Digital governance and public ethics: challenges for the welfare state in the age of artificial intelligence

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Summary

In the article, we investigate the digital governance and public ethics of artificial intelligence in the public sector to explore the challenges of the social state in the face of algorithmic automation of administrative decisions. A qualitative study was carried out in this review with a critical and conceptual-normative analysis of the indexed scientific literature and international regulatory regimes published between 2022 and 2026, with special emphasis on the experiences of Europe, multilateral and Latin American organizations. The results showed that the introduction of algorithmic systems in public management generated a structural tension between administrative efficiency and fundamental rights, expressed in risks such as algorithmic opacity, computerized discrimination and administrative depersonalization. There were also considerable gaps in the Latin American social state, linked to technological dependence, institutional deficits, technical weakness, lack of technical capacities, and the emerging algorithmic privatization of public functions. Based on the critical review of the literature and the comparative study, an ethical-institutional model of digital governance for the social state was developed in the form of a specific normative, institutional, technological and citizen model of digital governance for the social state, which was articulated by a transversal axis of public ethics and guarantee of rights. This model showed that ethical governance of artificial intelligence required ethics to be systemic and integrated in order to synchronize technological innovation with a response that includes the public and democratic values of accountability and legitimacy. The research found that public ethics did not present a barrier to the modernization of the state, but was essential for the responsible, fair, and consistent deployment of AI in international environments, such as in countries in the Global South.

Keywords: Digital governance, Public ethics, Artificial intelligence, Social state, Algorithmic automation.

Abstract

In this article, we investigate digital governance and the public ethics of artificial intelligence in the public sector to explore the challenges to the welfare state in the face of the algorithmic automation of administrative decisions. A qualitative study was conducted for this review, employing a critical and conceptual-normative analysis of indexed scientific literature and international regulatory frameworks published between 2022 and 2026, with a particular focus on European, multilateral, and Latin American experiences. The results demonstrated that the introduction of algorithmic systems in public management has generated a structural tension between administrative efficiency and fundamental rights, expressed in risks such as algorithmic opacity, computerized discrimination, and administrative depersonalization. Significant gaps were also found within the Latin American welfare state, linked to technological dependence, institutional deficits, technical weakness, a lack of technical capacity, and the emerging algorithmic privatization of public functions. Based on a critical literature review and comparative study, an ethical-institutional model of digital governance for the welfare state was developed in the form of a specific normative, institutional, technological, and citizen-based model of digital governance for the welfare state, articulated by a cross-cutting axis of public ethics and the guarantee of rights. This model showed that the ethical governance of artificial intelligence required ethics to be systemic and integrated in order to synchronize technological innovation with a response that includes the public and democratic values of accountability and legitimacy. The research found that public ethics did not present a barrier to state modernization, but rather was essential for the responsible, fair, and coherent deployment of AI in international contexts, such as in countries of the Global South.

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Keywords: Digital governance, Public ethics, Artificial intelligence, Welfare state, Algorithmic automation.

Introduction

The digitalization of the state is also crystallized as one of the most important transformation processes of modern public administration. The evolution of systems based on AI, big data and algorithms in this sense, the way in which governments develop public policies, organize services or make policies are reformulated. Technologies are promoted as instrumental in increasing the efficiency, predictive capacity, and quality of public management, with the result that new configurations of digital governance emerge that unite human elements (mechanical and organizational) in complicated socio-technical systems (Vigoda-Gadot & Mizrahi, 2024; Panda et al., 2025).

However, the proliferation of algorithmic systems in the field of public administrations brings a good deal of tension between the efficiency of the administration and the safeguarding of basic rights. The automation of public decision-making, particularly in sensitive areas such as justice, health, social protection, or security, entails risks of algorithmic opacity, automated discrimination, erosion of due process, and dilution of system responsibility (Fountain, 2022; Herrera-Tapias et al., 2025; Teo, 2025).

This tension is especially relevant to the social state, which is based on the effective provision of rights, equity and distributive justice. Here, public ethics becomes a central consideration to guide digital governance. Even beyond meeting regulatory requirements, public ethics in relation to artificial intelligence are expected to include principles of transparency, explainability, accountability, algorithmic justice, and meaningful human accountability in the development, implementation, and evaluation of public technologies (Liao et al., 2025; Monteiro & Singh, 2025).

