Review Article

Use of Artificial Intelligence in Government Transparency and the Fight Against Corruption*

Uso de la inteligencia artificial en la transparencia gubernamental y el combate a la corrupción

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Abstract

Structural corruption, which undermines development and erodes trust in public institutions, can be addressed through the use of Artificial Intelligence (AI)—a transformative tool with the potential to strengthen transparency in the public sector. Against this backdrop, the present study aims to identify and analyze the characteristics of the most significant AI-based practices used worldwide to combat corruption. To this end, a qualitative, descriptive, and comparative approach was adopted, based on the examination of 19 international initiatives. The findings reveal a global trend toward the use of AI—through supervised machine learning—primarily in areas that are highly vulnerable to corruption, such as public procurement and tax administration. In particular, the evidence indicates that AI is generally implemented as a tool that enhances, rather than replaces, human capabilities. Despite the notable financial outcomes reported in the literature, the analysis also highlights recurring challenges, including poor data quality, a shortage of skilled personnel, and a significant gap between technological advancement and the development of legal and ethical frameworks. In conclusion, the effectiveness of AI in combating corruption is contingent on contextual factors like institutional maturity and data governance. Additionally, a comprehensive strengthening of government capacities is required to ensure that AI is employed in a transparent, ethical, and responsible manner.

Keywords: artificial intelligence, fight against corruption, government transparency, public sector.

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Resumen

La corrupción estructural que deteriora el desarrollo y la confianza en las instituciones puede ser enfrentada con la inteligencia artificial, una herramienta con capacidad de transformación para fortalecer la transparencia gubernamental en el sector público. El objetivo de la investigación es identificar y analizar las características de las prácticas más relevantes que utilizan inteligencia artificial para combatir la corrupción en el mundo. El enfoque metodológico fue cualitativo, descriptivo y comparativo, basado en un estudio de 19 iniciativas internacionales. Se halla una tendencia mundial a utilizar la inteligencia artificial a través del *machine learning* supervisado, principalmente en áreas de alta vulnerabilidad como las compras públicas y la administración tributaria. Se observa que hay una implementación de la inteligencia artificial como una herramienta que complementa las capacidades humanas, no como un reemplazo. Aunque se han presentado resultados financieros significativos, el análisis evidencia desafíos comunes como la deficiencia en la calidad de los datos, la falta de personal capacitado y una notable brecha entre el avance tecnológico y el desarrollo de marcos jurídicos y éticos. En conclusión, la eficacia de la inteligencia artificial depende de factores contextuales como la madurez institucional y la gobernanza de datos, y necesita una reforma integral de las capacidades estatales con el fin de garantizar un uso transparente, ético y responsable.

Palabras clave: inteligencia artificial, combate a la corrupción, transparencia gubernamental, sector público.

INTRODUCTION

Corruption is one of the main obstacles to community development because it affects all spheres of society (Alto Comisionado de las Naciones Unidas para los Derechos Humanos, n.d.; Banerjee et al., 2012). It can be understood as the abuse of power to obtain personal benefits through illegal actions, impacting both the public and private sectors (Damijan, 2023; Shleifer & Vishny, 1993). According to Doshi and Ranganathan (2019) and Jain (2001), this phenomenon involves the misuse of authority to obtain benefits, which hinders economic development and destabilizes institutions.

Corruption undermines government transparency, the efficiency of public spending, and citizens' trust in institutions (Damijan, 2023; Doshi & Ranganathan, 2019). It transcends individual actions, as it reveals systematic patterns and a social order in which norms and the common good are superseded by private interests, affecting the exercise of power and the distribution of resources (Mungiu-Pippidi, 2015). For authors such as Luna-Pla and Nicolás-Carlock (2020) and Zhang et al. (2023), this problem is exacerbated if public institutions lack oversight and control mechanisms to prevent impunity and the abuse of power.

In this context, Artificial Intelligence (AI) has been a useful tool for transforming public administration (Henman, 2020; Jankin Mikhaylov et al., 2018). It has improved the detection and prevention of acts of corruption thanks to its ability to process large amounts of data, identify irregular patterns, and reduce human discretionary powers. As Köbis et al. (2021) state, AI can strengthen the integrity of institutions by making administrative processes more transparent and auditable. In various countries, this technological development is being used in areas such as tax auditing, government

procurement, monitoring of asset declarations, complaint management, and other processes where acts of corruption frequently occur.

Although initiatives implementing AI to promote transparency have increased, there is still no systematic comparative study of these international experiences that identify their characteristics, similarities, and differences. The absence of a systematic approach makes it more difficult to provide transferable lessons and limits the opportunity to replicate successful models adapted to different institutional contexts. Bracci (2023) and Wirtz et al. (2019) argue that the implementation of these technologies in the public sector faces multiple challenges. Whether technical, ethical, legal, or governance-related, they must be taken into account to avoid risks associated with automation, such as algorithmic bias or opacity in decision-making.

