



# Institutional Barriers to Digital Governance in Ecuador: Evidence from the Fourth Industrial Revolution

**Raquel Vera-Ortega**

*Research professor at Universidad Católica de Santiago de Guayaquil  
and Universidad de Guayaquil.  
Ecuador*

ORCID: 0000-0001-9189-238X

E-mail: [raquel.vera@cu.ucsg.edu.ec](mailto:raquel.vera@cu.ucsg.edu.ec); [raquel.verao@ug.edu.ec](mailto:raquel.verao@ug.edu.ec)

**Linda Yong Amaya**

*Director of the Master's programs in Finance and Taxation, and Accounting  
and Finance at Universidad Católica de Santiago de Guayaquil.  
Ecuador*

ORCID: 0009-0008-1589-7478

E-mail: [linda.yong@cu.ucsg.edu.ec](mailto:linda.yong@cu.ucsg.edu.ec)

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**ABSTRACT:** This study analyzes the institutional challenges hindering the digital transformation of the public sector in Ecuador, within the context of the Fourth Industrial Revolution. A qualitative, descriptive, and documentary methodology was applied, adhering to the PRISMA protocol guidelines. From 161 reviewed sources, 25 documents met the inclusion criteria, and a Likert-scale questionnaire was administered to 24 experts, including academics, public officials, and technicians. The findings were organized into five dimensions: institutional interoperability, regulatory framework, digital governance, institutional capacities, and territorial equity. Problems such as limited coordination among state platforms, restricted local operability, and territorial gaps in access to digital services were identified. The study concludes that digital government necessitates a structural transformation beyond technological. A multi-level strategy combining interoperability, sustained investment, institutional strengthening, and citizen participation is proposed. This research offers a contextualized and comprehensive vision, useful for designing inclusive digital public policies in developing countries.

**KEYWORDS:** e-government, institutional change, interoperability, regional disparities, institutional capacity



**CONTENTS:** 1. Introduction. - 2 Literature review - 3. Methodology. - 4. Results and discussion. - 5. Conclusions. - References.

## Barreras Institucionales para la Gobernanza Digital en Ecuador: Evidencia desde la Cuarta Revolución Industrial

**RESUMEN:** Este estudio analiza los desafíos institucionales que obstaculizan la transformación digital del sector público en Ecuador, en el contexto de la Cuarta Revolución Industrial. Se aplicó una metodología cualitativa, descriptiva y documental, siguiendo las directrices del protocolo PRISMA. De 161 fuentes revisadas, 25 documentos cumplieron con los criterios de inclusión y se aplicó un cuestionario tipo Likert a 24 expertos entre académicos, funcionarios y técnicos. Los hallazgos se organizaron en cinco dimensiones: interoperabilidad institucional, marco regulatorio, gobernanza digital, capacidades institucionales y equidad territorial. Se identifican problemas como la escasa coordinación entre plataformas estatales, limitada operatividad local y brechas territoriales en el acceso a servicios digitales. El estudio concluye que el gobierno digital requiere una transformación estructural más allá de lo tecnológico. Se propone una estrategia multinivel que combine interoperabilidad, inversión sostenida, fortalecimiento institucional y participación ciudadana. Aporta una visión contextualizada e integral, útil para el diseño de políticas públicas digitales inclusivas en países en desarrollo.

**PALABRAS CLAVE:** gobierno electrónico, cambio institucional, interoperabilidad, disparidades regionales, capacidad institucional.

### 1. Introduction

The era of the Fourth Industrial Revolution (4IR), characterized by the fusion of digital, physical, and biological technologies (Anthopoulos et al., 2022), has driven an unprecedented transformation in the way societies and governments operate (CAF, 2025). In this global context of rapid digitalization, digital governance emerges as a fundamental pillar for optimizing the delivery of public services, fostering transparency (Adam & Fazekas, 2021), enhancing citizen participation, and strengthening democracy (Golob et al., 2024). However, for developing nations such as Ecuador, the adoption and consolidation of digital governance is not without challenges. Despite the undeniable potential that 4IR offers for the development and modernization of the State (Nazareno, 2023), the effective implementation of governmental digital initiatives is hindered by a complex network of internal factors.



These include, but are not limited to, the lack of a robust and accessible technological infrastructure throughout the territory (World Bank, 2024); the scarcity of financial and human resources specialized in information and communication technologies (ICTs) within public institutions (OECD & CAF, 2023); and a persistent digital divide that excludes large segments of the population from the benefits of connectivity (Cibian et al., 2022). The mere availability of technology does not guarantee its efficient use or transformative impact if it is not accompanied by a solid institutional framework and an adaptable organizational culture.

