



**ON** OMIDYAR NETWORK

# INNOVATING FOR THE Next Half Billion

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## INTRODUCTION

Economic progress and opportunity have created a huge middle class in India over the past two decades, enabled in large part by the power of technology to connect individuals to information, education, financial and government services, and each other. This largely urban population has seen its income and opportunities increase dramatically as a result.

Yet, as the second most populous nation in the world, India still has hundreds of millions of citizens — in both urban and rural areas — who haven't been able to climb this economic ladder. That could change due to new technology enablers that are developing at a remarkably rapid pace. Mobile phone penetration, reduced data service costs, and the establishment of the nation's Aadhaar digital identity system are combining to extend connectivity to this underserved population. Over the next five years, 500 million first-time internet users are expected to come online via their mobile phones — a population often called the "Next Half Billion," or NHB. This is a population segment that has been excluded, underserved, and disempowered until now.

These trends will propel a new wave of purpose-driven innovators looking to build businesses that create opportunities to improve the lives of these new users: previously underserved Indians from low- and lower-middle-income populations who can now access much-needed services via their mobile phones. In the coming years, continued innovations by entrepreneurs to reach the NHB will offer those individuals the opportunity to join the ranks of the middle class. This will create a more robust national economy and a new set of consumers in the process.

We are still in the early stages of this journey, so it's important for those who want to serve this emerging market to understand both who the NHB are, and how their needs differ from the existing middle class.

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## LOOKING AT THE NEXT HALF BILLION

As with the majority of people in India, NHBs are strongly affected by two major technology developments, despite economic and other differences with the initial internet users. These developments have made it much easier for businesses and entrepreneurs to reach and aspire to serve the NHB.

First, mobile phone penetration is a major driver for the entire nation. Today, three out of four adults in India have a mobile phone, while almost 300 million have smartphones.<sup>1</sup> The rapidly declining cost of data service has resulted in significantly increased use of the internet; more than 200 million people in India access the internet through their mobile phones.<sup>2</sup>

In addition, nearly 1.2 billion Indians — including 99 percent of all those aged 18 and older — are now enrolled under Aadhaar, the country's national digital identifier program.<sup>3</sup> Establishing a unique 12-digit ID number for each individual, connected to biometric information, Aadhaar serves as the basic building block for access to government services and a digital economy.

Building on Aadhaar is the India Stack, which aims to provide a combination of public utilities and software standards like e-signatures, eKYC, digital locker, and a consent layer (through which individuals can control who has access to their data and information). A large and low-cost infrastructure for electronic payments is in place with surging bank account penetration and a payments set-up that includes wallets, new payment bank licences, and a unified payments interface across banks launched by the National Payment Corporation of India (NPCI).



**3 out of 4 adults**  
*in India have a mobile phone*






**1.2 billion Indians**  
*are enrolled under Aadhaar*

Like all of India, NHBs represent the broadest array of ages and occupations. Their incomes, while below that of the current middle class, also vary widely, as does their internet usage and even the types of mobile phones they carry. They also differ in many ways from the initial waves of mobile internet users. NHBs have very different income profiles, education levels, language skills, and social/cultural milieus.

Creating services for them begins with an understanding of those differences. To do that, it may be helpful to examine a few different profiles that are typical of large numbers of individuals. Four of these, based on data obtained from our investee [Indus OS](#),<sup>4</sup> include:



	 Income Level	 Internet Usage	 Handset Cost
<i>A young business processing outsourcing (BPO) worker in a metro/Tier 1 city</i>	Higher income	Likely 25–30 days each month	~ ₹7,000–8,000 (US \$125)
<i>A middle-aged grocery/kirana shop owner in a Tier 2 city</i>			
<i>An auto rickshaw driver in a metro area</i>	Lower income	About 10 days a month	~ ₹3,000 (US \$45)
<i>A college student in a small town</i>	No income	About five days a month	~ ₹1,000 (US \$15)

Despite the differences in income and internet access among subgroups, all NHBs have huge unmet financial and daily living needs, along with significant levels of vulnerability to economic shocks arising from injury, illness, and loss of livelihoods. Innovative business models are required to meet these needs, created by entrepreneurs who are able to improve the access to and affordability of a range of basic products and services for this population segment.

Innovative entrepreneurs are seeking to provide new ways of access to jobs, education, health care, transportation, financial services, and government services via the smartphone. For example, people who historically have had to save their money in cash can now use mobile services to send and receive payments, get loans, or even purchase insurance. A local business such as a kirana frequently changes its phone number, while two out of three don't have a website, isolating them from many potential customers. [NowFloats](#), an Omidyar Network investee, enables small business owners in India to set up a website with just three text messages from any phone number.