And any lack of these same principles will transform an investment in AI into one that intensifies structural inequalities and undermines democracy, even when used to modernize the administrative machinery. Latin America's current shortcomings only compound these difficulties. Technological asymmetries are aggravated by institutional weaknesses, fragmented regulatory structures, low technical capacity in the public sector, and reliance on technological solutions by transnational private actors. This, in turn, discourages the formation of AI governance models informed by social state principles and creates the possibility of uncritical adoption of technologically driven systems that are not aligned with the social, legal, and cultural context of the region (Barsekh-Onji et al., 2025; Maghsoudi et al., 2025).

Within this context, the article will address the following research questions: (i) What are the fundamental ethical and governance challenges faced by the social state in the integration of artificial intelligence systems in public management?; (ii) To what extent are existing digital governance schemes capable of balancing administrative efficiency with the safeguarding of fundamental rights? (iii) What features of an ethical-institutional governance model of AI appropriate for Latin American contexts should be integrated? In the context of these questions, the aim of the article is therefore to critically interrogate digital governance and public ethics with regard to the integration of artificial intelligence in the public sector, as well as to highlight the key challenges of the social state and to present an ethical-institutional model for a responsible, transparent and socially just implementation of these technologies within the context of the public sector.

Conceptual and Theoretical Framework

Digital Governance in the Public Sector

Digital governance in the public sector is an evolving concept that transcends the mere incorporation of information technologies in administrative processes. In its initial phase, e-government is mainly oriented towards the digitization of procedures and the provision of online services, with an instrumental emphasis on operational efficiency and the reduction of administrative costs. This stage prioritizes the automation of existing processes without substantively questioning decision-making models or institutional power structures.

Digital government subsequently expands this approach by integrating interoperable platforms, open data, and more dynamic interaction mechanisms between the state and citizens. In this phase, technology not only optimizes procedures, but also redefines the State-society relationship, promoting greater transparency, participation, and inter-institutional coordination. However, central decision-making remains predominantly human, with technological support.

The evolution towards algorithmic governance introduces a qualitative change. At this stage, algorithms and artificial intelligence systems take an active role in the formulation, implementation, and evaluation of

public policies, as well as in administrative decision-making. Algorithmic governance is characterized by the integration of predictive models, machine learning, and massive data analysis into processes that previously relied exclusively on human judgment, generating new sociotechnical arrangements that combine humans, machines, and organizations in complex decision-making structures (Vigoda-Gadot & Mizrahi, 2024; Attard-Frost et al., 2024).

Public Ethics in Technologically Mediated Contexts

Public ethics is a fundamental normative pillar of public administration, traditionally associated with principles such as legality, impartiality, responsibility, transparency and orientation towards the general interest. In technologically mediated contexts, these principles do not lose relevance, but they are redefined in the face of the challenges posed by algorithmic mediation in state action.

The incorporation of automated systems introduces ethical dilemmas related to the opacity of decision-making processes, the delegation of responsibilities to technical systems and the possible reproduction of large-scale structural biases. In this sense, digital public ethics requires the reinterpretation of classical principles to ensure that technological systems respect democratic values and fundamental rights. Transparency is redefined as algorithmic explainability; responsibility is extended to algorithmic accountability schemes; and impartiality is articulated with notions of algorithmic justice and non-discrimination (Fountain, 2022; Liao et al., 2025).

From this perspective, public ethics is not limited to a declarative framework, but is configured as an operational component of digital governance, guiding the design, implementation, and supervision of public technologies. The absence of robust public ethics in digital environments increases the risk of automated decisions incompatible with the principles of the social state and weakens institutional legitimacy.

Artificial Intelligence in Public Administration

Artificial intelligence in public administration encompasses a diverse set of technologies and applications that vary according to their level of complexity and degree of intervention in decision-making. In general terms, descriptive AI systems are identified, oriented to the analysis and monitoring of data; predictive AI, used to anticipate behaviors or social needs; and prescriptive AI, capable of recommending or executing administrative decisions.

These systems operate at different levels of decision automation. At lower levels, AI acts as a support tool for public officials, providing information for human decision-making. At intermediate levels, systems generate recommendations that significantly influence the final decision. At the highest levels, automation allows the decision to be executed directly by the system, with limited human intervention or ex post.

The increase in the level of automation amplifies both the potential benefits of efficiency, consistency, speed and the associated ethical and legal risks. Therefore, the adoption of AI in public administration requires governance frameworks that clearly define the limits of automation, ensure meaningful human oversight, and ensure the alignment of technological systems with the principles of the social state and public ethics (Panda et al., 2025; Monteiro & Singh, 2025).

Figure 1. Conceptual evolution of digital governance towards algorithmic governance

Note: Evolutionary diagram representing the transition from e-government to digital government and algorithmic governance, incorporating a cross-cutting axis of public ethics.

