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CREATING A $200 BILLION INTERNET ECONOMY

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The Internet and Mobile Association of India [IAMAI] is a young and vibrant association with ambitions of representing the entire gamut of digital businesses in India. It was established in 2004 by the leading online publishers, but in the last 10 years has come to effectively address the challenges facing the digital and online industry including mobile content and services, online publishing, mobile advertising, online advertising, ecommerce and mobile & digital payments among others.

Ten years after its establishment, the association is still the only professional industry body representing the online and mobile VAS industry in India. The association is registered under the Societies Act and is a recognized charity in Maharashtra. With a membership of 160 plus Indian and MNC companies, offices in Delhi, Mumbai and Bengaluru, the association is well placed to work towards charting a growth path for the digital industry in India.

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EXECUTIVE SUMMARY

I N 2001, THERE WERE approximately 7 million Internet users in India. This number has grown by 25 times in the last 12 years at a compounded rate of over 30 percent y-o-y. Today, ~40 million Indians are online every day, spending ~40-45 hours over the Internet per month. India is the second largest market for social networking giants such as Facebook and LinkedIn; 58,000 new users get connected on to a social network every day. E-commerce is shifting users from shopping in stores to shopping on the go—Chinese smartphone manufacturer Xiaomi recently sold 75,000 of its Mi3 models exclusively online in five rounds of flash sales on Flipkart, with most of the sales lasting for less than 10 seconds.

India has one of the largest and fastest growing populations of Internet users in the world—190 million as of June 2014 and growing rapidly. India already has the third largest Internet population in the world today, after China with 620 million and the US with 275 million. In addition, India already has 100 million active Facebook users today, the second largest number after the US and Canada with 152 million. As one fast forwards, it is estimated that there will be over 500 million Internet users in India by 2018—making India the second largest population of Internet users in the world. The growth in the Internet base in India has been exponential. It took 20 years from the introduction of the Internet to reach 100 million users. The second 100 million will likely be reached within three years, and the third in less than a year. In fact, the next four years will see nearly 350 million additional Internet users. The primary drivers of this exponential growth have been expansion to small town / rural India, increased affordability due to lower cost data-enabled handsets, and the ever increasing awareness of, and need for, the Internet.

What is perhaps most fascinating in this explosion is the shift in the profile of Internet users. The last 100 million users will be drastically different from the first 100 million on multiple dimensions: they will be older, more rural, more female, more mobile-led, and more vernacular. The group will shift from over 60 percent being below 25 years of age to almost 55 percent being 25 years of age or above; from about 30 percent rural to over 50 percent rural; from 60 percent mobile-led to over 80 percent mobile-led; from nearly 28 percent women to nearly 35 percent women; and lastly, from about 45 percent using vernacular content to more than 60 percent using vernacular content.

The impact of this explosion of Internet users will be staggering. The Internet is already economically powerful: in 2013 alone, it contributed to USD 60 billion or 2.7 percent of India's GDP. This means that

the Internet is already one of the larger sectors in the Indian economy, larger than sectors like healthcare (2.5 percent) and military (2.5 percent), but still smaller than agriculture (14 percent). It is estimated that the Internet economy will grow to over 4 percent of GDP by 2020, comparable to developed markets like the US, EU and Japan. The Internet economy is also an employment generation engine. The 'Internet' sector already employs ~4-5 lakh people and is expected to create nearly 15-20 lakh jobs by 2018.

The Internet's benefit is not fully captured by the GDP numbers—there are wider 'ripple' effects on the economy and society at a broader level. The Internet has the power to impact every aspect of life fundamentally, be it at the level of consumption, access to financial services and education, connectivity at work, interactions with friends and family, etc. And the Internet can impact each of these aspects in different ways: informing and enhancing the physical experience, substituting the physical experience, enabling broader reach of the physical offering by lowering the cost of delivery, and completely transforming the element—clearly a game changer.

Consumers are increasingly using the Internet as their first port of call in framing and driving their purchase decisions. BCG's Centre for Consumer and Customer Insight (CCCI), through a survey of 25 cities, has determined that over 50 percent of consumers who have access to the Internet go online to make informed purchase decisions. While this number is different for different categories of products / services, one thing is clear: this number is constantly on the rise. It is evident that the learning curve on the Internet is exponential. As consumers get more comfortable with the Internet, their usage pattern exhibits exponential growth that belies age and other demographic variables. In addition, the Internet enhances productivity and efficiency and allows organizations to reach segments hitherto deprived of access to these products / services. For example, Piramal's e-Swasthya programme uses Internet-enabled diagnosis and prescription for individuals who do not have access to quality healthcare facilities due to their location or affordability. Additionally, it is impacting society more broadly—improving livelihood and quality of life; driving increased engagement

(for example Internet and social media-driven voter outreach and engagement during the 2014 general elections); and contributing to improved security through mobile apps like VithU that can send alerts to a pre-identified list of contacts along with one's location by the push of a button, thus ensuring speedy and timely assistance.

However, the Indian economy has not yet fully realised the potential of the Internet. Industries have not yet seized the full commercial potential that the Internet can deliver to their businesses—for example, within sectors such as entertainment, only 5 percent of the audience is impacted by digital, whereas in the travel industry, the impact is higher at 8 percent. Small and medium enterprises do not take full advantage of the Internet, which offers tremendous opportunities to SMEs for targeted, cost effective customer acquisition and to tap into new markets. Consumers lack the education and knowhow to use the

full gamut of experiences available on the Internet. Lastly, while the Government has made a beginning, it is a modest beginning at best. It has only scratched the surface of the kind of services it can offer by leveraging digital platforms.

India's Internet economy is at an inflexion point—with the right actions, it can triple to USD 200 billion in the next five years—with significant benefits for consumers, businesses and society. A few key elements will be essential to unlock this potential:

- Ensuring affordable access through ubiquitous network reach and affordable data enabled devices / Internet plans;

- Facilitating digital transactions and easing payments, potentially through new instruments, for example mobile wallets;

- Developing a regulatory framework which will facilitate content development and not hinder the growth of the industry, specifically, reviewing the IT Act, the Copyright Act (to protect artists online) and the online distance education regulations;

- Creating an Internet governance mechanism that enables all stakeholders to function effectively;

- Enabling entrepreneurial ventures through ease of financing, mentorship programmes and developing a strong digital workforce;

- Digital education and enablement of small and medium enterprises (SMEs) to push Internet usage; and

- Creation of a local language internet to tap potential of tier II / III / IV cities and towns.

Government initiatives alone will not be sufficient. Companies will need to look at a comprehensive digital strategy to understand consumer behaviour, build technical capabilities, manage their product portfolio, and re-define their marketing strategies and channel mix to integrate online and offline effectively.

The size of the prize is large: USD 200 billion (5 percent) contribution to the GDP, plus a bigger, better, more connected, more enabled India. All the stakeholders—industry, Government and consumers—need to unite to realise the full potential of India's Internet economy. This is one area where India does not have to follow the rest of the world. This is the opportunity for India to leapfrog. Are we ready to capitalise?

THE RISE AND CHANGING FACE OF THE INDIAN INTERNET USER

THE FACE OF ONLINE India is changing. The old, familiar and to-date largely accurate figure was young, male, accessing English language services from a PC to support and provide entertainment for his urban, upper middle class lifestyle. This group still matters and will continue to do so. However, the Internet revolution in India is about much more than simply duplicating this stereotype across the country. As the Internet population continues its meteoric growth from 60 million in 2009 to 190 million in 2014, to our estimate of potential growth to over 550 million users by 2018, the face of the Internet user will change. Concerned corporate and government stakeholders will be called to adapt and change their services to meet a new, more inclusive Internet.

The face of new online India will be markedly more diverse. She will use the mobile phone as her primary and often only access point. Her preferred services will match the day-to-day demands of a low to middle income household, markedly vernacular-heavy life often outside a tier I city. The Internet will also be an older place as the youth of today retain their intensive habits even as they age and eclipse their parents as society's primary wage earners and spend influencers.

Of course this new inclusive face of the Internet is not fully guaranteed. Directionally, current growth and diversification trends will con-tinue; the budding Internet economy has already reached 'critical mass' at USD 60 bil-lion. However, rapid accelerated future growth will depend on further concrete and comple-mentary action by industry and Government.

Drivers of Internet User Growth

Going forward, three factors—reach, afford-able access and improved awareness—will be the primary drivers of the rapid growth, or lack thereof, in India's online population.

- Reaching semi-urban / rural Versus metro cities

- Increasingly affordable access

- Enhanced awareness

REACHING 'SEMI-URBAN / RURAL' VERSUS 'METRO' CITIES

Availability of low-cost Internet-enabled de-vices will be the key to driving Internet pene-tration amongst the lower income popula-tion. Nearly two thirds of cell phones sold in the country today are Internet-ready but they cost upwards of USD 60-70. For these to be affordable to a wider section of the popula-tion, the price will need to come down fur-ther. Over the next four to five years data-en-abled mobiles, as a proportion of the overall installed base of mobile handsets, are likely to rise to 89 percent. Further, adoption will

be driven by PCs and laptops that will be made available as part of various government initiatives in education.

It will also be critical for network availability to catch up with the likely growth in the installed base of Internet-enabled devices. The Government and telecom carriers will have to play a proactive role to ensure that the current universal coverage of 2G networks in urban areas is replicated in the villages by 2018, considering that 20 percent of rural India continues to be deprived of this vital piece of infrastructure. A similar improvement will be required in the penetration of 3G and 4G services, which are presently largely confined to tier I and tier II cities. As per announced expansion plans by telecom companies and TRAI data, we believe 3G / 4G coverage in lower tier towns and cities can double to almost 50 percent by 2018, with the corresponding figure for rural areas slated to quadruple to almost 20 percent.

INCREASINGLY AFFORDABLE ACCESS

The relatively steady rise witnessed in the median disposable incomes of Indians in recent years is expected to continue over the next half decade. This is likely to contribute to an increase in the percentage of households able to afford Internet connectivity—typically defined as those with greater than USD 3,300 in annual income[1]—from 56 percent in 2013 to 67 percent by 2018.

Furthermore, the continuing fall in the prices of data plans has made Internet consumption much more accessible and affordable today for a large number of Indians. Telecom carriers are increasingly offering a range of inexpensive, bite-size data plans, while facilitating ease of payments with one-time processing options.

ENHANCED AWARENESS

While supply-side reforms, such as improved access and affordability, will go a long way in driving increased Internet penetration in India, stakeholders should also pay closer attention to the need to increase awareness among those not currently using the Internet.

According to an IMRB-IAMAI study on digital consumers in rural areas, 70 percent of rural non-users are currently simply unaware of

the Internet, and of the range of benefits they can derive out of it. This lack of understanding represents the foremost barrier to online adoption in the villages, with the unavailability of devices (PCs etc.) being a distant second factor (36 percent). On the other hand, almost four fifths of urban non-users, despite being aware of the Internet, are disinclined to use it. This is underscored by the fact that 53 percent of the non-users in towns and cities do not yet see any value in using the Internet.

So what can policy makers and other players in the Internet economy do to improve awareness and need-perception? Governments need to create mobile phone-led access to e-utilities, given the ubiquitous nature of mobile phone penetration in India. Content providers need to come up with more relevant and engaging content, for example vernacular content, for various sets of target consumers. Dedicated applications that deliver improved lifestyle-related services will have to be built for low to middle income individuals, in order for the latter to be convinced about the value of the Internet.

The Rise of the Indian Internet User Base to Over 550 Million by 2018

As Exhibit 1 shows, our best-case scenario envisages that the number of people accessing the Internet in India will jump from 190 million as of June 2014 to over 550 million in 2018. This will be made possible through near universal 2G reach, improved 3G and wireline, and government intervention on such key issues as public access, connectivity costs, and consumer awareness. Reduced government intervention will result in lower growth in the user base, resulting in approximately 400 million Internet users by 2018.

Assuming the aggressive execution of government interventions on all fronts, the urban Internet population will increase from 130 million in June 2014 to 300 million by 2018. The real action, however, is set to unravel in rural India, where the Internet user base is likely to expand by up to 40 percent per annum; i.e. from a comparatively low base of 60 million as of June 2014 to 280 million in 2018. These projections, it should be noted, are

NATIONAL OPTICAL FIBRE NETWORK (NOFN)

The National Optical Fibre Network (NOFN) is a project to provide broadband connectivity to 2.5 lakh gram panchayats of India at a cost of $4 billion. The project provides Internet access using the existing optical fibre network and extending it to the gram panchayats. The project was intended to enable the Government of India to provide e-services and e-applications nationally. A special purpose vehicle, Bharat Broadband Network Limited (BBNL), was created as a public sector undertaking (PSU) under the Companies Act of 1956 for the execution of the project. The project will be funded by the Universal Service Obligation Fund (USOF)

and is estimated to be completed by March 2017.

The Department of Telecom (DoT) is likely to work towards bringing forward the target dates for completion of the National Optical Fibre Network (NOFN) to June 2016 as the project is key to various 'Digital India' initiatives.

