The Economy (and Regulatory Practice) That Biometrics Inspires: A Study of the Aadhaar Project

Nayantara Ranganathan (lawyer and independent researcher, India)

The Government of India launched the Aadhaar biometric identity project in 2009 with the aim of providing identification for all residents.[1] The project called for a centralized database that would store biometric information (fingerprints, iris scans, and photographs) for every individual resident in India, indexed alongside their demographic information and a unique twelve-digit "Aadhaar" number. India's now-dissolved Planning Commission formed the Unique Identification Authority of India (UIDAI) to plan the project, as well as implement and perform regulatory functions.[2] The scale and ambitions of the project are matched only by the long and rich history of resistance to it. Economists, technologists, people's movements, and concerned citizens have questioned the amplified surveillance dangers, indignities from exclusion due to failures in biometric identification systems, and lack of institutional accountability.[3] The project proceeded without any legal framework to govern it for seven years after its inception (government use of data in India is still not governed by any dedicated law).

---

1 Government of India, Planning Commission, "Notification No. A-43011/02/2009-Admn.I," January 28, 2009, https://uidai.gov.in/images/notification_28_jan_2009.pdf (last accessed on July 15, 2020). UIDAI was set up under the chairmanship of one of the foremost industry leaders of the Indian IT sector, Nandan Nilekani.

2 Ibid.

3 For some critiques by technologists, see, for example, Rethink Aadhaar, https://rethinkaadhaar.in; and the Medium site *Kaarana*, https://medium.com/karana. For a compilation of dissenting notes by various authors, see Reetika Khera, ed., *Dissent on Aadhaar: Big Data Meets Big Brother* (Hyderabad: Orient Blackswan, 2019).

Responding to the glaring lack of accountability raised by public advocacy and litigation, the Indian government passed the Aadhaar (Targeted Delivery of Financial and Other Subsidies, Benefits and Services) Act[4] in 2016, with negligible public or parliamentary debate.[5] While the law provided some procedural safeguards around biometric data security and consent, the law should be understood as a part of a broader institutional and economic project to instrumentalize biometric information in the service of the data economy. This essay explores the continuing legal and regulatory complicity in constructing data as a resource for value extraction, and how regulatory practice mimics the logics and cultures of the technologies it seeks to regulate.

MAKING DATA MARKET-READY

The law goes to great lengths to sustain the idea of biometric data as signifying truth, supporting and maintaining an infrastructure that is foundational for the data economy.

The Truth about Biometrics

Early planning documents of the Aadhaar project refer to biometrics as a fundamental identity, while older forms of identification based on demographic information are considered "surrogates of identity."[6] Yet biometric information is also a class of media, offering representations of bodily attributes captured at a particular moment in time under specific material conditions, and of no greater epistemic caliber. However, when coupled with the moral timbre of truth, biometric information can perform the important function of instituting people as data points within databases. This allows datafication of flows like cash exchanges or road traffic to be easily mapped onto signifiers of "real" people within databases, making these newly captured and latent dataflows more meaningful and profitable.

In the Aadhaar project, high-resolution photographs of people's irises and fingerprints were collected at the time of enrollment into the database, along with standard photographs of faces.[7] An equivalence between media artifacts captured about a person and their true identity might

4 Hereinafter called the Aadhaar Act, or simply Aadhaar. For the text of the act, see the Ministry of Law and Justice, "The Aadhaar (Targeted Delivery of Financial and Other Subsidies, Benefits and Services) Act," 2016, March 26, 2016, https://uidai.gov.in/images/targeted_delivery_of_financial_and_other_subsidies_benefits_and_services_13072016.pdf.

5 See Ujwala Uppaluri, "The Aadhaar Programme Violates Democratic Process and Constitutional Rights," *Caravan*, April 4, 2017, https://caravanmagazine.in/vantage/aadhaar-violates-democratic-process-constitutional-rights. See also Software Freedom Law Center (SFLC), "How Parliament Debated the Aardhaar Bill, 2016," March 19, 2016, https://sflc.in/how-parliament-debated-aadhaar-bill-2016.

