

# Towards Real-Time Governance: Using Digital Feedback to Improve Service, Voice, and Accountability

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## DIGITAL TECHNOLOGY, CITIZEN EMPOWERMENT, AND THE SDGS

Improving the quality, impact, and efficiency of public services is one of the most critical challenges of public policy. There are multiple ways of addressing these challenges, but a common theme is the need to put citizens at the center of governance and service delivery, through (i) *empowerment*—putting citizens at center of service provision and incentivizing delivery; (ii) *transparency*—openness and sharing of information; (iii) *accountability*—enabling citizens to monitor service levels and quality; and (iv) *participation*—including citizens in policy design and implementation.

Not surprisingly, these measures are echoed in several SDG goals and targets under the cluster of promoting peaceful and inclusive societies and building effective, accountable, and inclusive institutions:

- Goal 16.5: Substantially reduce corruption and bribery in all their forms
- Goal 16.6: Develop effective accountable and transparent institutions at all levels
  - Target 16.6.2: Proportion of the population satisfied with their last experience of public services
- Goal 16.7: Ensure responsive, inclusive, participatory, and representative decision-making at all levels
  - Target 16.7.2: Proportion of population who believe decision-making is inclusive and responsive

Ideally, service delivery mechanisms would incorporate the SDG principles and goals from their inception. However, many do not; legacy systems are also difficult to overhaul completely, due to administrative and political factors. Effective use of feedback mechanisms provides an opportunity to reorient existing service delivery systems as well as shape new ones.

The growing use of digital technologies, including mobile connectivity and the internet, offers new opportunities to institute a range of scalable feedback mechanisms that are far speedier, and proba-

bly less costly, than traditional approaches. Rapid, more granular, feedback can help in the early design phases as well as in the reform of legacy systems where major redesign may be costly. Bottlenecks can be alleviated and accountability improved, often without the need to fully replace the system. Some nongovernmental organizations (NGOs) have pioneered efforts to build on digital technology to strengthen citizen feedback<sup>1</sup> and many governments have taken steps to incorporate the use of digital technology, including payments, into service delivery. However, few government programs have yet harnessed the potential of the vast amount of information generated by digital systems to assess service quality and empower citizens. This note considers the potential of digital technologies to support these goals by facilitating feedback and empowering users. It highlights some factors that shape the potential of a feedback loop, summarizes two recent cases, and considers the lessons they illustrate for other applications.

## FEEDBACK LOOPS

A feedback loop is any mechanism that generates information on the quality of service. Once collected, this information can be used to improve performance. The service delivery chain starts with a request by the citizen and ends with delivery by the service provider. A feedback loop can start collecting information at any point in the delivery chain (Figure 1). The *administrative data* loop collects information on individual service transactions (for example, the number of days between request for service and delivery for every transaction), while the *choice and voice loop* collects data on the service experience of the citizen (for example, satisfaction with the experience). Data collected can then be used to measure service levels, gauge user satisfaction, and diagnose problems.

Feedback systems, whether through surveys, social audits, scorecards, or other mechanisms, have a long history. They are a critical element in the “short route” of accountability between clients and service providers.<sup>2</sup> Such feedback mechanisms can be useful but sometimes they are ineffective. They might require effort on the part of citizens; long delays in soliciting inputs or slow responses to grievances and problems may discourage submissions. Feedback gathered through some mechanisms may not be sufficiently granular or tailored towards individual service interactions; problems may not be assigned to the appropriate level of administration for attention and resolution. Feedback systems may also be limited in terms of being representative across geography or time. They may not pick up large variation in performance and feedback across locations and between discrete measurements.

Digital feedback loops can be more than a computerized version of existing analog processes. By leveraging technology, they enable the collection of large volumes of data in almost real time, including crowdsourcing suggestions and ideas at the planning stage. Data collection and analysis can be far timelier and more transaction-specific than that from retrospective audits based on paper-based records or periodic field surveys. Reporting costs and burdens can be eased by using a range of response modalities, including text messages and robocalls. Handheld voting devices and audience response systems can offer individuals the opportunity to express their views while preserving their anonymity and ensuring that the opinions are submitted by genuine clients.

