Demographics, Digitalization and Development: India's path to inclusive growth

Using digital technologies to transform education, healthcare and agriculture
Technology adoption is a catalyst for growth of the Indian economy as a whole. Many stakeholders, including the Government of India and technology companies recognize that roadblocks relating to infrastructure, technology and skilled labour must be eliminated to sustain the desired growth.

ASSOCHAM, India’s Apex Chamber for Commerce and Industry, is organizing the 1st INTERNATIONAL TECHNOLOGY SUMMIT as an attempt to create a FORUM for discussion on emerging technologies ideas and concepts like Cloud, Analytics, IOT, VOIP, 3D printing etc. in various sectors like Healthcare Industry; Digital Infrastructure; Education; Learning and Agriculture. We sincerely hope that all the stakeholders will immensely gain from the deliberations at this International summit and achieve the objective of creating a ‘Digital India’.

I convey my good wishes for the success of the INTERNATIONAL TECHNOLOGY SUMMIT 2015.
India finds itself at a unique crossroad never ever seen before—the coming together of a demographic transition and stable economic growth, in an age of digital technologies. Making the most of this opportunity will require a renewed focus and a quantum leap in performance, in the sectors of education, healthcare and agriculture. It is these three sectors that will be at the core of achieving inclusive growth and attaining the demographic dividend.

Undoubtedly, digital technologies can help make this quantum leap. The time is right for India to pursue digitalization—whereby digitized resources, such as cloud-based software and mobile devices equipped with digital sensors, are transformed into new sources of socio-economic value.

The stage has already been set: Indian consumers, urban and rural alike are fast going digital—snapping up smart phones. E-commerce is expanding with speed. India’s digital talent pool is growing. And an explosion in volumes of data traffic promises ever more feedstock for analytical engines to extract useful insights from data. Governments at the Centre and in States are also doing their bit by building digital infrastructure to bridge the last mile network gaps.

In fact, a few organizations are already leveraging digital technologies to enhance three critical program performance attributes—awareness, accessibility and affordability. But, many are still far from prepared to meet digitalization from a position of strength. At Accenture, we believe that organizations can benefit from following a three-step process to digitalization for inclusive growth. Mastering this three-step process, will improve the chances of success, allowing program managers to build scale, speedily generate results and ensure that the benefits of the programs they are managing endure in the long run.

On behalf of Accenture, we hope you find this report informative and useful, as you consider how best to execute your strategies in the areas of education, healthcare and agriculture in the coming year and beyond.
## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreword from ASSOCHAM</td>
<td>2</td>
</tr>
<tr>
<td>Foreword from Accenture</td>
<td>3</td>
</tr>
<tr>
<td>Executive Summary</td>
<td>6</td>
</tr>
<tr>
<td>Chapter I: Leveraging India's demographic dividend through inclusive growth</td>
<td>9</td>
</tr>
<tr>
<td>Managing the demographic transition will be critical</td>
<td>11</td>
</tr>
<tr>
<td>India must strengthen three key sectors</td>
<td>11</td>
</tr>
<tr>
<td>Education: The majority of India's workforce remains unskilled</td>
<td>12</td>
</tr>
<tr>
<td>Healthcare: Access remains challenging</td>
<td>13</td>
</tr>
<tr>
<td>Agriculture: Productivity and income levels are falling</td>
<td>13</td>
</tr>
<tr>
<td>Chapter II: Addressing &quot;Triple S&quot; shortfalls: scale, speed and sustainability</td>
<td>15</td>
</tr>
<tr>
<td>Education</td>
<td>16</td>
</tr>
<tr>
<td>Healthcare</td>
<td>17</td>
</tr>
<tr>
<td>Agriculture</td>
<td>18</td>
</tr>
<tr>
<td>Chapter III: Charting the digital blueprint for growth</td>
<td>19</td>
</tr>
<tr>
<td>Education: Pratham and Vodafone's digital classroom</td>
<td>21</td>
</tr>
<tr>
<td>Healthcare: HP's eHealth Centers</td>
<td>22</td>
</tr>
<tr>
<td>Agriculture: RML's mobile-based agri-solutions</td>
<td>22</td>
</tr>
<tr>
<td>SIDEBAR: Accenture's digital solutions for inclusive growth</td>
<td>23</td>
</tr>
<tr>
<td>Chapter IV: Digitalization for inclusive growth</td>
<td>25</td>
</tr>
<tr>
<td>Step 1: Determine strategic focus</td>
<td>27</td>
</tr>
<tr>
<td>Step 2: Build digital capabilities</td>
<td>27</td>
</tr>
<tr>
<td>Step 3: Nurture an inclusive culture</td>
<td>28</td>
</tr>
<tr>
<td>Conclusion</td>
<td>29</td>
</tr>
<tr>
<td>About ASSOCHAM</td>
<td>30</td>
</tr>
<tr>
<td>References</td>
<td>31</td>
</tr>
</tbody>
</table>
Executive Summary

India is blessed with rare advantages: a youth population (aged 10-25) that is the size of the third-largest country in the world, along with the fastest-growing, trillion-dollar plus, economy in the world and growing by almost US$150 billion every year. By contrast, most developed economies have aging populations and are experiencing sluggish economic growth.

With over 150 million people entering the nation’s workforce by 2035, India must focus on managing this demographic transition effectively if it hopes to build on its unique advantages. Other countries that have done so (such as the US and China) have outperformed their peers in the long run in terms of economic growth. And although India’s strong growth may make navigation of this transition seem simple, it isn’t. Why? Almost two-thirds of young Indians live in geographically dispersed, low-income rural locations, where people have few marketable skills and inadequate access to healthcare and sanitation.