Within this landscape, it becomes evident that Ecuador's current institutional structures often rigid and anchored in traditional models of public administration constitute intrinsic barriers to the full realization of the principles of digital governance. Data fragmentation among different government entities, resistance to change among public officials who lack proper training or incentives to adopt new digital tools (Zhang & Sahli, 2024); the absence of agile regulatory frameworks that keep pace with technological innovation; and the limited capacity to design and implement coherent digital public policies (Rojas et al., 2025), are clear manifestations of these institutional shortcomings. These barriers not only slow the modernization of the State but also limit Ecuador's ability to fully seize the opportunities that the Fourth Industrial Revolution presents for inclusive economic growth and the improvement of its citizens' quality of life.

In this context, the present study aims to analyze the institutional barriers that hinder the implementation and development of digital governance in Ecuador, using the evidence and challenges emerging from the Fourth Industrial Revolution as an analytical lens. The goal is to identify the structural and cultural factors within Ecuadorian public institutions that obstruct an effective transition toward a more digital and citizen-centered model of the State.

## **2. Literature Review**

### **a) Conceptual Foundations of Digital Government**

The notion of digital government has evolved from an instrumental view focused primarily on the integration of information technologies toward a broader perspective that acknowledges its transformative impact on the very structure of the public sector. Grossi and Argento (2022) emphasize that digitalization not only introduces new tools but also reshapes accountability mechanisms, social control, and the provision of public goods. This transformation demands a redefinition of governance, grounded in collaborative and participatory paradigms. Within this broader process of institutional transformation, the impact of the Fourth Industrial Revolution (4IR) becomes particularly relevant. It represents a paradigmatic shift, driven by the convergence of digital, physical, and biological technologies, including artificial intelligence, the Internet of Things (IoT), advanced robotics, 3D printing, and biotechnology (Iqbal et al., 2023). The massive integration of these technologies is



not only altering production and consumption models but also reshaping how public institutions operate and respond to social demands. As noted by Taqi et al. (2025), the 4IR is defined by its speed, scope, and systemic impact requiring governments to develop unprecedented adaptive capacities.

In this context, Long et al. (2021) propose a big-data-based analytical framework for governments operating under 4IR conditions, highlighting that the value of data lies in its capacity to support real-time decision-making, ensure institutional traceability, and enable new forms of interaction between the state and its citizens. In a complementary perspective, Bharosa and Janowski (2024) conceptualize the GovTech ecosystem as a dynamic intersection of innovation, regulation, and public management. Their analysis underscores that this convergence compels institutions to adopt more agile, adaptive, and user-centered organizational models capable of effectively responding to an ever-changing technological and social environment.

#### b) Analytical Models and Applied Tools

Various studies have developed analytical models to better understand the impact of digital government on institutional practices. Zeleti et al. (2021), for instance, examine the use of digital technologies in tax administration as an example of automated governance. Palacin et al. (2021) reframe the concept of e-participation in alignment with the Sustainable Development Goals, showing that digital platforms must be contextualized within specific social and cultural settings to be truly effective. Nel (2020) highlights the importance of assessing risks in public-private partnerships for digital projects, arguing that their success depends not only on technological components but also on regulatory clarity and incentive structures. Along similar lines, Jiang et al. (2023) present a systematic review on the adoption of natural language processing (NLP) in the public sector, revealing significant gaps between technical development and institutional capacity to implement such technologies ethically.