Figure 1 shows the evolution of digital governance in the public sector over the years and represents a shift from instrumental strategies that prioritize the digitization of services to advanced algorithmic decision-making models. In the first stage, e-government focuses on the provision of online services and the automation of administrative processes, with a functional focus on operational efficiency and accessibility, with little change from traditional public decision-making schemes. In the second stage, digital government emerges in such a way that data integration, institutional interoperability, and citizen participation have

much more important implications. At this level, technology begins to figure strategically in public management, facilitating more transparent and collaborative processes, although the responsibility for decisions remains inherently in the hands of humans.

Finally, this figure illustrates the advent of algorithmic governance, or the incorporation of artificial intelligence and automation systems in public decision-making. At this stage, algorithms begin not only to serve as a complement, but to really influence administrative decisions, thus generating new ethical, legal and social risks. The cross-cutting axis of public ethics and rights means the need for ethical principles and the safeguarding of basic rights in the supervision of the planning, construction and application of technologies throughout this evolution. The figure emphasizes that the move towards algorithmic governance is not just about a technological transition; It is also a normative and ethical transformation that will require governance frameworks capable of balancing efficiency, public accountability, and social justice.

Methodology

The article was constructed, developed and synthesized qualitatively with a critical review, conceptual-normative design, in the analysis of digital governance and public ethics in the application of artificial intelligence (AI) in the public sector with a particular focus on the problems of the social state in Latin America.

Type and design of the research

The study adopted an analytical, descriptive-interpretive non-experimental design, derived from a systematic review of the scientific literature and normative documents. It made it possible to identify conceptual patterns, potential ethical tensions and regulatory frameworks around the governance of artificial intelligence, without experimentation or analysis of statistical data. The study was designed as a scoping review, along with a comparative study, which aided in the synthesis of theoretical, regulatory, and institutional techniques from various geographic regions.

Data sources and selection criteria

Information sources were essentially searched in scientific databases indexed by the Scopus database and selected literature from scientific publishers and international organizations and included literature published by publishers and international organizations. Available scientific studies, book chapters, and technical reports from the period 2022 to 2026 were chosen as sources, focusing on publications with a focus on studies on:

- Digital governance and public administration.
- Ethical and algorithmic responsibility in the public sphere.
- Regulation and policies on artificial intelligence.
- Social and legal effects of automation.
- Comparative experiences of Europe, Latin America and the Global South.

The inclusion criteria included thematic relevance, academic quality, current and relevance to study social status. Documents of an informative nature, without academic support or that involved only technical approaches that lacked an ethical and normative dimension were excluded.

Analysis strategy

The information was analyzed through analytical reading of the data and thematic coding, recognizing categories and topics such as algorithmic efficiency, fundamental rights and public ethics, institutional governance, structural gaps, and citizen participation. These categories facilitated the organization of the conversation and the development of the conceptual models shown in Figures 1 to 4. In addition, a comparative analysis of the governance and regulatory frameworks that govern the use of artificial intelligence was carried out, comparing the experiences between the European Union, multilateral organizations and Latin American countries, to find important convergences, divergences and regulatory gaps.

Model Development

Based on the analysis of the synthesis of the literature that was carried out in a critical manner and comparative normative analysis, an ethical-institutional digital governance model for the social state was developed. By articulating this model inductively through normative, institutional, technological and

citizen dimensions, articulated along a transversal axis of public ethics and guarantee of rights. This model was validated for its theoretical coherence, alignment with international ethical paradigms, and its relevance to Latin American contexts.

Methodological challenges

Given the nature of the study as conceptual and normative, the results did not intend to apply generalized statistical information to the public, but rather to analytical validity and theoretical transferability. This approach helped formulate a meaningful contextual framework that shaped the public debate around the ethically correct implementation of artificial intelligence in the public domain.

Results

The Social State in the Age of Algorithmic Automation

The social state is based on the effective guarantee of fundamental rights, the promotion of material equality and public intervention to correct structural inequalities. The social state differs from minimal state models in that it actively contributes to providing essential services and protecting the vulnerable, ensuring social justice. In this context, the public administration not only applies norms, but also mediates between the legal order and social needs, using criteria that seek equity, proportionality, and reasonableness.

Algorithmic systems and artificial intelligence in public management redefine this role of the state. Although technologies offer greater efficiency, coherence, and information processing capacity, they also carry serious risks that affect the underlying principles of the social state. The automation of administrative processes can lead to opacity (when the principles of decision-making are not known by citizens and public operators); algorithmic discrimination (when systems reproduce or amplify historical biases); and administrative depersonalization (when the relationship between the state and the citizen becomes a distant interaction driven exclusively by technical systems) (Fountain, 2022; Herrera-Tapias et al., 2025).