But according to a recent DoT survey, the ongoing speed of laying the cable is 500 km per month whereas the required speed to achieve the target is 30,000 km a month. Given the delays, the target looks difficult to complete within the proposed timeframe.

built on the assumption that India will make progress, at the desired rate, in relation to both affordability and reach; and the impediments to growth, as suggested in this report, will be removed.

The number of netizens in rural areas will touch 210 million by 2018 if affordability grows at the requisite pace, with no significant change in reach. Assuming substantial progress in access only, the rural user base is likely to increase to 170 million over the next five years. And if the vital improvements in

reach and affordability do not materialise, that number could well decline by 50 percent from the most optimistic scenario, to 140 million. Put simply, almost half of the projected growth in the rural user segment is at risk if requisite enhancements in reach and affordability do not fructify.

Suffice, then, to say that the factor that will really decide whether India's online population can cross the half billion mark over the next five years will be the performance of the rural segment.

Exhibit 1 | India Internet Population to Reach Half a Billion by 2018

Internet users (Million)
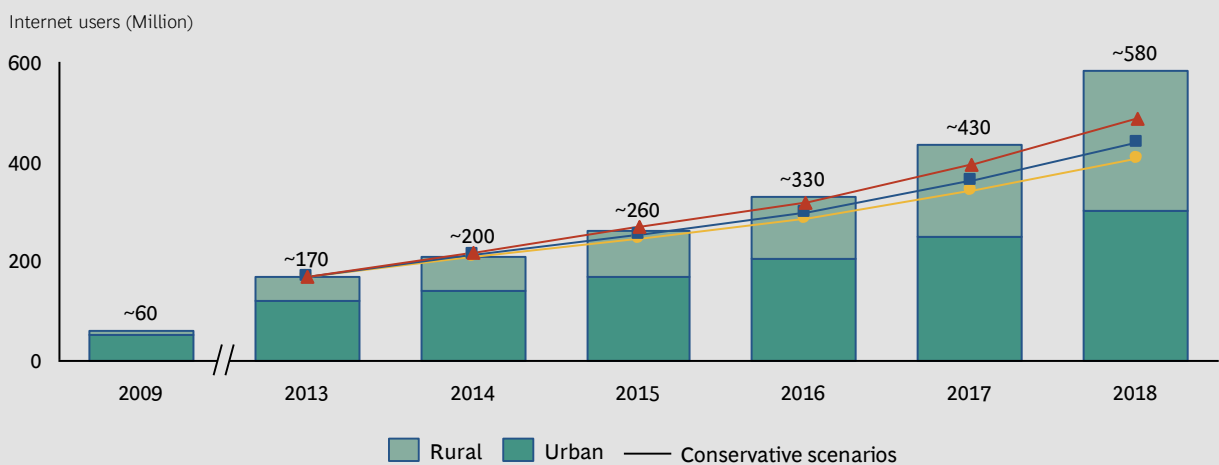
Changes in affordability and reach variables disproportionately affects rural user growth

Source: BCG analysis.

CHINA IS GOING DIGITAL

The Internet user base in China has been growing at a steady rate, from 298 million users in 2008 to 700 million estimated users in 2015. This will be twice as many Internet users as in the US and Japan combined. This has been made possible by the Government's heavy investment in Internet infrastructure, making broadband a national strategy. The Government has also taken action to push operators to reduce prices and increase speed.

Interestingly, the older age group (greater than 51 years) and rural residents will drive Internet growth, indicating the changing dynamics of the Internet user base in China.

By 2015, or shortly thereafter, China will likely become the largest online retail market in the world, with close to 10 percent of retail sales occurring online. It already has more online shoppers than any other market, including the US.

The Changing face of the Indian Internet User

The next wave of growth in India's online population is expected to give rise to a user base that will be significantly different from the current Internet user group, along multiple dimensions—be it in terms of geography, demographics, access device, or content medium. As Exhibit 2 shows, the class of 2018 will be more rural, older, more gender-equal, more mobile, and more vernacular than their counterparts of today.

youth (defined as those less than 25 years of age). Even as these early evangelists grow older, they will continue to be active online, boosting the ranks of Internet users aged more than 25. We estimate that those aged at least 25 will account for 54 percent of the total number of netizens in urban India by 2018, up from 40 percent in 2013. And, with older Internet users having more disposable income, they will likely transact more online—creating business opportunities for e-commerce players and other service providers.

OLDER NETIZENS

The rapid growth in the Internet population since 2009 has largely been driven by India's

RURAL

Rural users, as a percentage of the Internet population, will rise from 29 percent in 2013

Exhibit 2 | The 2018 Internet Population Will be Older, More Rural, More Gender Balanced, More Mobile, and More Vernacular

	2013	2018
Older	• 60% under 25	• 54% over 25
Rural	• 29% rural	• 40–50% rural
Gender balances	• 2.6 men online for every woman online	• 1.9 men for every woman among 18–24 years olds
Mobile	• 60-70% of users	• 70-80% of users
Mobile	• 45% of users use vernacular content	• 62% print media market vernacular in 2013 • 70-90% Indians do not speak English, less than 1% speak as primary language

to between 40 and 50 percent in 2018. This will open up significant growth opportunities for manufacturers and service providers alike, which can leverage the wider, targeted and more cost-optimal online channels effectively to cater to an increasingly Internet-savvy customer base in the villages. In doing so, companies will have to implement relevant and differentiating strategies, keeping in mind the unique dynamics of the rural market.

Gender balanced

Over the years, the skew in favour of males with regard to India's Internet population has been rather overwhelming—with females accounting for a meagre 25 percent (approximately) of the total user base in 2013. However, this vital aspect of the demographics playbook will also change dramatically, with women expected to constitute almost 33 percent of the overall online population by 2018.

The increasing parity in gender ratios will have a major bearing on the Internet economy—in terms of marketing campaigns and other services directed at women—considering that women control 44 percent of the total household spend in India.

Mobile

If the tripling of India's Internet user base between 2009 and 2013 was remarkable, then the rate of growth of the mobile Internet pop-

ulation has been truly spectacular. The number of individuals accessing the Internet from cell phones and tablets virtually doubled in the year ended June 2013, from 50 million to 90 million, and is estimated to soar to 185 million by June 2014. This clearly underscores the fact that a majority of Indians embracing the Internet, particularly rural consumers, have simply bypassed the PC, and are using mobile devices to get online on-the-go.

Mobile Internet users are likely to constitute between 70 percent and 80 percent of the total online population by 2018, as compared with 60 percent to 70 percent in 2013. One important dynamic of this secular trend is that 70 percent of rural users access the Internet from their mobile handsets.

Vernacular

One major enabler in this regard could be the increasing use of vernacular content to deliver information and other services over the Internet. As an ever more diverse base of users, including rural netizens, gets on to the Internet, they may increasingly opt to access it in their native language. The use of vernacular content online is estimated to increase from 45 percent in 2013 to more than 60 percent in 2018, mirroring consumption patterns in mainstream media such as print and television. Another effective medium to reach out to the non-English speaking population,

INDIAN LANGUAGE INTERNET ALLIANCE FORMED TO PROMOTE USE AND ADOPTION OF LOCAL LANGUAGES OVER DIGITAL IN INDIA

On 5th November 2014, Google introduced the "Indian Languages Internet Alliance (ILIA)" in India which is basically Google teaming up with news content producers in India, along with the government to ensure that Internet content in Hindi (for now) becomes easily available. The ILIA is composed of ABP News, Amar Ujala, NDTV, Network 18, Oneindia.com, Patrika Group, Reverie Language Technologies Private Limited to name a few.

The aim of Google's Internet alliance is to ensure that the next crop of Indian users

who come online find the Internet useful. "Currently over 200 million Indians are online and most of them are already proficient with English. We want to ensure that the next 300 million who are not proficient with English find the Internet just as easy to use," Google's India Managing Director Rajan Anandan said. He also stressed that the next batch of Internet users would be coming via mobile-first and that the age of desktops was over, so search had to cater to such users.

which is estimated to account for 70 percent to 90 percent of India's population, could be visual content.

To sum up, we can see that the Internet user profile is going to evolve significantly over the next few years, opening up new challenges but also providing new opportunities for all stakeholders involved.

The opportunity is huge, but action is required on key fronts to make this a possibility:

- Availability of low cost Internet-enabled devices.

- High speed network coverage in both urban and rural areas.

- Creating public access to the Internet through common access points.

- Incentivising players to provide cheaper and more affordable data plans.

- Internet education and training to the masses.

- Facilitating content development, with special focus on vernacular content.

INTERNET ECONOMY TO BE 5 PERCENT OF GDP (USD 200 BILLION) WITH AN EVEN LARGER IMPACT ON SOCIETY

THE INTERNET ECONOMY IS breaking out of early concepts and labels such as 'technology', 'communications / telecom', and even the concept of 'web presence'. The Internet economy is increasingly representative of the Indian economy. On its journey to transform the lifestyle of more than half a billion people, the first step will be consumption.

Doubts about the viability of an India Internet economy have long since disappeared. What we now observe is a maturing movement exerting increasing influence on India's national, not industry specific, economic future. This chapter tracks this expansion in terms of the ever growing direct GDP footprint and three broadening circles to include other ways in which the Internet brings people / businesses together to change society.

Four key areas of impact are evident.

1. Direct GDP contribution related to the Internet.

2. Transactions facilitated by the Internet.

3. Direct benefits to Internet users.

4. Broader social benefits.

GDP Contribution Related to the Internet

As Exhibit 3 shows, in 2013, Internet related contribution to GDP was 3.2 percent at USD 60 billion. This figure will rise to 4.6 percent (USD 160 billion) in 2018, and will be comparable to many developed markets such as the US and Japan.

This impact can be analysed by breaking it down into its relevant elements:
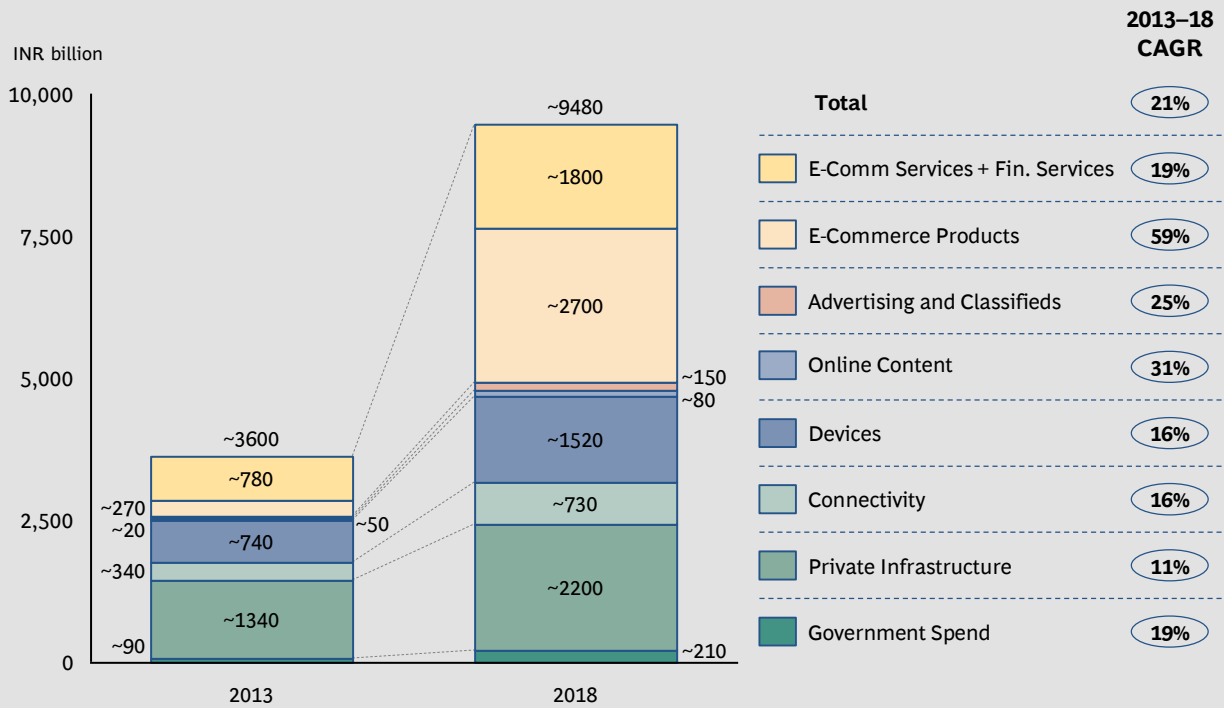
E-COMMERCE AND ONLINE CONTENT

Consumption will be the fastest growing category in the race with e-commerce set to grow around 34 percent per annum to USD 75 billion in 2018. Digital advertising and classifieds are predicted to grow at 25 percent. Although online content may still be at a lower percentage of the total Internet-related GDP, it will grow, and paid apps could possibly see the largest gains with increased usage.