#### c) Global and Regional Trends in Digital Government

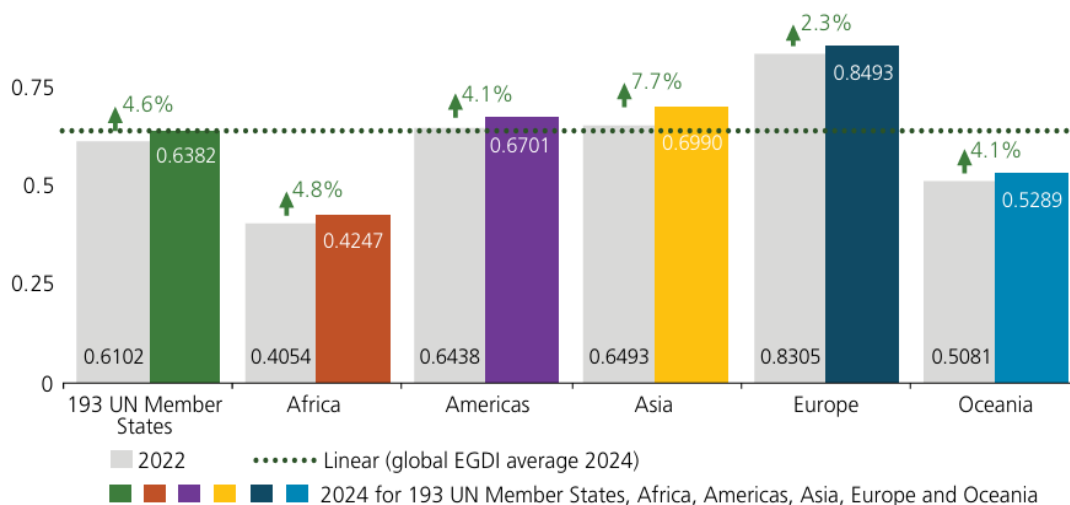
Digital government has advanced steadily across the globe. Its progress is tracked by the United Nations through the E-Government Development Index (EGDI), a composite indicator that evaluates online services, telecommunications infrastructure, and human capital. According to the UN E-Government Survey (2024), the global average EGDI increased from 0.6102 in 2022 to 0.6382 in 2024, marking a 4.6% rise and evidenced overall improvements though regional disparities remain (see Figure 1). Europe continues to lead with the highest EGDI score (0.8493), albeit with moderate growth (2.3%). Asia recorded the strongest regional improvement, increasing from 0.6490 to 0.6990 (7.7%), followed by the Americas, which rose from 0.6437 to 0.6701 (4.1%). Meanwhile, Africa and Oceania remain below the global average, with scores of 0.4247 and 0.5289, respectively, despite moderate gains.



Europe's leadership reflects high digital maturity levels, supported by integrated governance models, platform standardization, and multilevel regulatory coordination (Dedovic & Homburg, 2024). In Asia, countries such as South Korea, Singapore, and the United Arab Emirates have made notable progress, driven by strategic policies and sustained investment in digital infrastructure (Roxas, 2024). Conversely, Latin America continues to face structural barriers that hinder the effectiveness of its digital government initiatives. These include limited interoperability, institutional fragmentation, and weak cybersecurity frameworks (Santini et al., 2024). Furthermore, 96% of government systems in the region are used only for descriptive analysis, limiting their value for data-driven decision-making. Nonetheless, countries like Uruguay, Chile, Brazil, and Argentina stand out as regional benchmarks.

Despite these global advances, the digital divide remains a pressing issue. As noted by Kuo-Hsun (2024), large portions of the population, particularly in Africa and Oceania, still lack sufficient access to digital public services, underscoring the need for more inclusive and targeted digital strategies.

**Figure 1. Comparative EGD Trends by Region (2022–2024)**



Source: adapted from UN E-Government Survey 2024: Governing in the Digital Age (p. 42), by United Nations Department of Economic and Social Affairs, 2024, <https://publicadministration.un.org/egovkb/en-us/Reports/UN-E-Government-Survey-2024>. United Nations.

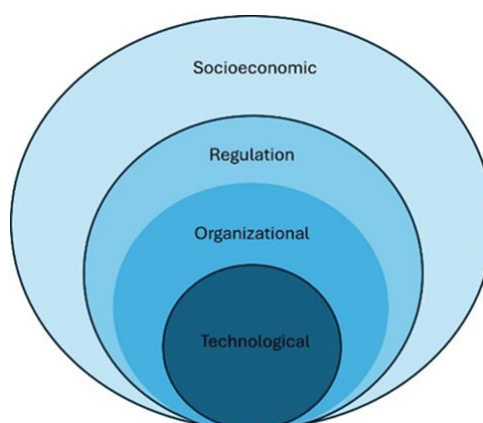
#### d) Key Concepts and Institutional Variables

Regarding the variables that explain the success or failure of digital transformation, the literature highlights factors such as public leadership (Manda, 2021), the quality of open data (Tan et al., 2023), and the capacity of public organizations to learn and innovate (Neamțu & Hossu, 2024). Lněnička and Máchová (2022) propose a theoretical framework for assessing digital divides across three interrelated dimensions: technological, organizational, and regulatory. This framework proves



especialmente útil en analizar contextos como Ecuador. La Figura 2 esquemáticamente representa estas dimensiones, incluyendo el componente socio-económico como una condición estructural que influye en la efectividad de la transformación digital. La figura ilustra que el progreso tecnológico por sí solo es insuficiente sin capacidades institucionales, marcos regulatorios robustos y un entorno social que legitima los procesos de innovación del sector público. Finalmente, Aranda et al. (2022) advierten que la integración de tecnologías 4.0 debe ir acompañada por un rediseño de los procesos de formación de capital humano. De lo contrario, la innovación digital corre el riesgo de convertirse en una modernización superficial que reproduce las desigualdades estructurales.