*As data costs come down, the differences in days of internet usage per month across the different profiles will narrow.*





## THE DIGITAL JOURNEY OF THE NHB

Even though a large segment of the NHB has internet access via a mobile device, that has yet to drive significant economic activity, as very few users conduct financial and commercial transactions on their mobile devices.

Data from Indus OS (see [page 9](#)) reveals that, on average, some 200 minutes a day are spent on the mobile internet by a sample of ~300,000 Indians. The largest use by far is for personal communication, accounting for 40 percent of that time. By contrast, reading news accounted for just 2 percent of internet time, and commerce a mere 1 percent.

These numbers illustrate a key challenge for entrepreneurs to reach the NHB successfully. It will require fostering trust and confidence in the internet and e-commerce. Success will require addressing the barriers that this population segment perceives and experiences, and being attuned to their cultural contexts and social norms.

The first step is simply to get more people online more frequently. The next step is to build their comfort level with using the internet. That will likely follow the same evolution from simple to more sophisticated use cases that we have seen all over the world. In India, consumers start with communication, and then extend that to entertainment and religious content, and finally utility tools that make their mobile device usage more efficient. This is the case with the NHB now. The next phase is to evolve to more sophisticated uses, such as news and information. Making the next transition — openness to making transactions — is the hardest step in the journey and requires understanding and a consumer-centric approach.



On average, **200 minutes a day**  
are spent on the mobile internet.

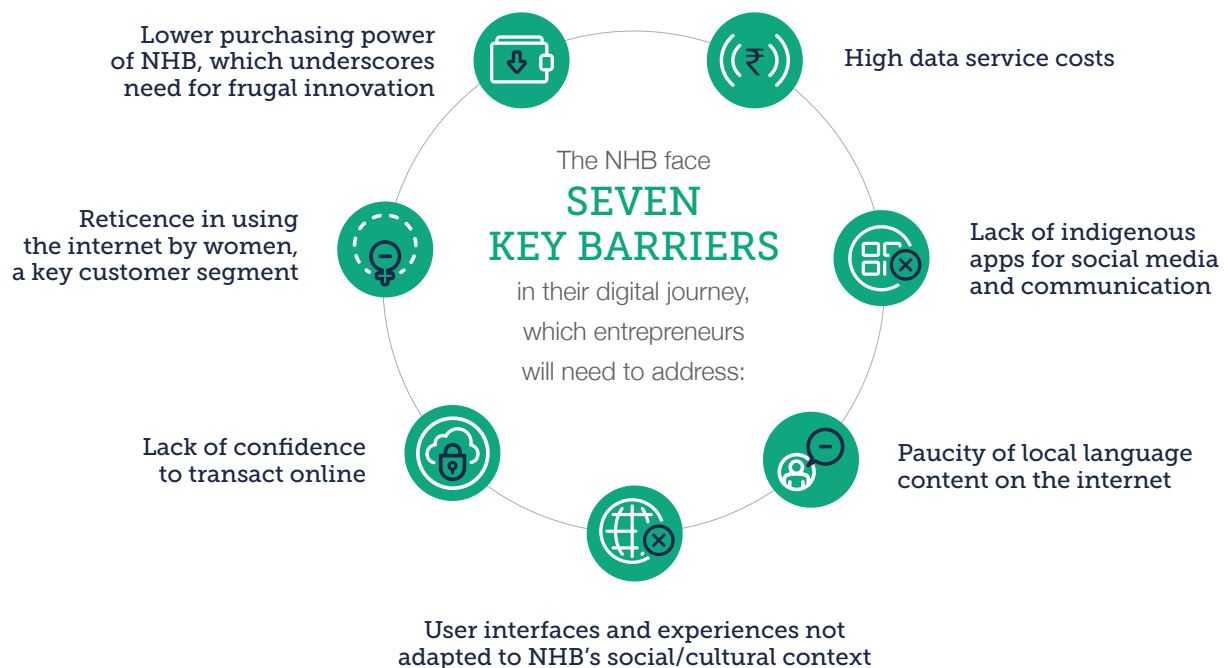


Personal communication accounts for  
**40% of that time.**





## ADDRESSING THE BARRIERS





## Data costs and convenience

*Currency of Trust*, a report by [Dalberg](#) and funded by Omidyar Network, shows that Indians are frugal when it comes to data use, and tend to seek creative and cost-effective ways to access data. Many people in metropolitan areas access free WiFi connections through publicly available networks, such as the RailTEL and Google WiFi available in railway stations. They also seek out other free providers, such as their employers.

