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# INNOVATION AND GOVERNANCE: ASSESSING THE IMPACT OF DIGITALISATION ON THE EFFICIENCY OF LOCAL PUBLIC ADMINISTRATION

Nelson Andres Montero Ramirez<sup>1</sup>

<sup>1</sup>Escuela Superior de Administración Pública, Bogotá, Colombia

Email: [nelson.montero@esap.edu.co](mailto:nelson.montero@esap.edu.co)

ORCID: <https://orcid.org/0009-0000-0064-7689>

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Corresponding Author: Nelson Andres Montero Ramirez  
([nelson.montero@esap.edu.co](mailto:nelson.montero@esap.edu.co))

## ABSTRACT

*This article analyzes the impact of digitalization on the efficiency of local public administration in Latin America, from an innovation and governance perspective. Through a systematic review of the literature based on the PRISMA methodology, 29 studies retrieved from Scopus and Web of Science (WoS) were examined, of which 15 met the inclusion criteria related to Latin American institutional affiliation, thematic relevance, and publication period from 2023 onwards. The results show that digitalization can generate significant improvements in administrative efficiency when articulated with solid governance models, adequate technological infrastructure, institutional leadership, and organizational capacities oriented to change. The research reviewed highlights advances in process automation, reduction of response times, optimization of resources, strengthening of transparency, citizen participation and strategic use of data. However, limitations linked to infrastructure gaps, digital inequality, lack of specialized talent and regulatory fragmentation are also identified, which heterogeneously affects the effectiveness of digitalization at the local level. Overall, the findings allow us to conclude that digitalization is a key element for the modernization of Latin American local governments, as long as it is integrated into inclusive, ethical, and sustainable governance strategies that promote the creation of public value.*

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**KEYWORDS:** Digitalization, Digital Governance, Public Innovation, Local Public Administration, Administrative Efficiency, Latin America, Systematic Review, PRISM.

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## 1. INTRODUCTION

Digitalization has established itself as one of the main drivers of change in the public sphere in the last decade, favored by the increase in the availability of new technologies and by the growing social demands related to access, effectiveness and transparency of government services.

In this sense, various studies agree that digital transformation is not restricted to technological updating, but entails profound changes in the processes, structures, and institutional dynamics that regulate the interaction between the State and citizens, as well as their environment (Mergel, Edelmann, & Haug, 2019).

This broader perspective of digitalization helps to understand it not only as a technical change, but as a process of public innovation that transforms the very essence of current government management.

As public administrations incorporate digital technologies for service provision, the literature has pointed out that the effects of these processes depend largely on institutional capacity and the governance frameworks that support them.

In particular, it has been highlighted that digitalisation can mean significant improvements in administrative efficiency, eliminating redundancies, optimising resources and reducing response times, provided that these initiatives are accompanied by coherent organisational transformations and with an institutional culture focused on innovation (Fischer, Heuberger & Heine, 2021).

Without these conditions, efforts in the digital sphere tend to fragment or generate limited results, perpetuating inequalities and reducing the expected impact on public management.

In this process, local governments play a crucial role due to their proximity to the population and their central role in the provision of essential services. Empirical evidence has shown that investment in information technology at the municipal level can lead to significant operational improvements, especially in areas such as document management, administrative procedures, resource distribution, and communication with the community (Hilhorst et al., 2022).

However, this potential is not realized automatically, as municipalities often deal with budget constraints, technical deficiencies, and inadequate regulatory frameworks that hinder a comprehensive implementation of digitalization.

In this context, the concept of digital governance emerges, which is understood as the set of mechanisms, strategies and capacities that facilitate the linking of technological processes with the

decision-making, coordination and control structures of the public sector. Authors such as Jimbo-Santana and Jimbo-Santana (2021) emphasize that digital governance is of particular importance in Latin America, where institutional diversity, different levels of technological maturity, and socioeconomic inequalities present specific challenges to establishing digitally integrated public management systems.

Therefore, digital governance is presented as a fundamental aspect to ensure that technological innovation results in effective improvements in the quality and efficiency of public services.

The experience in Latin America shows important achievements in the field of digital government, supported by national strategies and reforms aimed at modernizing the State. International entities such as the Economic Commission for Latin America and the Caribbean (ECLAC) have highlighted that digital progress in the region is a key aspect to address structural inequalities and promote more effective and inclusive management models.

In its recent studies, this entity argues that digitalization can increase competitiveness, optimize the internal processes of public administrations, and improve institutional capacity to meet citizens' demands (ECLAC, 2024).

However, it also notes that there are deep asymmetries when it comes to infrastructure, connectivity, and management skills that complicate a uniform implementation.

Coinciding with this diagnosis, the Organization for Economic Cooperation and Development (OECD) and the Development Bank of Latin America and the Caribbean (CAF) have highlighted that digital governance in the region requires more robust multilevel coordination models, as well as monitoring and evaluation processes that measure the real impact of digitalization actions on the effectiveness of public services.

These bodies mention that municipal governments, in particular, face more challenges in setting their digital agendas due to budget constraints, a dependence on central government decisions, and a lack of digital professionalization of staff (OECD and CAF, 2024). This indicates that digital transformation at the municipal level needs specific policies adapted to these realities.

Despite these obstacles, recent research indicates that local governments in Latin America have created innovative digital initiatives, especially in the wake of the COVID-19 pandemic, which accelerated the adoption of online services and the advancement of digitalization processes that were previously

delayed. In a study conducted by Lui et al. (2025) with more than four thousand municipalities in Brazil, it was found that digital adoption is strongly linked to factors such as fiscal autonomy, the technical skills of staff, and the presence of clear institutional frameworks.