**Figure 2. Dimensions of Digital Government**



Source: own elaboration

### 3. Methodology

This study adopts a qualitative, descriptive approach, aimed at analyzing the institutional challenges faced by the Ecuadorian state in its digital transformation process within the context of the Fourth Industrial Revolution. The methodological design combined two complementary strategies: a systematic documentary review of academic and normative sources related to digital governance, and an empirical validation process through a previously validated Likert-type questionnaire.

#### a) Documentary Review

The documentary component was developed through a qualitative systematic review based on the PRISMA protocol (Preferred Reporting Items for Systematic Reviews and Meta-Analyses). This methodological approach was deemed appropriate for the present study due to its non-experimental nature and exploratory design. The review was conducted between February and May 2025 and was structured into four main phases: identification, screening, eligibility assessment, and inclusion, as schematically illustrated in Figure 3. The process was carried out collaboratively by two researchers, achieving a high level of inter-rater agreement

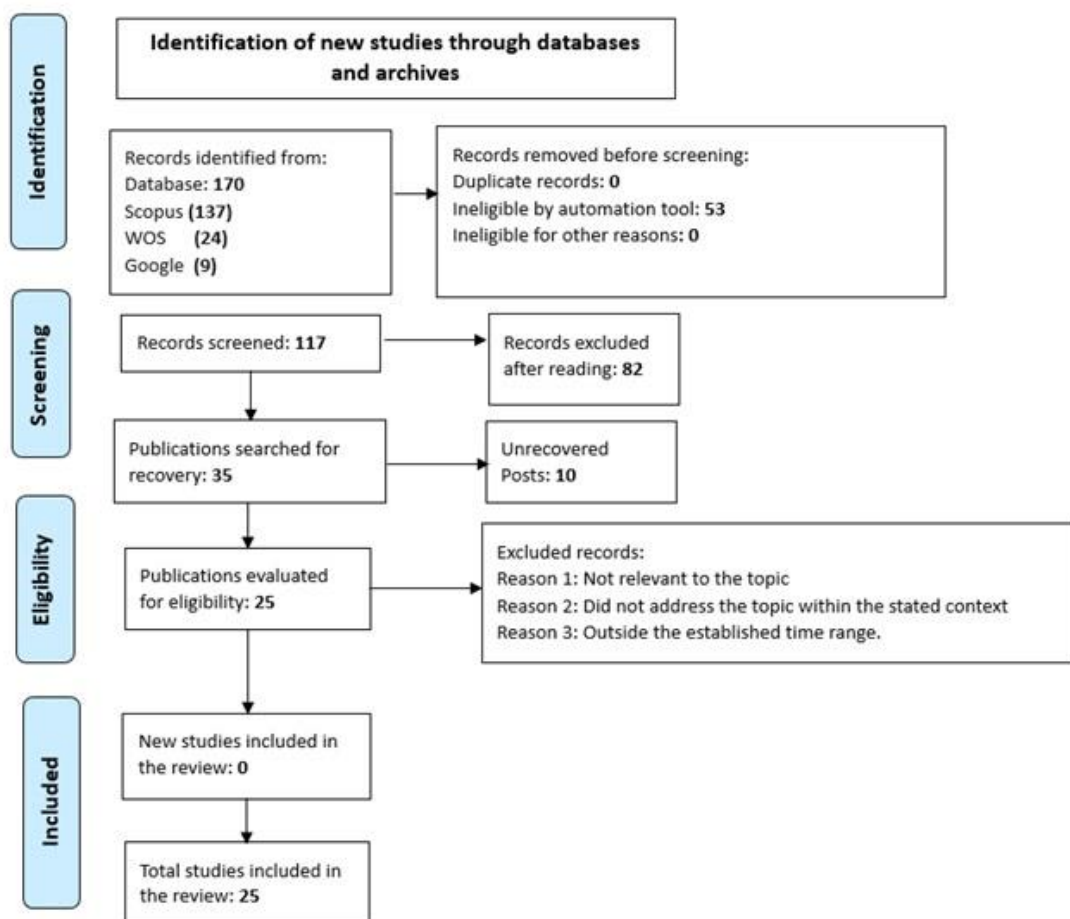


(90%), with discrepancies resolved through reflective discussion and consensus. During the identification phase, 161 documents were collected through targeted searches in indexed academic databases such as Scopus and Web of Science, using the following Boolean search string:

TITLE-ABS-KEY(("digital governance" OR "governance digital" OR "e-governance" OR "e-government" OR "government digital" OR "electronic government") AND ("Latin America" OR "Latinoamérica" OR "South America" OR Ecuador)).