DEVICES

Smartphone sales are estimated to cross USD 17 billion as devices continue to get smarter and be used for Internet services and transactions. The volume of phones sold will increase as consumers trade up to higher quality devices, leading to an overall revenue gain of 20 percent. More consumers will be looking for phones that promise better quality and advanced features. Premium models of top brands will be popular, while smartphones of comparable brands are likely to see a decline or no growth in prices because of this demand. Widescreen devices will face a decline in average prices but experience increased volume, particularly in tablets.

Feature phone sales and prices may remain flat across the market, but more and more de-

Exhibit 3 | Internet Contribution to GDP Set to Grow at 23% Compared to 13% Overall GDP Growth

INR billion

2013–18 CAGR

	2013–18 CAGR
Total	21%
E-Comm Services + Fin. Services	19%
E-Commerce Products	59%
Advertising and Classifieds	25%
Online Content	31%
Devices	16%
Connectivity	16%
Private Infrastructure	11%
Government Spend	19%

Sources: GFK, Gartner, FICCI/KPMG, OVUM, IMF, Ernst & Young estimates of share of eComm businesses, BCG analysis.
Note: Assumes overall 12.9% nominal, 6.3% real growth rate (IMF forecast).

IMPACT OF INTERNET ON GDP: BREAK UP BY ELEMENTS
Figures in USD Billion

	2013	2018	2013–18 CAGR
E-commerce	**17**	**75**	**34 %**
E- commerce services + financial services	13	30	19%
E- commerce products	4	45	59%
Advertising and classifieds	**0.8**	**2.4**	**25%**
Online advertising	**0.5**	1.7	28%
Classifieds	**0.3**	0.7	20%
Online content	**0.3**	**1.3**	**31%**
Digital music	**0.1**	0.2	17%
Paid apps	**0.1**	0.7	46%
Mobile gaming	**0.1**	0.3	19%
E-books	**0.0**	0.1	37%
Devices	**12**	**25**	**16%**
Smartphones	**6.6**	16.8	20%
Feature phones	**0.4**	0.9	28%
Widescreen (PC, tablet)	**5.1**	7.3	7%
Connectivity	**5.6**	**12**	**16%**
Mobile	**2.0**	6.4	26%
Fixed	**3.6**	5.6	9%
Private Infrastructure	**22**	**36.7**	**11%**
Telecom	**4.8**	8.5	12%
Other (corporate devices / infra.)	**17.2**	28.2	10%
Government Spending	**1.4**	**3.4**	**19%**

vices will be used online. This will push up the usage of Internet among feature phone users from 10 percent now to 24 percent in 2018. Increased online usage will increase contribution of the Internet to the GDP. In fact, Internet connectivity will increase to 18 percent or USD 12 billion as data gains revenue share. Data, as a percentage of mobile carrier revenues, will increase from the current 8 percent to 18 percent in 2018. The result will be an overall growth of 25 percent in telecom data revenue.

INFRASTRUCTURE AND CONNECTIVITY

Fixed line connection growth is predicted to be modest at 9 percent with increased volumes. Telecoms and other corporations will continue to modernise and invest in infrastructure at 10 percent steady growth. Twenty per cent of private investment will come from the telecom sector. Government spending will grow at 20 percent (to USD 3.5 billion) but could go up further, depending on the increase in accessibility. Alongside this, device spend may increase if the government fulfils and continues to expand the distribu-

tion of devices. This may be a concern because the 2013 pledge of distributing around 70 million devices was not delivered.
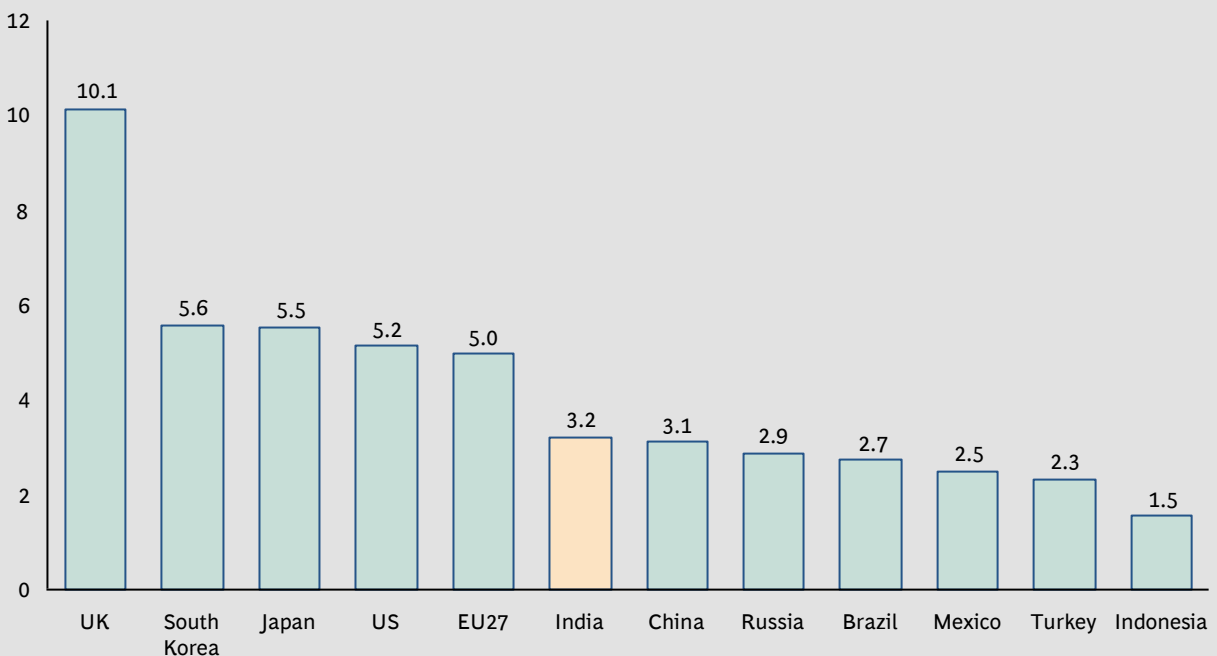
Still, it must be noted that India already ranks first in Internet contribution to GDP among major developing countries.

Internet-Enabled Transactions

By 2018, 200 million individuals and 8 million SMEs will connect and perform transactions online. Users will make purchase decisions based on information gathered online. These users take advantage of the Internet by searching for reviews of products and services they wish to buy or avail of, or making those few clicks to have them delivered to their doorstep. Consumers planning to purchase consumer durables such as television sets and microwave ovens and other products in high involvement categories, have a lengthy pre-purchase cycle where they attempt to gather as much information as possible regarding features, prices, and warranties. So the Internet is important at this stage.

Exhibit 4 | India Internet Contribution to GDP Leads Among Major Developing Countries

Internet contribution to GDP (Total GDP 2013 estimate (%))

Country	Value
UK	10.1
South Korea	5.6
Japan	5.5
US	5.2
EU27	5.0
India	3.2
China	3.1
Russia	2.9
Brazil	2.7
Mexico	2.5
Turkey	2.3
Indonesia	1.5

Source: BCG G20 report.
Note: Assumes overall 12.9% nominal, 6.3% real growth rate (IMF forecast).

In India and many other countries, direct consumer-to-consumer transactions are on the rise with 70 million users making use of online classifieds like OLX and Quickr. The industry is set to grow at 20 percent per annum by 2018.

Even businesses interact online. Today, 3.5 million SMEs use marketplace websites to make purchases and sell. An example is Pigtails & Ponys, selling handmade products started in local Bengaluru flea markets. The company has managed to build an e-commerce business through Facebook that now sells across India, with distribution to a growing number of boutiques. With little money for advertising, Pigtails & Ponys' owners chose Facebook, building a business page that was as colourful and cheerful as the brand image they intended to project. They managed to acquire a 70 percent customer base through Facebook.

Another example is Sangeetha Mobiles, based in Bengaluru. The company receives close to 80-90 orders in a day through its association with amazon.com. Today, they have access to markets across all parts of India—including Assam and Jammu & Kashmir, which is not otherwise possible for a retail store.

By 2018, the number of SMEs using marketplace websites may possibly reach 8 million. Yet, 8 million is less than half of the 13 million SMEs that are predicted to be in India in 2018, so there is room for immense growth in this area of Internet business.

Another aspect of Internet-enabled transactions is Internet banking. Net banking may be used by just 5 percent of individuals today, but that means that there is a huge scope for growth if the Government undertakes sufficient initiatives in the banking sector by reaching out to the approximately 600 million Indians with no bank accounts. The Aadhar system has the potential to deliver banking services to the large proportion of the population who lack a bank account. Many of these customers will use net banking through their mobile phones to conduct monetary transactions.

The Internet economy is also an employment generation opportunity. The 'Internet' sector already employs ~4-5 lakh people and is a key avenue for job creation. The biggest source of employment currently is private infrastructure which accounts for half of this job creation, with the other couple of lakhs coming from the e-commerce products and services sector. Connectivity and devices account for the last lakh of jobs created. As e-commerce grows, the job creation in the sector will be faster than the growth in revenues as creation of infrastructure and services become critical to winning share. Also, as private infrastructure transposes itself onto cloud services, the human element requirement will be reduced and hence the growth in job creation within private infrastructure will be correspondingly low. However, expansion of government ICT spend will see the deployment of a significant quantum of jobs in the semi-urban and rural sector for infrastructure creation, training and digital-enablement. Across all sectors, as one looks to the future, it is estimated that the Internet economy will create nearly 15-20 lakh job opportunities by 2018.

Benefits to Users

Beyond the direct contribution to commerce (as seen through contribution to GDP and Internet-enabled transactions), there are larger social benefits as well. This impact cannot be directly measured in numbers, but manifests itself in different forms. Increase in productivity can be seen in all spheres of life: schools, colleges, homes and offices are connected online, granting access to information and content across a range of topics. While some users may be using the Internet to do research for academic papers, others may access it for work-related tasks. Using the Internet for common tasks including communication or research (for example for a report) can improve productivity levels by 25 percent to 35 percent when compared to offline methods.

Another area where the impact can be felt is the entertainment industry. The open video sites allow one to share their content with millions of other users. With YouTube and other intermediaries on the web, unknown individuals and groups can get millions of hits on their page. The Viral Videos is an example here—its most popular satire videos are watched by over 3 million visitors every month.

Limited capital is not an obstacle here, where even small producers can develop a fan following and monetise their online fame. The crowd-funding website Kickstarter has helped raise over 300 million for 19,000 projects.

The Broader Benefits

While individual benefits of using the Internet are abundant, the positive impact on society must be acknowledged. People of various categories are leading better lives because of what they can do with the Internet.

IMPROVING SAFETY

In 2012, the Indian workforce consisted of 29 percent females, compared to China's 64 percent. The number of working women may be lower than satisfactory due to safety concerns among other issues, so personal safety applications on mobile devices play a vital role in helping women increase their role in society. Smart phones now contain apps that enable a person in distress to send out an SOS with a click or notify others of her location when needed. One such example is that of VithU, an emergency mobile application that sends out alert messages to your pre-entered contacts at the touch of a button. The app uses GPS to keep track of the user's location and sends an updated location to the receiver every two minutes. The application has already seen a 5-10 lakh installed user base.

PARTICIPATION IN EVENTS AND CAUSES

Individual rights can be protected if everybody can easily participate in a democracy like India. The Election Commission of India now allows online registration that will be confirmed by SMS on a mobile phone. The state of Kerala alone registered 80,000 online registrations for the 2014 Parliamentary elections.

The Internet also facilitates stronger engagement with citizens. For these elections, over 29 million people discussed the elections online, with over 220 million interactions (posts, comments, blog shares etc.) and over 31 million Facebook alerts. The numbers are staggering, to state the obvious. Online petitions on websites such as change.org and avaaz.org can bring together people worldwide for various causes. Several petitions are created daily and signatures can be put in within seconds

with access to the Internet. There have been petitions urging authorities to take action for causes related to animals, human trafficking, rape and other incidents. One such petition to the President and Chief Justice of India, Stop Rape Now!, obtained 6,74,000 signatures. Thus, the Internet is responsible for positive impact on individuals, businesses and society and there is room for much more.

Individual consumption, corporate infrastructure investment and government spending contribute to Internet-related GDP, but the value of the Internet expands beyond GDP. Measuring and tracking the impact on all dimensions of the economy and society are not simple and direct, but the potential is immense and will continue to grow in the future. The Government needs to undertake the right measures to utilise the full potential of the Internet in benefiting the economy and society by enabling online consumption. This will include:

- Facilitating digital transactions through ease of payments.

- Promoting entrepreneurial ventures.

- Developing the regulatory framework and the right Internet governance.