These risks are especially urgent when public decisions directly affect fundamental rights, such as access to social benefits, justice, health or security. Excessive delegation of decision-making functions to automated systems can dilute fundamental due process protections, including the right to be heard, to know the reasons behind a decision, and to challenge it effectively. Similarly, the prioritization of algorithmic efficiency metrics may contradict the ideal of substantive equality, by treating situations in a homogeneous manner that require contextualized evaluations sensitive to particular social conditions (Teo, 2025; Maghsoudi et al., 2025).

In such an environment, algorithmic automation poses a structural tension between the instrumental logic of optimization and the normative values of the social state. While AI systems will strive to maximize efficiency, prediction, and control, the social state requires decisions that focus on social justice, inclusion, and the protection of rights. Without ethical governance frameworks to mitigate this tension, the natural consequence may be the uncritical technification of state action, and as algorithmic criteria increasingly supplant human ethical and legal judgment, the democratic legitimacy of public administration is corroded. Therefore, the fundamental issue is not to disavow algorithmic automation; The real challenge lies in integrating it in a way that is consistent with the principles of the social state, not allowing technological efficiency to surpass human dignity, equality and social justice. Integration, therefore, will have to depend on mechanisms of human control, transparency in decision-making and institutional accountability, which means that the state will be forced to maintain its role as guarantor in an increasingly digitized world.

Figure 2. Tensions between algorithmic efficiency and principles of the social state

Note: Conceptual model that illustrates the structural conflicts between the logic of algorithmic optimization and the normative principles of the social state, highlighting the risks to equality, due process, and social justice.

Figure 2 is a conceptual representation of the underlying tensions between the logic of algorithmic efficiency and the normative imperatives of the social state in relation to the automation of public decision-making. On the upper axis, the figure compares the orientation towards optimization, automation, and speed in decision-making inherent in algorithmic systems with the fundamental characteristics of the social state (substantive equality, due process, social justice) that require contextual evaluations and legal guarantees. Central to the model is the recognition of these tensions, which represent a threshold of conflict at which uncritical incorporation can lead to negative implications for the role of the state as guarantor. From this core, three main risks materialize that directly impact fundamental rights. First, algorithmic opacity is associated with non-transparent decisions, leading to a lack of understanding of the criteria used and limiting the possibility of oversight, review, or challenge of decisions made by the citizen. Second, algorithmic discrimination is an expression of the automated nature with which algorithmic systems reproduce structural biases already represented in the data, thus undermining the principle of material equality. Third, administrative depersonalization evidences the decline of the state/citizen dynamic with its impersonal interactions mediated entirely by technical apparatuses over human judgment. At the bottom level of the figure, the implications of these risks on the three central dimensions of the social state are summarized: equality, due process, and social justice. The image highlights the point that such algorithms can undermine the normative values that legitimize state action, when they lack substantive ethical and governance structures. Thus, the model helps to manifest the importance of human oversight mechanisms, transparency, and public accountability to balance technological innovation while protecting the effective implementation of rights.

Ethical principles of AI governance

Ethical principles in the governance of artificial intelligence are rooted in a framework that focuses on the alignment between the use of algorithmic technologies and democratic values, fundamental rights, and social state goals. They are not abstract rules, but rather normative and operational guidelines to be considered in each phase of the life cycle of AI systems, from their design, development, implementation, monitoring and evaluation.

Transparency and explainability

In algorithmic contexts, transparency is an indispensable principle of public administration that has taken on multiple dimensions. Transparency in AI means explainability, which can be understood as giving a language in simple words to understand the criteria and data that drive an automated decision that makes this decision. The lack of this type of explainability makes decisions opaque to citizens, limits their control over them, and limits the effective ability of opponents to challenge decisions by citizens, which in turn impacts institutional legitimacy (Liao et al., 2025; Vigoda-Gadot & Mizrahi, 2024).

Responsibility and accountability

AI in public administration does not take away the responsibility of the state. It is precisely the opposite, it requires empowered algorithmic accountability mechanisms that allow authorities to identify responsible actors in case of errors, biases or damages derived from automation. This principle concerns the establishment of clear frameworks of institutional, contractual and functional responsibility to prevent the technical complexity of systems from becoming an impediment to the enforceability of public responsibilities (Monteiro & Singh, 2025; Attard-Frost et al., 2024).