In addition, relevant documents were retrieved from official sources such as the OECD, ECLAC, CAF, the United Nations, and the National Council of Competencies (CNC), from which 9 technical and policy documents were selected based on their alignment with the study's objectives.

**Figure 3. PRISMA diagram**



Source: PRISMA diagram, 2020



The inclusion and exclusion criteria applied throughout each phase, as summarized in Table 1, guided the refinement and validation of the document corpus. During the screening phase, 53 documents were excluded due to duplication or limited thematic relevance, with Covidence software used to support document management. In the eligibility assessment phase, an additional 82 documents were excluded for not meeting key criteria related to thematic alignment, timeliness, or contextual relevance to the Ecuadorian case. Despite formal efforts to access 10 restricted documents, the final corpus consisted of 25 documents, which were subsequently subjected to a structured thematic coding process.

**Table 1. Inclusion and Exclusion Criteria for Document Selection**

Criterion	Inclusion	Exclusion
Type of source	Peer-reviewed articles (SCOPUS, OsS), technical reports, laws, and official institutional documents	Non-verifiable sources, blogs, informal publications, or those lacking academic or institutional backing
Language	Publications in English or Spanish	Documents in other languages without available translation
Publication date	Documents published between January 2020 and December 2024	Publications prior to 2020 or undated materials
Geographic focus	Studies addressing the Ecuadorian case or regional comparisons including Ecuador	Studies focusing exclusively on the other regions without contextual relevance to Ecuador
Thematic relevance	Documents related to digital government, institutional transformation, interoperability, regulatory frameworks, digital governance, institutional capacities, or territorial equity	Documents not related to the research objectives or focused exclusively on private sector technologies
Accessibility	Full access to the complete document	Inaccessible documents despite formal retrieval attempts
Academic institutional rigor	Clear authorship and filiation to universities, multilateral organizations, or public institutions	Documents with unclear authorship, lacking peer review or institutional endorsement

Source: own elaboration

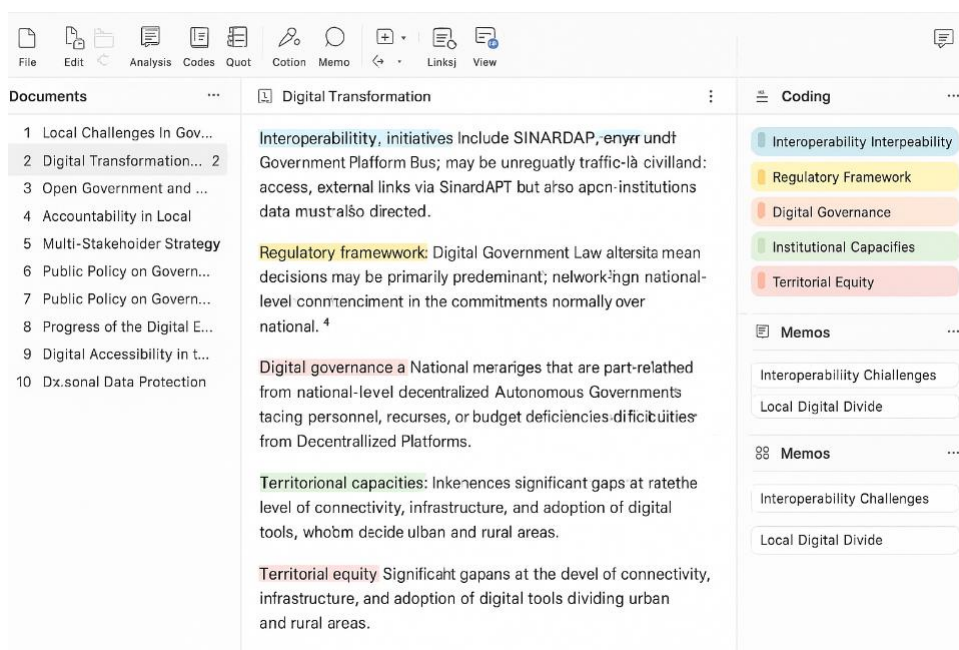




The analysis was structured around five key dimensions identified inductively: institutional interoperability, regulatory framework, digital governance, institutional capacities, and territorial equity. The coding process followed systematic qualitative procedures and was complemented by abductive reasoning, allowing the formulation of plausible connections between regulatory frameworks, institutional data, and structural gaps. This interpretative approach was informed by methodological contributions from Chauhan et al. (2025) and Morte-Nadal and Esteban-Navarro (2025), as well as qualitative reviews by Iverson et al. (2024) and Ashcroft et al. (2024). To ensure the trustworthiness of the qualitative analysis, the study adhered to the four rigor criteria proposed by Lincoln and Guba (1985): credibility, transferability, dependability, and confirmability.