- Continued investment in infrastructure development.
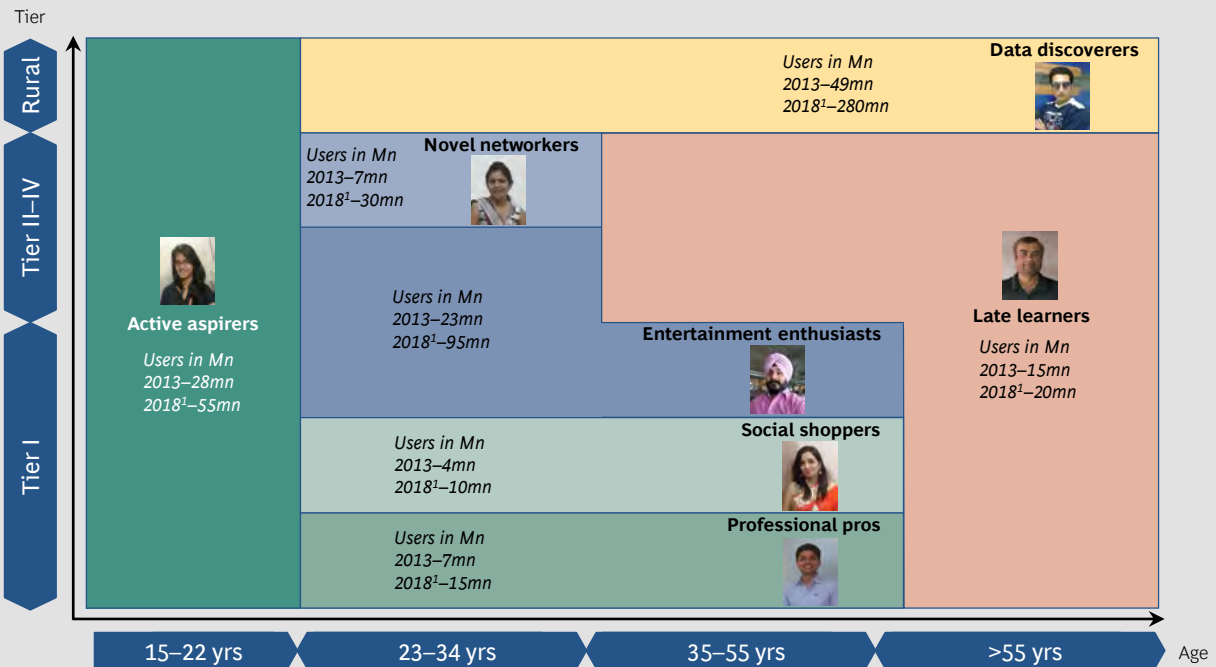
SEGMENTING INTERNET USERS

THE GROWING DIVERSITY OF the Internet will be expressed through a proportional shift between distinct demographic groups. It is important to recognise that Internet users are not a homogenous group, and one size does not fit all. Consumer needs and expectations can differ greatly based on a variety of factors. We have looked at seven distinct consumer segments based on their Internet consumption habits, combined with their location and demographics. It is essential to appreciate the common characteristics of these consumer groups, as well as understand the inherent characteristics of each segment. Each group displays a unique usage pattern, lifestyle and evolutionary path as online time increases. Understanding these seven distinct groups—and the balance between them—is essential for stakeholders to support and profit from online India's explosive growth. Businesses that design their digital strategy based on this distinct consumer behaviour can benefit fully from the digital opportunity.

As Exhibit 5 shows, meeting the seven segments is a journey from the top to the lower middle of Indian society, increasingly unrestrained by geography and class. The first group, "active aspirers", are what often comes to mind as early adopters. Young, open to change, they are quick to develop intense online lifestyles regardless of urban or rural affiliation. This group will not give up the online habits they acquired in their youth, and so represent the collective long-term future of India online. They are followed by the affluent, urban classes. "Professional pros" have been online for some time, increasing the productivity of their busy professional lifestyles

with productivity tools. Today, their largely female, non-working counterparts are joining them online. These "social shoppers" use the Internet as an extension of their offline friendships and look for interactive media as a substitute for offline (television serials) entertainment. They are increasingly adding shopping to their list of online habits. Next are the middle to lower middle class consumers. Tier I / II citizens have been the first to adapt but they are increasingly joined by their lower tier counterparts. Males in this category are particularly heavy users, accessing from their mobile phones, often while at work. Their female counterparts using the Internet to plan their purchases are "novel networkers"; most are yet to make the jump to full netizen status in spend and activity. Finally in urban India are the "late learners", stereotypically slow to change; a strong number are being pulled online by younger relatives. Having made the initial jump, Grandma can be surprisingly active on sites like Facebook. While this group will eventually be replaced as younger segments age, they deserve attention due to their comparatively high spending power.

Finally we come to the broad base of rural India. These "data discoverers" are asking what the Internet can do for them, tasking the Internet stakeholders of today to provide a clear and accessible answer. Connectivity can change rural India but it is most vulnerable to delays in network coverage, affordability improvements and vernacular language services. These shifts together represent a democratization that must be met with an accessible and customised response from the Government and key corporate stakeholders.

Exhibit 5 | 7 Behavioral Categories Differentiated by Location, Income, Gender and Age

Tier

Rural / Tier II–IV / Tier I

Active aspirers

*Users in Mn
2013–28mn
2018[1]–55mn*

Novel networkers

*Users in Mn
2013–7mn
2018[1]–30mn*

*Users in Mn
2013–23mn
2018[1]–95mn*

*Users in Mn
2013–4mn
2018[1]–10mn*

*Users in Mn
2013–7mn
2018[1]–15mn*

Data discoverers

*Users in Mn
2013–49mn
2018[1]–280mn*

Entertainment enthusiasts

Late learners

*Users in Mn
2013–15mn
2018[1]–20mn*

Social shoppers

Professional pros

| 15–22 yrs | 23–34 yrs | 35–55 yrs | >55 yrs | Age |

Source: Qualitative research.
[1]Projected numbers.

Active Aspirers

This set of 30 million users largely consists of 15 to 22 year olds, whose Internet consumption patterns do not differ significantly across different locations and income households. An overwhelming 94% of these digital natives use mobile phones, among other devices, to access the Internet. Apart from being avid users of social networking sites and entertainment-related content, they seek career-related information on topics such as education and employment. Active aspirers tend to have a moderate level of digital influence, and also exhibit low spend levels online—a trend likely explained by their limited disposable income. However, as active aspirers grow older and get access to higher disposable incomes, they are likely to also become strong users of ecommerce and other payment related digital activities.

ACTIVE ASPIRER

A 20 year old student of Delhi University who lives with his parents in New Delhi. His daily routine includes going to college and spending time with friends in the evening.

He accesses the Internet primarily on phone and laptop, for ~8–10 hours a day for a variety of activities. He uses Facebook & WhatsApp for keeping in touch with friends, plays games, downloads content via torrent and visits YouTube. He regularly accesses informational sites while working on college assignments. With his college coming to an end, he has recently also started using online job portals to understand which jobs will suit him.

Even with limited disposable income, he shops online for apparel, footwear & accessories. He spends a lot of time browsing various websites to find good deals / offers / discounts. While deciding the whether to buy a product he looks for ratings and reviews given to the product by previous buyers.

Social Shoppers

Largely comprising of affluent people, women and 25—45year olds, social shoppers have significant purchasing power and are comfortable enough with the Internet to start transacting online. They actively shop for air travel and holiday packages, and also tend to use social forums and online chat rooms regularly. Moreover, this segment of Internet users is on the lookout for video, music and other entertainment-related content.

Entertainment Enthusiasts

This group of 20 million users is among the heaviest users of Internet in India, with strong interest in content related to entertainment—be it online gaming, music, or videos. They typically belong to the middle income bracket, and access the Internet from mobile devices. This segment also sees the heaviest usage of the Internet.

Novel Networkers

Novel networkers accounted for 7 million of India's total online population in 2013. This group is dominated by females, and belongs to the emerging middle income segment. Users in this segment use the Internet very actively for shop-

SOCIAL SHOPPER

A 33 year old housewife who lives in a joint family in New Delhi. She considers herself to be responsible for taking care of household chores; however she also wants to keep in touch with her friends and relatives.

The Internet serves as the best way for her to keep in touch with her friends and be updated on her hobbies like fashion, clothing etc. She has bought a smartphone since it is a multi-utility device that helps her stay connected while doing her household chores. She spends around 7–8 hours daily on the Internet, doing a variety of activities online on her phone.

Online shopping has brought a lot of convenience to her daily routine. She orders a variety of products ranging from apparel and accessories for herself , stationary items for her children and utensils for the home. Her last purchase was a refrigerator that she bought through an online portal. She has downloaded apps in her phone for booking cabs, planning holidays and watching videos.

Apart from shopping, she uses multiple chat applications like WhatsApp, WeChat & Viber to connect with her friends.
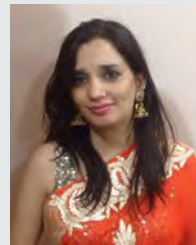
ENTERTAINMENT ENTHUSIAST

A 26 year old businessman who lives with his parents in Saharanpur, Uttar Pradesh. He works as a contractor for providing construction material.

Given the small scale of his business, he is currently not using the Internet in his business. However, he is an ardent user of activities related to entertainment like online gaming, music, or videos. His primary device varies with kind of activity he does; for instance, for watching a movie he would prefer a desktop, while for gaming he's more likely to use a phone.

Being online lets him connect with his friends and relatives in other towns—he is an active user of Facebook & WhatsApp. Also, the Internet gives him access to a wide variety of movies and songs that he downloads frequently. He is currently not shopping online since many websites don't deliver in his village.

ping. This segment also sees a high level of digital influence in their product purchase cycle.

Late Learners

Belonging to the age bracket of over 55 years, late learners use the Internet for access to news and other relevant information, as well as to learn about online shopping. While not being too tech-savvy, this group of 15 million netizens has high spending power, with some late learners beginning to embrace e-commerce.

Data Discoverers

Largely belonging to semi-urban and rural areas, this segment of Internet users is starting to discover useful data and information online that could have a practical, and positive, impact on their lives. The data discoverers are using mostly mo-

bile phones and cyber cafes for accessing internet with the use cases driven primarily by a specific need that is unfulfilled e.g. getting access to government data, access to free and latest entertainment, applying for jobs or loans. As these users mature, it is expected that their use cases will also evolve to match the entertainment enthusiasts or novel networkers. It is estimated that data discoverers amounted to 50 million in 2013.

Professional Pros

The most sophisticated of the seven segments, this subset of India's online population uses the Internet to make their professional and personal lives more efficient and productive. Almost 7 million professional pros rely on the digital world as their first source of information, with 70 percent of them being digitally influenced in their product purchase cycle. These individuals

DATA DISCOVERER

A 26 year old businessman who lives with his family in Dadri village, Haryana, and has a goods transport business. His business is small in scale and he works with a regular customer base.

The Internet has transformed his life by changing the way he plans his travel and entertainment and receives information. He uses the Internet for browsing information and downloading songs and games on his phone by UC browser. He is currently not shopping and transacting online since many websites don't deliver in his village.

For him, the Internet is a source of global information, be it news or reading on general topics. With electrical supply not being consistent, his phone becomes the primary source for entertainment like playing games, listening to songs, movies etc.
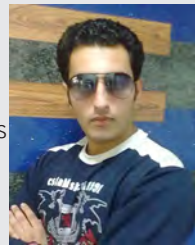
PROFESSIONAL PRO

A 27 year old salaried professional who lives with his wife in New Delhi. The nature of his job demands that he be connected to with his work, even when he is travelling for client meetings during office hours.

Given the nature of his work, the Internet is as important for him as electricity. Though he is always connected to the Internet for his official work, he additionally spends about 4–5 hours a day for personal work. The phone is his primary device, followed by his laptop to access the Internet for variety of purposes. He uses Facebook & WhatsApp to keep in touch with friends, and to use utility based services like online banking, online travel, paying bills etc.

His interest in online shopping is led by the convenience of receiving items at his doorstep. He believes that ordering online helps him save time, money on fuel along with secure transactions using the cash on delivery option. Along with this, paying bills for basic amenities like landline phones, electricity and water can be done easily through mobile banking and saves time and effort.

are active users of online utility applications such as information search, email and banking, and ticket booking. Predominantly belonging to tier I cities and exhibiting moderate spending levels, they use mostly a wide screen device to access the Internet.

Charting the Evolution of User Segments

It is important to remember that the above segments are not static. In fact, their definitions and characteristics will evolve as the behavioural patterns of Internet users continue to change.

We expect active aspirers to remain at the forefront of Internet adoption in India, with their population estimated to increase from 30 million in 2013 to 55 million by 2018. However, current active aspirers belonging to the 18-23 age bracket will morph into entertainment enthusiasts and novel networkers over the next five years. Interestingly, the usage behaviour of this subset will change in tune with the demands of adult life—even as the intensity of Internet usage persists.

As far as existing entertainment enthusiasts and novel networkers are concerned, their consumption patterns will not change in the next few years—even as the headcount of their respective segments is expected to soar to 95 million and 30 million respectively by 2018. Low and middle income individuals, particularly those residing in tier II, tier III and tier IV cities, are likely to drive the bulk of this projected growth.