Frequently, groups of individuals also will share the installation and running costs of broadband networks, distributing the passwords widely. In Mumbai's lower-income neighborhoods, households will share access to a WiFi router rather than consuming more costly 3G data via their mobile provider. Other savvy users find creative ways for optimizing data cost and speed, such as switching between 3G networks and less costly 2G services, based on their data needs at the time. Indian consumers also prefer apps that minimize data consumption and provide an acceptable level of functionality and a satisfactory user experience, even in poor network conditions. Increased availability of cheaper 4G data is helping drive more and more people to wireless data access. However, India is a very price-sensitive market and Indian consumers will continue to prefer apps that minimize data consumption.

WiFi can change the game, both in speed and cost. The WiFi cost per MB is ~2 paise on average, or a seventh of that for mobile internet. Companies such as Omidyar Network investee [i2e1](#) are working to create much broader WiFi coverage throughout India; that company aims to install more than a million WiFi hotspots in businesses across India that would allow patrons a free connection to the internet.

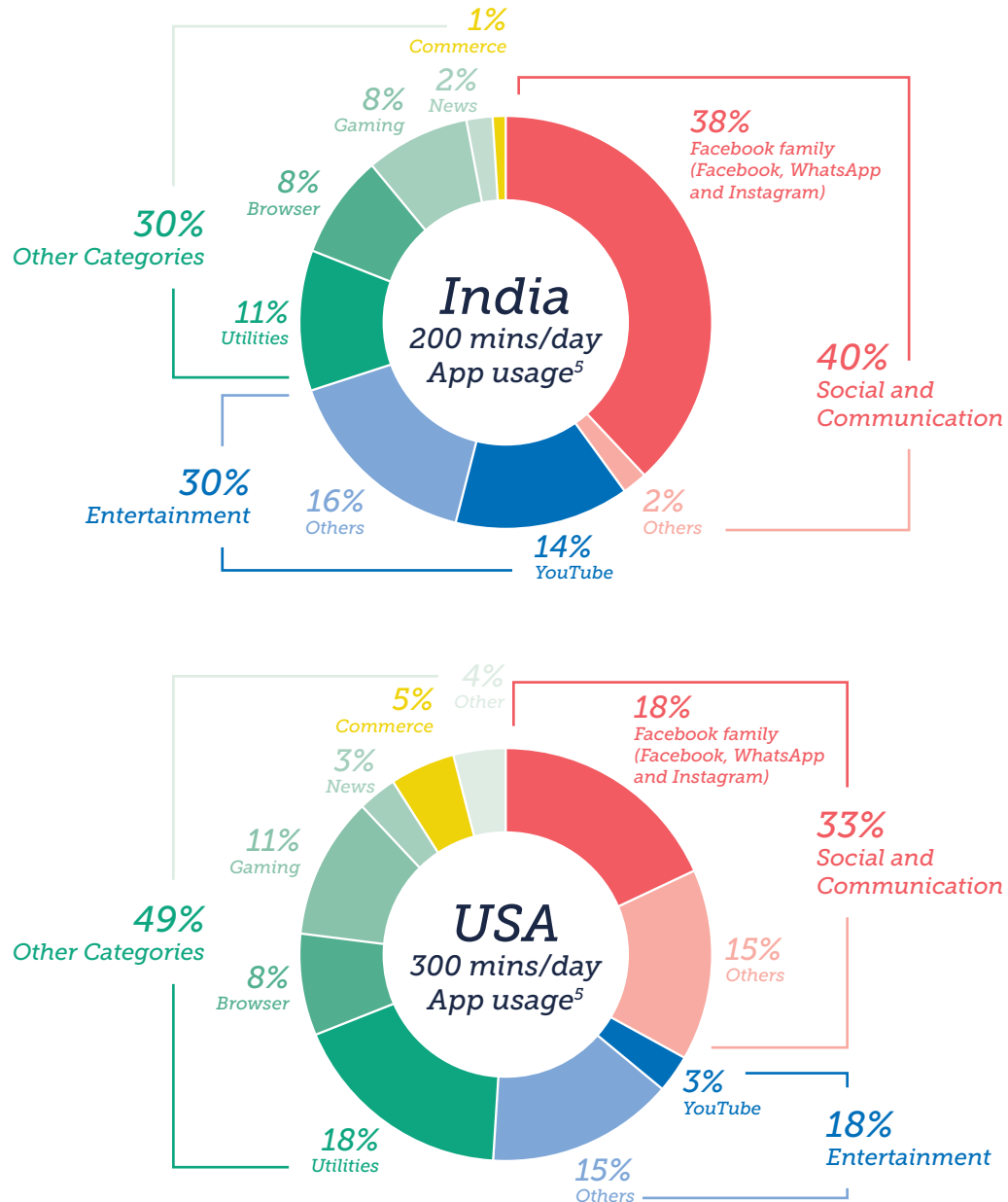






## Room for local apps in social/communication and entertainment?

When it comes to the two most popular uses of the internet by the NHB today — social/communication and entertainment — apps from global companies actually enjoy a far greater market dominance in India than they do in the United States, where many of these apps originate.



The Facebook family (including Facebook, WhatsApp, and Instagram) accounts for 95 percent of social/communication app usage in India, whereas it represents only 55 percent of US usage. Similarly, in entertainment, YouTube accounts for 47 percent of entertainment app usage in India, against only 17 percent in the US. Clearly, US consumers find options beyond Facebook and YouTube appealing, which may indicate that there is room for local innovators in India to enter this space. For example, [ShareChat](#) is a social platform that helps users discover people and content in eight Indian languages. It has been downloaded 8 million times.



## Local language content

Unlike the previous waves of mobile internet users, the NHBs are not native English speakers. Local language content will be key in bringing them online. A KPMG/Google study in May 2017 states that 70 percent of Indians found local language digital content more reliable. They identify a number of apps and web categories with currently low penetration rates — including payments, government services, news, classifieds, online shopping — that would grow much faster with local language integration. Yet little local language content is currently available, creating new entrepreneurial opportunities. One such company is our investee, [DailyHunt](#), which is the largest news app in the country. More than 90 million people in India use DailyHunt to read news, books, and magazines in 12 Indian languages. Similarly, [Pratilipi](#) allows users to access long-form content in eight Indian languages and is used by more than a million people a month.



[Learn more about](#)



