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## BUILDING ON AADHAAR

*The project revealed that technology can solve many development challenges*

MY WORK ON India's unique identification project — named Aadhaar — began in July, 2009. I was invited by then-Indian Prime Minister Manmohan Singh to join the government and lead this project. At that point, I had worked for 28 years in Infosys. I had written about how getting every Indian a unique ID would be beneficial for the economy and society in my book *Imagining India*. Now I was being given a chance to actually implement the idea!

The Aadhaar project had two purposes. One was inclusion. Since the birth registration system was not robust enough, there were millions of people in the country with no birth certificates. So, a large number of people had no ID, or relied on a group ID like a ration card, or a voter ID that was only for adults. Having everyone on a single digital ID which could be verified anywhere in the country would be hugely useful for people as they migrated... or wanted to access their benefits or learn new skills. The second purpose was efficiency. As India built a welfare state with pensions, employment guarantees, scholarships, etc., it was deploying a large part of its budget to such social benefits. However, the lack of a proper ID system meant that in every welfare scheme, there were lots of ghost and duplicate beneficiaries...

The project faced several challenges. The first was how we establish uniqueness... This had to be done without most people having

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This experience convinced me that many challenges in developing countries can be solved at speed and scale in a sustainable way, by using technology wisely, built in a way that society can take advantage. We call this building 'societal platforms'. My wife Rohini and I are funding one such societal platform, as a philanthropic initiative, called EkStep to make learning opportunities widely available.

a "root" document like a birth certificate. It was decided that the only way to do so was by biometric deduplication. This meant taking a person's biometric (in this case, the fingerprints of both hands and the iris prints of both eyes) and comparing them to the entire set to ensure a person was not in the database twice...

The second challenge was scale at speed. To cover a billion people, the system had to do more than one million enrolments a day. Moreover, it required at peak time more than 30,000 enrolment stations... Scale in the technology was achieved by using an internet class open source software-based architecture. Scale in enrolments was done by activating a whole network of registrars and enrolment agencies...

The third challenge was design for privacy and security. A lot of thought went into the design, to keep it minimalistic, to have secure encryption and the use of digital signatures.

The final and most important challenge was executing such a large project in a complex political and bureaucratic environment... The Aadhaar project had complete political support. The project was conceived, and implementation began, in the UPA government. The current government... has not only endorsed Aadhaar, it has accelerated its use and adoption. Today, over 1.1 billion Indian residents have an Aadhaar number. There are over 400 million people who have linked

their Aadhaar number to a bank... An Aadhaar law has been passed with advanced data protection and privacy features...

The Aadhaar ID system has been designed like a platform of innovation, like the internet or GPS. Early signs are emerging of various innovative uses of the platform... This has been enabled by creating a set of layers above the JAM infrastructure, which allows presence-less and paperless applications. A separate initiative of India's national payment company, NPCI, has led to an advanced mobile-to-mobile payment platform called UPI (Unified Payment Interface) which will accelerate India's move to a less cash economy...

This convinced me that several challenges in developing countries can be solved at speed and scale in a sustainable way, by using technology wisely, built in a way that society can take advantage. We call this building "societal platforms". My wife Rohini and I are funding one such societal platform as a philanthropic initiative called EkStep to make learning opportunities widely available. Being selected for this very prestigious Nikkei Prize has reinvigorated our efforts to solve social challenges leveraging technology.

*The writer is former chairman, Unique Identification Authority of India. This article is an edited excerpt from his acceptance speech of the Nikkei Prize 2017 on June 4*