Technopolitics in the public sector—the strategic and systematic use of digital systems for the organization, communication, and transformation of collective political action (Gutiérrez-Rubí, 2014)—has extended to institutional policy (Candón-Mena & Montero-Sánchez, 2021). This expansion has enabled the gradual development of public administration, policy formulation, and mechanisms for citizen deliberation and participation through technological infrastructures, reshaping the relationships among the state, citizens, and governance processes.

On the basis of these considerations, this article addresses the following question: What are the defining characteristics of the most relevant practices that employ AI to fight against corruption in the public sector worldwide? To answer this question, the study examines existing initiatives. It recognizes that their success depends not only on technological development (Elmousalami, 2021; Neumann et al., 2024), but also on the maturity of the institutional system, the level of ethical oversight, and the regulatory frameworks governing their implementation. As Bustelo Gracia (2025) points out, auditing the algorithms used in the public sector is imperative to ensure their adherence to the principles of transparency, fairness, and accountability.

This study conducts a comparative review of international practices. It analyzes key aspects, including the type of AI employed; the name, main characteristics, and legal and ethical framework of the initiative; the degree of technological maturity achieved; and the type of institutional function that is replaced or automated. The article aims to provide a clear and organized overview of the use of AI in public administration, to expand knowledge about its implementation, and to provide comparative evidence on the main characterizing elements.

LITERATURE REVIEW

This section establishes the theoretical and conceptual framework that brings together three areas of study for government modernization: government transparency, the fight against corruption, and the use of AI in the public sector. According to various investigations, greater transparency is critical to reducing corruption because it strengthens accountability processes (Mungiu-Pippidi, 2023; Vian, 2020). The challenge lies in exploring how to employ the algorithmic capabilities of AI to tackle corruption and move beyond traditional technocratic approaches (Köbis et al., 2022; Larsson & Heintz, 2020).

Government Transparency

Government transparency is one of the fundamental pillars for strengthening democracy and governance, ensuring access to public information about government activities, decisions, and resources (Porumbescu et al., 2022). Transparency reduces information asymmetries between government and citizens, facilitating accountability, social control (Fox, 2007), and trust in institutions—an essential element for political stability and economic development.

Following Fung et al. (2007), there are two main types of transparency: passive transparency, which allows citizens to request information, and active transparency, which involves the proactive dissemination of relevant information. This distinction is useful for understanding how to optimize access to information and increase citizen participation. For its part, agency theory argues that, by bringing information closer to citizens, transparency limits official discretion, reducing opportunities for corruption and enabling accountability (Bauhr & Grimes, 2014). Without an adequate flow of information, public officials can take advantage of citizens' lack of knowledge for their own benefit.

Transparency should not be viewed as an end in itself but as part of a comprehensive approach to open government that fosters citizen participation and collaboration among different sectors of society (Organisation for Economic Co-operation and Development [OECD], 2017). This perspective holds that institutional openness generates public value only when it is linked to social action and democratic oversight. It has been demonstrated that governments with higher levels of active transparency tend to have lower levels of corruption and more efficient public administration because access to information improves citizen scrutiny and accountability (Bertot et al., 2010).

Androniceanu (2021) and Lourenço (2023) argue that government transparency implies that information on public administration is accessible, clear, and timely for citizens, thereby enabling them to monitor, question, and hold public officials accountable. A transparent government entails greater oversight of public resources and increased efficiency in public administration (Chen & Neshkova, 2020; Erkkilä, 2020). In this type of government, transparent public policies are a strategy that includes citizen participation and internal control mechanisms (Agu et al., 2024; Vian, 2020; Villeneuve et al., 2020).

As mentioned above, digital platforms and open-data portals have transformed the government's management of public information (Al Sulaimani & Ozuem, 2022; Shenkoya, 2023). The reason behind is that they have facilitated access to and reuse of data, promoting oversight, the creation of evidence-based public policies, and the formation of a shared space between the government and citizens (Janssen et al., 2012; Mackey & Cuomo, 2020; Matheus et al., 2023). Thus, transparency is established as an essential principle of governance, and citizens' trust in it depends on its connection to other institutional and technological mechanisms that ensure its accessibility and usefulness for citizens.

The Fight against Corruption

Corruption can be understood as behavior motivated by the desire to obtain private gain at the expense of the public good, in violation of established norms (Friedrich, 2017). It is a mechanism of power and domination (Rendtorff, 2010) that manifests itself, for example, through the use of money to obtain benefits and advantages. According to Banshiwal (2024), corruption occurs when individuals unlawfully prioritize their personal interests over their public responsibilities.

Bribery, extortion, nepotism, and influence peddling are some of the forms of corruption in administrative and political spheres, affecting the integrity and efficiency of public institutions. Rose-Ackerman and Palifka (2016) note that corruption, in addition to undermining public trust, leads to social inequality and the weakening of the rule of law. Therefore, it must be understood not only as an individual or moral phenomenon but also as a structural one, which arises when there are no effective mechanisms for control and transparency within institutions. Klitgaard (2008) formulated an equation that summarizes the factors that facilitate corruption:

$$\text{Corruption} = \text{Monopoly} + \text{Discretionary Power} - \text{Accountability}$$

This equation implies that acts of corruption increase if public officials have exclusive power over key decisions (monopoly), act freely without clear rules (discretionary power), and are not subject to oversight mechanisms and legal consequences (accountability). Similarly, corruption can be understood as a hidden transaction between rational agents seeking to maximize their benefit. Klitgaard (1988) asserts that corruption arises when individuals perceive that the benefit outweighs the risk of being detected and punished. Corruption responds to a logic of incentives, and not solely to cultural or ethical factors.

