

Role of Digitization and E-commerce in Indian Economic Growth

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Abstract

The objective of the paper is to investigate the impact of digitization on economic growth and its potential for creating employment opportunities. Digitization being a key economic driver in the present world it is important to integrate the economy by creating digital markets. It is found in large economies internet accounts for about 3.4% of GDP on average along with stable employment generation. During global downturn 6 million jobs were created worldwide by the digitization effects and 94% were from emerging economies and 6% from North America and Western Europe. In India, increasing internet penetration, rapid technology adoption and high sale of technical gadgets like smartphones, tablets, etc, have led to an attractive online customer base and unprecedented growth of e-commerce. Domestic policies regarding telecommunication, financial services and distribution and delivery would provide inputs for e-commerce trade related negotiations. Studies show that 2.6 jobs are created by internet for every job lost for internet. The paper discusses the different countries' digital contribution and the employment created with the e-commerce growth.

Keywords: digitization, economic growth, e-commerce, employment

Introduction

Introduction

Emergence of digitization followed by proliferation of e-commerce has profound impact on the productivity and socio economic standard of the society. Evolution of technology and associated information and knowledge help establish society's production capacity and standard of living which are decisive to the economic growth of the nation (Pohjola, 2001), (M. Castells, 2000). Being a global concept, digitization has prominent impact on economic growth and employment of any nation. In a study, digitization index have been linked to higher growth and employment with increasing

returns to scale. Human capital is a key component to the impact of digitization (Katz, Koutroumpis, & Callorda, 2014).

In order to take advantage of e-commerce business, there has to be a proper business model as well as other strategies so that the business is sustainable and provides economic growth (Mafe & Blas, 2006). Domestic policies regarding telecommunication, financial services and distribution and delivery would provide inputs for e-commerce trade related negotiations. Researches show developing economies has more possibilities of gaining advantages of e-commerce than the developed economies as developing

economies have wider scope of reducing inefficiencies and increase production (Mirmiran & Shams, 2014).

Indian economy has seen unprecedented growth of e-commerce in the last 5 years. Increasing internet penetration, rapid technology adoption and high sale of technical gadgets like smartphones, tablets, etc, have led to an attractive online customer base. Digitization has brought social transformation in the life of common Indians. The present government has taken up an initiative called “Digital India” for modernization of the society that will connect every corner of the country. However the effect of digitization at macro level in Indian economy is yet to be revealed. With the enormous benefits of digitization come political challenges for the policymakers to set the stage for seamless digitization.

The origins of the digitization literature: from 1960s until today

From the 1960s onwards, the computerization of business activities has been an area that has been widely studied (Kaufman 1966). The various research streams have been focusing on both the organizational usage of information technology (Wijnhove and Wassenaar 1990) as well as on the productivity and information technology uptake (Brynjolfsson and Hitt 1998). Much of the studies conducted in the 1960s and 1970s did not acknowledge the role of inter-organizational information systems (IOS) as drivers of change in an electronic age. IOS is “an automated information system shared by two or more companies” (Cash and Konsynski, 1985) which is seen as central

building block when digitizing business relationships. IOS encompasses hardware, network facilities, software, procedures and norms relating to databases as well as knowledge exchange between partners (Barrett and Konsynski, 1982). From the late 1970s to the middle of the 1980s interest was sparked to study the impacts of computerization on the buying and selling to the computer assisted buyers (Mathews et al. 1974; Mathews et al. 1977) and the impacts to inter-organizational relationships (Backhaus, 1986; Barrett and Konsynski 1982; Buzzell 1985). These studies described how technology change will impact on communication, exchanging, and the way a business is organized. Most of these studies pinpointed the importance to study the change brought by technology and were conceptual in nature. Moreover, only a few of them supported their conceptual findings with solid empirical proof (see e.g. Mohr 1990; Stern and Kaufmann 1985). In the 1980s most of the studies focused on the role of IOS and more specially examined Electronic Data Interchange (EDI) (Barrett and Konsynski 1982; Cash and Konsynski 1985; Stern and Kaufmann 1985). Definitions for EDI, its role, and benefits were discussed in multiple forums (see e.g. Emmelhainz 1990; Riggins and Mukhopadhyay 1994; Stern and Kaufmann 1985). EDI literature mushroomed into hundreds of publications evolving in the area and from the middle of the 1990s the EDI was tackled from multiple viewpoints (Hausman and Stock 2003; Naudé et al. 2000; Vlosky et al. 1994; Vlosky et al. 1997; Wilson and Vlosky 1998). Furthermore, as the decade progressed the research focus shifted from EDI to the internet and web-based systems (Clemons et al. 1993; Vlosky et al. 2000). Still, in the

