Unique Identification Project for 1.2 billion People in India

Can it fill Institutional Voids and enable 'Inclusive' Innovation?

South Asia Without Borders

The South Asia Without Borders symposium took place on April 25 & 26 at the Inn at Harvard. The event featured discussions on caste, gender, social entrepreneurship, and constitutionalism. Parimal Patil, Professor of Religion and Indian Philosophy, Chair of the Department of South Asian Studies, Harvard University, and Lawrence Mcrea, Associate Professor, Director of Undergraduate Studies, Department of Classics, Cornell…

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Vanita Yadav

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Vanita Yadav[1]

Abstract

India has no equivalent of a social security number and more than 400 millions of poor suffer in the hands of the existing corrupt system because they are unable to participate in the formal economy. In a nation that is struggling to meet basic challenges of poverty, hunger, poor infrastructure and corruption, the government of India's Unique Identification (UID) project appears to be a striking outlier as it is building the world's biggest and advanced biometric based database of identities for 1.2 billion people at a remarkable pace. Using the theoretical lens of institutional voids, this paper describes the case of UID project and explores its potential in terms of filling institutional voids and enabling inclusive innovation in India.

Introduction

"Poverty has many causes, and no simple cure. But one massive problem in India is that few poor people can prove who they are." - The Economist (2012 a)

India, being the second most populous country in the world, faces an enormous challenge of dealing with poverty. Often, poor are unable to participate in the formal

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[1] Vanita Yadav is a Research Affiliate at the *South Asia Institute (SAI) at Harvard University*. She is a Fulbright Postdoctoral Research Fellow at the *Legatum Center of Development and Entrepreneurship at MIT*, USA. She also holds an Assistant Professor position at IRMA in India. She can be reached at vanitay@gmail.com

economy due to lack of identity and absence of formal institutions that can facilitate participation. Further, there have been cases of fake identities and millions of dollars of government money for poor lands up in the pockets of corrupt officials and middlemen (Economist, 2012 a). This is currently a major roadblock for inclusion efforts in India and poor are unable to access basic services like- getting a job, receiving government subsidies, opening a bank account or obtaining a phone connection. Additionally, the existing identity and address proofs have varying documentation costs. In the Indian context an important question then is- can a person, who can barely afford a single meal-a-day, pay for the identification costs?

India and other developing countries face a similar inclusion challenge. Thus, the need to change existing institutions as well as fill institutional voids has assumed greater urgency. Institutional entrepreneurship is alleged to play an important role in this process. Institutional entrepreneurs are actors who initiate changes that help transform existing institutions or creating new institutions (DiMaggio, 1988). From the start, UID project has acted like an entrepreneurial startup in a government establishment. Firstly, it is an unusual project that is small, nimble and yet producing mammoth results at a fast pace within an existing bureaucratic government framework. Secondly, a business leader who changed the face of Indian IT industry heads the UID project. This is totally unheard of in an Indian government setting. The project is trying to create an ecosystem of inclusive innovation, which is built around formal processes, partnerships, and a robust technological platform. The project is trying to fill institutional voids in India by

enhancing credibility through identity authentication and facilitating market-based transactions.

The objective of this paper is to first describe the case of UID project in India and then to study how it is filling institutional voids and what kinds of inclusive innovations are being enabled by the UID project. The paper begins by briefly reviewing the literature on institutional voids in developing countries and inclusive innovation. It then describes the research context and the UID project in India followed by discussion and implications.

Literature Background

Institutional Voids in Developing Countries

In many developing economies formal institutional arrangements that support markets are absent, weak, or fail to achieve stated goals (Khanna & Palepu, 2010; Khanna & Palepu, 2005). The absence of these institutions does not suggest that an institutional vacuum exists. Rather, an institutional void exists, which implies that there is absence of formal institutions that support markets in contexts that have other informal institutional arrangements. In such a scenario, an institutional void impedes market participation (Khanna & Palepu, 2010; Khanna & Palepu, 2005).

Institutional voids have been reported in transition economies like China and Russia. Puffer, McCarthy and Boisot (2010) used institutional theory to study entrepreneurship

in China and Russia. They report slow development of efficient and legitimate formal institutions in Russia and China resulting in institutional voids. These entrepreneurs mainly relied on informal institutional arrangements of their trusted networks to fill the void of formal institutions. This was clearly different from the case of entrepreneurs from developed economies who operate with relatively higher certainty under effective formal institutions.