Given the seriousness of the situation, the Indian government has rightly recognized the need to foster inclusive economic growth. If large portions of the population are unable to participate in the economy, risks including joblessness, crime, drug abuse and mental illness could worsen. Managed successfully, India’s demographic transition could add an average 2 percentage points every year to the nation’s per-capita gross domestic product (GDP) over the next few decades.

But to succeed on this front, India must ensure that as many citizens as possible have employable skills, are healthy and actively participate in the nation’s mainstream economy as income earners and consumers. Three sectors—education, healthcare and agriculture—will prove especially critical to this effort. Recognizing these sectors’ importance, the Government of India allocated over US$20 billion in 2015-2016 alone under planned and un-planned budget expenditure. Some aim to improve quality and accessibility of education and healthcare, given that developing the right skills and being healthy are crucial to getting—and keeping—a job. Others are focused on boosting productivity of agriculture and making jobs in this sector more financially rewarding.

But despite considerable investment (public and private) in such programs, meeting development targets in these three sectors has been difficult. Most projects still fail to deliver the hoped-for impact, because the challenges they intend to overcome prove more daunting than expected. Our research reveals that three critical shortfalls in project design and deployment are preventing projects from delivering as promised; we call these the “Triple S”:

- **Scale**: projects do not reach most of the intended beneficiaries
- **Speed**: projects do not reach beneficiaries in a timely manner
- **Sustainability**: projects do not continue to provide beneficiaries what was promised

To overcome the Triple S shortfalls, projects must excel on three interrelated performance attributes: awareness, accessibility and affordability. Greater project awareness combined with improved accessibility can help overcome the scale shortfall. Similarly, accessibility coupled with affordability can greatly improve the chances that a project will remain economically viable over a sustained period.

When it comes to success, only programs that can deliver maximum impact at minimum cost (including funding and time) will survive the test of India’s vast population and the daunting nature of its demographic transition. Digital technologies can help program leaders improve performance attributes of awareness, accessibility and affordability so vital to the success of these initiatives.

Indeed, Accenture research reveals that digital technologies can radically improve performance attributes of awareness, accessibility and affordability so vital to the success of these initiatives. But to make the most of their investments in digital technologies, leaders in government and business must align their goals to India’s priority of socioeconomic inclusion.
Drawing on the experiences of organizations that have successfully leveraged digital, Accenture has defined a three-step process for using digitalization to support inclusive growth in the three sectors:

1. Determine strategic focus to align with India’s growth priorities

2. Build digital capabilities across the value chain to improve project awareness and accessibility

3. Nurture an inclusive culture characterized by compassion

By mastering this three-step process, program leaders can build scale, more speedily generate results and ensure that the benefits of the programs they are managing endure in the long run.
Chapter I

Leveraging India’s demographic dividend through inclusive growth
By the end of 2015, India is expected to emerge as the fastest-growing major economy in the world, boasting an annual GDP growth rate of 7.5 percent. This impressive achievement will be aided by a politically stable government, low inflation, a trade deficit that is just 1 percent of GDP, substantive foreign-exchange reserves and an expanding digitally literate populace.

Underlying these factors of growth is one ubiquitous trend: the explosion in the number of young people who will enter the workforce over the next decade. Close to a third of India’s population is younger than 15. And, nearly 150 million of them will become new workforce entrants by 2035.

As Prime Minister Modi rightly put it, “What India has, the world doesn’t; we have the 3 Ds—democracy, demography and demand—which is our unique strength.”

India’s demographic position is unparalleled

As home to almost 18 percent of the world’s population, India enjoys an unparalleled demographic position. Its 1.3 billion citizens make it the second-largest nation in the world after China. According to 2010 population figures, one in five young people in the world is an Indian. And, this position will only strengthen in the future. India’s youth population (10-40 years old) may exceed Europe’s entire population as early as 2020.

But to reap the benefits of its demographic dividend, India will have to foster inclusive socioeconomic growth. Over two-thirds of India’s population still resides in rural areas. (See Figure 1 and Figure 2.) Including members of this large, low-income and geographically dispersed segment into mainstream economic growth will be critical to leveraging the country’s demographic dividend. In fact, for India, the two efforts will be synonymous.

Why is inclusive growth so important? For one thing, increases in consumption levels that indicate improvement in socioeconomic inclusion have remained stagnant in rural India. While average year-on-year consumption growth is at 3 percent for the nation’s urban areas, rural private consumption has grown at only 1.8 percent, a rate that has not changed over the past 20 years. As of 2012, over 200 million people in rural India were living below the poverty line, with over a third of them in the 0-19 year age cohort.

The Indian government has rightly recognized the need to involve members of the rising youth population in economic activity, knowing that failing to do so could amplify problems such as joblessness, crime, drug abuse and mental illness.
Managing the demographic transition will be critical

Historically, countries that have effectively managed their demographic transitions—declining mortality rates, rising life expectancy and increased entry of citizens into the workforce—have emerged as powerful economies. During such transitions, which usually unfold over several decades, countries witness a surge in working-age population and thus lower age dependency ratios, the ratio of dependents (people younger than 15 or older than 64) to the working-age population (those aged 15–64). (See Figure 3.) To garner the advantages of its demographic dividend, a nation must ensure that the increase in its working-age population translates into considerably higher economic growth rates.