new millennium, as Reid and Plank (2000) with their massive literature review suggest, the alignment of computerization and marketing remains unstudied. A similar point regarding internet usage in the business relationship were acknowledged by Stump and Sriram (1997) and Möller and Halinen (1999). Today extant academic literature on the impacts of digitization on business relationships concentrates primarily on two relatively broad areas. The first examines the use of networking technologies such as the internet, intranet, and extranet (Bello et al. 2002; Boyd and Spekman 2004). This research stream looks at the role of networking technologies in the creation of value and their role in different types of marketplaces (Iyer 2004; Jap and Mohr 2002). Electronic marketplaces are not in the focus of this article, however, it is briefly noted that there are already known problems in revenue and value creation mechanisms (see e.g. Jap and Mohr 2002). The second stream examines the factors related to the adoption, implementation, and usage of the internet and other networking systems (Hausman and Stock 2003; Naudé et al. 2000; Ryssel et al. 2004; Vlosky et al. 2000). It can be summarized that both managerial and academic focus has shifted from the coordination of the internal functions and separate tasks to a more holistic and integrated view on multiple and interlinked processes like new product development, knowledge sharing, and cooperation.

OBJECTIVES

- 1 To know how the technologies and connectivity will come together to make an impact on all aspects of governance and improve the quality of life of citizens.

- 2 To find out how the government services can work effectively with practical solutions and innovative ideas to accomplish the vision of a digital India-a reality.

DATA COLLECTION

The secondary data has been collected. For this purpose, various magazines and journals have been used as it is a conceptual paper. Thus, the focus is to know more about the concept, its application and the impact on economy via other parameters. Therefore, qualitative and quantitative data have been used.