Furthermore, this problem is associated with decision-making regarding public spending and the diversion of resources toward projects that are less necessary but easier to manipulate (Delavallade, 2006; Moschovis, 2010). This increases the cost and reduces the efficiency of public services because funds are allocated for purposes other than those for which they were collected. Following Morris and Blake (2010), corruption creates a vicious cycle of mistrust, in which citizens stop obeying the law because they perceive that elites violate it.

Corruption remains a serious and widespread problem worldwide. In this regard, the Corruption Perceptions Index evaluates 180 countries and considers factors such as the misappropriation of public funds, the use of public office for personal gain, the integrity and independence of the judiciary, and bribery (Transparency International U.S., 2025). According to the 2024 index, more than two-thirds of countries score below 50 out of 100, indicating high levels of perceived corruption in the public sector globally (Merino, 2015, 2022, 2024).

The fight against corruption has become a global priority, with institutions such as the OECD and the World Bank leading the effort. Mungiu-Pippidi et al. (2011) notes that, despite the high priority given to development cooperation, current approaches have yielded disappointing results, sparking debate over new methodologies to address this problem. A “national integrity system” has been proposed,

consisting of eight interdependent pillars: public awareness, public anti-corruption strategies, citizen participation, oversight bodies, the judiciary, private sector involvement, the media, and international cooperation (Doig & McIvor, 2003; Langseth et al., 1997; Lukito, 2016).

However, existing government measures remain largely reactive, focusing on punishing acts of corruption rather than working to prevent them, despite the persistence of corruption in countries with severe penalties (Alfaro Paredes, 2025). This means that the fight against this issue should entail not only penalizing the corruption that has already occurred but also anticipating it through prevention and surveillance mechanisms, in which technologies such as AI play an important role. These technological tools enable the automation of processes such as audits, the identification of irregular patterns, and the reduction of opportunities for official discretion.

The Use of AI in the Public Sector

AI in the public sector has emerged as a tool with significant transformative potential, shaping the way governments design and implement public policies, administrative management, service delivery, and interaction with citizens (Ruvalcaba-Gómez & Garcia-Benitez, 2025c; van Noordt & Misuraca, 2022; Wirtz et al., 2019). Through the use of algorithms, predictive models, natural language processing, and machine learning, AI systems enable the automation of repetitive tasks, the optimization of complex processes, and improved decision-making. This occurs in contexts characterized by large volumes of information, resource constraints, and demands for efficiency (García Benitez et al., 2025; Ruvalcaba-Gómez & Garcia-Benitez, 2025a, 2025b; Susar & Aquaro, 2019; Valle-Cruz et al., 2020; Wirtz et al., 2021).

In various areas of public administration—such as tax collection, contract oversight, the justice system, public safety, and the management of social programs—AI is playing a key role in improving the responsiveness and accountability of public administrations (Susar & Aquaro, 2019; van Noordt & Misuraca, 2022). According to Wirtz et al. (2019, 2021), countries are actively investing in AI systems with the aims of increasing productivity in public management and improving public services.

Furthermore, this technological advancement enables the real-time analysis of large amounts of data, the identification of risk patterns, the automation of complex processes, and the provision of predictive information that strengthens evidence-based decision-making within the public sector (OECD & CAF Development Bank of Latin America, 2022). One of the most significant advantages of AI in the public sector is its contribution to enhancing transparency. The automation of audits, continuous monitoring of public transactions, and data analysis can facilitate the early detection of acts of corruption, conflicts of interest, or embezzlement (Köbis et al., 2022; Odilla, 2023). For Ruvalcaba-Gómez and Garcia-Benitez (2025a), AI becomes a tool that improves public management outcomes and contributes to the institutional integrity of public administration.

Challenges, Opportunities, and Risks of AI in the Public Sector

The use of AI in the public sector is not without its challenges. One of the main risks is the lack of transparency in algorithms, known as the "black box" dilemma, in which automated systems make decisions without public officials or citizens clearly understanding how (Susar & Aquaro, 2019; Wirtz et al., 2019). This lack of explainability can undermine legitimacy, especially when decisions have a negative impact on access to public services, administrative processes, or the allocation of public resources.

Another challenge is the protection of personal data. Since many AI models require access to large amounts of sensitive information, including financial, biometric, or health data, regulatory frameworks are needed to ensure privacy, non-discrimination, and information security (Andraško et al., 2021; Zuiderveen Borgesius, 2020). One of the OECD's (2019) recommendations is the development of public policies that promote trustworthy, ethical, transparent, secure, and human-centered AI.

