



# GOVERNMENT, DISRUPTED DATA LAKES, APPS, AI, AND HUMANS

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Data, digital solutions, and artificial intelligence applications can revolutionize how government services are measured, understood, and enhanced. At DIME, we focus on improving the efficiency, accessibility, and effectiveness of government services. Our vision is to support the development of effective, reliable, transparent, and accountable institutions; advance equal access and opportunities; and promote economic development. We seek to bring scientific tools to public administrators to maximize the efficient and fair operation of government services.

We advocate for digitizing government functions on the basis of foundational research, prototyping, and ground testing to develop systems at scale that work for intended users, and as an opportunity to build local capacities for linking data and analysis to action. We focus on skills development and behavioral change to support deployment and secure usage. We deliver open-source prototypes that can be adapted to changing demands or different contexts. We advise against contracting expensive digital systems absent the necessary groundwork needed to ensure their usability, and advise against closed-source software, for which the design may quickly become obsolete and the recurring payments unsustainable.

New investments in digital infrastructure, solutions, and platforms generate a tremendous amount of data that can inform improvements in administrative efficiency and deliver more effective policies. Yet, even under the current scenario, the great majority of data goes unused. Thinking ahead to develop replicable code, dashboards, and analytical capacities can be transformational for processing and analyzing data, producing useful and actionable analytics, and averting a huge lost opportunity. Software can enable social change, especially when used to experiment and validate emerging technologies to solve development problems. Lastly, economic impact evaluation should be essential to the validation process.

In this chapter, we offer five examples to demonstrate how digitization and data integration, together with the digitalization of government processes, can transform the functioning of justice, cities, macroeconomic policy, public administration, and health. The disruption of old into new technologies increases public sector productivity with tremendous potential for economic revival. In the following case studies, we show that:

1. **Decreasing judicial delays by 20 percent can increase wages by 23 percent in contract-intensive industries.** We show that millions of paper records can be transformed into structured data as a resource to increase the efficiency of justice; that judicial processes can be rewired using digital applications to improve assignment, management, monitoring, and AI-supported quality of decisions; and that improvements in justice are a driver of productivity and economic growth.
2. **Prioritizing investments in just 1 percent of the road network can halve road mortalities.** We transform an open-source dataset like Twitter into a resource for urban planning and development. We show that bystanders' reports can be used to create location data for urban events like car crashes, scarce in most developing countries but essential for addressing the number one cause of mortality for children over five and young adults. We then identify the 1 percent of the road network that hosts 50 percent of the crashes, enabling road safety authorities to channel scarce resources to those locations and reach Sustainable Development Goal (SDG) 3.6: by 2030, halve the number of global deaths and injuries from road traffic accidents.
3. **Shaping fiscal response through analysis of daily tax data can support economic recovery.** We use the growing electronic filing and billing systems to better understand economic activity in real-time across geographies and sectors to deliver targeted policy responses, especially during crises.
4. **Understanding where and how to intervene can increase the productivity of public administration.** We integrate and analyze productivity data across a universe of public projects, ministries, departments, and agencies to identify where productivity improvements are dearly needed. In so doing, we experiment with training modalities and other interventions to optimize efficiency.
5. **Introducing an e-check inspection system with accompanying regulation and enforcement can increase patient safety by large margins at low cost.** We develop new digital tools to standardize and measure patient safety in health facilities to substantially increase safety compliance cost-effectively.

Through these examples, we hope to communicate the need to invest in knowledge and reach beyond digitization to secure real digital transformation in the productivity of government.