DIGITAL INDIA

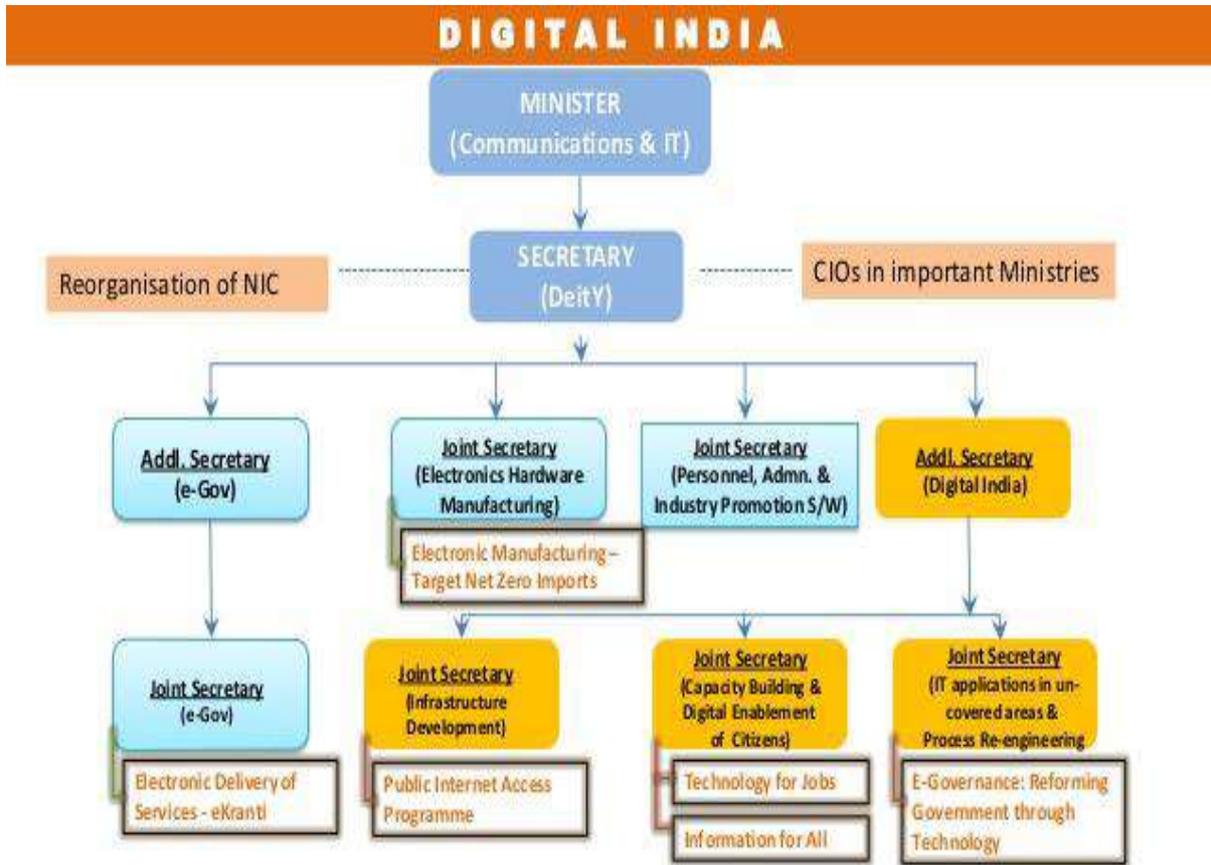
The programme contains tasks that target to make sure that govt. services are available to people digitally and people get advantage of the newest information and connections technological innovation. Gandhiji felt that 'India resides in its villages,' and technology will help the villages to grow and prosper. Digital libraries, online magazines, e-books can be made available for free which will further help in knowledge sharing. PM Modi rightly said in his speech in San Jose, "*I see technology as a means to empower and as a tool that bridges the distance between hope and opportunity. Social media is reducing social barriers. It connects people on the strength of human values, not identities.*" Technology is a bridge indeed, a bridge that connects the hope that India's villages will be educated and aware to the opportunity of internet and access to information from across the world. 'Digital India' is not just an initiative but a need for this country, where majority of population still does not have access to the world of internet. The Digital



India initiative seeks to lay emphasis on e-governance and transform India into a digitally empowered society. It is to ensure that government services are available to citizens electronically. Digital India also aims to transform ease of doing business in the country. The Department of Electronics and Information Technology (deitY) anticipates that this program will have a huge impact on the Ministry of Communication and IT. The program is projected at Rs 1, 13,000 crore which will prepare the country for knowledge-based transformation.

It will focus on providing high speed internet services to its citizens and make services available in real time for both online and mobile platform. Modi's government is focussing on providing broadband services in all villages of the country, tele-medicine and mobile healthcare services and making the governance more participative.