According to an International Monetary Fund (IMF) study, 2.25 percent of additional growth in GDP of industrial economies was attributed to demographic dividends during 1970–2000. Countries in Southeast Asia enjoyed GDP surges as high as 4.32 percent in that period, driven by their demographic dividend. India has an advantage because its age dependency ratio is still declining. According to the IMF, the demographic dividend could add about 2 percentage points per annum to India’s per capita GDP over the next two decades.

India must strengthen three key sectors

India needs to create the conditions essential for keeping its changing demography adequately skilled, healthy and economically active. Toward that end, the Government of India allocated over INR2 trillion (US$34 billion) to promote inclusive growth through major flagship programs for 2014–2015 alone. Spread across 17 separate development schemes, this massive outlay of funds aims to improve access to education and skills development, health and sanitation, and employment opportunities, especially related to agriculture, amongst others. (See Figure 4.)
**Education: The majority of India’s workforce remains unskilled**

For any country, education counts among the most powerful instruments of individual self-realization and democratic empowerment. And most developed countries that have successfully leveraged their demographic dividend have transitioned from labor-intensive to knowledge-intensive economies by ensuring that their young people have access to timely and relevant schooling. Citizens who are adequately educated have the knowledge and skills required to pursue the economic opportunities available to them in their society and to contribute to the economy overall.

But education alone is not enough to enable India to capitalize on its demographic opportunity. The nation must also provide skilling to enhance young citizens’ employability. Currently, less than 50 percent of young Indians (age 20-30) have completed any secondary education, while 37 percent of all adults are illiterate, compared with just 6 percent in China. A Labour Bureau Report (2014) states that the present skilled workforce in India is only 2.3 percent of the total workforce—about 18 million people. In contrast, as much as 52 percent of the workforce in the US has received formal skill training, and 14 percent in China is skilled.

By 2030, India’s workforce will comprise nearly 600 million people. Even if the nation managed to skill only 25 percent of its workforce by 2025, that would mean providing the requisite training to 150 million people—a huge number.

(See Figure 5.) To reach that target, total vocational education and annual skilling capacity would have to be increased from the current 3 million to about 13 million teachers, and the effort would have to start as soon as 2016.

**Figure 5: Skilled workforce shortfall (@ 25% skilled workforce)**

![Skilled workforce shortfall graph](image)

Sources: Ministry of Labour & Employment, Annual Report 2014-15, Accenture Analysis

But deficiencies in basic education and vocational skilling are not limited to the number of skilled youth who join the workforce each year. Quality of teaching has also come into question, as evidenced by less-than-ideal student learning levels. Studies show that over 60 percent of Indian children aged 6-14 cannot read at a second-grade level, and these figures have not improved over time. What’s more, many young people who have received vocational training still do not have jobs. Only 41 percent of the 5 million people skilled under the sponsorship of India’s National Skills Development Corporation (NSDC) in the last five years have been placed in jobs.
Healthcare: Access remains challenging

To contribute to India’s economy—by earning a living and using their income to consume products and services—workers must be healthy. Yet ensuring access to quality healthcare remains a challenge for India, owing to the lack of enough good public-healthcare facilities. The numbers speak volumes about this challenge: Only 64 percent of children in India are fully immunized against childhood diseases; in most developing countries, the number is 95 percent. Girls reaching adolescence and adulthood face under-nutrition, anemia and poor prenatal-health—all of which create health problems for themselves as well as their children.

With the increasing prevalence of lifestyle-related, non-communicable diseases in India such as diabetes, heart disease and cancer, one in four Indians is at risk of dying from such a condition before the age of 70. Equally troubling, heart attacks strike early in India, at the average age of 56, a decade before the average age of a first heart attack in the West.

What’s more, India lost an estimated 9.2 million potentially productive years of life owing to untimely cardiovascular deaths in the 35–64 age cohort during 2000 alone (570 percent more than the US) and is projected to lose 18 million years in 2030 (900 percent more than the US). And according to the World Economic Forum (WEF), India stands to lose US$4.58 trillion in GDP during 2012–2030 from non-communicable diseases alone.

Agriculture: Productivity and income levels are falling

A country that effectively manages its agricultural sector and related services can provide its people with adequate nutrition, further boosting workforce productivity and overall health in the population. For India, agriculture plays a central role in the economy: over 50 percent of the population makes its living in this sector.

But agriculture contributes less than 17 percent to India’s GDP. Growth in this sector has proved sluggish in the past two decades, further widening the rural–urban divide and catalyzing severe distress in some parts of India’s countryside. And this is all despite India’s global prominence in agro-related products such as milk, wheat, rice and sugarcane.

Like all countries with a young demographic profile, India must create the conditions needed to spur faster growth of productive jobs outside of agriculture while also improving productivity and per-capita income in agriculture. Indeed, agricultural work is fast becoming a financially unrewarding occupation for many people in India. While the sector still employs almost 225 million people, its productivity (in terms of crop yield) has declined, making agriculture less viable as an economic activity, never mind as an occupation. Consequently, only 95 million people—less than half of the total agricultural workforce—are actually farmers or main cultivators owning agricultural land. The remaining 130 million are laborers earning assured wages. (See Figure 6.)
Surveys conducted by India’s National Sample Survey Organization (NSSO) show that the number of people engaged in agriculture and related activities in India is declining; it fell to 224 million in 2011–2012, down from 258 million in 2004–2005. This decline can be attributed to the growing numbers of young people in India who are leaving farm work and moving to urban areas in search of jobs. Indeed, research shows that more than 2,000 Indian farmers—and these are main cultivators, not wage workers—have left agriculture every day for the past 20 years.**

Figure 6: Wage vs. value addition in agriculture

Sources: Indian Labor Bureau Data, World Bank Data 2014
Chapter II

Addressing “Triple S” shortfalls: scale, speed and sustainability
The three key sectors—education, healthcare and agriculture—have received significant investment from the public and private sectors in India. For instance, in 2015-2016, the national budget allocated a total expenditure (planned and unplanned) of close to INR1.3 trillion (US$20 billion) across these sectors.” Moreover, during 2000-2015, the sectors collectively attracted foreign direct investment (FDI) of over US$6.4 billion.