Algorithmic justice and non-discrimination

AI systems can reproduce or exacerbate existing structural inequalities. Since algorithms are trained on historical data, there is a very real possibility of automating discrimination against disadvantaged groups because of their historical data. This danger is especially relevant in the public sector because it can affect access to rights, services and opportunities. Systematically assessing bias, conducting algorithmic audits, and establishing ways that make algorithmic decisions, in line with the principle of material equality, would provide ethical guidance for AI governance (Fountain, 2022; Herrera-Tapias et al., 2025).

Data protection and privacy

Artificial intelligence in public administration depends on the processing of large volumes of personal data. Privacy and protection of personal information are crystallized, as well as core ethical values that restrict the limits of automation and protect individuals from being subjected to abusive or disproportionate uses of data. In this context, ethical governance of AI and responsibility involve guaranteeing the legitimate, proportional, and secure use of data, also ensuring that there are effective mechanisms for consent, anonymization, and citizen control (Teo, 2025; Wang et al., 2025).

Meaningful human oversight

Meaningful human oversight is defined as a cross-cutting principle to prevent the universal replacement of human judgment in relevant public decisions. The principle recognizes that while AI helps, responsible actors should leave some responsibilities to humans, particularly in situations that affect fundamental rights. The addition of ethical, situational, and legal constraints that automated systems are unable to capture on their own results as a guarantee of social status (Panda et al., 2025; Monteiro & Singh, 2025) is human supervision.

Table 1. Ethical principles applicable to the governance of artificial intelligence in the public sector

Ethical principle	Description	Mitigated risk	Normative/conceptual source
Transparency and explainability	Understanding and accessible communication of algorithmic criteria and logics	Decisional opacity, citizen defenselessness	Liao et al. (2025); Vigoda-Gadot & Mizrahi (2024)
Responsibility and accountability	Clear identification of automated decision makers	Dilution of institutional responsibilities	Monteiro & Singh (2025); Attard-Frost et al. (2024)
Algorithmic justice and non-discrimination	Preventing and correcting bias in automated systems	Automated structural discrimination	Fountain (2022); Herrera-Tapias et al. (2025)
Data protection and privacy	Legitimate, proportionate and secure use of personal data	Excessive surveillance, violation of rights	Teo (2025); Wang et al. (2025)
Meaningful human oversight	Human intervention in relevant public decisions	Uncritical automation, loss of democratic control	Panda et al. (2025); Monteiro & Singh (2025)

International Modeling and Regulation

The adoption and integration of AI in the public sector has led to the formation of regulatory regimes to guide AI in an ethical, safe, and democratic manner. A variety of regulatory models exist in different political, legal and socio-economic contexts, as they all present disparate responses, indicating that there is currently no unified global consensus, even when common ground is developed in terms of digital governance.

On Europe's risk-based regulatory framework

The European strategy for the regulation of artificial intelligence adopts a risk management-based approach to prevention, categorising AI systems in relation to their potential impact on fundamental rights and public safety. This focus on human dignity and equality, and the rule of law and the new set of obligations, can be applied to 'high-risk' systems, particularly in areas such as justice, employment, security and the provision of social services, especially in 'high-risk' areas. Since fundamental rights are at the core of the model, it is a primary source of reference for the social state by subordinating technical efficiency to normative principles and legal guarantees (Wang et al., 2025; Zheng, 2025).

Principles of multilateral organizations

At the international level, several multilateral organizations are advocating for global ethical governance frameworks for AI that incorporate principles such as transparency, accountability, fairness, sustainability, and human oversight. Although it may not be legally binding, these guidelines are essential guidelines that set a minimum standard for the responsible implementation of AI in the public sector. The convergence of such principles provides evidence of a growing awareness in society and politics about social and democratic risks in the context of algorithmic automation and calls for governance systems that go beyond technical thinking (Saheb & Saheb, 2023; Hadzovic et al., 2024).

Preliminary experiences in Latin America

In Latin America, legislation on artificial intelligence and digital governance is embryonic and unequal in its formation. While existing initiatives seek to build on international frameworks based on what others have established, they have shortcomings resulting from institutional weaknesses, regulatory fragmentation, and restrictions on technical capacity. In many cases, regulation is developed in a reactive manner, driven by pilot projects or the adoption of imported technologies, without a coherent strategy that articulates AI according to the needs of the social state.

It is in this context that development risk continues: algorithmic systems that provide immediate administrative efficacy, without adequately protecting rights, equity, and social inclusion (Barsekh-Onji et al., 2025; Maghsoudi et al., 2025), are widely deployed. From a comparative point of view, these regulatory approaches show the tension of the trade-offs between innovation, control and social justice. While some models of innovation emphasize legal certainty and the protection of rights, others are geared towards regulatory flexibility, presenting major challenges for social states trying to balance innovation through technology with public accountability.