This evidence supports the idea that effective digitalization requires a balance between technical resources, organizational capabilities, and well-planned governance.

However, the scientific literature also agrees that there is still a limited understanding of the mechanisms through which digitalization specifically influences administrative efficiency within local governments in Latin America.

It is repeatedly pointed out that most studies focus on developed countries, focusing on central governments and not on municipal administrations, which generates knowledge gaps about the local and territorial realities of the region (Haug, Dan, & Mergel, 2024).

This lack of systematic evidence limits the ability to create more precise public policies adapted to the Latin American context.

In addition, several systematic analyses of digital governance in Latin America have revealed the division of approaches, the lack of coherence in the evaluation indicators used, and the scant attention to the operational effects of digitalization in terms of administrative efficiency (Sangama Reyna, 2024).

Often, research deals with digital transformation from a regulatory or strategic angle, ignoring specific measurements related to response times, improved use of resources, cost reduction, process monitoring and quality of services.

In this way, there is a clear difference between research on innovation and digital governance and studies that focus on evaluating the effectiveness of public administration at the local level in Latin America.

This separation is especially significant in a regional environment characterized by an increase in citizens' demands for greater transparency, speed and participation, as well as by the need for municipal governments to efficiently manage their limited resources. It is essential to understand how digitalisation helps – or does not – to improve administrative efficiency, as this is vital to strengthen institutional capacity and promote more sustainable and inclusive management models.

Based on these reflections, this text carries out a systematic review following the PRISMA guidelines, with the aim of analyzing the current scientific evidence on how digitalization influences the efficiency of local public administration in Latin

America.

The search, carried out in the Scopus and Web of Science databases, began with a total of 29 articles; After removing duplicates and applying inclusion criteria related to Latin American time (as of 2023), language, and institutional affiliation, 15 studies were chosen for the final analysis.

This approach allows for the construction of a synthesized, up-to-date, and rigorous vision of the state of knowledge in the region.

The main objective is to investigate how the digital innovations implemented by local governments in Latin America have impacted administrative efficiency, focusing on aspects such as resource optimization, reduction of processing times, quality of service, cost reduction and generation of public value.

It also seeks to identify the digital governance models adopted, the factors that can facilitate or hinder their implementation and the main conceptual and methodological gaps in the literature.

In conclusion, this review aims to contribute to the academic debate and provide useful inputs for the formulation of public policies aimed at strengthening local digital transformation in Latin America.

By integrating recent findings and subjecting them to critical analysis from an innovation and governance perspective, this work aims to offer recommendations that allow local governments to move towards more efficient, transparent and inclusive management models, aligned with the agendas of international organizations and with the growing demands of society.

## 2. THEORETICAL FRAMEWORK

### 2.1. *Digital Transformation in Public Administration*

Digital transformation in public administration has established itself as a multidimensional procedure that encompasses much more than simply the use of technology. It includes the restructuring of organizations, the redesign of processes, the redefinition of institutional skills, and the integration of new methods of interaction with citizens (Mergel, Edelmann, & Haug, 2019).

In this context, digitalization is seen as a strategic phenomenon that includes cultural and organizational transformations with the aim of increasing efficiency, transparency, and generating public value. Several studies indicate that digital transformation in the public sector is a response to the increasing complexity of social problems and the need to improve the state's capacity to meet increasing demands using limited resources (Wirtz and Müller, 2019).

From this perspective, the adoption of technologies such as artificial intelligence, big data, interoperable platforms and electronic management systems allows not only to automate tasks, but also to optimize decisions, cut operational times and facilitate the monitoring of administrative processes.

The literature also highlights that digitalization should be seen as a gradual process, which depends on institutional and contextual factors.

These include the available technological infrastructure, the skills of public personnel, the existence of clear regulations, and the leadership capacity to manage organizational changes (Kettunen & Kallio, 2021).

Therefore, digital transformation does not progress uniformly across all levels of government, being especially complicated in subnational areas where resources are often scarcer.

## **2.2. Public Innovation and Value Creation**

Innovation in the public sphere has become an essential component to raise the quality of services, respond more quickly to the demands of citizens and ensure an efficient use of public resources. According to the approach of Mazzucato and Ryan-Collins (2019), public innovation should be considered as a process focused on the creation of social value rather than focusing only on increasing organizational efficiency.

In this context, digitalization acts as one of the main enablers of public innovation. Recent research shows that digital technologies make it possible to establish new service models, enhance data analysis, improve communication between citizens and government, and foster a culture of continuous improvement in organizations (Lember, Brandsen, & Tönurist, 2019).

In addition, public innovation has acquired a collaborative approach, in which citizen participation, cooperation between institutions and connection with social and private actors are essential elements to generate sustainable solutions.

The theory of public value presented by Moore (1995) has also been significant in understanding the changes brought about by digitalization.

From this point of view, public value is generated when institutions implement policies and services that meet collective priorities, foster trust, and reinforce the legitimacy of the state.

Digitalization supports this process by improving service quality, increasing access, closing gaps, and making processes more transparent and accountable.

## **2.3. Digital Governance: Concept, Dimensions, and Models**

Digital governance has become a fundamental aspect of understanding how the public sector is changing.

