



The fight against corruption from a new technological paradigm

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Artificial intelligence has emerged as an innovative tool in the fight against corruption. This new technology has countless unprecedented benefits in identifying irregularities, automate compliance checks and improve transparency in public and private organizations. We analyze the opportunities and challenges in the application of AI-based technologies to detect, prevent and fight corruption around the world, with a focus on Latin America.

Introduction

The fight against corruption remains one of the most pressing issues in Latin America. According to the American Society/Council of the Americas (as/coa) and Control Risks *Capacity to Combat Corruption Index*, 70% of experts regard corruption as a critical challenge in their countries, surpassed only by public insecurity and the post-pandemic economic situation. Furthermore, Transparency International's Corruption Perceptions Index indicates that most countries in the region are either stagnating or worsening regarding their anti-corruption efforts. Only Guyana and the Dominican Republic report significant progress, while Venezuela has dropped to an all-time low in the global rankings.

Amid this unfortunate scenario, artificial intelligence (AI) presents innovative solutions to this deeply complex problem. The European Commission's High-Level Expert Group on Artificial Intelligence defines AI as "systems that display intelligent behavior by analyzing their environment and taking actions—with some degree of autonomy—to achieve specific goals" (2019). AI technologies offer data analysis, anomaly

detection, corruption-risk prediction, and process automation. However, the risks of unethical use must not be ignored—for instance, personal data erosion, indiscriminate surveillance, algorithmic discrimination, and inappropriate implementation in electoral campaigns.

Despite all, the opportunities far outweigh the risks. The proliferation of AI as an anti-corruption technology—also known as AI-ACT—has captured the attention of public officials, activists, investigative journalists, and academics who specialize in the issue. AI-ACT encompasses socio-technical systems that enable the analysis of large volumes of data, reducing the discretionary power of public officials, and mediating interactions between citizens and governments (Mattoni, 2024).

AI's predictive and preventive capabilities provide agility and efficiency in anti-corruption efforts across Latin America, with Brazil leading the way in anti-corruption use of AI technology. Odilla (2023) documents over 30 initiatives driven by public officials (top-down) and civil society organizations (bottom-up) that promote monitoring, identifying, reporting, and predicting irregularities and corruption risks. In Latin America, Rosie,

Alice, and Monica are prominent examples of such initiatives. Alice (which analyzes public calls, contracts, and tender offers) and Monica (which monitors acquisitions) scan procurement processes to identify irregularities. The Brazilian Internal Revenue Service has also implemented AI to detect customs fraud, while various state agencies are expanding the use of AI in broader anti-corruption efforts. However, the adaptation to new forms of irregularities is slow, and there is limited expert audit capacity. Moreover, some aspects require refinement—namely, biased data outputs, responsible implementation, and perfection of failed algorithms.

AI in the Fight Against Corruption: Opportunities and Benefits

In the government sector, generative artificial intelligence and large language models (LLM) provide numerous opportunities for innovation in the fight against corruption. The following sections present some of their key applications.

Data Analysis and Pattern Recognition

AI facilitates the processing of large datasets to detect early signs of corruption through inconsistencies or duplicated information in financial transactions, tenders, contracts, or subsidies. AI-ACT can help predict areas or sectors at higher risk of fraud based on historical data and current trends. These capabilities help identify conflicts of interest and assess corruption risks to detect anomalies and corruption scenarios.

A notable case is that of proactive governance through Saler (Rapid Alert System), implemented by the General

Inspection of Services of the Generalitat Valenciana in Spain. Saler's main objective is to anticipate risks or weaknesses liable to harm public administration and arising from inertia or poor practices. It utilizes the vast digitized information handled by the Generalitat Valenciana, along with databases from registrars, notaries, and intellectual property entities, to analyze any administrative procedures of interest to compliance officials. The risks detected by Saler are linked to information security, tenders, selection committees, collusion, verifications, governance, ethics, compliance with the law, and human resources.

Saler relies on algorithms, for example, to monitor unemployment benefit recipients and detect fraudulent claims. This predictive tool evaluates individual's health and predicts the likelihood of their return to work. However, it is crucial to support these assignments with thorough analyses to prevent an overflow of false positives, which could harm citizens in genuine need of state aid.

Similar systems can analyze local government or ministry expenses to identify cost overruns, deficiencies, or poor practices. Public procurement accounts for 13% of the gross domestic product in OECD countries, and 8% in Latin America (Pérez, 2021). Despite this being an area vulnerable to corruption, resources for controlling and monitoring public spending are often scarce. The following case studies illustrate the use of AI in addressing this issue.