The institutional capacity gap poses a key challenge to the effective adoption of technologies such as AI (Jankin Mikhaylov et al., 2018; Susar & Aquaro, 2019). When government organizations lack the necessary technical staff, their ability to design, implement, or oversee algorithmic systems is limited. According to Katzenbach and Ulbricht (2022), the implementation of these technologies is accompanied by ongoing training strategies for public servants, as well as the strengthening of interdisciplinary teams and governance mechanisms that ensure human and transparent oversight at all stages of the process.

AI offers opportunities and challenges in the fight against corruption across various sectors, as it can process large amounts of data to detect fraudulent behavior, flag suspicious transactions, and identify irregularities in public procurement (Del Rey-Puech et al., 2025). In this way, it enables greater efficiency, a reduction in human error, and data-driven decision-making (AllahRakha, 2025). As Bozhenko and Petrenko (2022) show, greater technological and digital development of public sector processes correlates with a reduction in levels and indices of perceived corruption.

Therefore, the implementation of AI entails risks, such as biased algorithms, the potential manipulation of data for personal gain, and the possibility of concealing corrupt practices rather than exposing them (AllahRakha, 2025; Del Rey-Puech et al., 2025). Nevertheless, governance frameworks are critical to the success of this technological advancement. Köbis et al. (2021) argue that government initiatives may run the risk of exerting an authoritarian control, while civil society initiatives face limitations in accessing data. The effective use of AI to combat corruption will depend on human oversight, audit mechanisms, and accountability to maximize its potential.

Technopolitics in the Use of AI in the Public Sector

From a technopolitical perspective, AI should be implemented strategically to foster organization and collective action in the oversight of public power (Gutiérrez-Rubí, 2021). In this approach to digital governance, technology automates processes to generate public value by involving citizens in the monitoring of institutions (Jimbo-Santana & Jimbo-Santana, 2021).

AI in technopolitics facilitates a transition from a system of oversight with fixed timeframes to a process of constant and permanent monitoring (de la Torre López, 2025; Jimbo-Santana & Jimbo-Santana, 2021). AI-based monitoring of public policies and institutions results in the identification of causal relationships previously unknown to citizens (Cabrera Altieri et al., 2025; Jimbo-Santana & Jimbo-Santana, 2021). Likewise, the use of open data processed by AI enables citizens to be proactive watchdogs of their representatives (Gutiérrez-Rubí, 2021).

Based on technopolitics, algorithms and data do not belong solely to large organizations and/or companies but are managed as a public good (Cabrera Altieri et al., 2025). As Gutiérrez-Rubí (2021) points out, this implies that technology is useful for reducing inequality and strengthening digital self-determination in the face of conventional power structures.

METHODOLOGY

This study adopted a qualitative, descriptive, and comparative approach, which is suitable for examining complex and multidimensional phenomena such as the use of AI in government contexts. This method is also appropriate for describing and comparing existing experiences to facilitate an understanding of the strategies, technologies, and outcomes of various international initiatives (Lim, 2025; Ruvalcaba-Gómez & Garcia-Benitez, 2025b).

A literature review was conducted based on the collection, systematization, and analysis of relevant information obtained from reliable and specialized sources (García Benítez & Ruvalcaba-Gómez, 2021; Morgan, 2022), enabling a rigorous and up-to-date analysis. According to Tamayo y Tamayo (2003), this type of study is ideal for building knowledge through the review, interpretation, and critical synthesis of documents, especially in exploratory, descriptive, or comparative analysis research.

Data Collection

A systematic search (García Benitez et al., 2025) was conducted in academic databases and official websites, such as Google Scholar, Scielo, government databases, and the websites of international organizations, as well as institutional reports and technical documents. The following keywords in Spanish and English were used: “inteligencia artificial,” “artificial intelligence,” “anticorrupción,” “anti-corruption,” “transparencia,” “transparency,” “gobierno digital,” “digital government,” “sector público,” “public sector,” as well as combinations thereof, to ensure broad thematic and geographic coverage.

Case Selection

Nineteen countries with varying levels of economic and technological development that have implemented notable initiatives using AI to detect, prevent, and combat corruption in the public sector were selected. The countries are Canada, the United States, Mexico, Colombia, Denmark, Spain, France, Italy, the United Kingdom, China, South Korea, India, Singapore, Ghana, Kenya, Nigeria, South Africa, Australia, and New Zealand. This diversity of countries aims to provide a

global perspective on the different realities and institutional contexts, in order to identify significant similarities and differences.

Table 1 organizes and systematizes the characteristics of the practices identified in the reviewed texts, describing the variables that allow for the recognition of the most relevant elements of each initiative. This table was used as a tool for coding and analyzing the information, with data collected carefully to ensure quality and accuracy (Khoa et al., 2023).