The biggest challenge for developing economies like India is to enable participation of poor in markets. Then, who should build and maintain institutions for proper functioning of markets? Building markets is not an easy task and the efficiency of an institutional assembly is likely to vary across different contexts (Mair et al, 2012). Political scientists (McDermott, 2002), economic sociologists (Fligstein and Mara- Drita, 1996) and economists (North, 1990) suggest that the state (the government) should take responsibility for building these institutions for markets. However, weak and corrupt government structures, which is often the case of developing economies, raises serious concerns on the role of governments in creating institutions for building markets.

Inclusive Innovation: Participation of Poor in Markets

Inclusive innovation is an evolving construct and there is a need for clear conceptualization in management literature. Generally, it deals with innovative business models that enable participation of poor in markets. Individuals and communities who are poor and disenfranchised are often described in literature as the

Base of the Pyramid – BoP (Prahalad, 2004). The participation of poor in markets can be in the form of ownership (for example becoming an entrepreneur), managerial control, employment, consumption or involvement in supply chain activities (George, McGahan & Prabhu, 2012).

Inclusive innovation has the potential to create new services, which can empower the poor and enable their participation. Microfinance is a good example of innovative inclusive service. Other examples of inclusive innovation include fair trade, distance learning, affordable healthcare, urban farming, waste reduction, and restorative justice. It is important to highlight that attempts to create inclusiveness is valuable even if the opportunity is not realized or may fail (George et al, 2012).

Understanding the Research Context

Poverty in India

India has an interesting mix of extremes- it has some of the world's richest billionaires and at the same time has millions of people living in extreme poverty. Going by the current global $1.25 a day standard of poverty measurement, the number of poor people in India has increased from 421 million in 1981 to 456 million in 2005 (Narayan, 2009). World Bank (2011) reports 28 percent of people in rural areas and 26 percent of people in urban areas lived below the poverty line in 2004–05. Narayan (2009) reports that poor in India are not lazy. Rather they take initiatives like the rich but still remain

poor. This is mainly due to constraints like inadequate access to capital, inability to participate in markets, and lack of business skills.

Inclusion Problem: Do the poor have proof of their own identity?

In India, public and private sector organizations typically ask for some proof of identity before providing any service to an individual. However, most of the poor in India do not have any formal proof of their existence or identity (UIDAI, 2010). As a result, they are not able to access benefits and subsidies offered by the government or other providers. Though, there have been various documentation efforts in the past that involve collecting information and filling out forms for an individual, the reliability of such ways of creating identity proofs is highly questionable. Additionally, they are more likely to be duplication efforts because different service providers have different documentation requirements for identification proofs. As a result, 'identity silos' have come into existence with increased costs of identification (UIDAI, 2010).

Though one may argue that there are various forms of identity proofs like a driving license or a passport. Then the question is- will a poor person who earns less than $1.25 a day and barely affords one meal per day be willing to pay for a driving license or a passport?

The Unique Identification (UID) Project: Creating Identities of 1.2 billion People[2]

To deal with the identification problem, the Government of India undertook various efforts in the past like the issue of photo identity cards by the Election Commission in 1993 and Multipurpose National Identity Card (MNIC) in 2003. However, these efforts were not very successful and there were many cases of duplicate and fake identity creations. Around 4,000 fake identity cases were reported in the state of Maharashtra alone in India (TNN, 2012 Oct 22). This is just the tip of the iceberg and there are likely to be thousands of such cases across others states in India.

Hence in January 2009, the Unique Identification Authority of India (UIDAI, http://uidai.gov.in) was established as an attached office to the Planning Commission of India (http://planningcommission.nic.in). The aim was to learn from the government's past attempts of issuing identity and to create a more robust and cost-effective biometric-based identity solution for all the residents of India. The unique identification number (henceforth referred to as UID or Aadhaar[3]) was built around two criterions- the UID must be "(a) robust enough to eliminate duplicate and fake identities, and (b) can be verified and authenticated in an easy, cost-effective way" (UIDAI, 2010 a, pp. 1). The UID is projected to replace all forms of identity verifications currently existing in India. By 2012, UIDAI has enrolled more than 200 million residents and are projecting to enroll 400 million by 2013, which is one third of India's population

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[2] For more details on the UID Project refer to Tarun Khanna and Anjali Raina. "Aadhaar: India's' Unique Identification System" Harvard Business School, Strategy Unit case 712-412 (2012).