6 UIDAI, "Role of Biometric Technology in Aadhaar Enrollment," January 21, 2012, http://www.dematerialisedid.com/PDFs/role_of_biometric_technology_in_aadhaar_jan21_2012.pdf. See also UIDAI, "Basic Knowledge of UIDAI and Aadhaar, Module 1," March 16, 2015, https://uidai.gov.in/images/training/module_1_basic_knowledge_of_uidai_and_aadhaar_16032015.pdf.

7 UIDAI, "Aadhaar Enrollment Process," https://uidai.gov.in/contact-support/have-any-question/296-faqs/enrolment-update/aadhaar-enrolment-process.html.

be common in popular parlance, but with Aadhaar, such an equivalence was crystallized in law.[8] Yet this equivalence is neither natural nor logical. The jump from the material facts of these representational media to their revelatory quality is a tactical one that several actors in the data economy are invested in maintaining. Aadhaar intends to act as both a unique and ubiquitous[9] signifier, offering itself as part of an "identity layer" that may then be used as a foundation for the datafication of realms like finance, taxation, healthcare, and education.[10]

Grooming Uniqueness as Truth

For practical as well as ethical reasons, the use of biometrics as a stand-in for unassailable truth about people is suspect.[11] But law and regulation have worked to prop up this fiction and attach market value to it, through the legally defined processes of "deduplication," the mandatory updating of biometrics information, and the reputational coupling of demographic and biometrics data.

Deduplication: At the time of enrollment in Aadhaar, all biometrics information is checked against every other entry in the database.[12] Deduplication is often seen as a best practice in biometrics enrollment, but its role in solidifying assumptions about the nature or suitability of biometrics for purposes of identification or authentication is not equally recognized. Deduplication confirms the uniqueness of each entry's biometric information, within the database and for the *limited purpose* of the database.

Updating biometrics information and technology: While uniqueness is architected through deduplication, fidelity of the media at the time of enrollment to the biological attributes of individuals cannot be sustained for reasons like fingerprints and irises changing over time, as well as several types of fraud.[13] Rather than questioning the wisdom of using biometric information as a fundamental identity and an authentication key, the law uses minor fixes while still equating biometric information with biological attributes. The law gives UIDAI powers to

---

8 Erasure of the fact of mediation surfaces in the definition of "biometric information." Notice that in the definition of "biometric information" in Section 2(g) of the Act, there is a slippage or equivalence between media (e.g., a photograph) and the subject (e.g., a fingerprint). In other words, there is a slippage and equivalence between biological attributes and their representation that is captured in the machines. Section 2(g) states that "biometric information means photograph, fingerprint, iris scan, or such other biological attributes of an individual as may be specified by regulations." This erasure is again reiterated in the definition of "core biometric information" in Section 2(j): "'core biometric information' means fingerprint, iris scan, or such other biological attribute of an individual as may be specified by regulation." A definition not making this erasure might read as follows: "'core biometric information' means fingerprint, iris scan, or such other *representations* of biological attributes of an individual as may be specified by regulation."

9 Usha Ramanathan, "Aadhaar—From Welfare to Profit," in *Dissent on Aadhaar: Big Data Meets Big Brother*, ed. Reetika Khera (Hyderabad: Orient Blackswan, 2019), 178.

10 See "Basic Knowledge of UIDAI and Aadhaar, Module 1," https://uidai.gov.in/images/training/module_1_basic_knowledge_of_uidai_and_aadhaar_16032015.pdf.

11 For a discussion of the issues surrounding use of biometrics as a stand-in for truth about people, e.g., with creating a "self-referential system" that is unconcerned with the realities of aging, machine quality, and fraud, see Nishant Shah, "Identity and Identification: The Individual in the Time of Networked Governance," *Socio-Legal Review* 11, no. 2 (2015): 22–40, http://docs.manupatra.in/newsline/articles/Upload/D47CF36C-C409-45BF-8AE6-659D7B6281FB.pdf; on the harms of treating bodies as data, see Anja Kovacs, "When Our Bodies Become Data, Where Does That Leave Us?," *Deep Dives*, May 28, 2020, https://deepdives.in/when-our-bodies-become-data-where-does-that-leave-us-906674f6a969.