Table 1. Variables for analyzing AI initiatives that fight against corruption

Variable	Description
Country	Location where the initiative is developed and implemented
Name of the initiative	Official or common name of the AI-based program, platform, or project
Year	Date of implementation or launch
Type of AI used	Technology classification, e.g., machine learning, natural language processing, predictive algorithms, big data
Sector of application	Areas of application: public procurement, tax administration, audits, citizen participation, monitoring and evaluation
Features	Overview, scope, and functionalities of the initiative and the technology used
Results	Reported impacts in terms of improved transparency, administrative efficiency, detection or reduction of acts of corruption, or increased citizen participation
Key challenges	Major obstacles identified, such as technological barriers, institutional resistance, and legal, ethical, or social constraints
Maturity level	Current stage of the initiative's development, ranging from pilot projects to full-scale, widespread implementation
Legal or ethical framework	References to standards, regulations, or policies that support, govern, or restrict the use of AI in the specific context
Sources	Documents, articles, reports, or websites from which the information was obtained
Who is it replacing?	Functions, processes, or people that are being replaced or assisted by technology

Source: Authors' own work.

Data Analysis Process

This study was based on a process of systematization and analysis of data obtained from the literature and official documents for each of the selected cases (Ruvalcaba-Gómez & Garcia-Benitez, 2023). The methodological procedure followed these steps:

- Document search and collection: A systematic search was conducted using defined keywords, with results filtered based on criteria of recency, reliability, relevance, and academic quality.
- Data selection and recording: Relevant data were selected and recorded, ensuring the accuracy and integrity of the information.
- Thematic and comparative analysis: Characteristics, similarities, and differences among the various initiatives were identified using coding and categorization techniques.

This methodology facilitates the systematization of knowledge by bringing together topics related to the use of AI in the public sector, government transparency, and the fight against corruption.

RESULTS

This section presents a descriptive analysis of various international initiatives that employ AI to combat corruption. The study conducts a comparative analysis of leading countries on each continent, based on the similarities and differences identified with respect to the following characteristics: the type of AI used, the sector in which it is applied, what the AI is intended to replace, the legal or ethical framework governing it, the maturity level of the initiative, as well as the results obtained and the challenges involved in adopting this technological development (see Tables 2 through 6).

Table 2. Mapping of AI initiatives that fight against corruption in the Americas

Variable	Colombia	United States	Canada	Mexico
Name of the initiative	VIGIA	Analytics Program	Fintrac	Plataforma Digital Nacional (National Digital Platform)
Year	2021	2024	2023	2022
Type of AI used	Supervised machine learning	Supervised machine learning	Supervised machine learning	Supervised machine learning
Sector of application	Public procurement	Federal payments	Financial intelligence	Public procurement
Features	Early warning system for public procurement	Analysis of federal transactions and detection of fraud in real time	Analysis of millions of bank transactions in real time and detection of patterns of money laundering and illicit financing	Identification of patterns of corruption risk in public contracts, focusing on the buyer-supplier relationship
Results	Improvement of contract oversight and early detection of irregularities	Prevention and recovery of over USD 4 billion in fraud	Increase in reports of suspicious transactions (from 114,422 in 2015 to 560,858 in 2022–2023)	Strong performance in identifying irregular contracts; a model applicable internationally
Key challenges	Lack of trained personnel and limited data quality	Data quality and availability; interagency coordination	Handling of large volumes of data and protection of rights	Quality and consistency of public data
Maturity level	Active	Operational and expanding	Operational and expanding	Pilot
Legal or ethical framework	Protection of personal data in accordance with Colombian law	Implementation based on Executive Order 14110 and standards related to AI, transparency, governance, and data protection	Money Laundering Act and Fintrac's regulatory authority aligned with framework for responsible AI	In the process of alignment with ethical principles of transparency and data protection
Sources	Gallego (2021)	Thomas (2025)	Government of Canada (2023)	Aldana et al. (2022)
Who is it replacing?	It replaces human analysts who manually review contracts, databases, or potential cases of corruption involving public procurement.	It partially replaces traditional human auditors who conducted case-by-case reviews.	It replaces human financial analysts who previously analyzed suspicious transaction reports manually.	It complements the work of traditional oversight and regulatory institutions.

Source: Authors' own work.