[3] UID has been given a brand name- 'Aadhaar', which in Indian national language Hindi means 'foundation'.

(Economist, 2012 a). Figure 1 illustrates the fast growing trend of UID enrollments. For an individual, UID creation is a one-time process and is offered free by the government.

Figure 1: UID (Aadhaar) Enrollments Trend

Source: UIDAI
(https://portal.uidai.gov.in/uidwebportal/dashboard.do)

Source: Economist (2012 a)
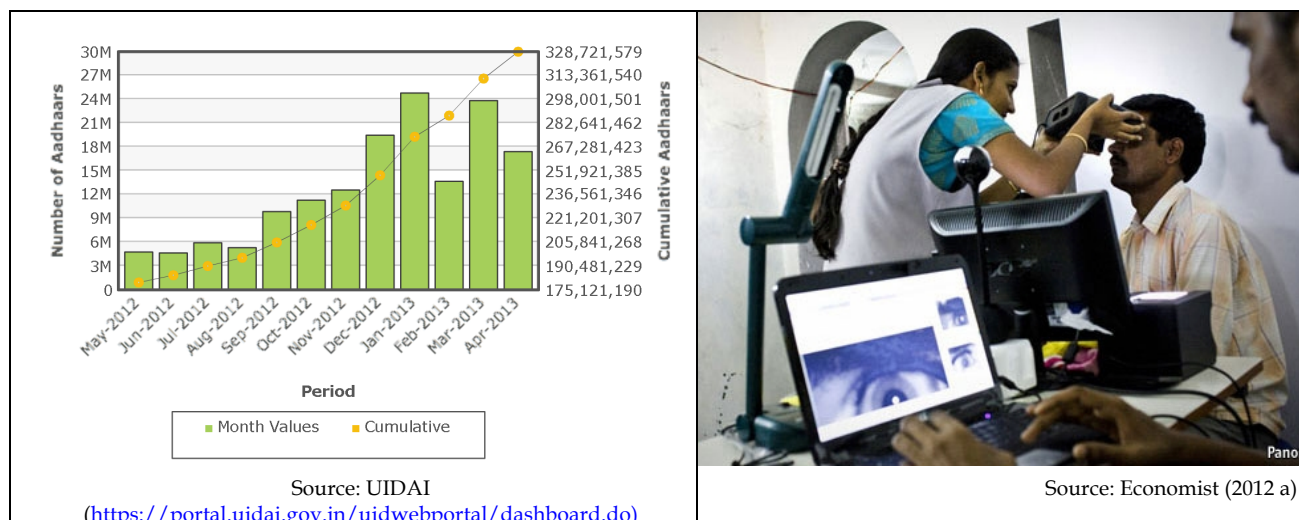
UID Project: Operating Model

UID project involves partnering with various agencies like the state government, central government, enrolling agencies (e.g. technology firms, hospitals issuing birth certificates) and outreach groups (e.g. civil society and community networks). The government of India's UID enabled service delivery report (UIDAI, 2012) states that the UID project will provide multiple ways of authentication that can be used for possibly any kind of service delivery. This will enable a service provider to choose from either a single-factor or a multi-factor authentication.

For authentication the UID number alone cannot be used. Rather, the UID number is used along with demographic attributes (for example- name, address, or date of birth),

or one-time generated pin (OTP delivered to a mobile or email address) or biometrics (for example- finger print and/or iris) to provide single factor or multi-factor (combination of attributes) authentication based upon the service providers' authentication needs.

The Identification process is illustrated in Figure 2. The UID /Aadhar holder who is seeking a service approaches a service provider. The service provider connects with the Authentication User Agency (AUA) that establishes a secure leased line to the Central Information Data Repository (CIDR) at UIDAI to seek identity authentication response. The CIDR verifies the submitted data with the data stored on the CIDR and responds with a simple "yes/no". Similarly, address and demographic data verification for providing services like telephone connection or banking can be done using UID authentication.