# THE INTERNET WILL FUNDAMENTALLY IMPACT EVERY DIMENSION OF HUMAN LIFE

THE INTERNET IN EVERY dimension of life: Understanding the full impact of the Internet requires moving beyond our traditionally narrow definitions of online consumption and direct investment. The Internet's transformative potential lies in its ability to influence: the power to influence how, why and what we consume as well as how we organise our society and Government to best meet the population's needs, both on- and off line.

As Exhibit 7 shows, In order to measure the impact of the internet, we have charted the evolutionary impact of the Internet through four stages. These stages indicate the extent to which internet is able to impact individuals and the society – it is expected that many services will mature and change over time and transcend to the higher stages of evolution.

1. Inform / improve decisions made in an offline activity.

2. Replace an offline activity.

3. Reach out to a section of the population deprived of resources and products / services.

Exhibit 6 | The Internet is Changing How We …

Spend / save

Learn / inform

Work

Move

Connect / play

Better our world
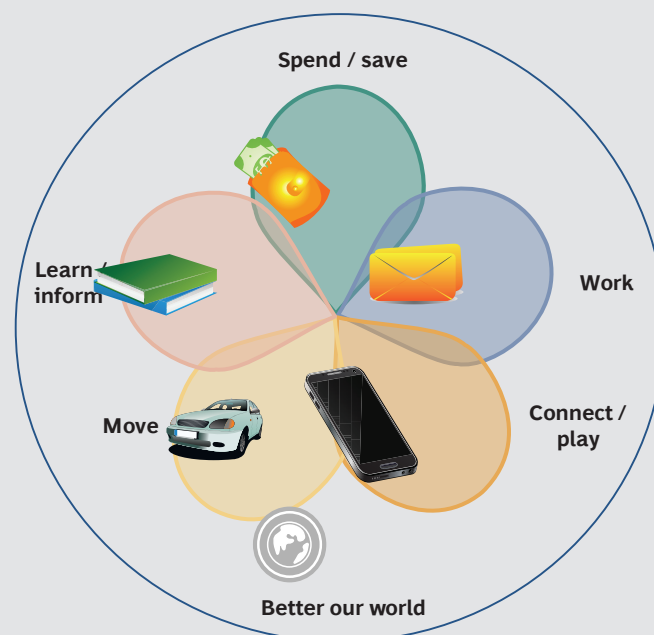
4. Better the world by improving livelihood and quality of life.

Inform / Improve Decision-Making

The Internet has long transcended its role of providing only a means of communication and has become a broader means of validating and informing decisions in different contexts. Consumers use the Internet for accessing updated and transparent information on prices, availability and quality of products / services they purchase. Citizens use the Internet to validate application of government laws, processes and procedures, sops and subsidies available to them and to get better informed on their rights to demand them. Social networking is making it easier to share reviews and opinions of experiences such as tourist destinations. The Internet is therefore hailed as the equaliser, bridging any asymmetry and ensuring there is equal data available with everyone to make informed decisions.

One of the big sectors influenced by the same is commerce. Today, informed decisions for all kinds of purchases are made using the Internet, even if the actual transaction finally takes place in a brick and mortar store. Research Online and Purchase Offline (ROPO) is a common consumer behaviour that all companies are slowly recognizing as having significant impact on purchase decisions. Consumers want to make sure that they are making the correct choice and the Internet becomes the obvious choice for those with access. As per recent BCG surveys, as much as 15 percent of urban consumers check for information online before making a purchase decision.

While auto and consumer durables such as television sets and refrigerators are seeing the maximum influence given that they are significant expenses for most households, other categories like mobiles and even financial services are seeing consumers spend a lot of time researching options online to make better-informed decisions[1].

E-governance is another example of improving current services and helping the Government in making better informed decisions. Technology can be used for efficient information-sharing with citizens and for recording their grievances. It can also be used for resolving their

Exhibit 7 | While Internet Today Either Informs or Replaces, They Have the Potential to Evolve to a More Inclusive / Transformative Impact
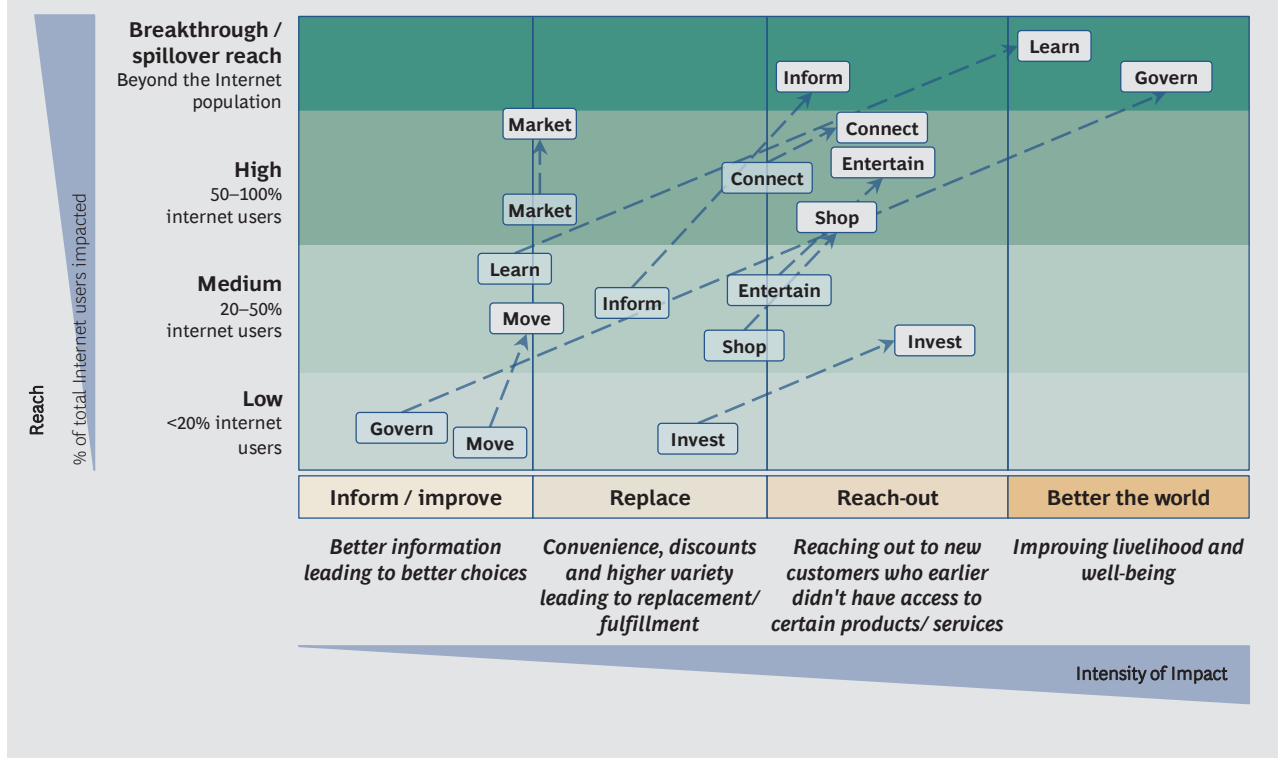
grievances quickly—thus improving the efficiency of government processes.

Replacing an Offline Activity

The Internet is fast replacing many traditionally offline options of our everyday life. Primary among those are communication applications which were replaced in the early stages of the Internet in India, with services like e-mail replacing phone calls, personal visits and text messages. Today, there are more options to communicate online including social media sites (Facebook, Twitter) and mobile chat applications (WhatsApp, Line).

The good news is that as services continue to improve and users become more familiar with online marketplaces, more value will move online especially in commerce as consumers complete the purchase process online instead of at the physical store. In addition to areas such as travel and movie / event bookings which were the early categories to move to online purchase, electronics / consumer durables, books and apparel are showing strong online purchase trends.

The scale of purchases researched online but bought offline was four times that of e-commerce sales in 2012. But now the gap is shrinking. It will be only three times more in 2016, showcasing the transformative impact of the Internet in replacing traditional shopping habits.

Reaching Out

One of the most transformative impacts of the Internet has been access to products and services by a wider set of the population. This includes a large set of Indians living in rural markets and lower tier cities where the offline channel has not reached or is not operated efficiently. The Internet provides access to all sections of the population irrespective of income or locations in a cost-efficient and convenient manner. Examples of how the Internet has managed greater inclusion can be seen across the fields of online shopping, education, healthcare, virtual experience and rural services.

Online shopping
A resident of a village, Mannarkkad in Kerala, can order Nike shoes from Flipkart without having to leave his village. If the Internet had not existed, Nike shoes would likely have been impossible to get without travelling thousands of kilometres to the nearest city. This impact, for companies, of creating access and tapping into markets that are physically difficult to reach is borne out by the sales data of many e-commerce websites: up to 40-50 percent of their current sales come from non-metros, with even the rural market accounting for 10-20 percent of the total sales. This is a much more economical way for companies to reach out to the far flung population in different corners of the country than to set up a physical store across towns and villages.

Education
Higher education courses across a number of disciplines are not accessible offline—they have been made available over the Internet. Recognised institutions now offer distant learning courses, diploma programmes and degree programmes online. Students can take their examinations at a convenient centre nearby, which is facilitated by a digital interface for many courses. However, study material and discussion forums are all available through the Internet along with user forums where queries and doubts can be raised. In a location where there are no colleges or universities, or the particular courses are not offered offline, this aspect of the Internet is life-changing. In Ajab, Gujarat, students take maths classes online from a teacher in Alabama. Fortunately, the Internet can bridge the geographical divide which would have made such imparting of knowledge impossible otherwise.

Healthcare
The Piramal Group's e-Swasthya is an example of access to healthcare services for villages. It uses a micro-franchise model to deliver the services of a doctor to the doorsteps of rural populations. e-Swasthya has 100 centres and has treated 86,948 patients to date across three districts in Rajasthan.

Virtual experience
For those who live far from malls and big brand stores but wish to experience walking through them, Google Indoor Maps brings about 75 shopping and cultural destinations to the computer screen. This can be a once-in-a-lifetime experience for Indians who have never set foot abroad or even outside their village or

HOLE-IN-THE-WALL—FACILITATING COMPUTER TRAINING

Five hundred hole-in-the-wall stations have been set up in India, Bhutan, Cambodia and countries in Africa (as of 2010), through which children can train themselves to operate a computer at a basic level. In doing so, they also get a general idea about the nature of browsing and the nature of the Internet. No formal infrastructure is needed for such basic training.

The concept facilitates computer literacy in small towns and villages, creating access and promoting internet usage, benefitting the overall education of children without means or access.

PIRAMAL E-SWASTHYA—TAKING HEALTHCARE TO VILLAGES

e-Swasthya is a social initiative of Primal Healthcare Limited, a first-of-its-kind telemedicine-based model for providing primary care in Rajasthan, that aims to address the absence of doctors. Only 30 percent of Indians have access to modern medicine; Piramal's e-Swasthya was created to explore ways to dramatically increase that number while building a profitable business model.

At the core of the programme are local literate women who act as the communication link between the patient and the doctor. The women undergo a rigorous training programme in which they learn to collect simple diagnostic information and provide preventive medicine, first aid and customer service. These women are given a medical kit, marketing material and a mobile phone. They are then assisted in setting up a tele-clinic at their own homes, which also acts as a pharmacy stocked with the necessary medicines to fill the basic prescriptions.

The healthcare worker also conducts preventive health workshops which generate awareness about issues such as sanitation, nutrition and first aid. This model provides reliable, high quality healthcare at a villager's doorstep through cutting-edge technology developed from sophisticated diagnostic protocols.

town. Many such virtual experiences are available for international tourist spots, which one can visit even without the means to travel. For example, the Google Art Project brings the museum experience to your PC.

Rural services

Sahaj e-Village Limited is another example of the Internet's power to reach out to people. The company's initiative caters to more than 280 million rural customers in 107 districts, 1,388 Blocks and 36,155 gram panchayats. Their services include Internet connectivity and digital information services, including financial and physical presence in locations.

Another impact of the Internet in creating transformative reach is personalizing products and services according to customer requirements.

Consumers demand goods and services customised to their personal preferences. Whether it is by colour or design or size, many things can be personalised when buying them online. Some websites allow the user to 'see' the appearance of the final product after he makes his choices on features The result is personally designed products at a mass-produced price.

An interesting example in this context is Lenskart. This website allows users to choose from hundreds or thousands of frames that vary by colour, design and price. The customer is then given the choice of buying a frame with lenses, without lenses or with zero-power lenses at the checkout page. If a customer is confused about which frame to purchase, he can opt for a house visit from a person who will come from Lenskart and let him physically try out various

frames before making a choice. A trip to the store is saved and no money is wasted.

Another example is TravelKhana. This website takes meal orders for passengers travelling by Indian Railways and delivers a meal based on their preferences. They are ready to provide Jain meals, biryani, vegetarian meals, and whatever is asked for, fresh and tasty.

Thus, the Internet's reach is far and wide, and beneficial to everybody. Continued growth will depend on service innovation, increased Internet penetration and government support wherever necessary.