This concept refers to the methods of coordination, regulation, management and decision-making that allow the incorporation of digital technologies in public administration in a coherent and strategic way (Gil-García, Dawes & Pardo, 2018).

Therefore, it encompasses not only technological aspects, but also organizational capabilities, interoperability standards, public data management, transparency, and collaboration between different levels of government.

Several literature reviews coincide in highlighting three main dimensions of digital governance

- Technological governance, which is related to the effective and secure use of digital systems;
- Data governance, which refers to the ethical, interoperable and strategic management of public information; and
- Institutional governance, which includes leadership, coordination, digital talent, and regulatory frameworks (Eggers & Skowron, 2018).

In Latin America, authors such as Jimbo-Santana and Jimbo-Santana (2021) underline that digital governance faces specific challenges due to institutional diversity, fragmentation of skills, and regional inequality. The region needs digital governance models that fit local capacities, incorporating coordination strategies between levels and continuous evaluation mechanisms to ensure sustainable results in public management.

## **2.4. Digitalisation and Administrative Efficiency**

One of the most important topics in the current literature is how digitalization influences the efficiency of public administration. Efficiency is related to an organization's ability to maximize resources, reduce operating costs, shorten response times, and ensure service quality (Pollitt & Bouckaert, 2011). From this angle, digitalization is presented as an opportunity to transform processes that are usually slow or bureaucratic into faster and more reliable services.

Empirical studies, such as that of Hilhorst et al. (2022) in European local governments, show that investing in information technologies can result in significant improvements in areas such as municipal tax collection, urban planning, management of administrative procedures and customer service. However, these beneficial effects depend on the connection between technology, organizational design, and staff training.

Similarly, recent research in Latin America, such as that by Lui et al. (2025), indicates that the digital maturity of municipalities is influenced by factors such as fiscal autonomy, the educational level of public employees, and the ability to sustain long-term technological investments.

This indicates that digitalization alone does not guarantee an improvement in administrative efficiency, but rather that it is necessary to have solid institutional frameworks and coherent governance practices.

### **2.5. E-Government, Citizen Participation, and Legitimacy**

Digitalization has promoted new ways for citizens to participate, thus changing the way governments communicate with the population.

Online platforms have expanded the avenues for consultation, debate, and social control, improving transparency and accountability (Meijer, 2015). This phenomenon has created a more inclusive environment, where citizens can interact with the government and collaborate in the design of policies and services.

In this context, online participation is closely related to the legitimacy of institutions. When citizens see that digital systems increase efficiency, reduce arbitrariness and facilitate access to public services, greater trust in institutions is generated (Tolbert and Mossberger, 2006).

Conversely, gaps in access, technological problems, or poorly implemented services can deepen inequalities and damage government legitimacy.

Latin America faces relevant challenges in this area, such as inequality in digital access and a low level of technological literacy in various regions. However, successful initiatives in nations such as Brazil, Uruguay, and Colombia have shown how digital participation can be essential to improve institutional effectiveness and strengthen governance at the local level (Pinho, 2020).

### **2.6. Innovation and Digital Governance in Latin America**

The region has made progress in establishing digital government strategies, although levels of development are uneven. ECLAC reports (2024) highlight that digital transformation could help overcome "development traps" by optimizing public efficiency, facilitating transparency, and fostering the growth of the digital economy.

However, they also warn about the continued existence of connectivity gaps, inequalities in

institutional capacities, and obstacles to implementing technologies in municipalities with limited resources.

According to the OECD and CAF (2024), one of the main challenges for Latin America is to strengthen digital governance frameworks at the local level. Poor coordination between different levels of government, limited interoperability of their systems, and lack of trained personnel prevent digitalization projects from achieving sustainable improvements in administrative efficiency.

In this sense, the research indicates that Latin American cities that have made significant advances in digitalization share common characteristics: a strategic vision, political leadership, continuous investments in technology, collaboration between institutions, and active citizen participation (Pérez-Morales & Sánchez-Torres, 2021).

These factors are essential to establish local public management models that are based on innovation and digital governance.

## **3. GENERAL OBJECTIVE**

To evaluate, based on a systematic review of recent scientific literature, the impact of digitalization on the efficiency of local public administration in Latin America, analyzing the technological innovations implemented, the digital governance models adopted, and the institutional factors that condition their results.

## **4. METHODOLOGY**

### **4.1. Methodological Approach**

The study presented was carried out through a systematic review of the literature, in accordance with the guidelines established by the PRISMA statement (Preferred Elements for Reports of Systematic Reviews and Meta-Analyses). This method ensures a clear, reproducible and rigorous process that encompasses the identification, selection, evaluation and synthesis of scientific research linked to digitalization, public innovation and governance models applied in local public administration.

The use of the PRISMA protocol allows for an orderly organization of the existing evidence and ensures the methodological validity of the analysis carried out.

### **4.2. Search Strategy**

The search for information was carried out in two databases of great relevance: Scopus and Web of Science (WoS).

These platforms were chosen for their global

reach, the quality of their records, and their relevance to studies related to public administration, digital government, and governance.

The search strategy incorporated terms in Spanish and English to increase the identification of relevant studies

- "Digitalization" OR "Digital transformation"
- "Administración pública local" OR "Local public administration" OR "Local government"
- "Gobernanza digital" OR "Digital governance"
- "Innovación pública" OR "Public innovation"
- "Eficiencia administrativa" OR "Administrative efficiency"
- In addition to Boolean operators, additional filters were used to refine the search:
- Articles published from 2023 onwards.
- Publications from institutions in Latin American countries.
- Documents available in English or Spanish.