VigIA

Developed by the Tic Tank of Universidad del Rosario—a think tank focused on information technologies—and the Corporación Andina de Fomento (CAF) for Bogota's District Oversight Office, VigIA

is an AI-based system designed to oversee contracts with high risk of corruption and inefficiency issued by Bogota's Mayor's Office. The system leverages data from Colombia's Electronic Public Procurement System (Secop) through the National Public Procurement Agency (Colombia Compra Eficiente) to predict corruption risks in each contract using machine learning models. By expediting audit processes and detecting inefficiencies or irregularities, the system assigns risk scores, enabling oversight bodies to focus on contracts most vulnerable to corruption.

Love Serenade: AI for Social Control of Public Administration

Following the outbreak of the notorious Mensalão corruption scandal—known as “big monthly allowance” due to improper payments within the lower house of the Brazilian Parliament—data scientist Irio Musskopf, sociologist Eduardo Cuducos, and Businessman Felipe Cabral conceived this project in 2016. The initiative uses machine learning to analyze government data and flag suspicious public spending. Findings are posted on X via a bot named Rosie. Other tools, such as La Denunciante (The Whistleblower), Jarbas (for data visualization), and Toolbox join these efforts. In its early stages, Love Serenade identified 629 irregularities involving 216 out of 513 federal deputies.

Streamlining Procedures

AI facilitates the automation of routine tasks, reducing human error and increasing the speed of corruption risk detection. It primarily improves process efficiency and, consequently, anti-corruption efforts.

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Aarvik (2019) highlights the case of the Kenyan government and the IBM Research Group, who teamed up to decrease the incentives for bribery in administrative procedures. It is worth remembering here that a good part of corrupt transactions is about greasing the wheels, that is, speeding up procedures that should not take so much time or resources in the first place. By making procedures more efficient, Kenya improved its position in the World Bank's Doing Business ranking, rising from 136th to 56th place¹. However, before engaging in this transformation, countries must have a high level of digitalization.

AI also offers opportunities to streamline reporting channels, another critical pillar of anti-corruption endeavors. AI algorithms can prioritize and categorize complaints, reducing the costs associated with officials processing each case individually. A study by Pierri and Lafuente (2022) from the Inter-American Development Bank provides evidence on the handling of citizen complaints in the New Talents in Government Control Program at the

¹ Following data irregularities in the 2018 and 2020 Doing Business report, World Bank management suspended the next edition and initiated a series of reviews and audits regarding the report and its methodology.

Comptroller General's Office (CGR) in Peru. In a sample of 5,000 occurrences, 40% were deemed unnecessary for CGR involvement. By applying prioritization and admission algorithms, the program improved the success rate of complaint handling by 36% and increased the effectiveness of warnings by 27%. According to these preliminary results, the program is an effective initiative to improve the internal processes of the CGR and contribute to the fight against corruption in Peru. Complaint systems enhancement involves the implementation of AI-driven recommendations based on previous steps or actions, thus optimizing resources and shortening the length of investigations.

AI in the Fight Against Corruption: Risks and Challenges

Despite growing social interest in AI's enormous potential and widespread agreement on its positive impact in combating corruption (Colonelli et al., 2020), there are direct and indirect risks that need consideration. Public figures from the field of technology, academia, government, and journalism have signed a letter highlighting AI's risks and advocating for mitigation strategies, prioritizing them globally alongside issues like post-pandemic management and nuclear warfare. Some of these risks are briefly discussed below.

System Manipulation by Corrupt Actors

Corrupt use of AI may occur when officials implement AI systems to obtain personal gains (Köbis et al., 2022). According to widely accepted definitions of corruption, public servants could exploit

the technological systems at their disposal to commit illicit acts and abuse their discretion. Since IA is a novel technology, opacity in its design, manipulation, and implementation can obscure understanding of the decision-making process, potentially eroding user trust. Such manipulation may not involve overtly corrupt use but rather exploitation of system vulnerabilities.

Risks of Mass Surveillance and Civil Rights Violations

While corruption remains a major concern for Latin Americans, insecurity is viewed as a burden in the region. Latin America has 9% of the world's population, yet it registers one-third of the global homicide rate. Mexico stands out in the region, with over 30,000 annual murders amid territorial in-fighting involving at least a dozen cartels.

It comes as no surprise that, during recent elections, former presidential candidate Marcelo Ebrard proposed a security plan—ANGEL (Advance Geolocation and Security Standards)—featuring face-recognition cameras and other devices to create an AI-based ecosystem across Mexican databases. ANGEL involved mass surveillance and biometric technologies in public spaces to introduce predictive surveillance, legislative efforts to implement cameras with face-recognition capabilities, vehicle geolocation, gait-based morphological criminal identification, drone use, and intelligent body cameras for the Mexican National Guard.

Notably, various studies have shown that mass surveillance and facial-recognition technologies are highly susceptible to misidentification leading to numerous cases of wrongful arrests of innocent people, especially those who are not white.