12 UIDAI, "Features of Aadhaar" https://uidai.gov.in/my-aadhaar/about-your-aadhaar/features-of-aadhaar.html.

13 The only kind of fraud that biometrics protects against is the enrollment of the same person more than once.

require Aadhaar holders to update their biometric information from time to time, at their own cost, "to ensure continued accuracy" and not, say, to correct the inevitable deterioration of fidelity of biometric information.[14] The law even anticipates, supports, and relies on ever-better biometrics technologies, bridging any imagined distance between a thing and its representation.[15]

Lending truth to demographic data: Biometrics' reputation of truth, and its resultant market value, are also transposed onto the corresponding demographic information (like name, gender, address) and the unique twelve-digit Aadhaar number generated.[16] However, such demographic data does not benefit from the same heightened data-security protections,[17] is unverified, and is unaudited.

KEEPING DATA MARKET-READY

Aadhaar has been described as "a government programme run with the energy of a private sector start-up,"[18] and is emblematic of the close cooperation between private actors and UIDAI. As a result of these close ties, regulation of the Aadhaar project enacts itself as cybernetic feedback loops that are constantly adapting to unfavorable changes, optimized toward keeping an infrastructural building block of the data economy alive.

Aadhaar as a Building Block

From the outset, the UIDAI envisioned Aadhaar as an identity "platform": an infrastructure that would provide authentication and verification services, and satisfy a necessary precondition for the data economy to thrive.[19] Indeed, the law emphasizes the importance of Aadhaar as a source of identification for the marginalized, and to enable efficient and targeted welfare delivery.[20]

---

14 See Section 6 of the Aadhaar Act (https://uidai.gov.in/images/targeted_delivery_of_financial_and_other_subsidies_benefits_and_services_13072016.pdf). The Act places the responsibility of such updates with the Aadhaar number holder.

15 The Aadhaar Act anticipates and privileges the proliferation of biometrics technologies by including an expansive definition of biometrics; see Section 2(g) of the Act. Additionally, the Act also reserves the power of UIDAI to promote research and development for advancement in biometrics and related areas; see Section 23(2)(q) of the Act.

16 The Aadhaar number is used for various purposes, including bank verification, despite the low quality of data and its unverified and unaudited nature.

17 On the authentication of the Aadhaar number, see Section 8 of the Aadhaar Act; on the restriction on sharing information, see Section 29; on biometric information deemed to be sensitive personal information, see Section 30. Conversely, where concerns around the Aadhaar project have arisen, they are allayed by a false sense of safety provided for the biometric information, while the associated demographic information fills any gaps created by the withdrawal of biometrics.

18 Viral Shah, "Like Narendra Modi, Nandan Nilekani Too Understands the Transformative Power of Technology," *India Today*, September 16, 2017, https://www.indiatoday.in/magazine/news-makers/story/20170925-pm-narendra-modi-nandan-nilekani-aadhaar-ekyc-gst-artificial-intelligence-1044702-2017-09-16.

19 The Biometrics Standard Committee set up by the UIDAI in its report as far back as December 2009 stated that the UIDAI would "create a platform to first collect identity details of residents, and subsequently perform identity authentication services that can be used by government and commercial service providers." See UIDAI, "Biometrics Design Standards for UID Applications," December 2009, https://archive.org/details/BiometricsStandardsCommitteeReport/mode/2up. See also Ramanathan, "Aadhaar—From Welfare to Profit," 177.

20 See Krishnadas Rajagopal, "Centre's Aadhaar Affidavit in Supreme Court: 'Welfare of Masses Trumps Privacy of Elite'," *The Hindu*, June 9, 2017, https://www.thehindu.com/news/national/centres-aadhaar-affidavit-in-supreme-court-welfare-of-masses-trumps-privacy-of-elite/article18951798.ece; and see the Preamble of The Aadhaar Act.

However, Aadhaar's market function has been understated; early documents indicate that the project was preoccupied with its role of instituting people as data points within existing and new databases.[21]

At the outset, this authentication infrastructure took the form of application programming interfaces (APIs)[22] for use by government agencies and third parties, for verification and authentication of identity information.[23] Such an instrumentalization of the Aadhaar database not only drastically reduced the costs of performing door-to-door verification required of banking and telecom service providers, but also held the promise of entirely new use cases for businesses.[24]

These APIs are part of "India Stack," a growing set of APIs built by a group of self-styled volunteers called India Software Products Roundtable (iSPIRT), or Product Nation.[25] iSPIRT designs and builds these APIs for use by government entities and businesses alike, in the process creating novel opportunities for value extraction from data flows and populating the Aadhaar ecosystem.