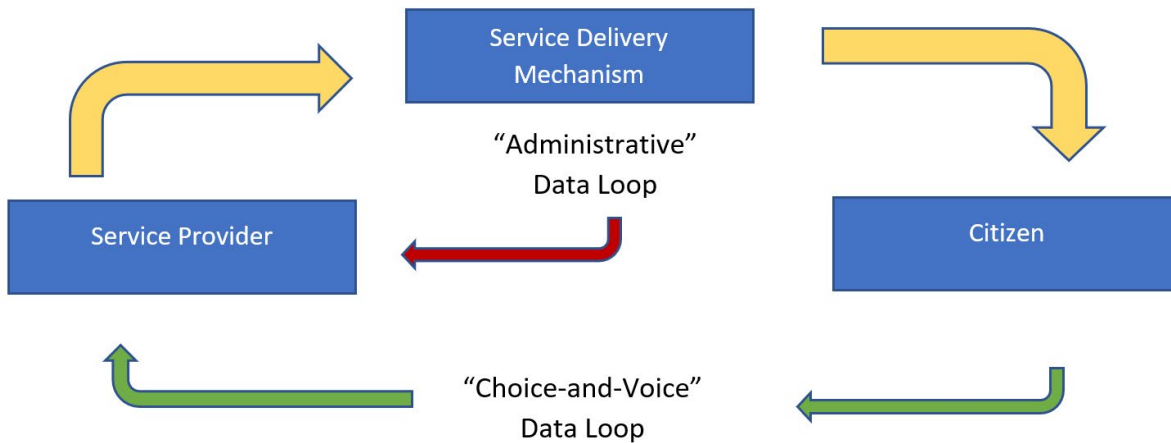
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1 One example is Ushahidi, <https://www.usahidi.com>, an organization originally set up to map violence in Kenya after the post-election violence of 2008. Another is FixMyStreet, <https://en.wikipedia.org/wiki/FixMyStreet.com>, a platform to help people inform local authorities of potholes and other problems needing attention.

2 The “short route” is in contrast to the “long route” of accountability where, through elections and other mechanisms, citizens influence policymakers who, in turn, manage and influence the service providers. See World Development Report (2004), Making Services Work for Poor People <https://openknowledge.worldbank.org/bitstream/handle/10986/5986/WDR%202004%20-%20English.pdf>

Speed is a great benefit. On the user side, rapid feedback and response is important to encourage further involvement. On the provider side, more timely information, including from administrative data, can help to correct shortcomings while preempting frequent bureaucratic obfuscations to ex-post audits—that the problems exposed are old ones; that they had been recognized before the audit; and that corrective action has already been taken.

**FIGURE 1. Administrative and Choice-and-Voice Feedback Loops**



## SOME CRITICAL SUCCESS FACTORS FOR FEEDBACK

As for other areas of technology, digital feedback mechanisms are only tools. The enabling environment, design, incentives to participate, and the motivation and capacity to respond are critical to the success of any feedback loop.

**Commitment.** Feedback systems will have little impact in cases where there is no high-level commitment to improve service delivery or inadequate resources and capacity to respond. If adverse feedback is treated as a sign of individual or organizational failure, it will probably be suppressed. High-level political leadership should convey a clear message to both providers and clients that feedback is valued, and its relevance should be demonstrated by visible improvements in service quality. Commitment can be demonstrated by linking feedback levels to incentives for service providers. At the same time, delivery agents need to be brought on board while putting in place performance metrics and incentives for better service especially when, as is likely, reduced bureaucratic discretion constrains opportunities for diversion and corruption, enhancing resistance to change.

**Transparency.** The transparency of feedback to all stakeholders, both internal and external, can help to avoid the suppression of negative information and can also be taken as a signal of commitment. Transparency should extend to information on the resolution times for complaints.

**Learning.** Going beyond grievance redressal, learning organizations put in place processes to analyze information, identify actionable improvements in business processes, and shape the long-term service design approach. This objective becomes more feasible with the large real-time data sets generated through digitized transactions coupled with tools such as data analytics.