Making the World a Better Place

The Internet has a larger impact of improving incomes and livelihood for many, contributing to an overall sense of well-being and making the world a better place. Many successful examples in this area can be seen already.

HELPING SMALL MANUFACTURERS

Small manufacturers have been greatly benefited by the Internet as they are now able to reach customers who appreciate and pay for their work and are able to access their products irrespective of their location. Furthermore, the Internet can empower such manufacturers with unbiased information that can lead to fair prices and improve production methods. The small manufacturer's labour is optimised, leading to growth in income.

REDUCED TRANSACTION FEES

The Internet can also boost efficiency and in turn reduce transaction fees or seller margins.

Some of this value can be passed on to the consumer. Examples of this include rural users who use social media to promote their products and services and get business as a result; NGOs and e-commerce sites like Anwesha and craftsvilla.com tie up and sell products made by unconnected artisans; Bank of India allows customers to make ATM withdrawals by connecting to their banking system by voice on their mobile phones. This access to organised finance reduces transaction fees, allowing the user to keep a larger proportion of the actual transferred amount.

MICRO LOANS

Micro loans have been revolutionised through the Internet as well. Most recipients of micro loans do not hold bank accounts and cannot afford credit from mainstream sources such as banks. Milaap is an online platform that enables anybody from within and outside India to make microloans to India's working poor so that they can get access to education, clean water, energy and more.

To summarise, while Internet activities today either inform or replace offline activities, they have the potential to change drastically to a more inclusive / transformative impact. Many such examples are already visible. The challenge ahead is to broaden its reach and utilise its potential to accelerate economic growth and provide social benefits for all.

NOTES
1. BCG Report: Buzz to Bucks: Capitalizing on India's Digitally Influenced Consumers, 2013.

SUFIYAN KHATRI—RURAL ENTREPRENEUR

Based in Ajrakhpur in Kutch, Gujarat, he manages his family business of wood block painting. He is an active internet user, who uses his Facebook page to attract interest, and has already received 1,000 likes. He replies to each like with a thank you note from his mobile phone. He uses the Internet to promote his work by posting photos of his workshop and village life, and also takes orders in message form and on the phone. He swears by the impact of the Internet in helping him grow his business and is optimistic about the future of the Internet. Due to the strong interest he has generated, many ecommerce players have expressed interest and have started showcasing his products on their platform. This has helped increase business for him as well as guarantee significant premium on his products.

UNLOCKING THE POTENTIAL

UNDERSTANDING OF THE INTERNET'S potential must be coupled with commensurate action in order to make it more pervasive and effective in terms of impact. In discussions with 18 stakeholders across 10 industries, BCG investigated the conditions for unlocking the Internet's full potential. We tested out if there were any barriers to the growth and adoption of the internet. We asked: What is holding your business back today? Where have you seen the greatest progress? What specific changes would create the greatest impact? What are your greatest concerns for the future? What stakeholders need to be activated in order to bridge the gaps needed to unlock the growth of internet? What role do they believe they /their companies can play in plugging some of these gaps?

The answers to our questions identified six key elements (Exhibit 8):

1. Creating access through network reach and affordable data-enabled devices / Internet plans.

2. Facilitating digital transactions and easing payments.

3. Developing a regulatory framework that facilitates content development and does not hinder growth of the industry.

4. Internet governance that enables all stakeholders to function effectively.

5. Enabling entrepreneurial ventures through ease of financing, mentorship programmes and developing a strong digital workforce.

6. Facilitating creation of a local language / vernacular Internet in order to boost uptake in non-urban areas.

Access: Reach and Affordability

The availability of data-enabled devices has grown at a staggering rate and data plans are considerably cheaper than before, but still India lags behind other countries with regard to the penetration of the Internet. The estimated 2015 penetration projection is just 19 percent in India, whereas it is 50 percent in China and 61 percent in Brazil.1 One major obstacle is the lack of reliable Internet connectivity in all regions of the country and the availability of data-enabled devices. Another roadblock is the lack of consumer awareness—in many parts of India, consumers perceive the Internet as unnecessary and are not comfortable with the medium and / or do not understand its relevance.

In Exhibit 9, we have listed below some initiatives that can be put in place to solve this challenge:

- The government must step up initiatives to increase citizens' access to high quality Internet network and create customer awareness to drive further usage. The National Optic Fibre Network (NOFN) is a step in that direction. This project intends

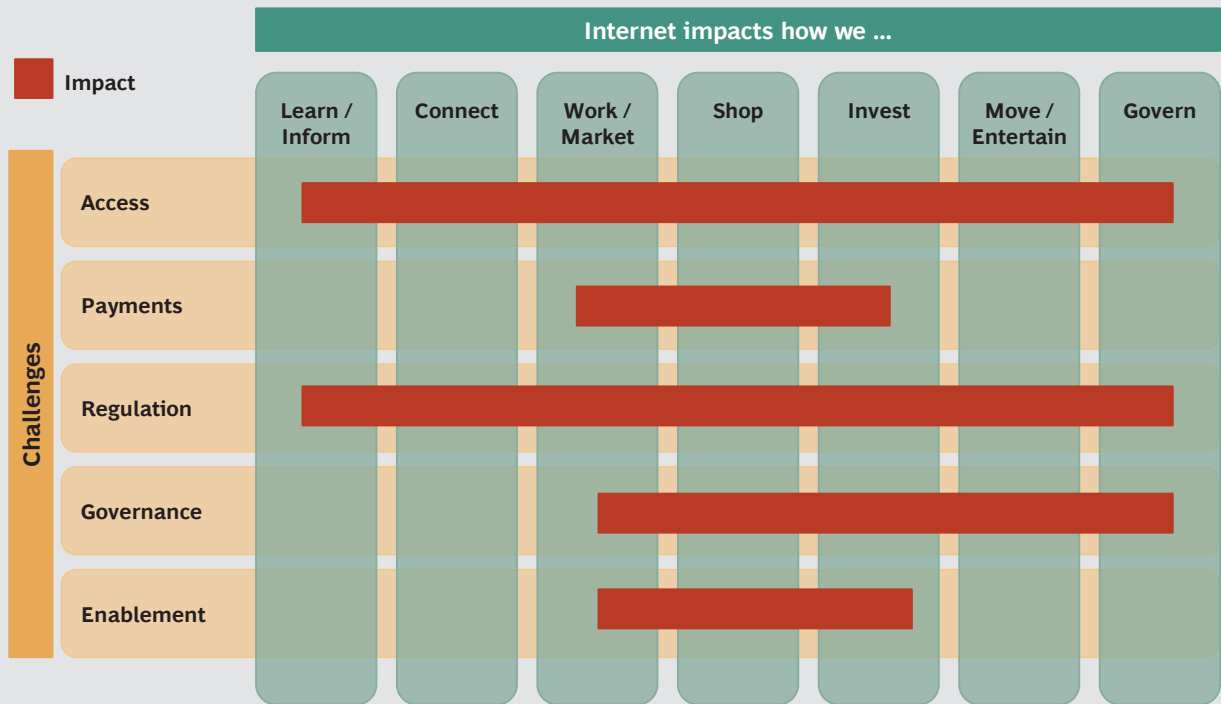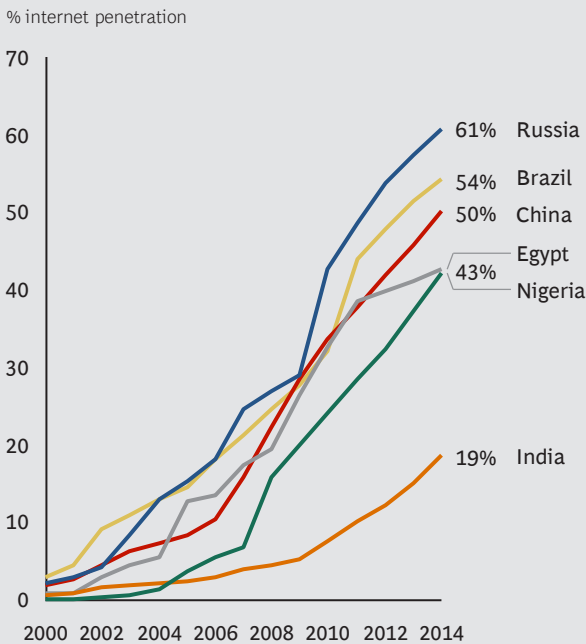## Exhibit 8 | Five Key Challenges That Will Influence the Impact of the Internet

Internet impacts how we ...

	Learn / Inform	Connect	Work / Market	Shop	Invest	Move / Entertain	Govern
Access	███	███	███	███	███	███	███
Payments			███	███			
Regulation	███	███	███	███	███	███	███
Governance			███	███	███	███	███
Enablement			███	███			

■ Impact

Challenges

Exhibit 9 | Government Initiatives That Increase Access to High Quality Networks Need to be Strengthened

Internet penetration in India has significantly lagged behind that in other countries

% internet penetration

- 61% Russia
- 54% Brazil
- 50% China
- 43% Egypt
- Nigeria
- 19% India

2000 2002 2004 2006 2008 2010 2012 2014

Several government initiatives focusing on improved access need to be speeded up

While data penetrations has increased rapidly, **unreliable internet connectivity and lack of perceived need are major roadblocks in increasing Internet penetration in India**

National Optic Fibre Network	• Stated for completion in 2015, this project that intends to connect 2.5 lakh *gram panchayats* is already two year behind schedule
Bridging the urban deficit	• While urban areas have Internet access, Internet density is still very low (x%) • Need focused effort in creating free WiFi zones in all major cities and state capitals
Removing roadblocks to new access technologies	• Need to review the regulatory environment to make new technologies (like public access WiFi and shared spectrum) a priority

Sources: EIU, IAMAI–100 day agenda.

to connect 2.5 lakh gram panchayats but is already two years behind schedule. Once in place, the NOFN will provide connectivity to the rural consumer along with access to rich media, which was a distant possibility without mobile Internet.

- The recently announced investment of USD 3.3 billion to provide broadband and mobile connectivity in 55,000 villages over the next five years is a step in the right direction. Many more such initiatives are required.

- Urban areas may have adequate Internet coverage now, but the quality and speed of connectivity is an issue. There is a possibility of creating common public infrastructure to improve access. This can be done by potentially creating free WiFi zones in all the major cities, including state capitals. Patna has the longest free WiFi zone in the world with a 20 km stretch unveiled in February 2014. Delhi is planning a similar 4 km stretch in Connaught Place, after a successful launch in Khan Market recently. Many more such initiatives are required at the state level to promote access to quality Internet services.

- Availability of low cost Internet-enabled devices has become much better in the last three years with the advent of Chinese and Indian players providing basic smartphones at low cost and even players such as Samsung pricing handsets to breach the USD 80 price point in the market. However, in sectors such as education, there is a crying need to provide high resolution, large devices such as PCs or tablets, in order for students to access the rich array of educational services on offer. The Government is already making some efforts in this direction by providing subsidised PCs and tablets but needs to expand the scope to include all states and all levels of education.

Facilitating Digital Transactions and Easing Payments

There exists a large gap in the variety of payment mechanisms in the country. Cash is regarded as the most convenient means of payment, and there are no systems in place to promote non cash transactions actively.

Even with the strong penetration of bank accounts and debit card, the challenge has

GOVERNMENT INITIATIVES IN CREATING INTERNET ACCESS

Many countries that rank high on digital enablement have long had active programmes to encourage Internet reach and engagement. Sweden, for example, was the first country in Europe to develop a broadband policy, based on the principle that everyone should have access. The government invested €570 million to expand broadband Internet services nationwide and achieved 90 percent penetration in 2010.

South Korea saw the potential of information and communications technologies during the Southeast Asian economic crisis of the late 1990s and turned itself into an economic powerhouse. Hong Kong has steered development through its Digital 21

Strategy. First published in 1998 and now in its fourth edition, it is an evolving blueprint for developing the world's leading digital city.

About a decade ago, Denmark's Government issued the first of four consecutive strategies, which set aggressive timetables for digitalizing public services. For businesses, the Government had mandated that "all relevant communications will be in digital form by the end of 2012." And by 2015, "It will be mandatory for citizens to use digital solutions to communicate in writing with the public sector." This will be possible because "As of 2014, all citizens will have their own digital letterbox" for corresponding with the Government.

been difficult to surmount. This challenge can be analysed through multiple lenses:

Credit / debit card usage

While card penetration may be low in the country as a whole, there has been substantial growth in the issuance of credit / debit cards over the years. As per RBI statistics as of December 2013, approximately 20 million credit cards and 380 million debit cards have been issued. The problem lies in actual usage, which can be attributed to various causes:

- Debit cards are mainly used for ATM withdrawals. Compared to 2.44 transactions per credit card per month, when it comes to debit cards, it slides to a negligible value of 0.14 transaction per debit card per month with an average spend of INR 1,567 per transaction, i.e. an average spend of INR 219 per debit card per month. Currently cash withdrawal from ATMs is free (except for six metro cities where a nominal charge is applied on exceeding the minimum number of free transactions), while there is a transaction fee on electronic usage—encouraging the use of cash.