#### 4.3. Inclusion and Exclusion Criteria

##### Inclusion Criteria

- Studies that met the following specifications were incorporated into the analysis:
- Articles published in scientific journals that are indexed in Scopus or WoS.
- Research that examined digitalization in local governments, with a focus on efficiency, innovation or governance.
- Empirical studies (qualitative, quantitative or mixed), theoretical reviews or case studies related to local public administration.
- Publications in English or Spanish.
- Articles whose authors or institutions are linked to Latin American organizations.

##### Exclusion Criteria

- We ruled out studies that had these characteristics:
- Documents that were not peer-reviewed (theses, technical reports, book chapters).
- Research that focused on the digitalization of the private sector unrelated to public administration.
- Studies on digital government at the national or regional level that did not include a local perspective.
- Duplicate articles in both databases.
- Works that did not consider variables associated with administrative efficiency.

#### 4.4. Selection Process

The initial search yielded a total of 29 articles that preliminarily met the established search terms.

Subsequently, duplicates were removed, reducing the total to 26 records.

The selection process was carried out in two stages

##### Stage 1: Preliminary Review

Titles, abstracts and keywords were reviewed to determine thematic relevance and confirm their relationship with digitalization in the context of local public administration.

##### Stage 2: Full-Text Evaluation

- The selected articles were analyzed in their entirety to decide their final eligibility, ensuring that they specifically addressed:
- Digitalisation at the municipal or local level;
- Digital governance models or practices;
- The effects on administrative efficiency.

After this procedure, 15 investigations met the established requirements and were included in the final analysis.

The entire process will be illustrated with a PRISMA flowchart, which will show the identification, selection, and eligibility phases (See Figure 1)

#### 4.5 Synthesis Strategy

The data of the chosen articles were structured in an analysis matrix that covered the following variables

- Author and year of publication
- Country and institution of affiliation
- Territorial level assessed (municipal, local or urban)
- Type of digital innovation or technological tool analyzed
- Digital governance model adopted
- Methodology used
- Indicators or efficiency criteria analysed
- Key results and limitations of each research

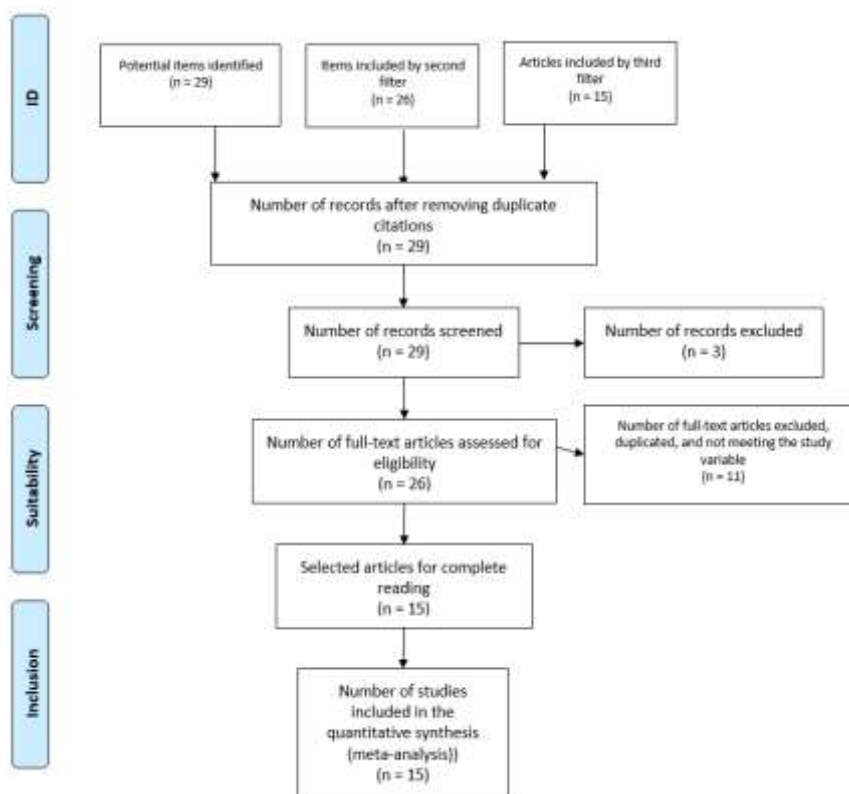
Next, a thematic synthesis was carried out, where common patterns, conceptual trends, gaps in research and coincidences on the effect of digitalization on the efficiency of local public administration in Latin America were identified.

#### 4.6. Ethical Considerations

Since this is a systematic review of the literature, this study does not involve direct human participation, so no informed consent or authorization from an ethics committee was needed.

However, a firm commitment to academic rigor was maintained, citing sources appropriately and respecting the intellectual integrity of the authors

and the articles reviewed.



*Figure 1: Flowchart of a Systematic Review Conducted under the PRISMA Technique (Moher, Liberati, Tetzlaff, Altman, & Group, 2009).*

Source: Authors; Based on the proposal of the Prisma Group (Moher, Liberati, Tetzlaff, Altman, & Group, 2009).

## 5. RESULTS

Table 1 shows the results after applying the search filters related to the methodology proposed for this research, after recognizing the relevance of each of the referenced works.