But despite these investments, India has missed its annual development targets across the sectors. The primary culprits? Poor planning and implementation of development projects. Many such projects fail to deliver the hoped-for impact, because the gaps they intended to bridge proved wider and have been expanding faster than expected. Moreover, projects aren’t designed to handle the sheer volume of demand. As a result, most development projects experience what we call “Triple S” shortfalls:

- **Scale**: They do not reach most of their intended beneficiaries.
- **Speed**: They do not reach beneficiaries in a timely manner.
- **Sustainability**: They do not continue to provide beneficiaries what was promised.

Below, we take a closer look at how the shortfalls have affected each sector.

### Education

Programs designed for the education sector have helped improve enrollment rates and penetration of primary education into India’s hinterlands. However, much work remains to address the “Triple S” shortfalls.

**Scale**: Even though India’s gross enrollment ratio for primary education has reached 97.4 percent, enrollment in colleges has not improved, owing to a shortage in the number of higher-education institutions throughout India. The number of colleges per lakh of eligible population (18-23 years) varies considerably across the country, signifying lack of scalable projects in tertiary education. While states such as Karnataka and Maharashtra have 41 and 34 colleges per lakh of eligible population, respectively, Bihar barely has 6; West Bengal, only 8.

**Speed**: Capacity building in education remains sluggish. For instance, in 1951, India had about 12.1 million primary education seats, far fewer than the roughly 45 million it needed. In 2011, the deficit worsened to about 60 million seats, owing to the lack of foresight and inadequate capacity enhancements over the decades.

**Sustainability**: The education sector’s most critical challenge centers on difficulty sustaining life-long learning. In 2010, the dropout rate for children aged 6-15 was a shocking 49.3 percent. Moreover, in a recent survey of more than 2,000 vocational trainees, 47 percent of respondents said that they had not been offered jobs because they lacked employability (a combination of industry-relevant skills and workplace attitudes). Another 10 percent of those surveyed got jobs but left within a month because they proved unsuitable for the work.

### Best practices

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<thead>
<tr>
<th>SCALE</th>
<th>SPEED</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Education: South Korea</strong>&lt;sup&gt;xxviii&lt;/sup&gt;</td>
<td>Between the 1950s and 1960s, the country revised its education strategy from compulsory education to production-oriented education to discourage dropping out.</td>
<td>From 1960 to 1990, South Korea increased primary school enrollment from 54 percent to 97 percent.</td>
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</table>
## Healthcare

Healthcare in India has made some strides, especially in terms of lowering infant mortality rates and improving life expectancy. India’s emergence as a global destination for affordable healthcare is also commendable. In addition, initiatives such as Aravind Eye Care and Narayana Hrudayalaya have made care more affordable and accessible to many people who previously had no access. However, there are still large segments of the population that need and want more in terms of healthcare.

### Scale: Healthcare remains elusive for the masses, especially in rural India.

Rural India is home to two-thirds of India’s population, but has only one-quarter of the country’s hospital beds. In fact, rural India has one bed for every 2,200 people, as compared to one bed per 400 people in urban locations. Moreover, a recent research project estimated that 63 percent of the rural population must travel farther than five kilometers to seek in-patient treatment; only 27 percent of urban residents must travel that distance.

### Speed: India has moved slowly in attempting to curb chronic lifestyle-related diseases.

Even though such conditions account for more than 60 percent of all deaths in the country, only a small fraction of healthcare expenditure goes toward prevention of such diseases. In fact, research shows that India has the third-highest number of obese people in the world: 30 million. Over 10 percent of adolescents and 20 percent of all adults suffer from this condition. And yet, over 75 percent of such diseases are not being addressed in any existing national health program.

### Sustainability: Most Indian healthcare programs aiming to provide affordable care to geographically dispersed populations remain inadequate.

The harsh fact is that a large section of India’s population cannot afford healthcare-related costs. Indeed, more than 63 million Indians descend into poverty every year because of healthcare costs alone. As much as 47 percent of rural and 37 percent of urban citizens borrow money or sell assets to pay their medical bills.

## Best practices

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<th>SCALE</th>
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<tr>
<td>Healthcare: United States[xxix]</td>
<td>In 1965–1966, the US launched Medicare, which provides health insurance to all citizens above the age of 65 years regardless of income or medical history, and Medicaid, health insurance coverage for low-income populations.</td>
<td>Healthcare expenditure grew rapidly, from about 1 percent of GDP in the late 1960s to 5 percent of GDP by 1993.</td>
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Agriculture

For decades now, India’s agricultural sector has struggled with problems including low yields, waste and draught, despite significant investments from national and state-level programs.