Table 3. Mapping of AI initiatives that fight against corruption in Europe

Variable	Italy	France	Denmark	United Kingdom	Spain
Name	Autorità Nazionale Anticorruzione (ANAC)	AntiCorAI	Social AI Monitoring System	Public Sector Fraud Authority (PSFA)	Estatal de Administración Tributaria (State Tax Administration)
Year	2023	2023–2025	2015	2023	2024
Type of AI used	Embedded AI and *blockchain*	Supervised machine learning	Supervised machine learning and data mining	Supervised machine learning	Supervised machine learning
Sector of application	Public procurement	Public finance	Social welfare	Fraud in public payments	Tax audit
Features	Automation of the public procurement process using AI and *blockchain* to prevent corruption	Analysis of tax data and transactions, automatically detecting tax fraud and anomalies	Use of up to 60 AI models to analyze administrative data, detecting fraud in welfare payments before they are processed	Use of the Snap platform to detect fraud networks in public payments through network analysis and machine learning	Analysis of tax data and transactions, improving the identification of taxpayers at risk of fraud
Results	Adoption of a new AI-based procurement code	50 % of fraud investigations initiated by AI	Recovery of EUR 23 million with an annual budget of 3.1 million	Identification of over EUR 140 million in improper payments	Improved selection of high-risk cases and increased debt recovery
Key challenges	Lack of empirical evidence on actual impacts	Protection of sensitive data	Risk of mass surveillance, algorithmic discrimination, protection of sensitive data, and ethnic bias	Data quality, interagency coordination	Risk of algorithmic opacity
Maturity level	Initial phase	Operational and expanding	Operational and expanding	Operational and scaled	Operational and scaling
Legal or ethical framework	Legislative Decree 36/2023; algorithmic oversight pursuant to Law 190/2012	National data protection regulations and ethical principles for AI in the French treasury	National and European privacy regulations	Framework of the Government Counter Fraud Functional Strategy	Based on the National AI Strategy (2020), Royal Decree 817/2023, and future oversight by AESIA
Sources	Bizzini (2024)	Gouvernement de la République française (2025)	Amnesty International (2024)	Cabinet Office et al. (2023)	Gobierno de España (2025)
Who is it replacing?	It does not replace regulatory authorities; it automates and optimizes the analysis and monitoring of bidding processes and contracts.	It partially replaces manual reviews and traditional analyses of large volumes of tax data.	It partially replaces repetitive tasks such as the manual review of cases and verification of eligibility.	It partially replaces manual audits and traditional analyses in the detection of fraud in payments and procurement.	It partially replaces traditional manual processes for reviewing and analyzing tax returns.

Source: Authors' own work.

Table 4. Mapping of AI initiatives that fight against corruption in Asia

Variable	South Korea	India	Singapore	China
Name of the initiative	Koneps	Government e-Marketplace (GeM)	GovTech	Communist Party of China (CPC) Surveillance System
Year	2006	2016	2023	2012
Type of AI used	Supervised machine learning	Machine learning and deep learning	Machine learning and data mining	Supervised machine learning
Sector of application	Public procurement	Public purchasing	Public purchasing	Government oversight
Features	Use of machine learning to analyze contracts and detect collusion in public tenders through predictive indicators	Analysis of patterns in public purchasing to detect potential fraud or collusion	Correlation of data on human resources, supplier payments, and family relationships to detect the risk of fraud in public purchasing	Analysis of multiple databases (banks, real estate, transactions) to detect early signs of corruption among local officials
Results	Estimated savings of USD 6.5 million per year	Efficient purchases amounting to USD 65 billion between 2024 and 2025	Regular identification of suspected cases	Identification of 8,721 officials involved (2012–2019)
Key challenges	Risk of fraud in less visible stages	Industrial data quality	Integration of sensitive data	Lack of algorithmic transparency
Maturity level	Operational	Operational	Pilot expansion	Operational
Legal or ethical framework	Legal requirements and transparency frameworks in accordance with the OECD	Digital government policy; currently incorporating blockchain and explainable AI	Part of the Smart Nation initiative and GovTech policies, with internal data protection rules and human oversight of alerts	Backed by the party's central disciplinary committee; internal oversight operation with little external transparency
Sources	Molepo and Jahed (2022)	Balasubramanyam (2025)	Government Technology Agency of Singapore (2024)	TomoNews US (2019)
Who is it replacing?	It partially replaces manual and decentralized public procurement management processes.	It partially replaces manual processes for supplier evaluation, contract review, and risk management.	It partially replaces manual tasks such as contract review, supplier evaluation, and risk analysis.	It complements the oversight and monitoring efforts of the disciplinary bodies of the CPC.

Source: Authors' own work.

Table 5. Mapping of AI initiatives that fight against corruption in Africa

Variable	Kenya	South Africa	Nigeria	Ghana
Name of the initiative	KEBS-AI	Open Contracting Data Standard	Nigerian Integrity Portal	Open Data Initiative
Year	2024	2023	2024	2023
Type of AI used	Machine learning, data mining, and Natural Language Processing	Machine learning and network analysis	Machine learning, data mining, and Natural Language Processing	Machine learning, data mining, and Natural Language Processing
Sector of application	Tax administration	Public bidding	Public purchasing	Public oversight
Features	Analysis of tax data, transactions, and imports to detect tax evasion and fraud	Analysis of public purchasing using machine learning and network analysis, flagging potential fraud and collusion in bidding processes	Use of AI, data mining, and analysis of citizen complaints to detect fraud in public procurement	Use of AI, data mining, and automated citizen reporting to detect fraud in public procurement and improper payments
Results	Recovery of USD 30 million between 2023 and 2024	Detection of 30,000 fraudulent tenders over three years	Recovery of USD 4 million in less than 24 hours	Reduction of corrupt practices in public procurement
Key challenges	Internal sabotage and data privacy	Cross-platform interoperability	Fragmentation of public data	Institutional resistance
Maturity level	Pilot expansion	Pilot expansion	Pilot scaling	Pilot expansion
Legal or ethical framework	Kenya Revenue Authority (KRA) Act, Chapter 469	Public Procurement Act 28/2024, Public Finance Management Act (PFMA) / Municipal Finance Management Act (MFMA)	Independent Corrupt Practices and Other Related Offences Commission (ICPC)	Public Procurement Authority Act and Whistle-Blower Act (2006)
Sources	Obura (2024)	Duja Consulting (2025)	NAN (2024)	Mensah (2017)
Who is it replacing?	It replaces manual methods of auditing, oversight, and detection of tax evaders.	It complements the work of oversight and public purchasing.	It complements traditional civil registries and siloed government databases.	It complements government audit and control agencies.