- Consumers are not well educated or aware and inherently prefer cash transactions—be it at the retail point of sale or on online websites. For the latter, trust and security concerns are even higher, making cash on delivery (CoD) a preferred option over online payment. Given there is no extra charge that consumers have to pay for CoD, it is the e-commerce players who need to bear the logistics and operations costs for it.

- Multi-factor authentication is a challenge for some citizens. Most credit and debit card transactions fail because of this step. Only 75 percent of these card transactions are successful. Netbanking users face the same problem, resulting in only 70 percent of successful transactions.

These challenges need to be addressed through multiple steps to encourage the use of debit / credit cards:

- The need to explore the option of making the two-step authentication optional for users.

- Standardised user interfaces and common registration and authentication procedures, where users can perform operations in simple steps and change their PIN from any channel, can help reach out to those who do not use the facility for fear of difficulty.

- Innovative solutions like giving consumers the option to control how and when their card can be used. If they can self-define a limit on their cash withdrawal, transactions at the retail point of sale or location of usage, they will be more assured in terms of controlling misuse of their cards and be more open to electronic transactions.

Mobile Banking:

In 2018, over 75 percent of Internet users are going to be mobile users. This makes mobile banking a critical area for growth. Currently, less than 4 percent of customers who have a bank account and are active mobile users are using mobile banking.

Cooperation between telephone companies and banks can help in this regard. Telephone companies must work with banks to provide appropriate channels and technology (apps, SMS, USSD). This can be done if the companies provide the originating mobile number for easy verification. Joint customer education programmes to increase awareness of mobile banking services can help as well. Common banking application and technology can lead to benefits of networking. Thus, a common USSD gateway is a possibility.

The government can incentivise pre-burning of applications by encouraging pre-loaded applications that transact with encrypted SMS's on SIMs or handsets. Another barrier that needs to be addressed is the limit on unsecured transactions, which can be increased from Rs 5,000 to Rs 10,000. Raising this number can increase acceptability in the minds of the users.

Introducing new instruments

Newer instruments are expected to make transactions cheaper and more inclusive.

Members of the Indian banking community have voiced their encouragement for new players to enter the Internet banking space with specialist licenses that permit them to be 'payment only' financial institutions. By bringing in new players, the penetration of mobile wallets and prepaid cards can rise, enhancing financial inclusion and making transactions simpler.

Mobile wallets could be the next big thing in monetary transactions. They involve the use of a mobile phone as a mode of payment—instead of relying on cards or hard cash. Experts say that the possibilities for mobile wallet applications are endless, including transport, banking, ticketing, communication and utility billing. Operating on a retailer-assisted or self-assisted model, mobile wallets are already making a mark in smaller towns. The value proposition is excellent—it can reach the vast majority of unbanked customers, and allay the lack of trust on electronic transactions among banked customers (through limited exposure on a mobile wallet).

Nevertheless, mobile wallet companies need to set up a complete ecosystem to be successful in India. This means that they need to establish the merchant network, educate customers about this financial instrument and address their concerns over cash-out facility not being available (with high churn on prepaid mobile numbers, the amount stored on the mobile wallet is lost).

The Government also needs to incentivise and promote such new instruments through measures such as granting the payments industry infrastructure status and providing service tax exemption. These will help in facilitating the players to establish the ecosystem, promoting further usage.

Developing the Regulatory Framework

The development of the Internet economy is critically dependent on existing laws being suitably modified and new laws being framed, keeping in mind the rapid progress and development of technology and the Internet industry. In order to take complete economic and social advantage of the new tech-nologies, laws and regulations must be unambiguous and facilitate efficient functioning for all stakeholders. The new IT Act of 2011 provides a safeguard from legal liability for online intermediaries. Still, several clauses are drafted in a way that leave them open to interpretation. For example, intermediaries need to take action within 36 hours if their content is labelled 'grossly harmful', 'harassing', 'invasive of another's privacy', and so on. This clause needs clarification as no specific definitions are provided, which leaves these terms open to interpretation and may create bottlenecks in operation for intermediaries.

The government needs to work actively toward providing unambiguous guidelines to intermediaries. One step would be to redraft the 'intermediary due diligence' rule to avoid the harassment of digital platform providers.

COPYRIGHT ACT
This act has been improved over time, especially for the growing number of artists online. However, there are provisions that need greater clarity. For instance, the Copyright Act and the IT Act have views that are contrary to each other with regard to the liability on intermediaries taking down and restoring copyright-infringed content.

ONLINE DISTANCE EDUCATION
The imbalance in demand and supply of higher education in India has created huge potential for online distance education. Students and working adults can take courses that are not available near their homes or even in their state. Distance education allows for cross-disciplinary education as well. Even with the convenience, there is a problem with clarity on which universities are recognised by the Distance Education Board of India and by other authorities too. This results in confusion for prospective students and has kept several institutions away from the field.

Proactively formulating and developing information-communication related policies, codes of practices and a clear and unambiguous regulatory framework will be one of the critical stepping stones in creating a conducive environment for businesses to flourish, at the same time protecting the interests of consumers.

SINGAPORE: THE DYNAMIC GLOBAL INFOCOMM HUB

Realising early on the importance and benefits to be borne by setting up a good ICT infrastructure, the Singapore Government (through the Infocomm Development Authority of Singapore—IDA) has been focusing on infrastructure development (providing nationwide ultra-high speed broadband access to all physical addresses including homes, schools, government buildings, businesses and hospitals, and free wireless access in public areas), building the regulatory framework, developing skill and expertise and promoting networking and mentorship programmes to enable private entrepreneurship.

Driven by initiatives on all fronts, the household Internet penetration rate reached 87 percent in 2012, with 86 percent of all business enterprises accessing the Internet. For five consecutive years, Singapore has been in the top three positions in the World Economic Forum's Global IT Report. In the latest ranking, Singapore was ranked fourth globally.

E-commerce, both marketplace and inventory models, can benefit from more comprehensive supplier participation and regulations. India's e-commerce sector has much lower penetration among Internet users (at 11 percent) compared to other developing nations such as China (at 50 percent), Brazil (at 34 percent) and Sri Lanka (at 63 percent). This lower penetration is primarily caused by lack of awareness, but also by limited supplier participation and abysmal manufacturer / brand participation. For the sake of comparison, Taobao, the Chinese e-marketplace, has 6 million retailers, while the Indian market leader has only 35,000 listed retailers.

Internet-Related Governance

Following allegations that the United States National Security Agency (NSA) has monitored phone calls and emails across the world, the international community demanded that the US handover its control over the Internet to the Internet Assigned Numbers Authority (IANA). IANA is the decision making body for domain name registration. A conference with over 850 government officials and several low key stakeholders (Internet organizations, civil society, academics and private bodies) was called to discuss the future of Internet governance. The conference passed a resolution to go forward with a multi-stakeholder model which is an open, consensus-driven approach to governance with pre-defined roles for each player. This model makes surveillance and censorship difficult but gives more freedom to

developers. It is a highly secure, stable, scalable and robust model.

India, along with Russia, China and Iran, wished to assert the sovereign right of the Government over the Internet, so they proposed a multilateral model of governance. In this structure, individual nations control national domains and traffic between domains is censored and surveyed. The multilateral model enables tighter control over content and websites in a country's domain and countries can force all content to be stored locally. Basically it allows the country to regulate and manage the Internet.

If the Government of India believes that the content on a certain website is objectionable, the two models will give different results.

- Multi-stakeholder model: Domain names are assigned by an organization and the content is hosted anywhere. India can only block access to the website for users within the Indian telecommunications system. It cannot delete the website's URL. The content remains visible to anybody surfing the Internet from outside India and to those who can evade blocks.

- Multilateral model: India can control the in domain and expunge the website. It can insist that all in content be placed on servers located in India, tightening surveillance and making content providers and service providers criminally liable in some cases. In an extreme case, the

authorities may also insist that those surfing the Internet seek permission to be allowed to surf other nation's domains.

Thus, the multilateral model can create roadblocks for the future of the Internet economy. On the other hand, the multi-stakeholder model creates various forums that include all the stakeholders and they collectively define what can and cannot be done, as opposed to the Government taking a call on all actions and reforms, which can be limiting.

Separately, the Government and authorities need to develop e-governance and mobile governance initiatives. Technology should be used for sharing information with citizens and for recording their grievances. It should also be used for resolving their grievances quickly—government processes can be made more efficient. Several state and central government initiatives have already shown remarkable progress in recent times.

Filing of e-returns is an excellent example. Over 60 percent of Indian tax payers file their taxes online. There has been an 81 percent rise in e-return filing in the last two fiscal years. Two specific initiatives by the Government have led to this progress: firstly, the Government made e-filing mandatory for those earning over Rs 5 lakh. Secondly, the process is more user-friendly now with step-by-step guidelines which make it easy for citizens to use this medium—overcoming the barriers of consumer awareness and education.

Some state-level initiatives can be cited as examples as well. Kerala and Goa have been employing Internet initiatives to make life easier for their residents. Kerela's Em-Power Kerala initiative has reached approximately 1,500 hits per day within nine months of launch, offering services like nil payments, government file tracking, and crime reporting etc. The Goa State delivery gateway allows applications to all government departments to be made online.

There are many international examples of how e-governance has helped create better government-citizen partnerships and facilitate an open, trusted environment with more efficient processes and timely delivery of government services. As Internet penetration deepens, India can adopt many such initiatives for a better tomorrow.

A Need for Enablement

India can fully benefit from the rapid progress of the global digital economy only by creating an environment of collaboration, competition and network effects. Direct and indirect enablement for budding entrepreneurs will go a long way in increasing competition and innovation. There are three elements that need attention in order to develop the ecosystem and facilitate an environment conducive for businesses to flourish.

DEVELOPING A DIGITAL WORKFORCE

Skills need to be fostered through education and training. Curriculum and training need to be relevant to the current scenario and exploit opportunities arising from the growth of the Internet. Specialised education can teach users how to use the Internet to develop small businesses.

CREATING A STRONG ENTREPRENEUR SUPPORT SYSTEM

There should be strong focus on the development of Internet infrastructure in terms of speed, reliability and cost effective access. The regulatory environment should ease the burden of doing business, provide clear guidelines, encourage small businesses and encourage innovation while protecting the Internet protocol.

ALLOWING EASIER ACCESS TO FINANCE

Easier access to finance will promote the creation, survival and growth of entrepreneurs. Raising capital through local markets should be simpler, and venture capitalists should be welcomed. For instance, in the US, 5 percent to 10 percent of pension funds are allowed to be invested in venture capital.

Progress on all dimensions will help create opportunities for the private sector, accelerating growth of the industry.

CALL TO ACTION!

HAVING LOOKED AT THE Internet opportunity, the potential for growth and the current challenges, the task at hand today is to push forward all initiatives which can make this potential a reality. All stakeholders need to work at various levels to accelerate this growth to derive full benefit on all dimensions of the economy, society and the consumer. More important, the Government needs to act on multiple fronts to lead this transformative change:

Implications for Corporates

All stakeholders need to work on multiple dimensions to unlock the full potential of the Internet and realise the benefits that can be made available.

ACTION POINTS TO UNLOCK INTERNET POTENTIAL

Primary Role	Specific Actions
Define and implement policy and regulation	Develop a regulatory framework which will facilitate content development, specifically reviewing the IT Act, the Copyright Act, and online distance education regulations.
	Create a governance mechanism that enables all stakeholders to function effectively.
	Promote e-governance initiatives
Create an ecosystem to facilitate online shift	Create availability of low cost Internet-enabled devices.
	Facilitate digital transactions through ease of payments.
	Promote entrepreneurial ventures through ease of financing, mentorship programmes and developing a strong digital workforce.
	Facilitate content development, with special focus on vernacular content.
	Provide Internet education and training to the masses.
	Digital education and enablement of small and medium enterprises (SMEs).
	Incentivise players to provide cheaper and more affordable data plans.
Provide key infrastructure and services	Provide high speed network coverage in both urban and rural areas.
	Create public access to the Internet through common access points.

Apart from Government-led infrastructural initiatives, companies can accelerate the Internet's evolution through some simple measures on various fronts.

This will mean developing a comprehensive digital strategy including:

- Understanding consumer digital behaviour: Keeping abreast of the evolutionary impact of the Internet on consumers' lives and how it affects all aspects of their daily behaviour. Identifying the right consumer segments and understanding how they will evolve is an important step to stay ahead of the curve.

- Building on technical capabilities: Expanding digital capabilities to capitalise on the increase in mobile usage as well as building the right digital platforms in the form of websites and mobile apps.

- Managing product portfolio in line with the digital strategy.

- Re-looking at marketing initiatives: Marketing strategies will need to develop around changing consumer behaviour, evolving dynamics of Internet usage and the demographic shifts in the Internet user base.

- Appropriate channel mix to integrate online and offline methodologies: Currently most advertising and marketing spends are concentrated on offline media; the online channel as an advertising and distribution / sales medium is mostly ignored. An effective balance and integration of online and offline channels will be important for an overall digital strategy.