Aadhaar Integration with Cooperation of Sectoral Regulatory Institutions

With a strong need for identity verification, the finance sector was the first to fully embrace Aadhaar. With the close cooperation of UIDAI and iSPIRT, institutions within the finance sector[26] led efforts to build technology products forming a cashless layer atop the Aadhaar identity layer.

These products allowed banks to use the Aadhaar number to make remittances[27] or to authorize Aadhaar-linked bank accounts to transact through biometric authentication,[28] and allowed firms to query the Aadhaar database to verify and onboard customers.[29] With these Aadhaar integrations into legacy banking services in place, NPCI launched a payments system that introduced interoperability between different payments and settlements systems through the

---

21 Consider, for example, the orientation of the UIDAI Security Policy and Framework for UIDAI Authentication, which provided mandatory and recommendatory security considerations to Authentication User Agencies (AUA), Authentication Service Agencies (ASA), Devices, etc. This document, speaking directly to security and privacy concerns, which are traditionally welcome as areas of regulation, primarily deals with network security concerns like distributed denial of service (DDOS) attacks that protect the conditions that are critical for the authentication infrastructure to run seamlessly. While no doubt this is required, the policy is entirely unconcerned with simpler and more commonplace risks that have proven to affect individuals to disastrous effect. For example, people who were not used to treating erstwhile ID cards as private information continued to share their Aadhaar numbers and related information with no hesitation, sometimes compromising their economic security. The mandate to guard against security risks that such socially grounded identification cultures bring is not something that any of the regulatory agencies concern themselves with.

22 "An API is a set of definitions and protocols for building and integrating application software...APIs let a product or service communicate with other products and services without having to know how they're implemented." See "What Is an API?" RedHat, https://www.redhat.com/en/topics/api/what-are-application-programming-interfaces.

23 Aadhaar Authentication API: returns "yes/no" responses to queries seeking authentication of biometric or demographic data. Aadhaar electronic Know-Your-Customer (eKYC) API: returns demographic information in response to queries.

24 Aman Sharma, "The Private Sector Can Use Aadhaar Authentication Too: UIDAI," *Economic Times*, April 5, 2016, https://economictimes.indiatimes.com/news/politics-and-nation/private-sector-can-use-aadhaar-authentication-too-uidai/articleshow/51691531.cms.

25 See iSPIRT, https://ispirt.in/.

26 E.g., the National Payments Corporation of India (NPCI); and the central bank and finance regulator, Reserve Bank of India.

27 See Aadhaar Payments Bridge System, a new batch processing system implemented by NPCI.

28 See Aadhaar Enabled Payment System.

29 See Aadhaar-based Biometric Authentication and electronic Know-Your-Customer norms.

introduction of Aadhaar biometric authentication, among others.[30] In practical terms, private firms could now build payment-related products and users could easily make payments through their smartphones. As a cohesive suite of technology "platforms," these products and switches[31] enabled the creation, capture, and monetization of data flows in finance.[32]

UIDAI and its private-sector financial partners planned for the interoperability between Aadhaar and financial tools from the start,[33] and conflicts of interest were notable. People associated with building the cashless layer went on to launch startups that created novel ways of payment-data monetization. Venture capitalists associated with the cashless layer went on to back these very startups.[34]

Nevertheless, the government and financial sector have argued that this ecosystem is a boon for financial inclusion.[35] As a testament to its value, Nandan Nilekani notes that securing a loan has now become as simple as having "a richer digital footprint."[36]

However, these narratives recast complex sociopolitical issues like lack of access to banking as individual journeys of competition for artificially scarce resources, to be won by participating and winning in the data economy. These interventions are far from actually addressing issues of financial inclusion.[37] While the financial sector led the efforts to monetize Aadhaar, many other industries continue to follow suit (e.g, with "technology stacks" for healthcare, lending, telemedicine, and agriculture).[38]

---

30 See "United Payments Interface," February 2015, https://archive.vn/xZEW0#selection-3321.29-3327.29.

31 A switch handles authentication and communication between issuing and acquiring banks.

32 A landscaping study of companies built on top of India Stack recorded at least 150 startups doing background verification, digital lending, and digital wallets as far back as 2018. Bharat Inclusion Fund, "Startups building on IndiaStack: A Landscaping Study," Medium, August 23, 2018, https://medium.com/bharatinclusion/startups-building-on-indiastack-a-landscaping-study-a77344b51d19.