Figure 2: UID Authentication Process
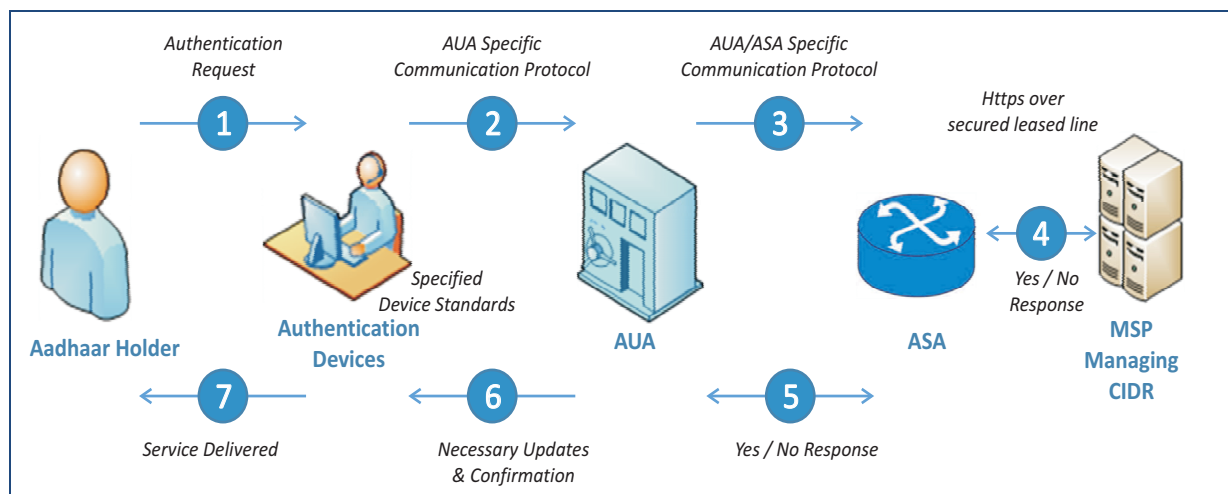
Source: UIDAI (2012), Government of India document.

Discussion and Implications

Can UID fill Institutional Voids?

Like other developing countries, India also has weak formal institutions that prevent participation of poor in markets. Prior literature on institutional voids suggests that absent or weak institutions are likely to prevent access to and entry into markets. Institutional voids are often viewed as opportunity spaces for entrepreneurs. Khanna and Palepu (2010) suggest though informal market intermediaries do exist in developing markets they are not truly open to all market participants. For example, a moneylender in rural India is unlikely to lend money to rural entrepreneurs based on their business idea merit.

In India, the UID project is trying to fill the institutional voids by creating a formal mechanism for inclusion of the poor. UIDAI is entering into formal partnerships with organizations like the state and central governments, banks, educational institutions, hospitals, nonprofit organizations, public sector and private sector organizations. This study adopts Khanna and Palepu's (2010) methodology for identifying and responding to institutional voids and applies it in the case of UID. Table 1 illustrates the institutional void question that UID tries to address, the specific voids that it attempts to fill and the response that UID is currently trying to implement.

Table 1: Identifying and Responding to Institutional Voids - The Case of UID

	Spotting void question	Specific void	Response
1	Can the people living at the bottom of the pyramid participate in markets? Can companies and entrepreneurs reach all the residents of India? Can they reach people at the bottom of the pyramid living in rural interiors of India?	Poorest of the poor unable to participate in markets due to poor documentation and identity proof. Absent/poor information on consumer base at the bottom of the pyramid and in rural interiors.	UID has enabled creation of biometric based unique identity proofs for the residents of India. *Current status:* 328,721,579 UIDs have been issued for Indian residents by April 2013 (see Figure1).
2	Can the identity of the residents be authenticated in a reliable manner for providing products or services?	No reliable identity authentication available for people at the bottom of the pyramid.	UID can possibly provide secure and reliable identity authentication services for firms and entrepreneurs to facilitate market transactions in future (see Figure2 for the cloud-based authentication process). *Current Status:* Firms and entrepreneurs have not yet started using UID for customer authentication in India. In December 2013, Visa announced a partnership with five Indian banks to allow Adhaar holders access to a Visa account. The new account is being called "Saral Money" and it will be using UID enabled biometric authentication for verifying and authorizing payments to customers (Krowne, 2012).

	Spotting void question	Specific void	Response
3	Can monetary transactions be carried out in a reliable and secure manner with residents of India especially living at the bottom of the pyramid?	Bank branches are not available in **all** rural areas across India.	UID is likely to enable secure monetary transactions through MicroATMs and mobile phones in all rural areas across India. Banking correspondents are being proposed to facilitate these transactions in rural areas. *Current status:* Field trials for pension and wages payments using micro-ATMs and Aadhar/UID have begun for Indian residents. For example, pension payments have been made to tribal villagers in West Tripura district of India (PTI, 2011). Pilot projects for wage payments to 198 daily wage earners under Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) has been completed in rural locations of Hazaribagh, Ratu (Ranchi), Chandil and Seraikela-Kharsawan in India (Jaipuriar, 2012).