Scale: Investments in agriculture have primarily aimed to provide monetary support for farmers, taking such forms as farm subsidies, loan waivers and credit write-offs. Investments intended to improve farm yield through extension services have been relatively small. Lower productivity levels have resulted in shrinking of the agricultural workforce and have hampered the sector’s growth. In a 2005 National Sample Survey Organization (NSSO) survey, 40 percent of respondents from farming households said they would rather not work in farming, and over 33 percent suggested that farming was non-profitable and risky. In the ten years, between 1993-94 and 2004-05, agricultural employment grew at just 0.40 percent, while nonagricultural employment increased almost eight-fold, at 3.49 percent.

Speed: The agricultural sector still suffers from lack of timely delivery of development projects meant to help it make crucial improvements. For instance, India currently faces a backlog of more than 500 irrigation projects. Yet a recent report shows that INR14 billion (US$210 million) in funds earmarked for the agricultural sector in the 11th Five-Year Plan period was not spent during that period.

Sustainability: Persistent over-dependence on monetary incentives has channeled funds away from agriculture extension services, making farmers vulnerable to lower productivity. Meanwhile, farmer debt levels remain prohibitively high, with outstanding agricultural loans rising to more than INR26 billion (US$400 million) as of 2014.

Best practices

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<td><strong>Agriculture: China</strong></td>
<td>In the late 1970s, China shifted from a collective system of agriculture to an individual household system of farming. Adoption of this new institutional structure rose to 98 percent within 5 years of its inception.</td>
<td>Better individual incentives as a part of the reforms resulted in 42.2 percent growth in the crop sector during 1978-1984, and China became a net exporter of food grains for the first time in a century.</td>
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Chapter III

Charting the digital blueprint for growth
To overcome the Triple S shortfalls in the education, healthcare and agriculture sectors, projects must excel on three interrelated performance attributes: awareness, accessibility and affordability. (See Figure 7.) When project leaders excel on multiple attributes, a program has even greater positive impact.

Take awareness and accessibility of projects. Enhancing both can go a long way toward helping a project achieve scale. ITC’s e-Choupal initiative is renowned for taking IT-based farm solutions to farmers’ doorsteps. Kiosks managed by trained farmers, called sanchalaks, have helped create awareness of the initiative through word of mouth. They have also enabled farmers to easily access information in their local language on weather and market prices, farm practices and risk management strategies. Launched in June 2000, e-Choupal has already become the largest initiative among all Internet-based interventions in rural India. Today, e-Choupal services reach more than 4 million farmers in over 40,000 villages across 10 states.\textsuperscript{xlvi}

Similarly, development projects that foster awareness while also being affordable can speed up project adoption, further enhancing scale and long-term sustainability. Take Aravind Eye Care. Established in 1976 as an 11-bed hospital providing free cataract surgery for low-income citizens, Aravind has already performed more than 4 million surgeries since its inception and today carries out as many as 350,000 operations each year. It started through an outreach program whereby doctors traveled to remote villages to conduct “eye-care camps” sponsored by non-profit organizations, and conducted surgeries for free.\textsuperscript{xlvii}

Finally, the combination of accessibility and affordability can dramatically accentuate sustainability of a project. For example, Pratham, a non-profit organization established back in 1994 to provide affordable education to underprivileged children, has enjoyed strong growth since then. The program has reached more than 7 million children across 21 states.\textsuperscript{xlv} Pratham began by providing preschool education to children in the slums of Mumbai, making learning accessible during formative years. Thousands of volunteers work with Pratham to implement low-cost learning interventions at the grassroots level.

Accenture research shows that digital technologies can help development program leaders in India enhance awareness, accessibility and affordability so as to overcome Triple S shortfalls in education, healthcare and agriculture. Indeed, a growing number of developing and developed nations alike are already reaping handsome rewards from digitalization. Adoption of digital technologies, such as mobile devices, cloud computing and analytics, is improving productivity in these key sectors and accelerating progress toward inclusive socioeconomic growth goals. Accenture estimates that a 1 percent increase in digitalization in a nation can lead to a 0.5 percent improvement in GDP and a 1.9 percent jump in international trade. Similarly, a 10 percent increase in digitalization can bring down unemployment in a country by 0.86 percent.\textsuperscript{xlix}

India has an advantage over other nations in experiencing its demographic dividend in the digital age, and several development programs have achieved particularly impressive successes by using digital technologies. Below, we look at a few examples.

Figure 7: Project performance attributes
**Education:**

Pratham and Vodafone’s digital classroom

The non-profit organization Pratham, in collaboration with the Vodafone Foundation—a philanthropic arm of the telecommunications company Vodafone, launched a digital classroom initiative called “Learn, Out of the Box” in 2012 to enhance teaching and learning in low-income schools in India. With the goal to integrate technology into the classroom, this project provides innovative and interactive learning opportunities in Science and Mathematics to grade 6th & 7th students in English and Hindi via a teaching tool, called the WebBox.

A smartphone repackaged as a keyboard, the WebBox connects to a television, which is part of the hardware package provided to participating schools and is Internet-enabled through a SIM card. The content is stored directly on the WebBox and can be used by the teacher both within the classroom and during lesson planning. Thus, the WebBox directly delivers digital content, aligned to state curriculum for the classroom. This includes videos, slideshows, and classroom activity ideas that are categorized into three sections of see, think and do, allowing for effective student-teacher interaction.