Figure-1: Digital India





MAJOR PROJECTS UNDER THE INITIATIVE

Digital India comprises of various initiatives under the single programme each targeted to prepare India for becoming a knowledge economy and for bringing good governance to citizens through synchronized and co-ordinated engagement of the entire Government. Nine projects have been undertaken. These are as follows:

1. **Highways to have broadband services:** Government aims to lay national optical fibre network in all 2.5 lakh gram panchayats. Broadband for the rural will be laid by December 2016 and broadband for all urban will mandate communication infrastructure in new urban development and buildings. By March 2017, the government aims to provide nationwide information infrastructure.
2. **Easy access to mobile connectivity:** The government is taking steps to ensure that by 2018 all villages are covered through mobile connectivity. The aim is to increase network penetration and cover gaps in all 44,000 villages.
3. **IT Training for Jobs:** This initiative seeks to train 10 million people in towns and villages for IT sector jobs in five years. It also aims to train 0.3 million agents to run viable businesses delivering IT services.

Additionally, the project involves training of 0.5 million rural IT workforce in five years and setting up of BPOs in each North-eastern state.

4. **Manufacturing of electronics:** The government is focusing on zero imports of electronics. In order to achieve this, the government aims to put up smart energy meters, micro ATMs, mobile, consumer and medical electronics.
5. **Provide public access to internet:** The government aims to provide internet services to 2.5 lakh villages which comprises of one in every panchayat by March 2017 and 1.5 lakh post offices in the next two years. These post offices will become Multi-Service centres for the people.
6. **E-Governance:** The government aims to improve processes and delivery of services through e-Governance with UIDAI, payment gateway, EDI and mobile platforms. School certificates, voter ID cards will be provided online. This aims for a faster examination of data.
7. **E-Kranti:** This service aims to deliver electronic services to people which deals with health, education, farmers, justice, security and financial inclusion.



8. **Global Information:** Hosting data online and engaging social media platforms for governance is the aim of the government. Information is also easily available for the citizens.
9. MyGov.in is a website launched by the government for a 2-way communication between citizens and the government. People can send in their suggestions and comment on various issues raised by the government, like net neutrality.
10. **Early harvest programs:** Government plans to set up Wi-Fi facilities in all universities across the country. Email will be made the primary mode of communication. Aadhar Enabled Biometric Attendance System will be deployed in all central government offices where recording of attendance will be made online.

IS INDIA DIGITALLY READY

There is no doubt in it. India is ready for this. Immediately with the introduction of this campaign, many organizations came forward to lend their hands for achieving India a digitally equipped country. Organizations like BSNL, Reliance Ltd. are coming forward to spread digitalization among rural areas. And over 42000 villages all over India will be having seamless mobile connectivity by 2018. The Internet Saathi initiative aims to cover 4,500 villages

over the next 18 months, starting with Gujarat, Rajasthan and Jharkhand. India is aiming to achieve universal digital literacy across the country. The prime importance is to make sure every individual can be able to leverage the potential of Digital India. The focus is at least one person in a household should transform into an e-literate. This can be achieved by BBNL which is planning to connect 2, 50,000 panchayats under the scheme. This will ensure the digitization and connectivity of local institutions like panchayats offices, schools, other government offices and libraries etc. India is reforming its government through technology in the name of E-Governance with the advancement of technology and digitalization. Under the e-governance programme, out of 252 schemes planned, 222 services have been provided in short span of time. The nine pillars of Digital India programme clearly confirms that India as a nation is at its nascent stage. One can easily assure that India will be digitally ready in the next three years.

IMPACT

India's economy has witnessed a significant economic growth in the recent past by growing

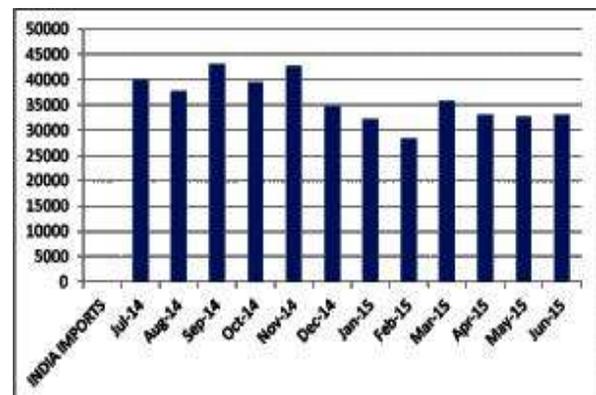
7.3 per cent in 2015 as against 6.9 per cent in 2014. The steps taken by the government in recent times have shown positive results as India's gross domestic product (GDP) at factor cost at constant (2011-12) prices 2014-15 is Rs 106.4 trillion (US\$ 1.596 trillion), as against Rs 99.21 trillion (US\$ 1.488 trillion) in 2013-14, registering a