The analytical process was supported using ATLAS.ti software, which enabled the systematic coding of textual data, organization of thematic categories, and generation of analytical memos, as illustrated in Figure 4.

**Figure 4. Coding of analytical dimensions using ATLAS.ti software**



Source: extract Atlas.ti software

#### b) Validation of the Measurement Instrument

To optimize the methodological triangulation of the study and contrast documentary findings with expert perspectives, a structured questionnaire comprising 20 items was developed. These items were organized on a five-point Likert scale, where 1 represents "very low" and 5 "very high." The instrument's validation was conducted through expert judgment by six specialists in the field. Subsequently, a pilot test was carried out with 26 participants from the target population to ensure the clarity,



coherence, and thematic relevance of the items. The questionnaire's structure and a sample of its questions are presented in Table 2.

The reliability of the questionnaire was estimated using Cronbach's alpha coefficient, yielding an overall value of  $\alpha = 0.88$ . This result is consistent with those reported in recent studies focused on assessing institutional barriers and capabilities in public sector digital transformation processes. According to Atobishi et al. (2024), "instruments designed to measure digital capabilities in the public sector should demonstrate high levels of internal consistency, with alpha coefficients ranging from 0.87 to 0.90" (p. 14). Complementarily, Hien (2024) reported similar reliability levels in studies on digital innovation and institutional constraints in Southeast Asian public administrations.

The instrument was structured around five analytical dimensions derived from the documentary review: institutional interoperability ( $\alpha = 0.76$ ), regulatory framework ( $\alpha = 0.84$ ), digital governance ( $\alpha = 0.89$ ), institutional capabilities ( $\alpha = 0.83$ ), and territorial equity ( $\alpha = 0.87$ ). All these values exceed the minimum acceptable threshold ( $\alpha > 0.70$ ), confirming adequate internal consistency within each dimension and supporting the validity of the questionnaire for empirical application in the study context.

**Table 2. Representative Items from the Validated Questionnaire**

*Scale: 1 = Very low, 2 = Low, 3 = Neutral, 4 = High, 5 = Very high*

Analytical dimension	Sample question
Institutional interoperability	The public institution where I work effectively shares digital information with other government entities.
Regulatory framework	The existing laws and regulations support the implementation of digital services in my institution.
Digital governance	In my workplace, there is clear leadership and strategic direction for digital transformation.
Institutional capabilities	My institution has the technical and human resources necessary for digital transformation
Territorial equity	Digital services are accessible to citizens regardless of their geographic location.

Source: own elaboration



#### 4. Results and discussion

Given the qualitative nature of the research, the results are presented in an integrated manner alongside their interpretive discussion, articulating the documentary analysis with expert perceptions and the conceptual framework. This combined presentation allows the identification and contrast of the main institutional barriers limiting the development of Ecuador's digital ecosystem, organized into five dimensions: interoperability, regulatory framework, digital governance, territorial equity, and institutional capacities.

Documentary analysis reveals that one of the most persistent obstacles is the lack of standardized national digital architecture, which hinders effective coordination among public entities. Despite the existence of initiatives such as the Government Services Bus (BSG) and the National System of Public Registries (SINARDAP), these operate with limited coordination across government levels, both horizontally and vertically (Rojas et al., 2023; Loor & Rivadeneira, 2024). This disarticulation creates operational redundancies and reduces the efficiency of digital services. Even technically advanced platforms, such as those of the SRI or the Civil Registry, face difficulties interoperating with local governments and autonomous entities, negatively affecting citizen experience (Baum et al., 2021). From the experts' perspective, interoperability was rated with a mean of  $\bar{x} = 3.80$  and a standard deviation of  $\sigma = 1.14$ . These values indicate a relatively favorable assessment compared to other dimensions, but with a high level of dispersion in perceptions. This variability may be attributed to significant differences between national and local institutions regarding interoperability capabilities. This finding aligns with Aguerre (2023) and Breugh et al. (2023), who warn that institutional fragmentation is a constant in public sector digitalization processes in Latin America.

