

## DIGITAL INDIA: UN-EXPLORED HORIZON FOR ECONOMIC DEVELOPMENT

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### ABSTRACT

*With the increase of internet user to more than 50 million and mobile users to 400 million India is on the verge of a Second Information Technology Revolution led by connectivity or the **Digital Revolution**. This revolution is about reaching the benefits of technology to the people of India. The paper discusses about the impact of digitalization of various sectors and services in India including healthcare, education, poverty alleviation, governance and maps its implications in the economic development of India. Data is collected from various reports and publications from Industry and Government to examine how Digitalization can uplift the Indian economic growth in the near future. Also various impediments and suggestion are discussed taking into consideration the implementations & importance of ICT in rural and Urban India.*

**Keywords:** Digital India, Digitalization, Economic Growth.

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## INTRODUCTION

India is an infrastructure poor country and it is unlikely that the development of infrastructure here will be able to keep pace with the ambitions, aspirations and needs of the people, Especially in the rural areas The benefits connectivity for the individual, community and the nation is well recorded in the literature. The power of “E” is clearly seen in areas such as governance, productivity, efficiency, employment, and entrepreneurship and information disintermediation. A well known World Bank study calculates that for developing countries broadband connectivity can add 1.3 percentage points to the GDP of the country. The creation of online electoral lists notably in Gurgaon and now in Mumbai likewise if an important step in strengthening our democracy. Setting up of 100000 common service centres to cover all the villages in India is a giant step towards information disintermediation for rural Indians and a first step towards their empowerment. Several innovative businesses based in internet and available through PCs and mobile phones are enabling users to access critical information at the click of the button, enabling safe and secure transfer of money at the in seconds, allowing a level playing field to small businesses and enabling consumers and sellers to buy and sell goods across the country nay the world.

We talk to four broad areas taken which together and deployed over internet would truly empower India by providing much needed economic security.

### **A) Healthcare:**

The healthcare system will evolve continuously over the next 10–15 years. ICTs are likely to be both a driver for change and an enabler of the changes needed to address future challenges and to improve the health service over this period. Healthcare ICTs will have an important part in dealing with the expected increase in patient-focused healthcare, in chronic disease management and in adapting to the ageing population. In rural areas where access to doctors and treatment are not only difficult but also involves a loss of earnings as well as higher incidental expenditure notably in form of travel, telemedicine if deployed thoughtfully has been very beneficial in many countries. Impact of digitalization in Health Sector on Economic Growth is discussed

### **B) Education:**

The very origin of internet is linked to education. It was in the universities and research institutions that networked computers were first developed. Using ICT as an instrument of educational instruction we may facilitate structured exchanges among schools and teachers using

the internet. This is to encourage inter-cultural awareness and understanding. Use of ICTs to connect both local and international teachers and students to develop educational content, promote cross cultural learning and increase ICT literacy among the young people. We may target primarily at the youth and extend to their educators by promoting new ways of learning, new teaching methods, local capacity development and networking using ICTs. It will increase awareness among stakeholders in the education sector; increase in teachers and students benefiting from ICTs for learning and teaching; improve quality of content in education dissemination in schools and on the long run to form as a basis for the inclusion of ICT in secondary school curricula.

### **C) Poverty alleviation:**

One of the most important tools of empowerment through internet are harnessing of the networks to deliver benefits to the communities they are meant for directly without any or little intermediation. Such programmers in addition to other NGO initiatives can provide livelihood in rural areas and prevent much socio-economic trauma by taking away the main cause of migration to cities. One of the best non-government examples is the case of Village Internet Programme of the Grameen Bank in Bangladesh which created IT related job opportunities for the rural poor. Another example is that of the HoneyBee network in India which has created a repository of grassroots and green innovations and disseminates it among rural people.

### **Role of Digitalization for Poverty Alleviation**

- Business Efficiency & Transparency
- Entrepreneurship
- Lower costs of business
- Rural economic inclusion/financial inclusion
- Rural entrepreneurship/ Growth in employment
- Easier access to markets Social Benefits

In addition, a well connected system can also address crisis management especially those arising out of natural disasters and food security effectively. For example, electronic networks can deliver critical information to farmers, government and aid workers fighting a local famine.

### **D) Governance:**

The ease with which information can be published and distributed over internet allows for more democratic and participatory political processes. By cutting down on information intermediation,

it leads to transparency and accountability. Nowhere are the benefits more effective than in rural areas where due to the near absence of mainstream media and information distribution system, information is either lacking or disseminated through existing and often jaundiced filters of information intermediaries. Not only does internet allow for a more participatory political process in rural areas by allowing people to directly put forth their views and development priorities to their representatives, it also allows for transparent processes by making the representatives more transparent. Rapid growth of the Internet users illustrates that many of the early problems have been overcome. These included firms that were too small to market to or deal directly with clients, and to make investments in adequate training and infrastructure. Success has generated attention, and the government and others are working on providing incentives, venture funding, training and infrastructure with the growth of Internet usage in rural and Urban Indian population as shown in figure:

Population (2011 Est.)	Internet Users, (Year 2000)	Internet Users, Latest Data	Penetration (% Population)	Users % Asia
1,189,172,906	5,000,000	100,000,000		8.40%

## ECONOMIC GROWTH

The size of the online business is significant. B2C e-Commerce industry is around INR 3,000 crores today (*Source : IAMAI Report 2009*) and is growing by almost 100% year on year. If this trend continues in the next 36 months, online businesses would represent a large commercial and social interest in India and this figure is without taking into account the online B2B businesses and without accounting for the e-Commerce activities of brick and mortar business or the e-Governance programs of governmental agencies. Substantial investments by well-educated professional Indian entrepreneurs along with venture and Private Equity funds have been flowing in steadily. The larger companies in this segment are keen to achieve global scale and redistribute profits, towards this end many of them are now preparing for listing in the Indian stock markets.

In addition, most of the larger overseas players have established their presence in India to take advantage of the large market opportunity as well as to move many of their back and front office functions to India. This industry, therefore,

is set to provide not only large and quality employment opportunities to technical and non-technical personnel, but also contribute significantly to the state exchequer. Today there are more than a 1000 companies that provide services to consumers and given the right policy environment, the number can grow to 10,000 in the next 5 years. The success of digitalization is acting as a catalyst for adoption of e-Business by

a cross section of brick and mortar businesses such as retailing, banking and financial services, stock trading, auto, auto components, media, FMCG among others.

The general models of endogenous growth leave open the issue of what makes IT special. Here, the idea of general-purpose technologies (GPTs) seems very useful. The idea of GPTs was introduced by Bresnahan and Trajtenberg (1995), who define them in terms of having three key characteristics: pervasiveness, technology.

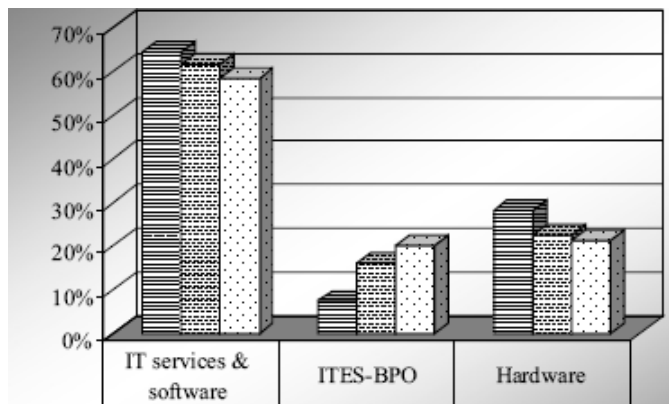
## IMPLICATIONS & MAPPING

Year wise comparison of India's GDP

Year	GDP Real Growth Rate
2003	4.30 percent
2004	8.30 percent
2005	6.20 percent
2006	8.40 percent
2007	9.20 percent
2008	9.00 percent
2009	7.40 percent
2010	7.40 percent
2011	8.30 percent

**Source: Digital Annual Report 2010-11(Ministry of Information Technology- Government of India)**

The India GDP is a combination of all the differential factors, contributing to the welfare of the India economy. India GDP gives us a combined report of the performance of the Indian economy. 'Cost factor' or 'Actual price' method - these are the two methods to calculate Indian Gross Domestic Product. The main factor that contributed to the growth of India GDP post 1990s was the opening-up of the Indian economy. The balance-of-payments crisis of the 1980s of the Indian economy led to the paradigm shift of the Indian Economy. The markets were opened up; the Government leveraged the entry of private investments. As a result of this, more investments flowed into the markets. More so by the foreign direct investments (FDIs) and foreign institutional investors (FIIs), the India GDP growth saw a phenomenal increase. Bulk of the Government undertakings were divested into lots of private business houses.



**Graph 1- 2009-10 Data of ICT sector in India**

IT-enabled services are not necessarily related to the production of software or IT in general, but use IT to make the provision of services possible. Customer call centers are one example, where Indians have been training to speak with American accents, in order to deal with customer queries from the US. Accounting services are a second example. Yet another, more long-standing market segment is that of medical transcription. The ten categories overlap to some extent, but they give a good idea of the scope of the industry. The rapid growth of the sector illustrates that many of the early problems have been overcome. These included firms that were too small to market to or deal directly with clients, and to make investments in adequate training and infrastructure. Success has generated attention, the government and others are working on providing incentives, venture funding, training and infrastructure. Good communications links are obviously important for the success of IT-enabled services. An additional bottleneck in the past may have been the lack of managerial and marketing skills, and of reputations for quality.

## **DIGITAL REVOLUTION: LIKELY ACHIEVEMENTS**

**EMPOWERMENT:** In a large and diversified country like ours, connectivity is the key to empowering people so that they can have a say in issues that affect their lives. Empowerment is the first critical step towards inclusiveness.

**EQUITY:** All pervasive connectivity and access is the easiest way to equitable participation, equitable transactions and an equitable say in governance, business and social issues.