33 UIDAI provided blueprints for how its architecture may be used for financial-sector commercial products to the Reserve Bank of India (RBI). See "Report of Task Force on an Aadhaar-Enabled Unified Payment Infrastructure," February 2012, https://archive.org/details/reporttaskforceaadhaarpaymentinfra. Indeed, RBI leadership in charge of developing standards for payments and settlements included industry players behind Aadhaar. See Anuj Srivas, "Exclusive: How the RBI Forced National Payments Body to Hire Government Favourite as CEO," *The Wire*, February 14, 2018, https://thewire.in/business/rbi-npci-digital-india. The committee set up for "deepening digital payments" was helmed by the first chairperson of the UIDAI, Nandan Nilekani. See Aria Thaker, "Behind RBI's Digital Payments Panel, a Controversial Firm's Shadow, Conflict of Interest Allegations," *Scroll.in*, January 10, 2019, https://scroll.in/article/908802/behind-rbis-digital-payments-panel-a-controversial-firms-shadow-conflict-of-interest-allegations.

34 Aria Thaker, "The New Oil: Aadhaar's Mixing of Public Risk and Private Profit," *Caravan*, April 30, 2018, https://caravanmagazine.in/reportage/aadhaar-mixing-public-risk-private-profit.

35 See Suprita Anupam, "Nandan Nilekani on Creating the Architecture for India's Digital Future," *Inc42*, April 24, 2019, https://inc42.com/features/nandan-nilekani-on-aadhaar-digital-india-kyc-gst-upi-payments-fastag/. See also ProductNation/iSPIRT, "Nandan Nilekani: Identity, Payments, Data Empowerment 2019," SlideShare, December 9, 2019, https://www.slideshare.net/ProductNation/nandan-nilekani-identity-payments-data-empowerment-2019; and ITU News, "Aadhaar: India's Route to Digital Financial Inclusion," June 26, 2017, https://news.itu.int/aadhaar-indias-route-to-financial-inclusion/; and Ronald Abraham et al., "State of Aadhaar Report 2016–17, Chapter 4: Financial Inclusion," Omidyar Network, May 2017, https://static1.squarespace.com/static/5b7cc54eec4eb7d25f7af2be/t/5bc535e324a694e7994fcf0c/1539651143095/State-of-Aadhaar-Ch4-Financial-Inclusion.pdf.

36 See ProductNation/iSPIRT, "Nandan Nilekani: Identity, Payments, Data Empowerment 2019."

37 For example, according to economist and author M. S. Sriram, issues of identity, deduplication, and authentication were not the most significant barriers to financial inclusion. See Sriram, "Moving Beyond Aadhaar: Identity for Inclusion," *Economic & Political Weekly* 49, no. 28 (July 12, 2014), https://www.epw.in/journal/2014/28/special-articles/identity-inclusion.html (paywall).

38 For healthcare, see "National Health Stack: Strategy and Approach," July 2018, https://niti.gov.in/writereaddata/files/document_publication/NHS-Strategy-and-Approach-Document-for-consultation.pdf; and Seema Singh and Arundhati Ramanathan, "The Elite VC-Founder Club Riding Aarogya Setu to Telemed Domination," *The Ken*, May 18, 2020, https://the-ken.com/story/the-elite-vc-founder-club-riding-aarogya-setu-to-telemed-domination/. On loans for MSME, see Arundhati Ramanathan, "Sahay, India's Fintech Disruption Sequel," *The Ken*, May 8, 2020, https://the-ken.com/story/sahay-indias-fintech-disruption-sequel/.