Table 2. Comparison of international regulatory frameworks on AI and digital governance

Region / Organism	Approach	Normative level	Implications for the welfare state
European Union	Risk-based regulation and fundamental rights	High (binding regulatory)	Prioritizes the protection of rights and limits high-risk uses
Multilateral organizations	Global ethical principles and responsible governance	Medium (non-binding guidelines)	It guides good practices without coercive mechanisms
United States	Sectoral and innovation-oriented approach	Medium-low (fragmented regulation)	Promotes innovation, with unequal protection risks
China	Centralized governance and state control of AI	High (regulatory-administrative)	Reinforces state control with tensions over rights
Latin America	Emerging adoption of international principles	Low–medium (developing frameworks)	Risk of uncritical deployment and protection gaps

Challenges Faced by Latin American Social States

The integration of artificial intelligence in public management faces complex problems for Latin American social states: the very structural conditions in which these technologies exist make it difficult to satisfy their capacity for ethical and democratic governance. In contrast, the region suffers from cumulative deficits that not only influence the design and implementation of algorithmic systems, but also their monitoring in the public sector, which are not present in contexts that have high degrees of institutional and technological maturity. One of the key challenges comes from technological asymmetries and digital dependency. In many Latin American states, however, states use tools created and developed by private international providers for AI solutions that create technological dependency, limited digital sovereignty, and limited control over algorithmic models, data, and logic. This dependence limits the adaptability of systems to local social contexts and undermines the integration of ethical and legal criteria of the social state, leaving public action to the influence of technological architecture (Barsekh-Onji et al., 2025; Vigoda-Gadot & Mizrahi, 2024).

This is combined with a weak ethical institutionality of digital governance. Regulations and oversight agencies that address public ethics and new technologies are at an embryonic level and absent in some nations in the region. Without ethics committees, adequate algorithmic auditing mechanisms, and clear

accountability, the state lacks the capacity to detect, prevent, and address the negative effects of artificial intelligence on public decision-making. As such, this institutional fragility increases the risk of lack of transparency and erodes public trust in public administration (Hadzovic et al., 2024; Saheb & Saheb, 2023). The other major challenge, however, was the shortage of technical skills of public sector employees. The insufficiency of expert support in AI, data science, and AI algorithms creates a situation where systems implemented in practice are not effectively regulated by trained personnel. Technical reports prepared by technology providers are often used by public authorities, leading to information gaps and undermining the state's autonomy in decision-making. This restriction impairs substantial human oversight capacity and compliance with social state principles in the automated decision-making process (Panda et al., 2025; Monteiro & Singh, 2025).

Finally, one can conceive of the danger of algorithmic privatization of the state (i.e., the gradual diffusion of public decision-making to systems that are designed, managed, or controlled by private actors). When algorithms become central mediators of administrative decisions with weak public governance, not only does it result in the outsourcing of state responsibilities, but it can also erode accountability, democratic control, and general interest orientation. This phenomenon is particularly atrocious in social states, in which the institutionality of a state depends on the state's ability to guarantee rights and social justice in a direct and transparent manner (Attard-Frost et al., 2024; Maghsoudi et al., 2025).

The combination of these challenges sets a context in which embracing artificial intelligence, especially without quality moral and institutional safeguards, can result in exacerbating existing disparities and undermining the responsibility of the social state as guarantor. Filling these gaps requires a holistic approach to digital governance that enhances the regulatory, technical, and ethical capacities of Latin American countries to adapt to algorithmic automation.

Figure 3. Structural gaps for ethical governance of AI in Latin America

Note: Multilevel causal diagram representing the interaction between technological dependence, institutional weakness, technical constraints, and risks of algorithmic privatization in public governance.

To this end, Figure 3 provides a multilevel causal diagram that synthesizes the main structural deficits that limit the construction of ethical governance over artificial intelligence within Latin American social states. It can also be seen through this model that these gaps do not exist independently, but act in synergy and create a context in which weak ethical governance of AI is present. At the top level, technological dependency means widespread adoption of algorithmic solutions developed by third-party vendors, limiting states' digital sovereignty and their ability to audit, adapt, or control systems in use. This dependence is linked to institutional decline or fragility, characterized by insufficient regulatory frameworks, the absence of specialized ethics committees, and few formal mechanisms for algorithmic oversight. Meanwhile, the public sector's technical insufficiency, manifested in a lack of technology training and the absence of independent scrutiny, limits the ability to provide substantial human oversight. These limitations, in turn, exacerbate the information asymmetry between the state and private tech companies. Such gaps converge to create the risk that the state will face algorithmic privatization of public decision-making functions, a trajectory that will gradually delegate those functions to systems controlled or designed by private actors,

and erode democratic accountability. At the bottom of the model is a gap in accountability and erosion of rights, compromising equality, due process, and social justice. Therefore, the figure emphasizes that the ethical governance of AI on the ground, at least in Latin America, is a structural problem that requires solutions not only from technology but also from society.

