THE DIGITALIZATION OF DEMOCRACY

HOW TECHNOLOGY IS CHANGING GOVERNMENT ACCOUNTABILITY

// KRZYSZTOF IZDEBSKI / TEONA TURASHVILI / HAYKUHI HARUTYUNYAN / ED. BETH KERLEY

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LEVERAGING AI TO COUNTER CORRUPTION IN ARMENIA

// **HAYKUHI HARUTYUNYAN,** CHAIR OF THE CORRUPTION PREVENTION COMMISSION OF THE REPUBLIC OF ARMENIA

In March 2020, Armenia's Corruption Prevention Commission (CPC) started a digital project aimed at making it easier to hold public officials accountable. Specifically, the Commission decided it would develop **a new digital platform to collect, store, and analyze the asset declarations of public officials**, in order to help watchdogs, journalists, and the public sift through data for signs of officials' malfeasance. As part of this project, the CPC plans to incorporate an algorithmic tool with artificial intelligence/machine learning (AI/ML) capabilities to sift through thousands of e-declarations and find red flags.

This initiative is an **example of the potential that new digital systems for collecting and processing data hold for bolstering government accountability.** Although many such tools are designed to give governments a more granular picture of social trends and patterns, projects like the CPC's platform can instead **enable greater scrutiny of government officials**. At the same time, the CPC faced challenges when it comes to thinking through how democratic principles should be applied to the **procurement, design, and use of the digital platform itself**. Through measures such as advance consultations with key stakeholders and adherence to international data protection norms, the CPC is striving to demonstrate accountability in its approach to these processes as well.

CORRUPTION AS A MAJOR CHALLENGE

Corruption has been a major challenge for Armenia since the country gained independence from the Soviet Union in 1991.[1] Over the following decades political power was organized around leader-centric oligarchic networks, underpinned by backroom dealings and patronage relationships. These networks subverted and superseded the workings of formal social, political, legal, and economic institutions. Although there has been pressure from civil society and international institutions to act against corruption, this challenge has persisted.

The **April 2018 "Velvet Revolution"** of nationwide protests was a major turning point, peacefully bringing down Armenia's highly corrupt, semi-authoritarian regime.[2] In late November 2019, the new government launched the **independent CPC**, reflecting a commitment to make resilience against corruption a priority in the country's democratic transition.

To aid in this struggle, the CPC began looking for a way to monitor officials' assets and activities more effectively. At this point, Armenia already had an **electronic platform for asset declarations** that was first developed in 2012 in response to OECD recommendations.[3] State officials holding certain positions (about 3,500 people as of 2017) are required to submit these declarations periodically as a measure to **prevent conflicts of interest, illicit self-enrichment, and other forms of malfeasance**. In theory, the declarations provide the public with a reasonably exhaustive picture officials' income, expenditures, and activities.

In practice, however, the electronic platform was more a box-checking exercise—aimed at meeting the formal demands of the national anticorruption strategy—than an effective tool for holding officials accountable. It lacked automated functions for submission and verification, analysis, or cross-checking of data within the system and across other government databases. Even if applicants chose to fill in their declarations electronically, the resulting information was stored in PDFs rather than in a machine-readable format.

These shortcomings forced anyone wishing to analyze data to first retrieve it and then compare it to other sources manually. With limited human resources available to process a staggering volume of information, government watchdogs succeeded in analyzing only a tiny fraction of the available declarations. Similarly, although the declarations were public, civil society organizations and the media found it challenging to work with data in this format.

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DATA FOR DEMOCRACY

As part of the reform agenda, the asset declarations have been expanded to include additional information and now cover roughly seven thousand public officials, as well as those who reside with them (all together, approximately 35,000 declarations are submitted annually). **The CPC wanted to make this information more accessible and useful for accountability institutions as well as the general public.**[4] To this end, the Commission decided to develop an electronic platform that would store the data in a structured way, enabling users to search, analyze, and compare information on public officials more readily. For the CPC's internal purposes, we would take the use of digital tools one step further by employing **algorithmic decision making and AI/ML** both to flag potential indicators of malfeasance by officials automatically and to assist the CPC with data analysis.