Although Ecuador has adopted a modern regulatory framework including the Organic Law on Personal Data Protection (2021), the Digital Government Law (2023a), and the Cybersecurity Law (2023b), these advances face significant implementation barriers. Recent studies highlight the weakness of enforcement, monitoring, and evaluation mechanisms, especially at the subnational level (OECD, 2023; Cabrera-Barona & Cisneros, 2021). This gap between legal design and operability creates a formally robust but institutionally fragile regulatory ecosystem, vulnerable to discontinuities and a lack of institutional sustainability. Experts reflect this tension by assigning a mean of  $\bar{x} = 3.40$  with a standard deviation of  $\sigma = 0.86$ . These values indicate an intermediate perception, where the regulatory framework is rated as moderately acceptable, but with clear signs of operational shortcomings. As noted by Dedovic and Homburg (2024), regulatory frameworks in emerging contexts tend to be reactive, fragmented, and with limited anticipatory capacity, which prevents the incorporation of principles such as interoperability by design. In Ecuador's case, this situation undermines public trust and hampers the secure and coherent deployment of emerging technologies.



One of the most visible institutional barriers is Ecuador's centralized and minimally participatory governance model. Although policies such as the National Electronic Government Plan and Open Government commitments exist, citizen inclusion mechanisms in the design, monitoring, and evaluation of these policies remain insufficient (Ordoñez et al., 2021; CAF & Oxford Insights, 2024). Most government platforms operate as unidirectional information channels, failing to evolve into interactive spaces for public value deliberation and co-creation (Suing et al., 2023). This situation is reflected in the low rating given by experts:  $\bar{x} = 2.90$  and  $\sigma = 0.93$ . The average score indicates a critical perception of this dimension, and the dispersion reveals notable disparities in the implementation and effectiveness of participation mechanisms among institutions. Experts identify limited active transparency and the absence of a multilevel approach as key obstacles to an inclusive and sustainable digital transformation (Stratu-Strelet et al., 2023).

The analysis reveals deep territorial inequality as a structural barrier to public digitalization. While cities like Quito, Guayaquil, and Cuenca have advanced in digital portals and services, many rural and peri-urban areas still face deficits in connectivity, technological infrastructure, and qualified human capital (Morales & Robalino-López, 2020; Sempértegui & Báez, 2023; CEPAL, 2023). This asymmetry hinders equitable digital inclusion and perpetuates historical gaps in access to fundamental rights (Gualavisí, 2024). Experts identified this as the most critical dimension, with a mean of  $\bar{x} = 2.65$  and a standard deviation of  $\sigma = 0.89$ . The low mean reflects a widespread negative perception, while the intermediate deviation indicates differences depending on the type of territory or institution. This underscores the urgent need for differentiated and sustainable territorial policies (Baum et al., 2021). This situation has been highlighted by Michalik (2022) and Gigova (2020) as one of the most exclusionary factors in digital governance models centered on the central state. In July 2024, DINARP reported the participation of 130 Decentralized Autonomous Governments (GADs) in training events on interoperability services, indicating local interest but also the need for technical assistance for effective implementation (DINARP, 2024).

Finally, serious limitations are identified in the organizational capacities of the state apparatus. While some central agencies have strengthened their digital resources, most Decentralized Autonomous Governments (GADs) lack specialized personnel, strategic planning, and sufficient budgets (Villao et al., 2023). Existing training programs, led by ministries or multilateral agencies, often fail to adapt to local realities or to cover all regions of the country (Clark & Rosales, 2023). Experts assigned a mean score of  $\bar{x} = 3.10$  with a standard deviation of  $\sigma = 0.75$ . This combination reflects an intermediate perception with relatively homogeneous responses, suggesting consensus regarding the limitations in human and technical resources particularly at the subnational level. Some studies propose the creation of regional training centers for digital government, with an emphasis on financial



sustainability and territorial equity, as a potential solution (Edelmann & Virkar, 2023; Clark & Rosales, 2023).

To support a comparative and multidimensional interpretation, Table 3 consolidates expert evaluations by dimension, enabling the identification of critical institutional barriers and the degree of variability across them. The combination of means ( $\bar{x}$ ) and standard deviations ( $\sigma$ ) offers a robust synthesis of perceptions, reinforcing the qualitative patterns identified throughout the analysis.