## Adapting to social and cultural context

Another challenge for entrepreneurs is to design products and services around user interfaces and experiences that are relevant to the life experiences, social context, and cultural norms of the NHB.

Consider the example of the “shopping cart” symbol and “proceed to checkout” language common to most e-commerce sites. These are intended to make using the online service easier by replicating the familiar shopping experience where the consumer takes an empty cart, picks items off shelves, puts them into the cart, and proceeds with them to the checkout. The NHBs have not been exposed to the self-service experience in shopping — their shopping experience is walking up to a counter at a store and being served by the shop owner or shop assistants, who will actively help them decide what to buy. The dominant e-commerce symbols and terms, then, mean very little to them — and can even be intimidating.

A contrasting example is Facebook’s approach in India, where users can log in with a mobile phone number in addition to an email address. This recognizes the fact that, while mobile phones are used extensively, the average consumer rarely has an email address.

Simple and easy navigation, user interfaces that emphasize speech over text and are menu-based, and user experiences that enable them to get recommendations instead of search and discovery will be relevant for the NHB.



*NHBs have not been exposed to the self-service experience in shopping,*  
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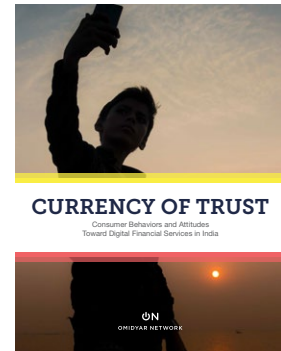


## Building trust and confidence to transact online

The toughest barrier along the journey is building trust and confidence to transact online.

Dalberg's interviews, conducted as part of the [Currency of Trust](#) project, reveal that consumers are willing to engage in a wide range of digital experiences, either for entertainment or social/communication purposes, such as movie streaming, video playback, file sharing, information browsing, and social media communication. But people perceive transacting and paying online to be more complex than other types of connected services.

An onboarding process that helps consumers complete registration, and guides them through the first few transactions can go a long way in building confidence. During early usage, consumers are more comfortable transacting with small amounts of money, as they fear that they may lose money due to their inexperience. As they build trust and become more familiar with transacting online, they are more open to transacting with larger sums. They also value some form of proof for both successful and incomplete transactions. Apps that send instant notifications after processing (e.g., via SMS) help reassure users and reinforce trust in the service. Similarly, users worry about what will happen to their money if a digital transaction fails during processing. In this case, providing evidence of a failed transaction is an important driver of a positive user experience. When they get stuck, users want their app to know where they are in the process and provide specific, easy-to-understand assistance on demand. Such features also help consumers overcome a lack of confidence and perception that they may not be sufficiently educated to transact online.