Source: Authors' own work.

Table 6. Mapping of AI initiatives that fight against corruption in Oceania

Variable	Australia	New Zealand
Name of the initiative	Robodebt Scheme	Algorithm Charter for Aotearoa New Zealand
Year	2025	2025
Type of AI used	Supervised machine learning	Supervised machine learning
Sector of application	Social security and tax administration	Public sector
Features	Detection of tax fraud and improper payments in real time by analyzing large volumes of transaction data	Establishment of a framework for responsible AI to ensure its ethical, transparent, and citizen-centered use
Results	Prevention of USD 2.5 million in goods and services tax fraud	Adoption in 37 of 50 government agencies
Key challenges	AI governance in development	Lack of binding policies
Maturity level	Advanced pilot	Training/development
Legal or ethical framework	Australian National Audit Office (ANAO) guidelines; Australian Public Service Commission (APSC) on the responsible use of AI	In line with the OECD's AI model; Privacy Act, Bill of Rights Act, and Human Rights Act
Sources	Aldane (2025)	New Zealand Government (2023)
Who is it replacing?	It partially replaces the manual review of improper payments in social security programs.	It complements public sector agencies in making data-driven decisions.

Source: Authors' own work.

Differences and Similarities in AI Initiatives to Fight against Corruption

The mapping of these initiatives reveals a growing trend toward the adoption of AI as a tool for combating corruption. A comparative analysis across continents shows that, while regional differences exist, the application of this technology worldwide follows certain patterns. Efforts are concentrated in highly vulnerable sectors of public administration, such as public procurement and purchasing, tax administration, and the management of federal or social welfare payments (Adobor & Yawson, 2023; Odilla, 2023). This approach suggests a strategy aimed at intervening at the most critical points where acts of corruption have occurred.

Supervised machine learning is the most widely used AI technology (Köbis et al., 2022; Lyeonov et al., 2024). From the VIGIA program in Colombia to the Robodebt Scheme in Australia, it is employed to analyze large amounts of data and identify patterns that suggest irregularities, fraud, or collusion. Public procurement is the primary area of application in countries as diverse as Mexico, Italy, South Korea, and South Africa, where AI systems focus on detecting anomalies in tenders and in the relationships between buyers and suppliers (Adobor & Yawson, 2023; Ayobami et al., 2023). Other relevant areas of the public sector include financial intelligence, as in the case of Canada, and tax inspection, as seen in Spain and Kenya.

A key finding is that AI is not used as a substitute for humans but rather as a tool to complement the capabilities of government institutions (Jarrahi, 2018; Licklider, 1960). Projects such as Mexico's National Digital Platform and Ghana's Open Data Initiative are designed to complement the work of public organizations. In other contexts, such as in the United States, the United Kingdom, and Spain, AI partially replaces repetitive tasks, such as case-by-case audits or the review of tax returns. In this way, human analysts can focus their efforts on high-risk cases that algorithms have previously filtered out.

The level of maturity of these initiatives varies significantly across regions (Dener et al., 2021; Dreyling et al., 2024). On the one hand, AI systems in Europe and North America—such as those in Canada, France, and the United Kingdom—are in the expansion phase. On the other hand, implementations in Africa and Latin America—such as those in Nigeria, Kenya, and Mexico—are still in the pilot or initial scaling phase. As noted by Aderibigbe et al. (2023) and Jha and Singh (2024), this disparity reflects differences in investment, data infrastructure, and institutional capacity to adopt complex technologies, indicating that the trend is global, but the pace of implementation is uneven.

The Potential and Challenges of AI in the Fight against Corruption

The reported quantitative results are one of the most important indicators of the use of AI in the fight against corruption. The United States' Analytics Program has prevented and recovered over USD 4 billion in fraud (Alms, 2024), while the United Kingdom's PSFA has detected over EUR 140 million in improper payments (Gore & Williamson, 2024). In other regions, the impacts are also significant, with recoveries of USD 30 million in Kenya (Mukabi, 2024) and the detection of more than 30,000 fraudulent tenders in South Africa (Maisiri, 2024).

The implementation of AI faces common challenges worldwide. The main obstacle identified in nearly all initiatives is the quality, availability, and consistency of data. The effectiveness of machine learning models depends directly on the quality of the data used to train them (Susar & Aquaro, 2019; Wirtz et al., 2019), a problem explicitly mentioned in Colombia, the United States, and France. Other recurring challenges include a lack of trained personnel, coordination among government agencies, and institutional resistance to change (Ruvalcaba Gómez & García Benítez, 2023), as reported in Colombia and Ghana, respectively.