**See section:**
- Introduces a concept through a situation in a family environment
- Contains interactive videos and slideshows to explain each concept
- Provides simple contextual examples for each concept

**Think section:**
- Connects classroom concepts to the real world context
- Provides topics and information to spark group discussions
- Explores concepts in different aspects of our daily life

**Do section:**
- Offers a resource bank of projects and activities that the teacher can use in the classroom
- Provides practice questions designed for gaming
- Includes a chapter quiz and challenge

Awareness of the program is being fostered through Pratham’s partnering schools, thus extending the reach of the learning content. The program has proved effective at overcoming the Triple S shortfalls:

**Scale:** With content digitally transmitted directly to the classroom and then disseminated to all students through TV screens, “Learn, Out of the Box” can reach massive scale even in the most remote school locations. The project impacts economically disadvantaged children by reaching under-resourced schools that are government-aided, low-income (with a monthly fee ceiling of INR500/student) private school, and even schools operated by non-profit organizations. The project has already been deployed across 1,000 schools across 12 states in India, reaching more than 79,000 children.

**Speed:** The WebBox can connect to the Internet to rapidly update curriculum content as needed. Moreover, use of videos accelerates learning among students, even in local languages.

**Sustainability:** The low cost of the technology infrastructure, coupled with the flexible choice of devices and platforms, ensures that schools can sustain this learning mode over the long term without having to worry about frequently upgrading to costly devices.

**Healthcare:**

Hewlett Packard Enterprise eHealth Centers

In 2012, Hewlett Packard Enterprise (HPE) introduced eHealth Centers in India to provide quality, affordable primary healthcare services to people living in locations that lacked such resources. Designed to fit in standard shipping containers, these eHealth Centers are fully equipped with essential medical diagnostic equipment, workstations, and cloud-enabled electronic medical records (EMR) systems.
Deployed across the country, through a network of partner clinics, the centers enable on-site staff members to perform routine diagnostic tests and send results to doctors anywhere in the world. Patients can also opt for remote diagnosis or consult off-site specialists in real time using integrated videoconferencing features. Since the program’s launch in 2012, over 100 eHealth Centers have been installed across 14 Indian states, helping more than 98,000 patients. And they have scored remarkable successes in addressing Triple S shortfalls:

Scale: The centers benefit from easy and rapid deployment. Needing less than a quarter of the time it takes for a traditional healthcare center to be setup, the eHealth center is an extremely scalable service. Allowing patients easy access to diagnostic facilities coupled with extended-care facilities through remote consultation enables rapid scaling of demand as well.

Speed: Use of EMR systems gives physicians fast, easy access to patients’ medical records to inform diagnosis and treatment plans. Moreover, the centers are also equipped with dashboards that leverage analytical tools for purposes of early epidemic detection, preventive healthcare and disease surveillance. Video conferencing facilities allow for real-time consultation between patients and doctors located remotely from one another.

Sustainability: eHealth Centers cost about a sixth of traditional healthcare diagnostic infrastructure, making them financially sustainable.

And use of EMRs reduces costs of repeated or duplicated diagnosis, further ensuring financial sustainability of the model.

Agriculture:

RML Information Services (formerly known as Reuters Market Light) has offered customized ICT solutions across the entire agriculture value chain since 2007. With coverage of more than 450 crop varieties and 1,300 markets, RML has garnered more than 1.4 million farmer subscriptions from 50,000 villages across 18 states in India. RML’s primary offering is an SMS-based agri-information service covering every stage of the crop cycle, from soil preparation and sowing to harvesting and selling of crops. In addition, the company offers a service called Krishidoot, which provides community and marketplace advice for participants in every link in the agriculture value chain. In 2014, RML also created a mobile app that provides real-time crop, market and weather information to farmers who have Android devices. These services have helped address Triple S shortfalls in creative ways:

Scale: Having an SMS service and a mobile app enhances accessibility and affordability of the services that RML provides, which in turn has enabled RML to achieve scale rapidly across the country.

Speed: RML provides customized crop advice soon after SMS requests are sent through farmers’ phones. Advice is delivered by local, full-time agriculture content experts.

Sustainability: The SMS service and app are economically sustainable, because low data-aggregation costs are spread across thousands of local, regional and national agriculture experts and market participants.
SIDEBAR: Accenture's digital solutions for inclusive growth

EDUCATION

In a joint initiative, Accenture and the Child in Need Institute in India (CINI) launched the GPower ("girl power") mobile application across more than 20 villages in two districts in West Bengal. This six-month test project was focused on 2,000 girls aged 10-19 who are at risk of difficult lives owing to inadequate education, personal safety, healthcare and nutrition. Community facilitators armed with tablets that have the GPower app began interviewing the girls to assess their vulnerability, record data gathered and use their assessments to generate ideas for helping the girls.

The app guides the facilitator through the process of collecting data, eliminating the need for paper records and minimizing errors and delays. The tablets are also equipped with cameras so facilitators can photograph each girl registered in the program. Facilitators can identify a girl’s vulnerability status in real time, and assess potential risks to the girls proactively, so timely interventions can be implemented quickly. The service helps prevent vulnerable girls from falling prey to a lifetime of deprivation and exclusion from the country’s socioeconomic system.

HEALTHCARE

Accenture’s Continuous Monitoring Solution is an end-to-end digital offering that allows vital-sign monitoring of patients in hospitals and in their homes, with minimal capital expenditure. The solution uses a small, wearable digital device that continuously captures a patient’s vital signs such as blood pressure, temperature and pulse. The data is transmitted, via a gateway device, to an analytics engine maintained in the cloud that continuously adds data to the patient’s electronic medical record.