*[Download the Currency of Trust report to learn more about consumer behaviors and attitudes toward digital financial services in India.](#)*





## Enabling women to participate

Pinterest, Babytree, and Rent the Runway are some global examples of successful businesses that have been built around women consumers. In India, women are a key consumer demographic in the NHB as they make and influence family decisions on a range of basic products and services like health care and education. However, the perception that smartphones are primarily associated with entertainment and social media drives a significant gender divide in device ownership and data usage, based on cultural norms. There is a widespread fear that smartphones will expose women to “bad influences” and lead to harassment or broken marriages.

As a result, many men refuse to provide their wives, daughters, or sisters with a smartphone — or in some cases, any type of phone at all. Currently, women are 36 percent less likely to own a mobile phone, and women comprise only 35 percent of mobile internet users and 25 percent of Facebook users.

Significantly, Dalberg found that women have internalized these perceptions and are self-restrictive in their desire for phones and use of the internet. Many women with smartphones do not access the internet at all. Several who used data services specifically avoided WhatsApp and Facebook. They were worried about inadvertently accessing videos and images that were inappropriate for them.

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*Women have internalized the perception that smartphones are for entertainment and social media, causing women to self-restrict their desire for phones and use of the internet.*

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These beliefs are reinforced by newspaper articles and television shows about social media usage by women leading to extramarital affairs and divorce. To make headway with women consumers, repositioning the prime purpose of mobile internet toward socially acceptable use cases, such as education and health, and away from those considered inappropriate, such as entertainment and social media, becomes important.



## Frugal innovation and affordability

The US and China have built large internet businesses. India is expected to rapidly close the gap with these countries in smartphone penetration, time spent on the internet, and data usage. On average, Indian users are on their mobiles for three hours per day; this is in line with adult US mobile users who spend three hours and 20 minutes on non-voice mobile services. India's mobile data usage has rapidly increased to around 1.25 GB per month on increasing adoption of 3G and 4G services, entry of Reliance Jio, and a sharp fall in tariffs. However, India will continue to be significantly lower than China on GDP per capita for the next decade. This lower purchasing power implies that it will be a long haul for entrepreneurs. It is therefore critical to make products and services highly affordable via frugal innovation — to expand access, adapt quickly and efficiently, and ultimately, scale.



## CONCLUSION

Over the next few years, we expect to see thousands of new startups spring up seeking to capitalize on the opportunity created by the NHB coming online. But can they truly understand the pulse of this audience? Will they innovate fast enough to cater to the NHBs' needs? Can they build trust and develop sustainable business models in order to reach massive scale? We certainly hope so — and we believe that this next wave of entrepreneurship will be from domestic innovators who understand and can create products that directly meet the needs of Indians.

### Sources:

1 <https://www.statista.com/topics/2157/internet-usage-in-india/>

2 <https://www.statista.com/topics/2157/internet-usage-in-india/>

3 <https://timesofindia.indiatimes.com/india/99-of-indians-over-18-now-have-aadhaar/articleshow/56820818.cms>

4 Indus OS is the creator of an indigenous vernacular operating system tailored to the needs of first-time smartphone users and has grown to more than 7 million highly engaged users. This analysis focused on data relating to 300,000+ Indians distributed across metros, tier I, tier II, tier III and beyond with varying degrees of internet access, during the period Apr-June 2017.



# OMIDYAR NETWORK

## A WORLD OF POSITIVE RETURNS

### ABOUT OMIDYAR NETWORK

Omidyar Network is a philanthropic investment firm, established in 2004 by eBay founder Pierre Omidyar and his wife Pam. We create opportunity for people to improve their lives by investing in market-based efforts that catalyze economic and social change. In India, Omidyar Network focuses on helping the hundreds of millions of Indians in low-income and lower-middle-income populations, which we define as ranging from the poorest among us to the existing middle class.

Omidyar Network has committed more than \$1 billion through equity investments in for-profit companies and grants to nonprofit organizations that foster economic advancement and encourage individual participation across multiple areas, including Digital Identity, Education, Emerging Tech, Financial Inclusion, Governance & Citizen Engagement, and Property Rights.

To learn more, visit [www.omidyar.com](http://www.omidyar.com), and follow on Twitter [@omidyarnetwork](https://twitter.com/omidyarnetwork) [#PositiveReturns](https://twitter.com/omidyarnetwork).

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