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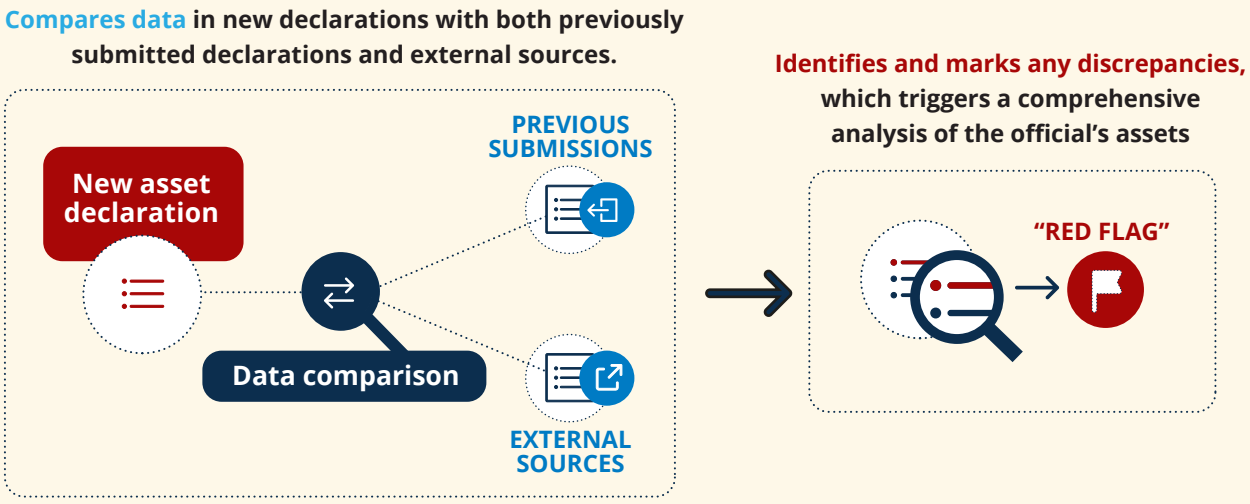
The first module of our platform is now complete. This system streamlines data entry and collection in a number of ways. It **automatically integrates data from other state agencies** and employs various automated functions to make use of the platform simpler for declarants as well as those looking for information. Since data will be disclosed publicly, this latter group potentially includes civil society, media outlets, and the wider public. The system tracks actions by both users and the system's managers (the CPC) to ensure accountability.

One of the innovations in the new platform is an automated verification function that compares data in new declarations with both previously submitted

FIGURE

Automated Verification of New Asset Declarations

The CPC's new digital platform will give corruption investigators a head-start on identifying official misconduct.



declarations and external sources (other state databases). Whenever this process identifies any discrepancies, the system will mark these concerns as a "red flag," which will trigger a comprehensive analysis of the official's assets. That procedure begins with an automated analysis of prior declarations and available external data, after which the CPC initiates a legal inquiry. The system's analytical process can be tailored to meet the needs of individual agencies, and a **public application programming interface (API)** enables reporters, activists, and ordinary citizens to use their own software tools to sift through declaration data on the public website.

After the initial round of applications is submitted through the new platform, work on the second module will begin. This next stage of our project will employ more advanced analytical tools to **flag corruption risks automatically**. Initially, its algorithm will be based on fixed indicators developed for the CPC's own corruption risk assessment tool. After a trial period, however, we intend to activate an **AI/ML component that will enable the system to "learn" from the data it processes**, helping us to identify new types corrupt and deceptive practices. In this way, we can stay one step ahead of officials looking to conceal their conflicts of interest or ill-gotten gains.

Defining our objective was was not simply a task for a single vendor; rather, it required effective communication with public institutions, as well as media outlets and civil society.

ENGAGING PARTNERS AND STAKEHOLDERS

The process of developing the new electronic platform has been challenging in all phases, from identifying a developer to meeting the safeguards required of a public institution that collects, stores, and analyzes potentially sensitive data.