Agile Regulation Keeps the Ecosystem Alive

As private-sector use of Aadhaar took off, many harms materialized[39] and several entities submitted petitions to challenge the law.[40] Even as the Supreme Court struck down private-sector uses of Aadhaar in 2018,[41] and dealt an existential blow to entire sectors[42] built with its affordances, in practice this did not ultimately limit companies from using Aadhaar for private gain.

As if seeing the Supreme Court's verdict as a procedural complication and not a principled opposition to private use, the Ministry of Law and Justice introduced an ordinance amending the Aadhaar Act and other finance laws to keep authentication possibilities alive by introducing "offline verification" and "alternative virtual identity."[43] This allowed Aadhaar number holders to produce digitally signed copies of their Aadhaar acknowledgement letter by producing a QR code or .xml file downloaded from the UIDAI website.[44] Despite these shoddy and dangerous accommodations, businesses were still disgruntled, as the ease and low costs of verification were nevertheless affected.[45]

In response, the Central Government issued a note to allow private entities to use Aadhaar-based verification facilities upon the fulfillment of certain conditions, and at the discretion of UIDAI and the appropriate regulator.[46] With this cue, the finance-sector regulator allowed the use of Aadhaar for opening bank accounts,[47] and UIDAI allowed private firms to regain access to Electronic Know Your Customer (eKYC) authentication.[48]

---

39 E.g., through the profiling of blue-collar workers, or fraudulent uses of data. See Usha Ramanathan, "The Future Is Here: A Private Company Claims It Can Use Aadhaar to Profile People," *Scroll.in*, March 16, 2016, https://scroll.in/article/805201/the-future-is-here-a-private-company-claims-to-have-access-to-your-aadhaar-data; and "UIDAI Suspends Airtel, Airtel Payments Bank's e-KYC License over Aadhaar Misuse," *Economic Times*, December 16, 2017, https://economictimes.indiatimes.com/news/politics-and-nation/uidai-suspends-airtel-airtel-payments-banks-e-kyc-licence-over-aadhaar-misuse/articleshow/62096832.cms.

40 For example, activists challenged the linking of Aadhaar to bank accounts and mobile numbers. See Laxmi Prasanna, "New Petition in Apex Court Challenges Linking Aadhaar with Bank Account and Phones," *Times of India*, October 19, 2017, https://timesofindia.indiatimes.com/india/new-petition-in-apex-court-challenges-linking-aadhaar-with-bank-account-and-phones/articleshow/61145283.cms. See also Anoo Bhuyan, "Aadhaar Isn't Just about Privacy. There Are 30 Challenges the Govt Is Facing in Supreme Court," *The Wire*, January 18, 2018, https://thewire.in/government/aadhaar-privacy-government-supreme-court.

41 Justice K. S. Puttaswamy and Another v. Union of India and Others, Writ Petition (Civil) No. 494 of 2012, https://main.sci.gov.in/supremecourt/2012/35071/35071_2012_Judgement_26-Sep-2018.pdf.

42 Komal Gupta, "Aadhaar Verdict Puts Fintech Firms in a Spot," *Livemint*, September 28, 2018, https://www.livemint.com/Politics/gIGcFQMgHR146zXfPkGqjO/Aadhaar-verdict-puts-fintech-firms-in-a-spot.html.

43 Anita Baid, "RBI Amends KYC Master Directions: Aadhaar to Be Officially Valid Document Now," *Moneylife*, May 31, 2019, https://www.moneylife.in/article/rbi-amends-kyc-master-directions-aadhaar-to-be-officially-valid-document-now/57317.html.

44 Ministry of Law and Justice, "The Aadhaar and Other Laws (Amendment) Ordinance, 2019," https://uidai.gov.in/images/news/Ordinance_Aadhaar_amendment_07032019.pdf. See also UIDAI, "Secure QR Code Specification," March 2019, https://uidai.gov.in/images/resource/User_manulal_QR_Code_15032019.pdf. Note that the supposed security features of a digital identity linked to biometrics is undone when the artifact of proof of identity becomes part of an .xml file.

45 Pratik Bhakta, "India's Fintech Companies Struggle for an Alternative to Aadhaar," *Economic Times*, December 21, 2018, https://economictimes.indiatimes.com/small-biz/startups/features/indias-fintech-companies-struggle-for-an-alternative-to-aadhaar/articleshow/67186586.cms.