If data analysis identifies possible deterioration in a patient’s health, the solution immediately sends an alert to the smart phone or tablet of appropriate healthcare professionals. Care providers can view trends in the patient’s vital signs and make decisions. The technology has led to better patient outcomes and has helped lower the costs of care by reducing hospital readmissions and emergency-room visits.

AGRICULTURE

Accenture’s Connected Crop Solution for Smallholder Farmers connects three stakeholders in rural agriculture—field agents, agro-input companies and farmers. A mobile application on field agents’ handheld devices connects farmers with agro-input companies using a steady stream of information and advice for improving crop yield throughout the growing season. A rules-based, contextual recommendation engine turns generalist field agents into knowledge workers with specialized expertise. The solution significantly improves agent productivity, enhances product sales and increases crop yields because farmers are purchasing the right fertilizers, pesticides and other inputs at the right time, and using them correctly, thanks to information they receive from well-informed field agents.

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Chapter IV
Digitalization for inclusive growth
As mentioned in the previous chapters, India needs to drive improvements in education, healthcare and agriculture to achieve its inclusive growth goals. Organizations, public and private alike, must enhance awareness, accessibility and affordability of development projects to overcome the Triple S shortfalls of scale, speed and sustainability.

But the challenge is enormous, and India’s future as an economic powerhouse hangs in the balance. Thus program leaders need to adopt a radical new approach to ensure that development efforts perform as intended. Only programs that can deliver maximum impact at minimum cost (including funding and time) will pass the test presented by India’s fast-changing demography. Digital technologies can help, by enabling more efficient use of scarce resources to deliver greater and more enduring value to beneficiaries, more quickly.

Businesses can play a central role in this effort by investing in digital technologies. However, to make the most of these investments, companies have to ensure that their business goals support India’s inclusive growth objectives while also adding to the bottom line. Drawing on the experiences of organizations that have successfully leveraged digital, Accenture has defined a three-step process that can help businesses use digitalization to support inclusive growth while also enhancing profitability. (See Figure 8.)

Figure 8: Using digitalization to drive inclusive growth
Step 1: Determine strategic focus

To determine strategic focus, businesses must identify opportunities to make improvements in one or more of the three sectors (education, healthcare and agriculture) that would deliver maximum value to society while also improving the organization’s profitability in the long term. Only programs that meet this dual mandate will prove sustainable. Companies can decide whether to run such programs as core product or service offerings or as initiatives under their corporate social responsibility (CSR) umbrella.

For instance, a leading auto-component company in India was struggling to retain employees with desired skills in all its plant locations. As a strategic focus area, the company chose to develop vocational training for 20-30 year olds across the six states in which it had manufacturing plants. It partnered with training institutions to fund programs that were specifically designed to teach students the skills the company most needed on its shop floor. The program improved participants’ employability by equipping them with marketable skills, but also improved future participation due to the awareness it had created. It also expanded the pool of skilled workers the company could draw from. That enabled it to boost workforce productivity and performance, which translated into new revenues and improvements to the bottom line.

Step 2: Build digital capabilities

Digital Organizations use new technology to provide better products and services and personalized, seamless experiences for their customers. But the best among them look beyond just digitally enabled offerings. They leverage digital technologies across their entire value chain to extract maximum value from everything they do. Building three digital capabilities can help in this effort: “fail-fast” prototyping, flexible digital architecture and open innovation.

Fail-fast prototyping

To support inclusive growth, development programs must be able to scale rapidly after launch. Fail-fast prototyping can help program leaders experiment with early versions of the product or service idea, draw insights from these experiences and use the insights to refine and improve the idea so it can scale quickly after launch. The idea behind this iterative process is to think big, start small and scale up fast—but with minimum investment.

Digital technologies such as 3D printing can help, by enabling organizations to repeatedly fine-tune product characteristics inexpensively and swiftly. For example, a medical devices and prosthetics manufacturer designed a 3D-printed prosthetic arm. The company could quickly modify design elements and deliver the finished product to beneficiaries, at a fraction of the cost of traditional prosthetics.

Flexible digital architecture

Every development program must be supported by a digital architecture—digital IT ecosystems, data collection/warehousing, mobility and analytics that support beneficiary strategies. Such an architecture should be flexible enough to scale up and down as needed to meet beneficiaries’ changing challenges. Cloud-enabled technologies can help on this front, by lowering capital expenditures, and hence enhancing affordability of program solutions.

Open innovation

It’s impossible to gather truly deep insights into the needs of rural, geographically dispersed beneficiaries from only within the four walls of a business. The majority of information on what such individuals value most, lies outside the organization, in entities closest to “on-the-ground” reality, such as startups, niche firms, non-profits and rural communities themselves. Organizations must therefore integrate information from this larger ecosystem while designing development programs. Open innovation programs will also foster greater program awareness at an early stage.

For instance, a large retailer decided to help startups focused on mobile, data and analytics, with an eye toward fostering development of technology solutions for overcoming challenges related to merchandise assortment, pricing strategy and product delivery. The retailer provides such startups not only with monetary support but also with access to mentors, tools, resources and operational support.
Step 3: Nurture an inclusive culture

As the final step, companies must unleash in their workforce, compassion for others and a commitment to inclusive growth. These emotions can provide the fuel the organization needs to keep development programs moving forward, despite the inevitable challenges and setbacks.