The first and most essential step was to define the objective: What key features would need to be included? Answering this question was not simply a task for a single vendor; rather, it required **effective communication with public institutions, as well as media outlets and civil society**. The CPC conducted numerous consultations—with USAID support and engagement by relevant experts—before it developed terms of reference for the project and issued a call for bids.[5] After researching existing systems similar to the one we wished to create, as well as the companies that had developed them, we approached firms outside Armenia in hopes of **drawing on international experience**. Our discussions with international companies helped us to deepen our understanding of the data collection scheme and analytics we would require. The consultation process as a whole made clearer to us the importance of **first having structured data available in order to carry out an effective analysis**, among other matters.

To develop the system, the CPC looked for partners among both local and international private information technology (IT) companies. However, distrust

toward the government proved to be an obstacle: Given past precedents of cronyism and corruption, **local companies doubted that a public institution would assess their applications fairly**. As a result, none were received by the stated deadline. To encourage more local participation, the CPC has organized meetings and discussions with local IT companies. For example, we launched a campaign on "Innovative (Digital) Technologies to Prevent Corruption: Opportunities and Needs for Cooperation." Ultimately, three international and two local vendors applied; we selected one of the latter.

Since the CPC's mandate encompasses corruption risks in both the private sector and public institutions, we also used these and other meetings to communicate an important message for developers: Private IT companies are expected to adhere to codes of conduct, follow ethical rules-based design and management practices, and take measures to ensure equal opportunity and prevent conflicts of interest. To further drive this message home, the CPC plans to pilot the **corruption risk assessment methodology** it has been developing in five semi-public institutions,[6] including EKENG—an e-governance infrastructure implementation agency. In this way, **public-sector digitalization can reinforce good governance norms in the wider society**.

GRAPPLING WITH PRIVACY

In designing this system—especially the features that allow for public engagement—the CPC faced the challenge of balancing privacy and personal security with the public's interest in transparency and accountability. In this regard, we have relied on principles defined by the European Court of Human Rights, which established that **general publics have a legitimate interest in transparency around the conduct of public officials**. Online access to asset declarations serves this interest, since the public needs an easy way to view these declarations if they are to be an effective tool for making citizens more informed. However, we ultimately came to the conclusion that while the declarations themselves would be public, the algorithmic tool we are developing to flag corruption risks will need to be kept private in order to ensure compliance with the EU's General Data Protection Regulation (GDPR).

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In general, **the CPC has followed the standards established by the GDPR, as well as additional requirements enumerated in Armenia's own legislation**. These efforts will not only make the platform privacy compliant, but also ensure adequate functionality and protect the rights of all users. Once the platform is ready for use, the CPC also plans to ensure its compliance with international standards for information security.

DIGITAL ACCOUNTABILITY

The CPC's experience underscores that **data-driven technologies can be a force for accountable governance**. At the same time, it is important for institutions that are deploying these tools to build relationships of trust with stakeholders across government, civil society, and the public sector; engage these stakeholders in setting the parameters for new systems; and familiarize themselves with norms for responsible digital design and deployment. Taking these steps will help to ensure that as watchdog institutions leverage new digital tools, they can continue to hold themselves and other sections of government accountable to the citizens they serve.

ENDNOTES

1 Mathias Bak, "U4 Helpdesk Answer," Transparency International, 18 April 2022, https://knowledgehub.transparency.org/assets/uploads/kproducts/Overview-of-corruption-and-anti-corruption-in-Armenia_2022-final.pdf.

2 Miriam Lanskoy and Elspeth Suthers, "Armenia's Velvet Revolution," *Journal of Democracy*, 30, 2 (April 2019), 85-99, www.journalofdemocracy.org/articles/armenias-velvet-revolution/.

3 "Anti-Corruption Reforms in Armenia: Round 3 Monitoring of the Istanbul Anti-Corruption Action Plan," OECD, 2014, www.oecd.org/daf/anti-bribery/Armenia-Round-3-Monitoring-Report-ENG.pdf.

4 Such information included data on officials' expenditures, rented properties, liquid financial assets, external activities, employment, investment portfolios, as well as information on the assets of their family members and other persons residing with them.

5 For more information, please consult this information page from the CPC's website: http://cpcarmenia.am/files/legislation/365.pdf.

6 For more information about the methodology of this initiative, please see: "A Two-Day Convention on the Assessment of Corruption Risks was Summarized," CPC, 14 October 2022, http://cpcarmenia.am/hy/news/item/2022/10/14/2022-10-14/. (Original source material in Armenian.)

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