46 Pratik Bhakta, "Soon, Non-Banking Companies May Verify via eKYC," *Economic Times*, May 17, 2019, https://economictimes.indiatimes.com/industry/banking/finance/banking/soon-non-banking-companies-may-verify-via-ekyc/articleshow/69366383.cms.

47 "Banks Can Use Aadhaar for KYC with Customer's Consent: RBI," May 29, 2019, https://economictimes.indiatimes.com/industry/banking/finance/banking/banks-can-use-aadhaar-for-kyc-with-customers-consent-rbi/articleshow/69568435.cms.

48 This was based on a creative interpretation of the opinion of the attorney general. For example, authentication functions were allowed for purposes of welfare delivery. UIDAI applied this as if products using Aadhaar-enabled Payments System (AePS) could access it, since AePS might be used in the course of welfare delivery.

REMAKING REGULATION IN TECHNOLOGY'S IMAGE

Regulatory practice surrounding Aadhaar indicates that regulation is becoming beholden to the same values, managerial styles, procedural cadence, interests, and language of communication as the applications of technologies it seeks to regulate.

Regulation as Public Relations and Marketing

For the first seven years of its existence, Aadhaar had little oversight and was shaped by UIDAI, a body preoccupied with the market importance of Aadhaar. Even after the passage of the law, regulation and technology development have worked hand-in-hand to create and maintain the conditions for use of the biometric data by private companies, to the artificial exclusion of socioeconomic concerns.[49] Regulations not only consolidated the developments of the first seven years of the project, but also presented a revisionist history of the actual goals of the project, obscuring the stakes for private interests.[50] For this and other reasons, many of the problems with Aadhaar should not be understood as *failures* of law or regulation, but as *products* of law and regulation.

While law and regulation were meant to address the risks of Aadhaar, the instruments uncritically adopted disingenuous jargon like "financial inclusion," "innovation," and "efficiency." What was righteously proclaimed by UIDAI as public buy-in for the project owed some credit to incentives provided to enrollment agencies,[51] as well as expertise drawn from "multiple areas of marketing, creative communication, research, understanding of past social marketing efforts, media channels, branding and positioning."[52]

Regulation as Technology Product

The private sector's direction and influence in the development and adoption of technology projects has a key feature of anticipating concerns around data use, and making data protection itself a product, feature, and layer.

---

49 Law and regulation of the finance sector, for example, creates an artificial distinction between civil and political rights (often framed in the narrow language of privacy) and economic imperatives (generalized benefits for the country). See also Nandan Nilekani, "Data to the People: India's Inclusive Internet," *Foreign Affairs*, September/October 2018, https://uidai.gov.in/images/news/Data-to-the-people-Nandan-Nilekani-foreign-affairs.pdf.

50 See Ramanathan, "The Future Is Here: A Private Company Claims It Can Use Aadhaar to Profile People," *Scroll.in*.

51 Anand Venkatanarayanan, "How Trustworthy Are the Entries in the Aadhaar Database?" *MediaNama*, September 28, 2017, https://www.medianama.com/2017/09/223-how-safe-is-the-aadhaar-database/.

52 UIDAI, "Aadhaar Awareness and Communications Strategy Advisory Council Order," February 17, 2010, https://archive.org/details/UIDAIMediaAwarenessAdvisoryCouncil/page/n1/mode/2up. See also conflicts of interest within initiatives like ID4D. Transnational interests like the World Bank's ID4D initiative, pushing digital identification in the language of rights to developing countries, even as its composition reveals shocking conflicts of interests, including investors in fintech and related data economy businesses, venture capitalists as well as Nandan Nilekani himself. See also Anandita Thakur and Karan Saini, "Selling Aadhaar: What the UIDAI's Advertisements Don't Tell You," *The Wire*, August 23, 2018, https://thewire.in/rights/aadhaar-advertisements-identity-citizenship-rights. "If the advertisements espoused by the UIDAI were to be believed, the prospect of biometric failures and internet connectivity issues do not even figure into the day-to-day business of the coercive practice of making Aadhaar an unsubstitutable instrument of citizen life in India."

