, this suggests the value of regional dialogues and common standards for algorithmic transparency, impact assessment and redress mechanisms, especially for systems that affect fundamental rights such as welfare eligibility, policing or immigration control.

The literature on corporate social responsibility and business confidence in emerging economies also offers relevant insights. Studies in the Peruvian banking sector find that corporate social responsibility actions and the perceived reputation of firms influence managers' confidence and stakeholder trust [14], [15]. By analogy, public institutions that demonstrate clear ethical commitments, robust data protection practices and openness about the use of digital tools are more likely to build citizen trust in digital government. Conversely, data breaches, algorithmic discrimination or opaque decision-making processes can erode trust and generate resistance to digital reforms.

In summary, system level governance is not an optional complement to digital public administration, but a core component of modernisation. Without it, the risks of exclusion, misuse of data and loss of trust may outweigh the benefits of technological innovation.

V. CONCLUSIONS

The analysis presented in this paper shows that harnessing technology to modernise public administration in Latin America is both promising and demanding. The region has made significant advances in connectivity, digital service provision and administrative data integration, and it has produced internationally recognised innovations such as civic tech platforms and integrated statistical systems. At the same time, persistent inequalities, institutional fragmentation and gaps in system level governance continue to limit the transformative potential of these tools.

A first conclusion is that digital technologies are best understood as amplifiers of existing institutional conditions rather than as independent drivers of change. Where public

institutions have clear mandates, professional staff and a culture of learning and accountability, digital tools can help streamline processes, improve transparency and enhance citizen experience. Where institutions are weak, politicised or fragmented, the same tools may generate new forms of exclusion, confusion or opacity. This means that digital reforms must be closely aligned with broader governance reforms that strengthen public sector capacity, clarify roles and improve coordination.

A second conclusion is that meaningful modernisation requires attention to all three levels identified in the analysis: front office innovation, back office integration and system level governance. Investing only in visible portals or mobile applications, without integrating underlying information systems or establishing robust data governance frameworks, is unlikely to yield sustainable improvements. Conversely, focusing solely on back office integration without improving user facing services may reduce administrative costs but fail to build citizen trust or address perceived inefficiencies. The most promising initiatives are those that combine user centred design, integrated data systems and strong governance of data and algorithms.

A third conclusion concerns equity and inclusion. The connectivity data presented in Table 1 show that, although internet use has increased in Brazil, Chile, Colombia and Peru, significant parts of the population remain offline, and many more have limited or unstable access. Digital public administration strategies that assume universal connectivity risk marginalising those who are already disadvantaged. Modernisation efforts must therefore include complementary measures such as maintaining in person channels, providing digital literacy programmes, designing mobile friendly services and monitoring who benefits from digital reforms and who is left behind. Integrated administrative data systems, if governed ethically, can help identify and mitigate these inequalities.

A fourth conclusion relates to trust and legitimacy. Research on corporate social responsibility and the three lines model in Latin America underscores that transparent practices, clear responsibilities and credible oversight mechanisms are essential for building confidence in organisations. In the public sector, the same logic applies to digital projects. Citizens are more likely to embrace digital services when they perceive that their data are protected, that decisions are made fairly and that they have avenues for complaint and redress. System level governance of data and algorithms, including independent oversight, impact assessments and public communication, is therefore a cornerstone of legitimate digital transformation.

Finally, the regional dimension matters. Latin American countries share historical, institutional and socio economic features that shape their digital trajectories. They also share common challenges in regulating emerging technologies, integrating administrative data and governing digital platforms. Regional cooperation, knowledge sharing and, where appropriate, harmonisation of standards can help avoid duplication, reduce regulatory gaps and strengthen bargaining

power with global technology providers. Experiences such as the Montevideo “Por Mi Barrio” platform, integrated children data initiatives and governance innovations in corporate and public sectors can serve as reference points for peer learning and adaptation.

In practical terms, policymakers in Latin America who wish to harness technology for public administration modernisation can draw several lessons from this analysis. They should invest in interoperable data infrastructures and administrative data quality, prioritising high impact sectors such as health, education and social protection. They should adopt user centred design approaches for digital services, paying particular attention to low income, rural and vulnerable groups. They should build institutional capacity for data governance, risk management and algorithmic oversight, drawing on models such as the three lines framework. And they should engage in regional and international dialogues to co develop ethical and legal frameworks for digital government and artificial intelligence that reflect their specific contexts and values.

Technology will not, by itself, solve the deep seated challenges of Latin American public administration. Yet, when combined with robust institutions, inclusive policies and a commitment to transparency and equity, it can become a powerful ally in the pursuit of more effective, responsive and just states.