The fifteen papers selected for this systematic review stand out for their recent scientific production, carried out between 2023 and 2025, with a notable representation from Latin American nations such as Peru, Brazil, Mexico, Ecuador, Argentina, Uruguay, Cuba and Chile. Most of the research takes a qualitative approach, inquiring about digitization processes, governance models, and institutional innovations, while a smaller group uses quantitative or mixed methodologies focused on evaluating performance, the use of technology, or performing bibliometric analyses. Together, these studies offer insight into how digitalization, technological innovation, and governance affect the effectiveness of local public administration, aligning with the central objective of this research.

The work of Espina-Romero (2025) represents a significant start in developing a multivariable model of digital transformation for the public sector in

Lima. Their findings indicate that administrative efficiency increases when the adoption of technology is accompanied by digital competencies of staff, institutional leadership and change management. This suggests that the advantages of digitalization do not depend exclusively on technology, but on the organizational ability to incorporate it into the daily procedures of public management.

On the other hand, the study by Rojas Cangahuala, Chura Alegre, López Orozco, and Pinto Díaz (2025) investigates the themes and influences present in studies on digital government and public management through a bibliometric analysis. The authors identify academic collaboration networks and thematic axes focused on innovation, open data and transparency, evidencing that current research focuses on the need to strengthen institutional capacity to optimize the efficiency of public administration. Despite not directly addressing case studies, their contribution helps to position digitalization as a growing area where efficiency has become a fundamental analytical axis.

In the municipal context, Barreto, Benedetti, and Tassarolo (2024) study the institutional and procedural changes resulting from digitalization in

Niterói, Brazil. The findings show that improvements in response speed, coordination between departments, and simplification of procedures are related to the implementation of

digital services. This research reinforces the notion that the modernization of public management at the local level depends as much on technological tools as on the restructuring of internal processes.

**Table 1: List of Articles Analyzed**

Source: Own Elaboration.

No.	RESEARCH TITLE	AUTHOR/YEAR	COUNTRY	TYPE OF STUDY	INDEXING
1	Digital Transformation of the State: A Multivariable Model Applied to the Public Sector in Lima, Peru	Espina-Romero, L. (2025).	PERU	QUALITATIVE	SCOPUS
2	Digital Government and Public Management: Themes, influences, and international collaborations; Digital Government and Public Management: Themes, Influences and International Collaborations	Rojas Cangahuala, G., Chura Alegre, M., López Orozco, G., & Pinto Díaz, G. (2025)	PERU	QUALITATIVE	SCOPUS
3	Public Servants as Catalysts: Steering the Adoption of Artificial Intelligence	Covarrubias, M., & Pérez, J. E. (2025)	MEXICO	QUALITATIVE	SCOPUS
4	Public management in the digital age in the city of Niterói, Brazil: Institutional and procedural changes and lessons learned for the developing world	Barreto, E. R., Benedetti, E. C. B., & Tessarolo, E. M (2024)	BRAZIL	QUALITATIVE	WOS
5	Usability of statistics and transparency open data portals in regional governments	Kadouaki, R., Cunha, M. A., & Andrade de Figueiredo, B. (2024, October).	BRAZIL	QUANTITATIVE	SCOPUS
6	Governance Model for Artificial Intelligence in the Public Sector of Guayaquil, Ecuador, 2024	Prieto, E. A. C., Galarza, I. A. S., Guevara, A. P., Sanchez, S. P. V., & Calderón, R. F. C. (2024).	ECUADOR	QUALITATIVE	SCOPUS
7	Transparency of artificial intelligence in public administration: a review of international standards; Transparency of artificial intelligence in public administration: a review of international standards;	Romero, L. F., & Villarroel, I. E. (2024).	CHILE, SPAIN	QUALITATIVE	SCOPUS
8	The principle of transparency and Electronic Government in Cuba; The Principle of Transparency and Electronic Government in Cuba,	Águila, O. B. (2023).	CUBA	QUANTITATIVE/QUALITATIVE	SCOPUS
9	Open government, civic tech and digital platforms in Latin America: A governance study of Montevideo's urban app 'Por Mi Barrio'	Aguerre, C., & Bonina, C. (2024)	URUGUAY	QUALITATIVE	WOS
10	Open government data in the Brazilian digital government: Enabling an SDG acceleration agenda	by Magalhães Santos, L. G. (2024)	BRAZIL	QUALITATIVE	WOS
11	Public services and digital technologies: A bibliometric analysis	Oliveira, K. P., Bem, A. A. G. D., & Valadares, J. L. (2025).	BRAZIL	QUALITATIVE	WOS
12	Innovation in Provincial Governance: Impacts of ICTs	Scaglia, AJ (2025)	ARGENTINA	QUALITATIVE	WOS
13	Urban Smartness and City Performance: Identifying Brazilian Smart Cities through a Novel Approach	Fachinelli, A. C., Yigitcanlar, T., Sabatini-Marques, J., Cortese, T. T. P., Sotto, D., & Libardi, B. (2023)	BRAZIL	QUANTITATIVE	WOS
14	Social networks and public administration: The challenges and opportunities of governments in the era of digital communication	de León, C. G. D., Gómez, C., & Javier de la Garza-Montemayor, D. (2023)	ECUADOR	QUANTITATIVE	WOS
15	Institutional theory in accounting information systems research: Shedding light on digital transformation and institutional change	Schiavi, G. S., Behr, A., & Marcolin, C. B. (2024)	BRAZIL	QUANTITATIVE	WOS





Likewise, Oliveira, Bem, and Valadares (2025) carry out a bibliometric analysis that reaffirms the creation of a field of research focused on digital public services. Their study highlights that digitalization has been increasingly linked to the search for efficiency, the reduction of operating costs, and the improvement in the quality of service, which provides a solid conceptual basis for examining the results in local governments in Latin America.