growth rate of 7.3 per cent. This clearly shows that the Digital India initiative introduced by Indian government has contributed a lot to boost the economy of the country. The Digital India project itself will create employment opportunities for 17 million people directly or indirectly which will help in fighting against unemployment problems in India. Government has planned to give IT training to 100 million students in smaller towns and villages as employment opportunity in IT sector is very high in India. In the next 5 years, India will emerge to be a leader in using IT in sectors like health, defence, education, agriculture and banking. Also the service sectors will be digitally empowered. In the field of education, it also assures broadband connectivity in all panchayats, schools, libraries and other public places. Apart from Broadband connectivity, every village is provided with universal phone connectivity across the country. Mobile and internet banking can improve the financial inclusion in the country and can create win-win situation for all parties in the value-chain by creating an interoperable ecosystem and revenue sharing business models. Telecom operators get additional revenue streams while the banks can reach new customer groups incurring lowest possible costs. The digital inclusion among the country ensures the manufacturing sector to revive the electronics manufacturing.

With the Make in India campaign and Digital India, the nation is planning to achieve net zero imports by 2020. This

ensures the exports will be equal to the imports and this helps in the economic development of the nation. With the introduction of mobile connectivity in all villages, unique single portal can be maintained for all government related services. This ensures that all databases and information should be in electronic form and not manual. Next to crude oil, Electronics **hardware** comprises major parts of imports in India. Since India is a service based country and till now we have focused only on software development, with the advent of Digital India, with its stress on making India a manufacturing hub will change the trend.

Figure-2: India's Import of Software and Hardware
In Million USD



World's leading research firm McKinsey has commented that the adoption of new technologies and innovative ideas across sectors by the Digital India programme will help India boost its GDP by \$550 billion to



\$1 trillion by 2025.

Thus, the estimated impact of Digital India by 2019 would be cross cutting, ranging from broadband connectivity in all Panchayats, Wi-Fi in schools and universities and Public Wi-Fi hotspots. The programme will generate huge number of IT, Telecom and Electronics jobs, both directly and indirectly. Success of this programme will make India Digitally empowered and the leader in usage of IT in delivery of services related to various domains such as health, education, agriculture, banking, etc.

The Digital India program is just the beginning of a digital revolution, once implemented properly it will open various new opportunities for the citizens.

Conclusion

Impact of digitization is increasingly helping Indian GDP to grow. Along with economic benefit, the unquestionable viability of Indian internet economy is also transforming the social life of the Indians whose benefits are challenging to quantify. Economic benefit of Internet is expected to contribute 4.6% of GDP of India by 2018 (BCG & IAMAI, 2015). It is also predicted that there is enormous opportunity to grow the SME sector through the e-commerce. The increase of SME business would also generate employment in the country. E-commerce is considered to be an important channel of job creation which is estimated to create 15-20 lakhs job by 2018 in India (BCG & IAMAI,

2015). The proposed idea of digital market would help India increase output and create jobs. Government spending in the infrastructure building and capacity building would also be a source of employment generation. The upcoming new technologies like virtual mirror and virtual wall would push Indian e-commerce in the next gear. With already 910 million mobile subscribers, 58% rural internet users, over 300 million smartphone sale and growing 3G subscribers, Indian economy is all set to jump for ideal digitization (PWC, 2015). Effective planning and regulation of digitization would help Indian economy to compete with the mature economies in the coming years.

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