With regard to legal and ethical frameworks, most initiatives operate under existing regulatory systems and laws, such as those governing personal data protection. However, the development of regulatory frameworks specifically designed for the adoption of AI in the public sector remains a challenge in many countries (de Almeida et al., 2021; Scherer, 2015). While nations such as New Zealand, with its Algorithm Charter, or Spain, with its National AI Strategy, seek to establish proactive governance, others are in the process of aligning their initiatives with ethical principles. This underscores the need for regulatory development that proceeds in parallel with the implementation of AI.

Technopolitics in the Use of AI to Fight against Corruption

Findings on technopolitics reveal that the use of AI is a common and evolving strategy for combating corruption, primarily in areas of high institutional vulnerability, such as the management of social programs, tax administration, and public procurement. Particular characteristics and adjustments of AI strategies depend on each country's context and circumstances. Quantitative data reveal significant economic impacts in several countries. However, the technopolitical potential of AI still faces persistent challenges related to the quantity and quality of data, a shortage of specialized experts, and the lack of specific legal and ethical frameworks.

AI must avoid the arbitrariness and opacity of closed algorithms so that technopolitics can work against corruption (Gutiérrez-Rubí, 2021), supporting clear decisions rather than becoming black boxes that conceal biases or unfair decisions (de la Torre López, 2025; Jimbo-Santana & Jimbo-Santana, 2021). According to Cabrera Altieri et al. (2025) and de la Torre López (2025), AI must respect human dignity and the protection of personal data to prevent it from becoming a tool of oppression or one that enables digital identity fraud.

CONCLUSIONS

This study identified the most significant initiatives worldwide that utilize AI to fight against corruption and promote government transparency. The analysis was conducted through a literature review employing a descriptive, qualitative, and comparative approach to selected cases, compiling relevant information from 19 country-level initiatives.

The results reveal that technological developments in AI are useful for combating corruption, although its implementation alone does not solve such a complex problem. According to the comparative analysis, the success and sustainability of these initiatives are linked to factors such as institutional maturity, the quality of data infrastructure, and the presence of governance frameworks. In addition, the findings show that AI does not accelerate processes, that its functionality depends on the existing conditions under which it is implemented, and that it helps enhance people's capabilities and skills rather than completely replacing them (Köbis et al., 2021, 2022; Licklider, 1960).

AI is used in most projects to automate anomaly detection across various datasets, enabling strategic analysis and complex decision-making. In this context, the challenge for public organizations is to train their workforce to understand and act on the results generated by algorithms. Furthermore, given that data are the most important element for training AI models, some limitations to its potential must be addressed. These include the lack of interoperability between agencies, the diversity of public organizations' databases, and the poor quality and standardization of information. In this regard, rather than investing in sophisticated algorithms on a large scale, strategic efforts are needed in data governance and the creation of a comprehensive digital infrastructure.

The study reveals that global digital governance is uneven due to differences in the maturity and scale of AI applications across countries. While Europe and North America have expanding systems with quantifiable financial results, initiatives in Africa and Latin America are in pilot phases and face structural barriers. Additionally, there is a significant gap between the rapid technological advancement of AI and the creation of legal and ethical frameworks to regulate it. Most initiatives are addressing the lack of transparency and algorithmic biases with outdated regulatory frameworks ill-suited for this purpose. This absence of specific regulations for using AI in the public sector can generate uncertainty and mistrust among citizens toward the government. In conclusion, disparities in institutional maturity and differences in regulation and infrastructure show that AI's potential to combat corruption is shaped by political, economic, and ethical contexts.

This study has limitations that must be acknowledged. The analysis is based on a descriptive mapping of initiatives drawn from public sources, which limits an in-depth causal assessment of the impact of AI on reducing corruption levels. Future research should focus on measuring the impact of AI, as well as on qualitative analyses of adaptation processes in public organizations and the institutional resistance that arises during the implementation of these technologies. The comparative analysis presented here sought to offer an overview of global initiatives in this area, instead of generalizing solutions. This article highlights significant progress in the implementation of AI to fight against corruption. However, greater standardization and impact assessment are still needed because many of the projects are in pilot phases and lack independent evaluation.

The findings suggest that technopolitics in the analysis of AI for combating corruption and promoting government transparency is a process of institutional change. When strategically integrated into the dynamics of public action, this shift can enhance the government's capacities in terms of detection, monitoring, and accountability. AI provides unprecedented tools for surveillance and data analysis, but it requires a transformation of government capabilities, processes, and structures in the areas of data governance, human capital development, and regulatory frameworks. Thus, the challenge lies not only in programming the algorithm but also in redefining the public sector.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

AUTHOR'S CONTRIBUTION

All authors contributed equally to this article and share joint responsibility for its content.

ARTIFICIAL INTELLIGENCE USE STATEMENT

The authors disclose that they used the Gemini generative AI tool exclusively to correct spelling, punctuation, and syntax during the manuscript preparation phase. They also guarantee that the tools used were employed in an ethical and honest manner.

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