Suggested ethical-institutional model for digital governance

In light of the challenges experienced when the adoption of AI systems occurs in the public sector, an ethical-institutional digital governance model is established for the social state, an interdependent and multi-level system. This model proposes to describe technological development with the obligation to protect basic rights and to guard against algorithmic optimization that subsumes democratic values, social justice, or public accountability. The model consists of four layers of interaction, which work hand in hand so that artificial intelligence can be used ethically, openly and socially responsible.

Regulations: laws, principles, rights

The regulatory level forms the basis of the model and is the point at which the legal framework is created that will impose a legal system that covers the practical use of artificial intelligence in public administration. This level combines constitutional norms, sectoral legislation, as well as ethical principles and human rights standards that specify what types of uses are legal for algorithmic systems. Its main role is to ensure that the automation of decisions is subordinate to the law, respects fundamental rights and promotes the social state, avoiding moral vagueness and "in the shadows", to create a normative gray area that makes opaque and arbitrary procedures more convenient (Wang et al., 2025; Zheng, 2025).

Institutional level: ethics committees and algorithmic auditing

The institutional level is where normative standards are implemented in organizational design and processes. This aspect involves the establishment of ethical councils for artificial intelligence, trained and supervised in risk assessment, overseeing implementations and issuing binding recommendations. It also includes periodic AI-based algorithmic review mechanisms capable of detecting the biases, flaws, and unintended consequences of machine learning algorithms. Through the institutionalization of these mechanisms, accountability increases and reliance on evaluations conducted solely by private entities or other external professionals is limited (Attard-Frost et al., 2024; Monteiro & Singh, 2025).

Technology level: ethical design and explainability

The technological approach is to incorporate ethical factors directly into the construction and operation of AI. Ethical design strategies must precede the use of AI and be integrated at all levels: ethically, by default, with explainable models, capturing algorithmic choices, and setting limits to automation in a context of high social impact. At this point, technology ceases to be neutral and is conceived as a normatively oriented artifact, capable of materializing public values and allowing meaningful human supervision (Liao et al., 2025; Panda et al., 2025).

Citizen Level (participation and social control)

At the level of citizenship, citizens are recognized as the core of digital governance. This level contributes to the development of modes of public participation, access to relevant algorithmic information, and effective channels of complaint and social control against automated decision-making. As for AI-enabled governance at this level, citizen participation can only do this, as it builds the democratic legitimacy of the state and facilitates the alignment of the uses of those technologies with social expectations, needs, and values, particularly within the framework of structural inequality, by incorporating them into AI governance (Maghsoudi et al., 2025; Vigoda-Gadot & Mizrahi, 2024).

Combined, in this ethical-institutional model of governance we present our digital governance approach to regulation, which not only governs technology, but also reconstructs the relationships between state, technology, and society in such a way that artificial intelligence does not function as an instrument in the service of undermining the core of the social state, individual states, but that it becomes a tool of its own social governance.

Figure 4. Ethical-institutional model of digital governance for the social state

Note: Multilevel systemic model that integrates the regulatory, institutional, technological and citizen levels, articulated by a transversal axis of public ethics and guarantee of rights.

Figure 4 shows the ethical-institutional model of digital governance for the social state and serves as the theoretical basis for the article. The model is described as a multilevel and interdependent system that is organized by a central axis and is configured by public ethics and the guarantee of rights, serving to guide and unify all levels of digital governance. Public ethics, which functions as a cross-cutting principle, underpins the model as an aid that ensures that AI is applied to the common good, not as an end in itself. This central axis connects four main levels.

The normative level constitutes the legal and axiological framework that brings together laws, ethical principles and fundamental rights to define the legitimate uses of algorithmic automation. At the institutional level, these principles are embodied to be developed into a real organizational architecture, through specialized ethics committees and algorithmic auditing systems that promote accountability. The technological level integrates ethics into the design of AI systems, allowing for explainability, restrictions on automation, and decision recording to ensure meaningful human oversight.