In Argentina, the study carried out by Scaglia (2025) examines how ICTs impact provincial governance, concluding that efficiency and transparency are reinforced by incorporating technologies into participatory strategies and territorial proximity mechanisms. Although it focuses on the provincial level, its findings can also be applied to the municipal level, demonstrating that digitalisation improves management when combined with citizen participation and accountability.

An important part of the selected research analyzes digitalization in relation to governance, transparency and open data. Águila's (2023) study on e-government in Cuba highlights that access to public information is crucial to ensure effective management, as it allows for social control, reduces lack of clarity, and improves the public's perception of the government's performance. Similarly, Kadouaki, Cunha, and Andrade de Figueiredo (2024) investigate the effectiveness of open data portals in regional governments in Brazil and find that their success depends on their design, the ability to be updated, and citizen feedback. The most effective portals facilitate access to information, reduce search costs and strengthen decision-making processes.

In addition, de Magalhães Santos (2024) investigates the role of open data in digital government in Brazil, arguing that its strategic use promotes institutional efficiency by optimizing planning, monitoring, and collaboration between institutions. Similarly, Aguerre and Bonina (2024), through the analysis of the urban application "Por Mi Barrio" in Montevideo, demonstrate how civic platforms improve municipal management by allowing citizens to make reports in real time, optimizing the prioritization of interventions and the distribution of public resources.

Artificial intelligence (AI) is also a key element in several of the studies reviewed. Covarrubias and Pérez (2025) highlight the relevance of public officials as essential actors in the adoption of AI, emphasizing that their technological appropriation can increase efficiency, reduce errors, and facilitate the automation of administrative tasks. At the local level,

Prieto, Galarza, Guevara, Sanchez, and Calderón (2024) develop an AI governance model for the public sector in Guayaquil, Ecuador, highlighting the need to combine technical skills, public ethics, technological infrastructure, and citizen perception to ensure that AI truly improves administrative procedures. For their part, Romero and Villarroel (2024) analyze international standards of transparency in AI and argue that AI systems can only contribute to government efficiency if they are designed with criteria of explainability, traceability, and human supervision, which reduces legal risks and strengthens public trust.

Finally, several studies examine territorial innovation through smart cities, social networks and urban platforms. Fachinelli, Yigitcanlar, Sabatini-Marques, Cortese, Sotto, and Libardi (2023) suggest a model for identifying smart cities in Brazil and argue that urban efficiency is based on the ability of local governments to use data in decision-making, enhance citizen participation, and link technology projects to urban performance goals. On the other hand, De León, Gómez, and de la Garza-Montemayor (2023) investigate the challenges and opportunities presented by social networks for local governments and mention that these tools can favor public communication, improve interaction with citizens, and reduce operating expenses, although they also bring with them risks related to polarization and crisis management.

In summary, all fifteen studies agree that digitalization does not automatically lead to greater efficiency. On the contrary, the benefits in terms of response times, collaboration between departments, transparency, citizen participation and use of public resources are only achieved when technology is incorporated into solid governance models, adequate institutional capacities and innovation strategies that are sustained over time. Evidence also indicates that there are still unequal capacities, digital inequality and institutional fragmentation that limit the transformative potential of digitalisation, especially in local contexts with scarce resources. These findings are directly related to the objective of this article, as it shows that the effectiveness of local public administration in Latin America depends on the way in which digital innovation is managed, how it is adopted and adjusted to the institutional realities of each region.

## 6. DISCUSSION

The findings of this systematic review indicate that the digitalization of local public management in Latin America is a complex process, influenced by

multiple factors, as well as by the institutional dynamics, organizational capacities, and governance models that local governments have decided to implement. The results show that, although there is general agreement on the transformative power of digital technologies, their true impact on administrative efficiency is conditioned by structural and strategic factors that vary considerably between nations, regions and levels of government.

First, the studies analyzed show that digitalization should not be seen only as a technological issue, but as a process of institutional transformation that requires the creation of new competencies, agile organizational structures, and public leadership that fosters innovation. Research conducted by Espina-Romero (2025) and Barreto, Benedetti, and Tessarolo (2024) shows that administrative efficiency in municipalities improves when digital transformation encompasses process restructuring, staff training, and the implementation of internal coordination mechanisms. This interpretation is consistent with theoretical approaches that consider public innovation as a comprehensive phenomenon that encompasses organizational culture, change management, and technical and cognitive capabilities within public administration (Mergel et al., 2019; Lember et al., 2019).

Similarly, the results indicate that digital governance is crucial to define the effectiveness of technology initiatives. Studies such as those by Prieto et al. (2024) and Romero and Villarroel (2024) show that the absence of clear regulatory frameworks, transparency standards, and ethical criteria can limit the responsible use of technologies such as artificial intelligence, putting at risk their potential to improve administrative efficiency. From this perspective, efficiency depends not only on automation or algorithmic processing, but also on institutional legitimacy based on principles of transparency, explainability and human oversight, which coincides with current discussions on data governance and public ethics.