To illustrate, a large metals and mining company has made a conscious effort to create a compassionate organizational culture that will endure over generations of employees. Programs aimed at improving maternal and child health among its mine workers are considered as an important and necessary investment in society rather than merely a “hit” on the balance sheet.¹³

Along with compassion and commitment, businesses stand a better chance of implementing successful development programs by encouraging digital-enabled collaboration and innovation. A digital organization strives to facilitate smooth flow of data throughout a development program’s ecosystem—which includes beneficiaries and project partners. Increased data sharing improves program awareness and creates valuable new opportunities – such as enabling an organization to design more personalized forms of value for beneficiaries.
Conclusion

To leverage its demographic dividend and effectively manage its demographic transition, India will need to find a way to include its 800-million-strong rural population in the nation’s economy. But these citizens can actively participate in the economy only if they have marketable skills, are healthy and have access to employment opportunities.

For this reason, India must put education, healthcare and agriculture at the forefront of its inclusive growth agenda. These sectors have received much attention and investment in the past. But to support inclusive growth, development programs aimed at making improvements in the sectors must start demonstrating better performance—in terms of ability to scale, speed of value delivered to beneficiaries and sustainability of impact.

Organizations in the public and private sectors alike can improve program performance by strengthening awareness, accessibility and affordability of the programs. Making savvy use of digital technologies will prove essential to this effort. However, adopting such technologies requires considerable change—within and outside an organization’s walls. For businesses considering use of digital to venture into development programs, the challenge will center on meeting a dual mandate: creating programs that will serve India’s inclusive growth goals while also safeguarding profitability in the long term. The three-step process described in this report—determining strategic focus, building digital capabilities and nurturing an inclusive organizational culture—can set the stage for companies to build and launch successful development programs.
About ASSOCHAM

The Knowledge Architect of Corporate India

ASSOCHAM initiated its endeavor of value creation for Indian industry in 1920. It comprises more than 400 chambers and trade associations, and serves more than 4,50,000 members from all over India. It has witnessed upswings as well as upheavals in the Indian economy, and has contributed significantly by shaping the country's trade, commerce and industrial environment.

Today, ASSOCHAM has emerged as the fountainhead of knowledge for Indian industry, which is set to redefine growth dynamics in the knowledge-based economy.

ASSOCHAM is seen as a forceful, proactive and forward-looking institution equipped to meet the aspirations of corporate India in the new world of business. ASSOCHAM is working to create a environment that will enable Indian businesses to compete globally.

ASSOCHAM derives its strength from its promoter chambers and other industry and regional chambers and associations spread throughout India.

Vision
Empower Indian enterprises by inculcating knowledge that will catalyze growth in the barrier-less, technology-driven global market and help them scale, align and emerge as formidable players in their respective sectors.

Mission
As a representative organ of Corporate India, ASSOCHAM articulates the genuine, legitimate needs and interests of its members. Its mission is to impact the policy and legislative environment so as to foster balanced economic, industrial and social development. We believe education, IT, biotechnology, health, corporate social responsibility and environmental responsibility to be the critical success factors.

Members – Our Strength

ASSOCHAM represents the interests of more than 4,50,000 direct and indirect members across the country. Through its heterogeneous membership, ASSOCHAM combines owners’ entrepreneurial spirit and business acumen with professionals’ management skills and expertise to set itself apart as a chamber with a difference.

Currently, ASSOCHAM has more than 100 national councils covering the entire gamut of economic activities in India. It has been especially acknowledged as a significant voice of Indian industry in the fields of corporate social responsibility, environment and safety, HR and labor affairs, corporate governance, information technology, biotechnology, telecommunications, banking and finance, corporate law, corporate finance, economic and international affairs, mergers and acquisitions, tourism, civil aviation, infrastructure, energy, education, legal reform, real estate and rural development, competency building and skill development, to name just a few.

Insight into New Business Models

ASSOCHAM has contributed significantly to the emergence of new-age Indian corporates, characterized by a new mindset and global ambition. The Chamber has addressed focus areas such as India as a destination, strategies for achieving international competitiveness, promotion of international trade, strategies for enhancing stakeholder value, government policies aimed at sustaining India’s development, infrastructure development to enhance India’s competitiveness, development of Indian multinational corporations and the financial sector’s role in catalyzing India’s transformation.

ASSOCHAM derives its strengths from the following promoter chambers: Bombay Chamber of Commerce & Industry, Mumbai; Cochin Chambers of Commerce & Industry, Cochin; Indian Merchant’s Chamber, Mumbai; The Madras Chamber of Commerce and Industry, Chennai; and PHD Chamber of Commerce and Industry, New Delhi. ASSOCHAM has more than four lakh direct and indirect members.

Together, we can make a significant difference in India’s ability to surmount its challenges and in helping to bring in a bright, new tomorrow for our nation.

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Accenture is a leading global professional services company, providing a broad range of services and solutions in strategy, consulting, digital, technology and operations. Combining unmatched experience and specialized skills across more than 40 industries and all business functions—underpinned by the world’s largest delivery network—Accenture works at the intersection of business and technology to help clients improve their performance and create sustainable value for their stakeholders. With more than 358,000 people serving clients in more than 120 countries, Accenture drives innovation to improve the way the world works and lives.

About Accenture Institute for High Performance

The Accenture Institute for High Performance develops and communicates breakthrough ideas and practical insights on management issues, economic trends and the impact of new and improving technologies. Its worldwide team of researchers collaborates with Accenture’s strategy, digital, technology and operations leadership to demonstrate, through original, rigorous research and analysis, how organizations become and remain high performers.

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