**INFRASTRUCTURE:** India is an infrastructure poor country and it is unlikely that the development of infrastructure here will be able to keep pace with the ambitions, aspirations and needs of the people. One of the best examples of robust infrastructure development in the last 10 years has been telecom and IT infrastructure. However, the existing infrastructure is still woefully short if we compare the same with the policy targets that the nation had set out for itself. Against a target of 20 million broadband subscribers by 2010, we had just 6 million till June 2009. It would be appreciated that access devices. It is pertinent to mention here that Telecom Regulatory Authority of India (TRAI) had recommended various fiscal incentives for promotion of broadband in the country in April 2004 and the Ministry of Communications & IT had mentioned in the 'Broadband Policy' on 14th October 2004 that the same would be dealt with separately in consultation with the Ministry of Finance.

**ENTREPRENEURSHIP:** Indians are known for their entrepreneurial skills but much of this is wasted due to obvious roadblocks. Promoting e-business and connectivity will allow for the growth of entrepreneurship in India. Anyone with a small idea can capitalize on it as the cost of doing business online is much lower.

**EMPLOYMENT:** Government, commercial and social activities riding on all pervasive connectivity are likely to give an unprecedented boost to employment in the country. This employment would not be based only on narrow set of skills (such as engineering) but would offer scope to people across a spectrum of competencies and types of skills.

**EFFICIENCY:** With better and pervasive connectivity, a large part of our governance, commercial and social activities can be conducted online; courtesy improved connectivity India and Indians will become more efficient as a nation.

## **DIGITAL REVOLUTION IN RURAL INDIA**

For some inexplicable reasons, internet in India and many other similar economies is seen to be a medium used by the better off sections of the society. This is often a dangerous assumption since it does not recognize the fact that the greatest strength of internet is in the fact that it is a great leveler. There are numerous examples across the world to show that it is the people in rural areas and it is the people at the bottom half of the pyramid who can benefit disproportionately by being connected.

Based on the history of the last 15 years, it is our belief that digital business acts as a very powerful agent of economic and social transformation. By product and process innovation; by information disintermediation and dissemination; by being an anytime, anywhere medium and by being a transparent mechanism of money transactions the digital medium has the capacity of vast socio-economic change. It is not our argument that the digital industry alone can bring about significant economic or social transformation, but that it can act as a strong catalyst and create the environment an environment for adoption of new and often more effective way of “doing things”. In this section, therefore, we take at a look at the stage at which the digital industry in India is poised and also make some comments on why and how it is necessary to allow it to perform its catalytic role in setting up the digital revolution in India.

## **CONCLUSION**

To conclude, we will briefly consider general microeconomic and macroeconomic policy issues, and implications for the Digital sector. The central areas of India’s policy reforms have been replacing quantitative trade restrictions with tariffs, lowering effective levels of protection, removing an area of discretionary controls on private sector investment, and creation of modern financial markets. Standard examples of where these reforms can be built upon, to further stimulate growth, include removal or relaxation of obsolete “small-scale sector” reservations and size restrictions, privatization of inefficient state-owned enterprises, rationalization of tax-subsidy policies and tax administration, and relaxation of severe labor market restrictions. This list can be characterized by its emphasis on improving the efficiency of the mechanisms with which the government directly affects the private sector. The entire Indian economy, not just the ICT sector, can presumably benefit from such reforms, which will reduce distortions of private sector behavior. A second area where attention is required may be characterized as enabling reforms. These include reforms of contract law and judicial institutions; financial sector



regulatory institutions; telecom sector regulatory institutions; infrastructure such as electric power, roads and ports; and systems of education and training in general. Again, the benefits of such reforms are potentially quite general, and not restricted to any one sector of the economy.

A third area of policy is macroeconomic management. While India's record here is quite good, it needs to make a transition in its policy institutions here as well, since removing detailed microeconomic controls requires changes in the regulatory modes of macroeconomic management. Given that there is plenty that remains to be done in terms of overall economic policy reform, are there areas where the IT sector deserves special attention? The answer we have given in this paper, with one exception, is "no". Special subsidies or export incentives are likely to be inefficient ways of stimulating the growth of the IT sector, or of positive spillovers for the rest of the economy. Similarly, special central government initiatives to increase the availability of IT training and related education are also likely to represent a mis targeting of scarce government resources. The same stricture applies, to some extent, to state government policies to encourage the digitalization. The government may be better off removing general restrictions to doing business, as well as providing an enabling institutional infrastructure (appropriate laws and regulations), rather than attempting to target the Digitalization through a form of industrial policy. The exception lies in the telecom sector, which has particularly strong complementarities with the broader digital, Policies to achieve development goals would do better to emphasize removing barriers to innovations that will support lower-cost access to telecom networks of all kinds (wireless and fixed, voice and data). Very specific, targeted, startup subsidies to enable widespread, shared access to telecoms and Internet in rural areas are respect, we would argue that rural digital access

is an excellent explanation. Bangalore in Karnataka is well known as a regional IT center in India, having developed initially without Bajpai & Dokeniya, 1999) have led in attempts to establish IT-based industries with conscious government policies. In nutshell it is observed that Digitalization has improved the various sectors in India thus it is an important factor for Economic development.

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