Can UID Enable 'Inclusive' Innovation?

The print media have reported UID as the '***biggest social project on the planet***" (Parker, 2011, pp.1). India does not have anything like the American Social Security Number. Out of the 1.2 billion Indians, only 33 million pay taxes and 60 millions have a passport (Parker, 2011). And hundreds of millions of Indians remain excluded. The UID project is currently a work-in-progress. If it is successful, it will leapfrog and place India on the

forefront of citizen-identification technology. This is likely to outperform social security number and other biometric systems across the globe (Parker, 2011).

The UID project is trying to create an ecosystem of inclusive innovation by formally including the masses and opening up new entrepreneurial opportunities. Some of the potential services that can be built around UID authentication are listed as follows (UIDAI, 2012):

1. *Government Welfare Programs and Public Distribution System:* the poor will have direct access to the services offered by the government for example- issue of food grains, subsidies in cash, employment wages, education, health benefits, or LPG (cooking fuel) distribution. The role of middlemen can be eliminated and activities like fraud and theft in government distribution system can be prevented.

2. *Financial Inclusion and Electronic Payments:* UID enabled authentication will enable access to services offered by banks, insurance companies and securities market. The poor will be able to open bank accounts and will get included in the modern economy. This also opens up new business and employment opportunities in the form of MicroATMs and Business Correspondents (sub-agents of banks in remote rural locations).

3. *Telecom Services:* A telephone/mobile connection in India is issued only after a stringent know-your-customer (KYC) process, which requires identity proof and address proof. People lacking such documents either get excluded from telecom

services or resort to fake documentation to get a phone connection. UID can be used as an identity proof for obtaining mobile phone connections.

4. *Passports and National Register of Citizens:* To deal with the issue of illegal migrants UID will be linked to the national register of citizens (database of Indian citizens). This is being currently implemented in the state of Assam in India (TNN, 2012 b). The government has also announced that UID can be used for issuing passports to Indian citizens (Gupta, 2012).

5. *e-Commerce and m-Commerce Services:* can be delivered in remote locations using cash-on-delivery, online identity verification and electronic payments using mobile phones or computers. Embedding UID in services like VISA can facilitate such transactions.

6. *New Entrepreneurial Opportunities:* UID's open API platform and cloud based authentication can enable banks, insurance companies, telecom companies, hospitals, educational institutions, government and nongovernment organizations and new entrepreneurial firms to offer multitude of services to 1.2 billion people in India. UID has opened up a new opportunity window for entrepreneurs who can explore new business models that can exploit the authentication services offered by UID.

By embedding the UID number in every service and every aspect of life an ecosystem like the ones created by Google and Apple can be evolved around UID (Polgreen, 2011).

It offers potential to become an underlying foundation or infrastructure of Indian commercial services (Economist, 2012).

Conclusion and the Road Ahead

The UID project is an interesting example of inclusive innovation in a country that is lagging behind in provision of fundamental amenities to its residents. Given the potential of its large-scale impact on India's economy, the UID project opens up endless innovative opportunities. Not only the poor but also the other actors like companies' and emerging entrepreneurs stand to gain from the UID ecosystem.

UIDAI acts as formal mechanism, which has the potential to fill some of the institutional voids existing in Indian markets. If successful, banks are more likely to lend money, telecom companies are more likely to provide mobile connections, insurance companies are more likely to offer lower rates, and hospitals and educational institutions are more likely to have portable records. On the whole, participation in markets, buying and selling will become easier for Indians like the Chinese.

However, many have raised concerns regarding UID. One concern is on data protection issues and privacy. Going forward, India needs to plan for better data-protection laws. There are also concerns on potential channels of corruption and siphoning off money still remaining open post-UID. For example, Khera (2011) highlights that extortion and inflation of wages by corrupt middlemen can still occur in the UID system. This is an

issue of corrupt social culture existing in the country. Nevertheless, the UID project will make it difficult for corrupt middlemen and politicians to rob public money (Economist, 2012 b). The road ahead for the UID project is uncertain because it is still work-in-progress. By and large, it comes forward as an outlier operating with agility in an overtly rigid government system. The innovation possibilities around the UID project calls for future research and an open dialogue with the entrepreneurial community worldwide.

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