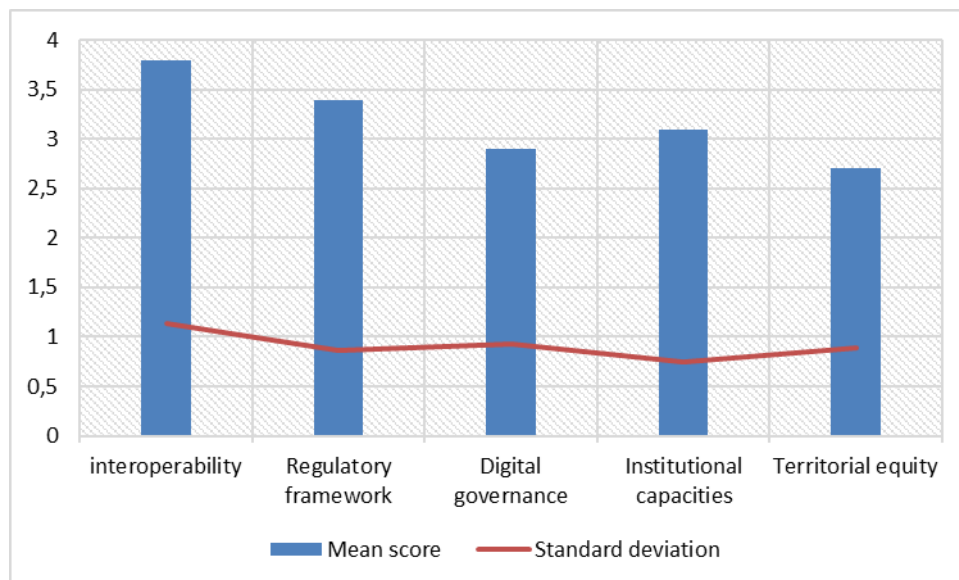
**Table 3. Expert assessment of institutional barriers by dimension (Scale 1–5)**

Dimension	Mean score	Standard deviation
Institutional interoperability	3.8	1.14
Regulatory framework	3.4	0.86
Digital governance	2.9	0.93
Institutional capacities	3.1	0.75
Territorial equity	2.7	0.89

Source: own elaboration

The graphical representation in Figure 5 provides a visual complement to the comparative data presented in Table 3. It facilitates a more immediate interpretation of the relative differences and variability among dimensions, enhancing the multidimensional analysis from a visual perspective.

**Figure 5. Graphical synthesis of means and standard deviations**



Source: own elaboration



These results highlight the need to focus digital transformation on overcoming structural limitations rather than merely incorporating isolated technologies. As Aguerre (2023) notes, moving toward a sustainable digital governance model requires integrating regulatory frameworks, human capacities, and infrastructure in a coherent and adaptive manner.

#### Implications and Projections

The findings of this study underscore the urgency of strengthening Ecuador's institutional architecture under a decentralized, interoperable logic focused on public value. Effective citizen participation mechanisms, sustained investment in organizational capacities, and adaptive regulatory frameworks that anticipate future technological challenges are required.

Nevertheless, some limitations must be acknowledged: the qualitative and documentary approach restricts the generalization of findings, and the analysis focused on structural dimensions, without including operational elements such as user experience or digital service efficiency. Future research could expand this approach through comparative studies, mixed methods, or participatory evaluations, including citizen perceptions of the digital performance of the state.

### 5. Conclusions

This study examined the institutional challenges faced by the Ecuadorian state in its digital transformation process within the context of the Fourth Industrial Revolution. Based on a qualitative methodology, which was both documentary in nature and empirically validated through a structured questionnaire, five dimensions of the digital government ecosystem were identified: institutional interoperability, regulatory framework, digital governance, institutional capacities, and territorial equity.

The findings reveal that the main structural limitations are concentrated in the limited coordination among state platforms, the fragmentation of the regulatory framework in response to emerging technologies, and territorial inequality in the implementation of digital solutions. Although some progress has been observed in institutional capacities at the central level, they have yet to be consolidated as sustainable pillars for an equitable and efficient digital ecosystem.

From a practical standpoint, the results underscore the need to design a national interoperable digital architecture, supported by a forward-looking regulatory framework that incorporates principles of ethics, transparency, and data protection. Additionally, the urgent need for a territorially focused digital strategy is emphasized, including financing mechanisms and technical autonomy for local governments. At the institutional level, it is necessary to strengthen human and organizational capacities beyond isolated technological solutions, through training programs, collaborative networks, and continuous evaluation systems.



From a theoretical perspective, this study contributes to a deeper understanding of digital government as a process of structural transformation rather than mere technological modernization. This requires the adoption of an ecosystem-based approach that coherently integrates legal, organizational, and territorial dimensions, creating space for perspectives that connect institutional sustainability with digital inclusion and equitable access to public services.

As a future line of research, it is proposed to deepen local case studies that allow for the identification of adaptive capacities in municipalities with successful experiences. It is also recommended to incorporate participatory methodologies and empirical measurement tools to evaluate citizen experience and the actual impact of digital policies. Finally, exploring the relationship between institutional digital maturity and public trust could enrich the discussion on the intersection of technology, governance, and democratic legitimacy in Latin American contexts.

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