In the case of Aadhaar and data governance in India, the private-sector group building India Stack took it upon itself to "innovate" around encoding data-protection safeguards (e.g., through "consent" and "transparency") within the technology ecosystem and to solve for data protection. This maneuver simultaneously tries to foreclose demands for a data-protection law (which India does not have) and, more importantly, *distracts* from broader questions about whether such datafication is at all necessary and who benefits from it, making the present trajectory seem inevitable.

Consent: Arguably one of the biggest issues with Aadhaar has been its coercive nature and absolute disregard for consent, which has continued to be an issue even after courts have attempted to intervene.[53] Perhaps learning from the problems caused by the pesky need for consent, India Stack evolved a "consent layer"[54] consisting of two products: Account Aggregator and Data Empowerment and Protection Architecture (DEPA).[55] The former is an entity legally instituted by the Reserve Bank of India, which is tasked with consolidating, organizing, and retrieving data about a customer's different types of financial arrangements, including mutual funds and insurance schemes. The latter aims to provide "a modern privacy data sharing framework" and introduces *convenience* into the process of sharing personal data in exchange for finance, healthcare, and other services by building an interface for the purpose. The contents of this layer effectively make consent a bureaucratic formality and logistical complication to be simplified by technology, obscuring the instrumentalization of people's lives toward value creation for private firms.

The consent-related products blindside the need to consider whether such datafication is at all necessary, or what the subsequent terms of use of this data might be, ultimately cornering regulation into becoming a mimicry of the direction the market for data takes.

Transparency: The Aadhaar project documents are littered with references to the importance of transparency. One of the main sources of proactive disclosure about Aadhaar is the UIDAI dashboard,[56] where monthly data about enrollments, updates, and authentication are maintained. However, this data is a far cry from the granularity or consistency of useful information that people have been demanding for a long time,[57] like the number of failed biometric authentications.

The transparency-related artifacts use aesthetic devices like dashboards, data visualizations, and social media campaigns that have little substance and remain inert to demands for meaningful information.

---

53 Anuj Srivas, "Aadhaar Moves Forward as Ministries Navigate SC Order and Public Backlash," *The Wire*, September 20, 2016, https://thewire.in/government/aadhaar-supreme-court-compliance.

54 Jayadevan PK, "Consent, the Final Layer in India's Ambitious Data Regime, Falling in Place," *Factor Daily*, September 5, 2017, https://factordaily.com/consent-architecture-indiastack/.

55 See IndiaStack, "About Data Empowerment and Protection Architecture (DEPA), https://www.indiastack.org/depa/.

56 See UIDAI, Aadhaar Dashboard, https://uidai.gov.in/aadhaar_dashboard/.

57 See Gus Hosein and Edgar Whitley, "Identity and Development: Questioning Aadhaar's Digital Credentials" in *Dissent on Aadhaar*.

Regulation as Optimization

The regulatory framework around Aadhaar has been perennially agile and adaptive to the needs of the data economy. Within the broader vision for technology-enabled governance, agencies are encouraged to roll out projects "as soon as possible, and iterated rapidly, rather than waiting to roll out a perfect system."[58]

Besides aligning regulatory priorities with the workflows and cultures of technology firms, there is a push for regulatory practice to adopt the same logics (prediction, optimization) as technology directions within the industry. For example, Nandan Nilekani argues that the market is a perfectly responsive system: "Digital systems enable early-warning systems and more precise regulatory interventions, e.g., for managing loan defaults."[59]

CONCLUSION

The data economy relies on instituting individuals as data points within databases. Law and regulation around Aadhaar cooperate to create the perfect conditions under which this might be possible: architecting biometric information as truth, and facilitating its use, integration, and maintenance within other systems. Even then, law and regulation maintain a depoliticized reading of economic enrichment from data, and a false dichotomy between questions of rights and questions of enrichment.

Instead of treating biometric information simply as data to be guarded, law and regulation should reckon with the entire range of powerful market interests that the networked subject kicks into motion, as well as regulation's own malleability in the face of these forces.

58 Ministry of Finance, "Report of the Technology Advisory Group for Unique Projects," January 31, 2011, https://www.finmin.nic.in/sites/default/files/TAGUP_Report.pdf.

59 See ProductNation/iSPIRT, "Nandan Nilekani: Identity, Payments, Data Empowerment 2019."