REFERENCIAS

- [1] C. Castro y C. Lopes, “Digital Government and Sustainable Development”, *J. Knowl. Econ.*, vol. 13, núm. 2, pp. 880–903, jun. 2022, doi: 10.1007/s13132-021-00749-2.
- [2] I. Morales Puruncaja, J. Morillo Revelo, y L. Tobar Cazares, “GOBIERNO DIGITAL EN AMÉRICA LATINA: ¿UN RETO DE LA GESTIÓN PÚBLICA DE GOBIERNO ABIERTO?”, *FIGEMPA Invest. Desarro.*, vol. 1, núm. 2, pp. 32–41, dic. 2020, doi: 10.29166/revfig.v1i2.2467.
- [3] B. Peters y J. Pierre, *The SAGE Handbook of Public Administration*. 1 Oliver’s Yard, 55 City Road, London EC1Y 1SP United Kingdom: SAGE Publications Ltd, 2012. doi: 10.4135/9781446200506.
- [4] M. Hilbert, “Big Data for Development: A Review of Promises and Challenges”, *Dev. Policy Rev.*, vol. 34, núm. 1, pp. 135–174, ene. 2016, doi: 10.1111/dpr.12142.
- [5] Mubarak Opeyemi Nurudeen, Adetoyese Latilo, Hendrickx Oreoluwa Imosemi, y Queenette Anuoluwapo Imosemi, “Comparative legal frameworks for regulating artificial intelligence: A model for harmonizing AI laws in Latin America and Africa”, *Glob. J. Res. Multidiscip. Stud.*, vol. 2, núm. 1, pp. 034–049, sep. 2024, doi: 10.58175/gjrms.2024.2.1.0038.
- [6] World Bank, “Internet users for Brazil (ITNETUSERP2BRA)”. World Development Indicators, 2025. [En línea]. Disponible en: <https://fred.stlouisfed.org/series/ITNETUSERP2BRA>
- [7] World Bank, “Internet users for Peru (ITNETUSERP2PER)”. World Development Indicators, 2025. [En línea]. Disponible en: <https://fred.stlouisfed.org/series/ITNETUSERP2PER>
- [8] World Bank, “Individuals using the internet (% of population) for Chile (ITNETUSERP2CHL)”. World Development Indicators, 2025. [En línea]. Disponible en: <https://data.worldbank.org/indicator/IT.NET.USER.ZS?locations=CL>
- [9] World Bank, “Colombia CO: Internet users: Individuals: percent of population.” World Development Indicators, Telecommunication series. Retrieved via CEIC, 2023. [En línea]. Disponible en:

<https://www.ceicdata.com/en/colombia/telecommunication/co-internet-users-individuals--of-population>

- [10] C. Aguerre y C. Bonina, "Open government, civic tech and digital platforms in Latin America: A governance study of Montevideo's urban app 'Por Mi Barrio'", *Inf. Syst. J.*, vol. 34, núm. 4, pp. 1037–1067, jul. 2024, doi: 10.1111/isj.12468.
- [11] M. E. Kruk *et al.*, "High-quality health systems in the Sustainable Development Goals era: time for a revolution", *Lancet Glob. Health*, vol. 6, núm. 11, pp. e1196–e1252, nov. 2018, doi: 10.1016/S2214-109X(18)30386-3.
- [12] C. E. Montenegro y H. A. Patrinos, *Comparable Estimates of Returns to Schooling around the World*. World Bank Group, Washington, DC, 2014. doi: 10.1596/1813-9450-7020.
- [13] UNICEF, "Using administrative data to monitor child rights", UNICEF Office of Research Innocenti., 2020. [En línea]. Disponible en: <https://www.unicef-irc.org/publications/pdf/using-administrative-data-to-monitor-child-rights.pdf>
- [14] J. Ángel Del Brío y E. Lizarzaburu Bolaños, "CSR Actions in Companies and Perception of Their Reputation by Managers: Analysis in the Rural Area of an Emerging Country in the Banking Sector", *Sustainability*, vol. 10, núm. 4, p. 920, mar. 2018, doi: 10.3390/su10040920.
- [15] J. Del Brío y E. L. Bolaños, "Effects of CSR and CR on Business Confidence in an Emerging Country", *Sustainability*, vol. 12, núm. 12, p. 5221, jun. 2020, doi: 10.3390/su12125221.
- [16] E. R. Lizarzaburu, K. Burneo Farfan, M. Camacho, y C. D. García-Gómez, "Corporate structure and prevention: The three lines model applied to Latin American companies", *Corp. Bus. Strategy Rev.*, vol. 5, núm. 1, pp. 226–240, 2024, doi: 10.22495/cbsrv5i1art21.
- [17] I. H. Osman y F. Zabli, "Re-evaluating electronic government development index to monitor the transformation toward achieving sustainable development goals", *J. Bus. Res.*, vol. 131, pp. 426–440, jul. 2021, doi: 10.1016/j.jbusres.2020.10.027.
- [18] S. O. Adams y C. Paul, "E-government development indices and the attainment of United Nations sustainable development goals in Africa: A cross-sectional data analysis", *Eur. J. Sustain. Dev. Res.*, vol. 7, núm. 4, p. em0234, ago. 2023, doi: 10.29333/ejosdr/13576.
- [19] UNICEF, "Diagnosis and recommendations to integrate administrative records related to children: Use of administrative records for better statistics on children and adolescents.", UNICEF Latin America and Caribbean Regional, 2024. [En línea]. Disponible en: <https://www.unicef.org/lac/en/reports/diagnosis-and-recommendations-integrate-administrative-records-related-children>
- [20] J. D. Sierra Castillo *et al.*, "Children administrative data linkage and integration: Readiness diagnosis for national statistical offices in countries in Latin America and the Caribbean", *Stat. J. IAOS J. Int. Assoc. Off. Stat.*, vol. 41, núm. 1, pp. 28–37, mar. 2025, doi: 10.1177/18747655251315875.
- [21] FAO, *The State of World Fisheries and Aquaculture 2022*. FAO, 2022. doi: 10.4060/cc0461en.
- [22] K. Calvin *et al.*, "IPCC, 2023: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland.", Intergovernmental Panel on Climate Change (IPCC), jul. 2023. doi: 10.59327/IPCC/AR6-9789291691647.