Another important point that emerges from the review is that digitalization has a more evident effect on administrative efficiency when it is related to citizen participation processes and active transparency mechanisms. Research carried out by Kadouaki et al. (2024), Águila (2023) and Aguerre and Bonina (2024) suggests that open data portals, urban platforms and civic applications can reduce administrative burden, facilitate incident management and improve the response capacity of local governments. These findings converse with theories of public value and open government, which

argue that the active participation of citizens in the supervision and improvement of public services contributes to efficiency, by highlighting deficiencies, encouraging the co-creation of solutions, and strengthening the legitimacy of government action (Moore, 1995; Meijer, 2015).

The review also indicates that the local level is an ideal place to study how digitalization affects efficiency in administration. Research such as that by Fachinelli et al. (2023) and León, Gómez, and de la Garza-Montemayor (2023) shows that cities and their municipalities are testing digital platforms, urban monitoring systems, social networks, and smart technologies that help improve resource management, optimize the circulation of information, and respond more quickly to emergencies or citizen needs. This suggests that local governments act as innovation labs, where technological solutions are evaluated that could later be applied at other levels of government.

However, the systematic review also highlights notable structural shortcomings that limit the effect of digitalisation. Research indicates that, despite a growing interest in adopting new technologies, many local governments face financing problems, lack of digital talent, poor infrastructure and fragmented regulations that hinder the sustainability of digital transformation processes. These difficulties coincide with regional analyses that have pointed to digital inequality in Latin America and the danger that digitalization exacerbates existing inequalities instead of reducing them (ECLAC, 2024; OECD and CAF, 2024).

In addition, the findings show that digitalization can bring new tensions and challenges in governance. The integration of artificial intelligence, the intensive use of data and digital interaction present ethical dilemmas, risks of lack of transparency, vulnerabilities in cybersecurity and possible problems of trust with citizens, especially when these processes are not supported by solid regulatory frameworks. The studies analysed agree that administrative efficiency can be affected if digitalisation advances without defined governance, which highlights the need to have institutional structures that can manage risks, protect rights and ensure that technology is used for the benefit of the public interest.

Finally, the results allow us to point out that digitalization has a positive impact on administrative efficiency when combined with public innovation strategies and collaborative governance. The importance of citizen participation, transparency and coordination between institutions is highlighted as common factors in studies that observe higher levels of efficiency. This suggests that effective

digitalization not only improves internal processes, but also strengthens external relationships, increases institutional legitimacy, and facilitates evidence-based decision-making, which is entirely in line with the purpose of this article in examining digitalization from the perspective of innovation and governance at the local level.

In summary, the discussion of the findings allows us to conclude that digitalization has the potential to significantly transform the efficiency of local public administration in Latin America, but its effect depends on the interaction between technology, institutional capacities, governance frameworks, and citizen participation. This comprehensive approach is essential to understand the complexity of the phenomenon and guide public policies that promote inclusive, ethical and sustainable digitalization in local governments in the region.

## 7. CONCLUSION

The systematic review carried out allows us to conclude that the digitalization of local public administration in Latin America is a complicated process, in which technology plays a facilitating role, but it is not the only decisive factor. The fifteen studies examined indicate that digitalization can significantly increase administrative efficiency if implemented within strong governance contexts, supported by institutional capacities, political leadership, and a strategic vision focused on innovation. Without these components, technology tends to produce isolated effects or aggravate existing inequalities.

In relation to the main objective of the research, the results confirm that efficiency improves mainly through the automation of procedures, the reduction of response times, the improvement in internal collaboration and the more efficient use of public resources. However, these benefits do not arise spontaneously; They depend on factors such as staff training, clear rules on digital management, the availability of adequate technological infrastructure, and the willingness of local government to reform administrative processes.

The review also shows that digital governance has a crucial role in realizing the advantages associated with digitalization. Studies on transparency, open

data, and artificial intelligence indicate that technological impact is intensified when there are accountability mechanisms, clear ethical principles, interoperability standards, and effective oversight and control processes. In this sense, efficiency is not only understood as an operational improvement, but also as a process of institutional legitimacy based on transparent, responsible and citizen-centered practices.

In addition, research on urban platforms, civic applications, social networks and smart cities shows that citizen participation is a key aspect that enhances the effects of digitalization. Successful experiences are characterized by including citizens in the identification of problems, the supervision of services and the co-creation of solutions, which strengthens the capacity of local governments to respond more effectively and adequately to the needs of the territory. This confirms that administrative efficiency is not only an internal result, but a process that is nourished by the constant exchange between government and society.

However, the findings also reveal that local governments face structural obstacles that limit the transformative potential of digitalization. These challenges include deficiencies in technological infrastructure, lack of sustained investment, shortage of digital skills, regulatory fragmentation and digital inequality between regions. These elements condition progress and highlight the need for public policies that support local governments through adequate financing, continuous training, and coherent regulatory frameworks that align with innovation dynamics.

Finally, the comprehensive analysis suggests that digitalization can act as an effectiveness boost for local public management in Latin America, but this is only possible if it is combined with governance models that are inclusive, ethical, and strategic. The region needs to move towards digitalization that manages to generate value for the public, promote transparency, increase citizen trust, and improve the capacity of institutions to face the challenges of today's development. Therefore, digitalization should not be seen as an objective in itself, but as a tool to develop more dynamic, responsible, participatory local administrations focused on collective well-being.

## REFERENCES

- Aguerre, C., & Bonina, C. (2024). *Open government, civic tech and digital platforms in Latin America: A governance study of Montevideo's urban app "Por Mi Barrio"*.  
 Águila, O. B. (2023). *The principle of transparency and electronic government*.