These efforts will be the building blocks for a digital-ready organization. All companies need to recognise the transformative impact of the Internet and how it is already changing the economy and society. Companies that innovate and change with this evolution will go a long way in driving the future of the Internet in the country and also reap benefits from this opportunity faster than others.

NOTES:
1. IAMAI 100 Day agenda, 2014.

Exhibit 10 | Final Step Unlocking the Potential Needs a Comprehensive Digital Strategy

Challenge / driver

External factors
- Reach
- Affordability
- Regulation

Consumer factors
- Awareness of internet
- Perceived need for services

Comprehensive digital strategy

1 Customer insight
2 Technical capabilities
3 Product portfolio
4 Marketing
5 Channel mix

Digital-ready organization
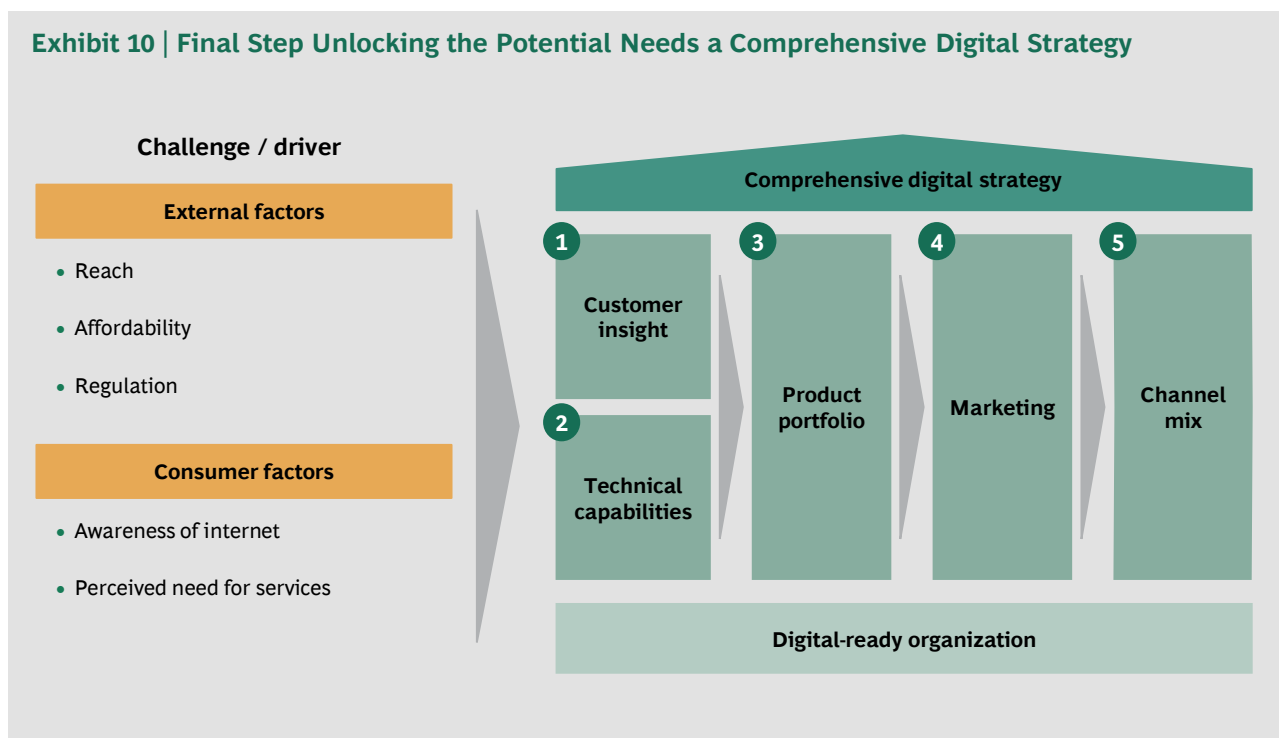
APPENDIX: GAME CHANGING EXAMPLES

THE FOLLOWING ARE EXAMPLES of companies that have used digital media and / or digital platforms to offer a truly compelling and differentiated value proposition to their consumers. Examples range from using the Internet to reach a hitherto untapped market segment, to creating a deeper connect with an existing customer base through the online channel, to offering innovative services that add significant value to the overall user experience.

Tata Motors Limited came up with a unique way to engage with its customers and create a buzz around the launch of its crossover SUV, Aria. The 'Build my Aria' campaign saw ~26,000 Internet users spend an average of 15 minutes online to design the car, making it among the top five digital campaigns in its year of launch. It was India's first completely ONLINE teaser campaign for a vehicle—designed to engage their customers, excite them and build their curiosity while educating them on the features of the vehicle. Virtual training rooms on how to build a car with a multi-level approach to building various sections of the car added fuel to the excitement. The campaign generated 20,000 high quality sales leads.

The car was even unveiled online. For the first time in the history of the Indian automobile industry, a car was introduced to the world "LIVE" online.

Meritnation.com is an online education portal that provides interactive study material for students of classes I to XII for the CBSE, ICSE, Maharashtra (MSBSHSE), Karnataka (KSEEB) and Tamil Nadu boards. Complete with elaborate multimedia tutorials, interactive exercises, practice tests and expert help, they make school work easy for students and help them score higher grades. They also provide free NCERT solutions, subject-wise synopses and chapter-wise revision notes for classes I to XII for a thorough understanding of concepts right from the basics to an advanced level of difficulty. Their products are carefully designed to ensure maximum learning through proven techniques such as conceptual videos, adaptive learning and collaborative learning methods.

In addition to curriculum-aligned study material, meritnation.com has an extensive personality development section that helps students identify and enhance their soft skills for holistic development. They also offer online courses to help students prepare for important competitive exams such as JEE Mains and JEE Advanced, PMT / AIPMT / State PMTs, CPT, BBA, NDA and Hotel Management.

Attune is a technology platform that offers a cloud-based solution for hospitals, laboratories and clinics. Clients invest in their PCs and Internet connections, while the rest of the IT infrastructure and software is managed on the cloud by Attune. Attune's hospital information system (HIS) integrates all the departments, including billing, purchasing and inventory, and the different branch-

es of a hospital across the country. The company already has more than 3 million patient records on cloud! Switching to a cloud-based system can help hospital and diagnostic chains save up to 60 percent of their IT costs

ITC's e-choupal is a success story of taking digital to the rural areas. ITC has provided computers and Internet access in rural areas, enabling farmers to obtain information on mandi prices, good farming practices, and place orders for agricultural inputs like seeds and fertilizers. Currently, 6,500 e-choupals exist in 10 states covering 40,000 villages and around 4 million farmers. Each installation serves an average of 600 farmers in the surrounding 10 villages within a five kilometre radius.

Verse provides vernacular users with online content in their native language. NewsHunt, their flagship product, is the most downloaded and used application in India. NewsHunt provides regional language news & e-books and is installed and used by over 45 million users, 95 percent of whom consume the content in their own language. iPayy, a carrier-based billing platform, reaches 700 million customers in India and provides a payment vehicle for digital goods and services.

Gillette used Facebook ads on feature phones to drive measureable awareness of its new Vector 3 razor among its target group in India, making it Asia's first feature phone-only campaign. The campaign reached 60 percent of the target audience, achieving a four-point lift in the message recall rate and a five-point lift in the ad recall rate. The cost worked out to only $0.002 per person reached.

Garnier wanted to take advantage of the excitement over the Indian Premier League to drive brand association and ultimately increase the sales of its men's products. Working with Foxy Moron, Garnier ran page post ads on News Feed, targeting men aged 15-35, asking them to 'click to missed call' for a chance to meet players from Rajasthan Royals, win match tickets, or get official merchandise. The Facebook 'click to missed call'

ad unit generated 16X more calls at a 94 percent more efficient cost-per-call rate than all other digital and print media combined. It also delivered 2.5X online sales year-on-year.

Farmers use Facebook to discuss prices and plan strategy Atul Salunkhe, 31, from Sangli, India, used Facebook on his phone to rally 25,000 turmeric farmers in just a few days to fix oversupply issues that had resulted in prices crashing in the local turmeric market, threatening their livelihood. From sharing critical information in real time to eliminating middlemen, and to opening up marketing opportunities for companies looking to tap rural consumers, Facebook is becoming a powerful tool of communication across India's cities and 6,00,000 villages.

Promoting safety through digital integration: Zonal Integrated Police Network connects police records from eight states digitally—creating a common database on missing persons, stolen vehicles, heinous offenses, police alerts and other common police issues where interstate coordination is most important. This will replace common offline modes like paper and wireless messaging.

Another initiative is Steria, by the UP Police, to improve the speed and efficiency of its emergency response in Kanpur. It allows for real time view of events across the city, enabling faster and smarter decision making with the ability to handle multiple situations simultaneously.

Veekay Computers is a company that supplies computers and accessories under one roof. They have six branches in Andhra Pradesh; they wanted to take the brand pan-India but were always sceptical about online selling. Through an association with Amazon, they found a unique online selling experience with 'Sell on amazon.in' which transformed their business. Now, they have listed over 120 products on their marketplace and have seen a growth of over 10 percent in orders, which is healthy given the limited number of products listed. Online selling has helped customers from remote locations in northeast India, Kerala and places near Kashmir, which would not have been possible otherwise.

Compushop, based in Mumbai, Maharashtra sold 435 storage devices in seven days in the first week of the PC store launch on Amazon. Today, they receive 1000+ orders in a month at an average selling price of INR 5,000. While their offline presence is limited to Maharashtra, only 14 percent of their online sales come from west India. Online selling has enabled them to tap major markets in the south (40 percent of their sales) and north (28 percent of their sales). They have sold at least one device to 26 states and UTs including laptops to cities such as Panchkula, Vaishali, Kollam and Valasaravakkam.

Axis PDA Lounge is a single window mobile phones and accessories retailer based in Bengaluru; it has been in the business since 2001, with expertise in retailing Samsung products. The business was not doing too well, but by listing on Amazon's marketplace it saw a growth of over 35 percent in annualised revenues in just five months. The company has now expanded its product offering and gets orders from remote locations like Manipur and Srinagar.

Books Wale is a small bookstore (~1000 sq. ft.) based in Hyderabad. The retailer started using Amazon's online services, listed over 500 books and immediately received a dozen orders from across west and south India. Now the company does not need to worry about stocking books in godowns and incurring expenses on maintenance etc., but has been able to emerge as a true pan-India seller through its online presence.

XL Retail Enterprises, based in Gurgaon, saw its number of orders doubling within a week of listing on amazon.com. They get around 2,500-3,000 orders per month on an average from across the length and breadth of India—Jammu to Tuticorin and Guwahati to Ahmedabad, giving it a pan-India presence which is not possible for them to achieve in the offline world.

Gift O Watch, based in Bengaluru, was entirely focused on wholesale distribution of watches before they started retailing online via amazon.in during mid-October 2013. Selling to consumers directly was a challenging proposition, given the lack of infrastructure and the expertise to sell to consumers across India. But in a short span of two months, they saw a tenfold increase in the number of daily orders on an average. Online retailing has had a significant positive impact on the business that cannot be matched by offline retailers.

Basement Bazaar is a seller of home & décor, fashion, mobile & tablet accessories based in New Delhi. The company has seen instances where in the span of four to five days, they have received around 300 orders from across India through their online retailing.

Aapno Rajasthan, based in Jaipur, has the vision to take Rajasthani handicrafts to every Indian home. They are a purely online store, and just through listing on amazon.in, their sales have increased two to three times, encouraging them to list other products like interior, décors and apparel on amazon.in.

Redlily.com, based in Hyderabad, an online store for baby and kids' products, started in 2012 with a vision to provide quality kids' products from across the world. Their association with amazon.in has helped in scaling up operations leading to a tripling of orders. The company now lists three fourths of their entire product catalogue on the marketplace.

Techeye Creations & Technologies Private Limited, based in Delhi, is an online seller of healthcare devices and home furnishing products via e-commerce companies in India. They are registering sales of around five to six lakhs per month with amazon.in itself.

FOR FURTHER READING

The Boston Consulting Group published other reports and articles on related topics that may be of interest to senior executives. Recent examples include:

Delivering Digital Infrastructure—Advancing the Internet Economy
A report by the World Economic Forum (WEF) in collaboration with The Boston Consulting Group, April 2014

The Connected World—Greasing the Wheels of the Internet Economy
A report by The Boston Consulting Group, January 2014

Adapt and Adopt: Governments' Role in Internet Policy
A focus by The Boston Consulting Group, October 2012

The Internet Economy in the G-20—The $4.2 Trillion Growth Opportunity
A report by The Boston Consulting Group, March 2012

The Connected World—The Digital Manifesto: How Companies and Countries Can Win in the Digital Economy
A focus by The Boston Consulting Group, January 2012

From Buzz to Bucks—Capitalizing on India's "Digitally Influenced" Consumers
A focus by The Boston Consulting Group, April 2013

NOTE TO THE READER