**Accessibility and safeguards.** Even as digitized systems can reduce transactions costs for many people, they can also raise barriers for some. Requiring access to mobile data or internet can exclude the poor and marginalized, biasing the distribution of feedback providers. Cultural norms (including gender), language abilities, and literacy levels can also constrain access. To overcome these capacity and resource challenges, digital feedback loops can allow feedback to be sent through trusted intermediaries (including reputable NGOs) as well as directly by citizens. Data analysis can also help to reconcile privacy concerns with the need to provide metrics of service performance.<sup>3</sup>

**Choice, voice, and control.** Corrective action can be in the hands of the service provider or of citizens themselves. In *provider-controlled systems*, feedback can form the basis for corrective action only if the service provider chooses to do so. In *citizen-controlled systems*, consumers are empowered to take action, including by changing their service provider. While portability across service providers may not always be practicable (in sparsely serviced areas, for example), it provides a powerful signal by fostering competition among delivery agents.

**Proactivity.** In *passive* systems, citizens must initiate the feedback process; in *active* systems the service provider (including the government) reaches out for feedback. Systems can involve a combination of active and passive—for example, automated post-service calls to all clients (followed by selective follow-up for those not satisfied with service) combined with passive feedback through a toll-free telephone number or website.

**Richness.** Feedback can range from a simple number code (SMS 1 for yes, 2 for no) to a text message through to richer media, such as audio or video files. Increasingly, social media (Facebook, Twitter) and messaging platforms (WhatsApp) enable rich feedback; they have become powerful interfaces between citizens and states. Increased digital capacity in public systems signals a richer range of options in the future, with corresponding opportunities for learning and improving the delivery mechanism.

## FROM PRINCIPLES TO PRACTICE

India has become a laboratory for digitization, with reforms to a wide range of services and benefit programs. Two recent cases offer insights into the use of feedback mechanisms.

### Consumer Choice and Voice in India's LPG Cooking Gas Subsidy Reform<sup>4</sup>

India's system of cooking gas subsidy has long been plagued with diversion and inefficiency. Starting in 2013, Project Lakshya<sup>5</sup> and later PaHaL introduced wide-ranging reforms in the allocation, distribution, and delivery of cooking gas subsidy. Instead of paying a subsidized price for LPG cylinders, beneficiaries paid the market price and the government transferred the subsidy directly to their bank accounts after purchase. Savings from the reform facilitated the rollout of LPG to poor rural women (the Ujjwala program<sup>6</sup>). Dealer margins were increased as part of the reform, to reduce resistance due to higher implementation costs and the elimination of opportunities for diversion.

Beyond the use of digital matching and ID to de-duplicate beneficiary rolls and eliminate ghost consumers, digital technology has been instrumental in several ways. One involves the “Give-it-Up” program, which encouraged richer consumers to give up their subsidies to help finance assistance to

<sup>3</sup> This tradeoff and the use of data analytics is discussed in <https://aipeqs.github.io/website/tprc.pdf>

<sup>4</sup> This section draws heavily on <https://www.cgdev.org/publication/fuel-subsidy-reform-developing-countries-india>

<sup>5</sup> <http://nisg.org/files/documents/UP1418304235.pdf>

<sup>6</sup> <https://pmuy.gov.in/>

poor households. The names of those who volunteered were inscribed on a “digital roll of honor,” each linked to the name of a poor consumer whose subsidy had been facilitated. Some 10 million gave up their subsidies; the public nature of this exercise then made it possible to leverage it to eliminate subsidies to all rich enough to file tax returns (“Your neighbors gave up their subsidy—why not you?”). Consumers were informed of the delivery of each cylinder and received a text message upon the transfer of subsidy to their designated beneficiary bank account. They could now track their subsidy and deliveries by SMS and online portals.<sup>7</sup> Consumers were also invited to rate the service of their distributor, with ratings on five service parameters. At the same time, dealers were also rated based on delivery times through automated management information system (MIS) data collected by the public sector oil marketing companies, on a five-star scale.

Portability across LPG distributors provided another mechanism to reinforce accountability for efficient cylinder delivery. Consumers could shift to another dealer, taking cognizance of logistical constraints.<sup>8</sup> Together with public information on performance, this reversed the consumer–dealer power equation in favor of the beneficiaries. The “star ratings” were further linked to incentives by tying them to decisions on the renewal of dealerships. These ratings were transparently made available to the public as well as to other distributors, improving transparency and providing opportunity for social audit. The online portal was hosted in several local languages to ensure that the feedback mechanism was widely accessible to people who were not conversant in English, thereby making the system “inclusive by design.”