Over-Reliance on Technology

Over-reliance on technology can render institutions or governments vulnerable to cyberattacks and technical failures. The experience of Albania provides an example of the perils associated to excessive dependence on technology. As part of its process to join the European Union, Albania will be the first country to deploy AI, using ChatGPT—the most popular LLM model in the world, with one million users in its first week—to translate thousands of pages containing EU policies and laws into shqip and integrate them into Albanian legislation. This process will take place after an agreement with OpenAI, whose executive technology director, Mira Murati, is of Albanian origin. While this implementation will save the state apparatus time and resources, it calls for consideration of its ethical implications, especially regarding the legal void in terms of privacy, transparency, and an over-dependence on technology.

Algorithmic Biases in Identification

AI systems are trained on pre-existing data, oftentimes reflecting the exact biases (conscious or unconscious) occurring in the real world. This phenomenon, known as *algorithmic bias*, can lead AI-based anti-corruption tools to produce false positives, potentially reinforcing inequalities and discrimination. For instance, if historical data reveal a number of corruption cases involving people of specific ethnic origin, age, or occupation, an algorithm designed to detect future corruption cases may incorrectly flag individuals with these characteristics who have never been involved in illicit acts.

Studies in the United States show that facial recognition tools are less accurate for darker skin tones. These tools have been trained with existing data repositories where white men are overrepresented. Such inaccuracy is especially concerning when AI is deployed for policing. Training systems with biased data amounts to failure in

identification and, ultimately, to data misuse. To ensure efficiency and wide coverage of AI technology in security matters, it is crucial to involve experts who skillfully filter and analyze the data feeding AI systems.

Final Thoughts on the Potential of AI in the Fight Against Corruption and the Future of Public Governance in the Digital Age

While AI holds immense potential as an anti-corruption tool, addressing its ethical implications is essential to ensure its responsible and transparent use. Understanding how to leverage AI to analyze, predict, and automate data in anti-corruption initiatives, whether these originate in state agencies or civil society organizations, requires mechanisms that promote transparency, accountability, and bias mitigation to guarantee good governance for AI.

AI-ACT's challenges and opportunities may arise in anti-corruption agencies (top-down) or among civil society organizations (bottom-up). Agencies may perpetuate existing power asymmetries and inadvertently create dire consequences in their fight against corruption. On the other hand, civil society efforts face barriers to accessing open data, largely due to each government's level of digitalization. However, with the support of social media and under citizen scrutiny, AI-ACT initiatives offer great advantages in disseminating information about corruption cases and risks in real time.

Although anti-corruption AI initiatives expedite processes, they must never go without human oversight. The opacity of algorithm design and implementation remains a challenge for public trust,

especially in Latin America, where interpersonal and institutional trust is low. According to the Inter-American Development Bank, nine out of ten Latin Americans distrust others. This lack of trust encompasses the Judiciary in almost all countries in the region, to which we must add legislative gaps and the discretion held by political and economic elites. In such context, implementing effective anti-corruption mechanisms backed by citizens constitutes a challenge, whether or not they involve AI.

Technological innovation aside, sanctioning agencies must implement AI systems with utmost care to avoid exacerbating inequality and targeting individuals based on algorithmic bias. For instance, public officials from vulnerable or minority communities could face disproportionate investigation or sanctions, even as their actions are no more corrupt than those of other officials. Such bias not only perpetrates individual injustice but reinforces social stereotypes and diminishes the perceived fairness of anti-corruption efforts.

When citizens perceive that systems target specific groups instead of treating all officials equally, trust in the anti-corruption institutions dwindles. Furthermore, a lack of transparency about investigative decisions can contribute to mistrust. Some governments, including authoritarian regimes, use AI discretionarily—for instance, to target anti-racism activists in Miami and New York, feminist groups in the United States, feminist groups in Mexico City, pro-democracy groups in Hong Kong, journalists and political opponents in Egypt, and even to systematically monitor, profile, and persecute ethnic minorities such as Uighurs in Xinjiang.

Algorithmic transparency is a key strategy for risk mitigation. Explaining

how algorithms work and what decisions they make allows audits and monitoring, thus minimizing the perpetuation of bias. Diversifying training sources also helps to feed algorithms more accurately while protecting user privacy.

The goal is to increase accuracy and trust in corruption risk predictions without undermining the expertise of human auditors. This is a significant task in Latin America, where there are large digital infrastructure gaps—only 57% of citizens have mobile internet access, with disparities between South America (77%) and Central America (37%), and extreme differences between countries (e.g. Brazil at 77% and Haiti at 6%). Closing infrastructure and digitalization gaps between and within countries is crucial to ensure fair implementation and deployment of AI architecture across regions in the fight against corruption. Such implementation should consider rural and urban disparities, the need for neutral systems that minimize bias, and the inequalities that AI training may bring about.

Governments, companies, and civil society must commit to harness AI's transformative potential through constant vigilance, new regulatory frameworks, and ethical standards. Let us remember that, while the corrupt actions of an individual may reach a limited number of people, corrupting an algorithm could impact thousands in an instant. ♦

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