Finally, the citizen level understands that society is the main actor in digital governance with mechanisms of participation, social control and access to information on automated decision-making. The figure shows that the effectiveness of the model depends on the coordinated interaction between all levels. Their absence or weakness hinders the whole. From this perspective, the model advocates for digital governance beyond the mere regulation of technologies for a realignment with the relationship between the state, technology and citizens, in order to ensure that algorithmic innovation cooperates with these principles of social state, democracy and social justice.

Discussion

This theoretical study contributes to the literature on digital governance by suggesting an integrated reading between artificial intelligence, public ethics and the social state that goes beyond predominantly technocratic or sectoral considerations. While works that deal with AI in public administration through the instrumental lens of efficiency and modernization, this article situates algorithmic automation within a normative and ethical framework in which fundamental rights, social justice, and democratic legitimacy are considered key points of consideration.

In this sense, the ethical-institutional model described thus expands the literature by explicitly including normative, institutional, technological and citizen dimensions as interdependent components of digital governance, expanding existing approaches. This critical comparison with recent Scopus literature reveals a number of corresponding convergences and divergences.

The need for ethical principles and governance frameworks for AI in the public sector is well established (Attard-Frost et al., 2024; Liao et al., 2025; Monteiro & Singh, 2025), a need that is only underlined in existing studies, although these frameworks are usually presented in a fragmentary manner or in contexts with high institutional capacity. In stark contrast, the findings of this analysis demonstrate that in social

states with structural gaps, public ethics can no longer be limited to declarations of principles, but must be concretized in institutional formations, technical capacities, and democratic devices, as illustrated in Figures 3 and 4. Equally important, Table 2 demonstrates that leading international regulatory models address risk management and rights protection, emphasizing the importance of replicating such measures, but in Latin America.

The implications for public policy and state management are quite important. Adopting AI systems to meet public needs without strong ethics can create a number of immediate improvements in operational profitability; However, this approach creates long-term risks, such as the corrosion of citizen trust, the judicialization of automated decision-making processes, and the exacerbation of inequality. This model helps guide public policies that balance technological and institutional responsibility, with ethics committees, algorithmic audits, and citizen participation mechanisms becoming vital features of digital governance.

Countries in the Global South deserve this, as the study highlights structural conditions that would mediate the adoption of artificial intelligence. Although similar to discussions in the Global North, a debate about regulatory complexity, the challenges in Latin America largely focus on avoiding the adoption of unscrutinized technologies that reproduce dependencies, exclusions, and power asymmetries. Using the examples in Figures 1 and 2, we can chart how the transition to algorithmic governance, unless it has a strong ethical basis, can run counter to the nature of the social state, and in doing so highlights how deeply situated and contextualized approaches ultimately need to be deployed.

The discussion affirms that the ethical governance of artificial intelligence is not a barrier to public innovation, but is essential to its democratic viability. These considerations and the implications of incorporating public ethics, digital governance, and the social state therefore provide a strategic imperative for states that wish to modernize without sacrificing their role as guarantors.

Conclusions

The research critically studied digital governance in relation to public ethics regarding the use of artificial intelligence in the public sector and highlighted the profound transformation that algorithmic automation had brought about in the State's decision-making system, with the promise of administrative efficiency and risks to the principles of the social State.

In the conceptual or comparative analysis, it emerged that the adaptation of such artificial intelligence systems was not only a technological change, but also implied a normative, institutional and ethical reordering of the behavior and actions of the public.

As the study's findings indicate, the inherent conflict between algorithmic efficiency and the upholding of fundamental rights formed a key tension within the digital governance space in the digital age of the 21st century.

Algorithmic opacity, automated discrimination, and administrative depersonalization were recognized as structural risks that had direct consequences on substantive equality, due process, and social justice, even more so in the absence of a framework of oversight and accountability. Furthermore, when examining responses on international regulatory frameworks, we found that strong mechanisms were placed at the forefront to address risk and protect rights, while structural weaknesses due to over-reliance on technology, institutional failure, and lack of technical capacities continued to exist in Latin America.

These conditions restricted the ability of Latin American social states to realize efficient ethical governance of artificial intelligence and amplified the danger of algorithmic privatization of public functions. Thus, an ethical-institutional model of digital governance for the social State was conceptualized and articulated built along normative, institutional, technological and citizen levels through a transversal axis of public ethics and guarantee of rights as the main contribution of this article.

This model provided a demonstration that ethical governance of artificial intelligence requires a systemic and integrated design that involves technological innovation in alignment with public accountability and democratic legitimacy. Public ethics played no role in hindering the modernization of the state, but was the only condition under which artificial intelligence would be an instrumental tool towards the general interest, social justice, and democratic sustainability, particularly in the social states of the Global South.

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