The feedback loops in the new LPG system have increased consumers’ voice and the accountability of distributors, and improved service delivery. Not surprisingly, the combination of subsidy reform from prices to cash transfer (reducing leakage and diversion) and user empowerment appears to have led to a major improvement in the timeliness of deliveries. In user surveys, this has emerged as the leading factor in support for the reform.<sup>9</sup> No more do consumers need to wait for extended periods before their cooking-gas cylinders are refilled.

### **Towards Real-Time Governance: The Andhra Pradesh Experience<sup>10</sup>**

The state of Andhra Pradesh (AP) in southern India has emerged at the vanguard of using technology to reform service delivery, and with generally good results as indicated by beneficiary and user surveys. Together with the principle of universal access—efforts to make Aadhaar available to all of its 50 million people and to integrate it into all programs and administrative departments—AP’s approach has stressed the principle of clear accountability to rectify cases of technology failure. At local levels, each community has a Village Revenue Officer (VRO), the lowest level of the administrative service who is authorized to deal with public resources and payments. These VROs are mandated to deal with the (very few) exceptions and cases of technology failure, ensuring that the digital reforms do not lead to exclusion of genuine beneficiaries.

In terms of feedback, AP’s first innovation has been to harness the power of administrative data. Several states in India—such as Rajasthan—now collect real-time data on program delivery that can be

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7 <http://www.mylpg.in/index.aspx>

8 In some rural areas where distribution centers are sparse, the Ujjwala program has moved towards licensing mini-distributors: local businesses capable of servicing a more limited number of customers than the large-scale ones traditionally associated with the LPG program (CEEW 2019). This is intended to create a denser distribution network.

9 In a survey of beneficiaries in Rajasthan, almost half found the new system better while only a few considered it worse: <https://www.cgdev.org/publication/what-a-new-survey-aadhaar-users-can-tell-us-about-digital-reforms-initial-insights>

10 This section draws heavily on <https://www.cgdev.org/publication/digital-governance-krishna-glimpse-future-working-paper>

used to drill down to the level of districts, subdistricts,<sup>11</sup> and individual providers—some 28,000 service points for the food subsidy system alone. As a learning feedback loop, Andhra has gone beyond digitally recording administrative data to actively using analytics to increase efficiency and reduce exclusion.

A central hub collates all service delivery data generated through Aadhaar-based transactions in real time, analyzes the data, and provides dashboards for monitoring implementation. This can include, for example, the records of beneficiaries' efforts to authenticate and whether these were followed up by measures to ensure that benefits were received—using transactions-level data for real-time response. In one case cited to a survey, a dealer was contacted about 10 minutes after a failed fingerprint authentication effort, asked why no rations were provided, and instructed to reach out to the beneficiary and apply the appropriate protocol—iris scan, other form of identification, or referral to a VRO—to rectify the situation. This may not represent a routine use of data, but it demonstrates the active nature of the feedback loop that powers real-time administrative information to pinpoint ongoing problems in the system.

For client feedback, AP's approach includes similar principles as adopted in the LPG feedback loop—choice, or the portability of benefits, and voice, through mechanisms to solicit the views of beneficiaries on the quality of service provision. Beneficiaries can draw rations from any dealer in the state fostering competition among fair price shops. Survey responses indicate that this is welcomed, both for convenience and because it enables them to choose dealers offering better service. About 10 percent of beneficiaries have used this option, while over half of all surveyed dealers had served people from outside their areas. Dealer margins were also increased to encourage service and compensate somewhat for reduced opportunities to divert rations.

Actively soliciting user views on service quality and efforts to resolve grievances is at the foundation of AP's real-time governance framework. Each beneficiary must agree to be part of a quality survey process and receives a feedback robocall on service quality every time they access a service. In the case of the food ration system, this would imply around 10 million calls per month, covering clients of every fair price shop in the state.<sup>12</sup> Those responding with negative feedback are rolled over to second active feedback loop through a manual system to register complaints, which are then referred to the appropriate administrative unit and which must be resolved within specified periods. At the state level, a consolidated service delivery data hub collects information on grievances and tracks their resolution within a specified timeframe, normally expected to be 24 hours, thereby fixing accountability and requiring a rapid response from the administration.