- Barreto, E. R., Benedetti, E. C. B., & Tessarolo, E. M. (2024). *Public management in the digital age in the city of Niterói: Institutional and procedural changes and lessons learned for the developing world.*
- Covarrubias, M., & Pérez, J. E. (2025). *Public servants as catalysts: Steering the adoption of artificial intelligence.*
- de León, C. G. D., Gómez, C., & de la Garza-Montemayor, D. (2023). *Social networks and public administration: The challenges and opportunities of governments in the era of digital communication.*
- de Magalhães Santos, L. G. (2024). *Open government data in the Brazilian digital government: Enabling an SDG acceleration agenda.*
- ECLAC. (2023). *Digital Development Observatory.*
- ECLAC. (2024). *Overcoming the pitfalls of development in the digital age: The transformative potential of digital technologies and artificial intelligence.*
- ECLAC. (2025). *Guide for establishing a governance framework for digital government in Latin America and the Caribbean.*
- Eggers, W., & Skowron, C. (2018). *Digital government: Overcoming challenges to transformation.* Deloitte Insights.
- Espina-Romero, L. (2025). *Digital transformation of the state: A multivariable model applied to the public sector in Lima.*
- Fachinelli, A. C., Yigitcanlar, T., Sabatini-Marques, J., Cortese, T. T. P., Sotto, D., & Libardi, B. (2023). *Urban smartness and city performance: Identifying Brazilian smart cities through a novel approach.*
- Fischer, C., Heuberger, M., & Heine, M. (2021). *The impact of digitalization in the public sector: A systematic literature review.* *Der Moderne Staat*, 14(1), 1–21.
- Gil-García, J. R., Dawes, S., & Pardo, T. (2018). *Digital government and public management research.* *Government Information Quarterly*, 35(2), 253–260.
- Haug, N., Dan, S., & Mergel, I. (2024). *Digitally induced change in the public sector: A systematic review and research agenda.* *Public Management Review*, 26(7), 1963–1987.
- Kadouaki, R., Cunha, M. A., & Andrade de Figueiredo, B. (2024). *Usability of statistics and transparency open data portals in regional governments.*
- Kettunen, P., & Kallio, J. (2021). *Digital transformation and public sector organizations.* *Government Information Quarterly*, 38(4), 101577.
- Latupeirissa, J. J. P., Dewi, N. L. Y., Prayana, I. K. R., Srikandi, M. B., Ramadiansyah, S. A., & Pramana, I. B. G. A. Y. (2024). *Transforming public service delivery: A comprehensive review of digitization initiatives.* *Sustainability*, 16(7), 2818.
- Lember, V., Brandsen, T., & Tönurist, P. (2019). *The impacts of digital technologies on co-production and co-creation.* *Public Management Review*, 21(3), 404–428.
- Lui, L., de Aguiar, R. B., dos Santos ten Cate, L. N., & de Melo Barbosa, S. (2025). *What drives local governments' digital transformation in Brazil?*
- Mazzucato, M., & Ryan-Collins, J. (2019). *Putting value creation back into public value.* *Journal of Economic Policy Reform*, 23(2), 1–15.
- Meijer, A. (2015). *E-governance innovation: Insights from the Netherlands.* *Government Information Quarterly*, 32(2), 105–112.
- Mergel, I., Edelmann, N., & Haug, N. (2019). *Defining digital transformation.* *Government Information Quarterly*, 36(4), 101385.
- Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. (2009). *Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement.* *PLoS Medicine*, 6(7), e1000097.
- Moore, M. (1995). *Creating public value: Strategic management in government.* Harvard University Press.
- OECD & CAF. (2024). *Digital government review in Latin America and the Caribbean.*
- Oliveira, K. P., Bem, A. A. G. D., & Valadares, J. L. (2025). *Public services and digital technologies: A bibliometric analysis.*
- Pérez-Morales, A., & Sánchez-Torres, J. (2021). *Digital public innovation in Latin American local governments.* *Journal of Public Management*, 10(1), 45–67.
- Pinho, J. (2020). *Citizen participation and digital tools in Latin American democracies.* *Latin American Policy*, 11(2), 278–295.
- Pollitt, C., & Bouckaert, G. (2011). *Public management reform: A comparative analysis.* Oxford University Press.
- Prieto, E. A. C., Galarza, I. A. S., Guevara, A. P., Sanchez, S. P. V., & Calderón, R. F. C. (2024). *Governance model for artificial intelligence in the public sector of Guayaquil.*
- Rojas Cangahuala, G., Chura Alegre, M., López Orozco, G., & Pinto Díaz, G. (2025). *Digital government and public management: Themes, influences, and international collaborations.*

- Romero, L. F., & Villarroel, I. E. (2024). *Transparency of artificial intelligence in public administration: A review of international standards*.
- Sangama Reyna, E. J. (2024). *Digital transformation in Latin American governance*. *Latin American Journal of Social Sciences and Humanities*, 5(5), 2242–2259.
- Scaglia, A. J. (2025). *Innovation in provincial governance: Impacts of ICTs*.
- Schiavi, G. S., Behr, A., & Marcolin, C. B. (2024). *Institutional theory in accounting information systems research: Digital transformation and institutional change*.
- Tolbert, C., & Mossberger, K. (2006). *The effects of e-government on trust and confidence*. *Public Administration Review*, 66(3), 354–369.
- Wirtz, B., & Müller, W. (2019). *Public sector digitalization and the role of change management*. *International Journal of Public Administration*, 42(2), 123–135.