The data generated is then analyzed to rank districts, mandals, and villages, as well as service programs, scoring them on “happiness indexes” of service delivery, which are updated every three hours. These are not public (unlike the LPG dealer ratings) but can be used as a management tool by the state government to hold officials accountable. Lessons from feedback may be used to redesign delivery mechanism to make them more beneficiary-centric—for example, the most recent shift to deliver pensions through Panchayat offices, which many pensioners found to be more convenient—rather than receiving pension through the banks.

We do not have sufficient evidence to judge the impact of the real-time governance system, but its elements seem to be well-appreciated on both the beneficiary and service side. On the beneficiary side,

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<sup>11</sup> Known as “mandals” in Andhra Pradesh

<sup>12</sup> The rate of response to these calls was reported to be about 15 percent. For a typical Fair Price Shop, this would translate into some 50-60 reports per month.

focus group comments indicate, for example, that officials are now far less likely to solicit bribes or make deductions from social payments than previously. On the supply side, officials appear to be well aware of the “happiness ratings” of their districts and of their targets for improvement. This approach is being further evolved into a “whole of government” approach which aims to hold public officials accountable in a direct and rapid manner, and which possibly represents the frontier of real-time governance approaches in developing countries today.

## CONCLUSION

Real-time digital analysis of customer search and transactions patterns, including reviews, are increasingly being used in the commercial world. Star ratings on Amazon for sellers are ubiquitous; so are Uber ratings of drivers and passengers. Airports increasingly follow Singapore’s precedent, with passengers invited to punch a button with a smiley or frowny face; there are also thought-provoking examples from the NGO world.

Real-time feedback loops are still rare for government programs but are becoming more feasible as countries transition towards digitized delivery mechanisms. They offer several advantages: scalability, transparency, granularity to the level of individual transactions, and the ability to drive corrections and adjustments through data analytics. Above all is their ability to operate in real time, to support the “short route” to improving the efficiency and responsiveness of public service delivery.

The two cases discussed above share some common features as well as showing some differences. First, in terms of commitment, both the cooking-gas LPG reform and the real-time governance system of AP were high-level projects, strongly endorsed and supported by the prime minister and the state’s chief minister respectively. Both have been able to draw on India’s digital infrastructure, including the Aadhaar system and exceptionally rapid advances in mobile communications. The fact that Aadhaar is de facto mandatory to receive specified public services, subsidies, or transfers, and that authentication is online, makes every beneficiary and each transaction generate granular feedback in real-time. Both cases increased dealer margins, have involved learning, and have provided beneficiaries choice, as well as voice; both have been proactive in seeking feedback, especially AP. In terms of transparency, the ratings generated by the LPG systems are in the public domain while the “happiness indices” of AP are not; they are, however, assembled in the real-time governance center and available within the state government as a management tool.

Another common factor is the matter of capacity. The LPG program was able to build on a preexisting foundation of state oil companies and distribution networks which continued through the period of reform. Andhra Pradesh is generally recognized as a state with above-average administrative capacity in India. Its digital service delivery systems have required several years of sustained effort and management pressure to reach their current capability, including the time and effort to roll out the foundations of identification and connectivity needed for the reforms. For effective real-time feedback, the incidence of complaints should be manageably low and there needs to be capacity to respond. Negative feedback could otherwise overwhelm the system, leading to long queues of unresolved problems and undermining trust in the system.

Not all programs in all countries benefit from this level of commitment and capacity, and the level of speed and granularity may be difficult in less online environments. In addition, real-time digital systems generate a great deal of data on individual transactions; in whole-of-government approaches, such as that being pioneered by Andhra Pradesh, this can be used to pool information across programs to provide a comprehensive citizen-based picture. This raises obvious con-

cerns for data privacy and security, and the degree to which citizens should have the right to control their data and the mechanisms for them to do so. Estonia is, so far, perhaps the only country to have implemented a comprehensive approach towards managing the storage and sharing of government-held data, but more governments, including that of Andhra Pradesh, are grappling with this problem and are beginning to consider approaches to migrate towards a comparable system.

All these factors will be important in thinking about the application of real-time digital feedback mechanisms into programs. However, adaptations of the approach could be incorporated more widely and, at least from the technology perspective, many countries are moving in the same direction. There is ample space to adapt and apply the lessons in other contexts to support the SDGs.



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