Introduction

E–Adoption:
Social and Economic Impact

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ABSTRACT

Information and communication technologies (ICT) have made enormous impact on social and economic performance and competitiveness in general, and on productivity, efficiency, and innovation in particular. The literature suggests that ICT has contributed greatly to productivity growth and competitiveness in the developed as well as developing countries in the last decade. This study aims to advance understanding of the social and economic impact of e-adoption. It provides an in-depth understanding through extensive literature survey and analysis of a various success stories. The generalization and conclusions are drawn from documented studies.

INTRODUCTION

The rapid development of Information and Communication Technologies (ICTs) continues to have a major influence on the livelihood of people across the world. The literature research shows that e-adoption is a major factor that has fueled social and economic growth throughout the world. Adoption of technologies such as cell phones and Internet services has empowered the individuals and has particularly enhanced education, health care, and general quality of life throughout the world (Bandiera and Rasul 2002). There have been few studies that have highlighted that e-adoption also have created negative impact because it has created digital and knowledge divide workers are displaced, surveillance increases, workers’ bargaining power declines, and workers’ skills (in many cases) become obsolete, devalued, or constrained by ICT-imposed structures. Some have argued that ICTs cannot possibly benefit poorer people in developing countries, and it is of course true that some ICTs are likely to remain
out of the reach of the rural poor, in particular, for many years to come (Adedokun, et al., 2006).

According to the Organization for Economic Cooperation and Development (OECD), over 400 local authorities across Europe and North America have implemented or are currently under implementation broadband networks to enhance their e-adoption. Internet has helped creating a huge social capital in the building of social networks. The social networks in turn have created empowered communities that are helping for social and economic development. There have been various studies conducted of examining impact of e-adoption at firm level. Extant literature suggests that e-adoption have has positive impacts improving quality of life, create higher paying jobs and empowered individuals with more opportunity to participate in development (OECD, 2007).

The literature also suggests that profound impact of e-adoption on the economies and societies of the globe has undeniably been on improving economic efficiency, competitiveness and profitability of the enterprises. E-adoption has helped traditional enterprises in developed as well as in developing countries in savings in communications costs, increased availability of information, affordable global reach, reduced transaction costs, lowered barriers to entry and new sources of revenue. ICTs, the Internet and especially electronic commerce has changed the landscape of business environment at national, regional and global levels, and generate major opportunities, and new challenges, for market growth and development of jobs, industries and services. The implementation of ICT in the Organization of Economic and Co-operative Development (OECD) countries points out that it has helped improving living standards, literacy and trade (Anderson, 2009).

A technology is never only a technical artifact but is also a social construction. The use of Internet technology for various kinds of e-adoption has impacted socio-cultural aspects like cultural values, regional priorities, institutional relations, political dynamics, and educational backgrounds and health standards (Esque, 2009).

LITERATURE REVIEW

Several countries worldwide have started using internet technologies to enhance the services for citizens and businesses to improve internal efficiencies by lowering costs and increasing productivity. Several researchers such as; Grewal, Comer, and Mehta (2001), Mehrten, Cragg, and Mills (2001), Zheng et al. (2004) J. Zheng, N.D. Caldwell, C.M. Harland, P. Powell, M. Woerndl, and S. Xu, Tsikriktsisis, Lanzolla, and Frohlich (2004) suggested that e-adoption has contributed positively although e-adoption perceived benefits and motivational factors for e-adoption were different for different organizations. These researchers also concluded that expected performance benefits, access to new markets and external pressures drive the adoption of e-processes (Scupola, 2006).

E-adoption is widely recognized as being a key pillar to enhancing economic growth and national competitiveness. It is also an avenue for fostering social and community development. The growth and development of information and communication technologies (ICTs) and e-adoption has led to increase economic and social impact. There have been variation in e-adoption across and within countries; therefore, socio-economic impact varies across the firms, countries and organizations. However, a recent World Bank study reports indicate that e-adoption had direct correlation with number of performance indicators, including growth in GDP, employment and life styles (Information and Communications for Development Report, 2009).

Through increasing rivalry in the market might drive the E-adoption and innovation, as companies search for new opportunities to cut costs by improving process efficiency or develop new products. Although e-adoption alone will not help
bring innovation unless it is supplemented with other changes such as, restructuring, change in workforce skills, and investment in complementary assets in the organizations that are needed. Empirical studies have shown that e-adoption has better positive impact if combined with complementary investments in working practices, human capital, and firm restructuring (Brynjolfsson and Hitt, 2003).

E-adoption has an impact on a company’s internal organization, i.e. the structure of and the relationships between departments within an enterprise. Organizational changes has resulted into improving workflows and work efficiencies (Brynjolfsson & Hitt, 2003). E-adoption has enabled inter-organizational integration and collaboration which in turn helped for innovations. E-adoption has also helped integration and optimization of the value chain in order to eliminate the so-called bullwhip effect (Kohli and Devaraj, 2003). The European Commission (2007) highlights that e-adoption in form of use of electronic networks has helped firms to collaborate and innovate which has impacted economic performance overall (European Commission, 2007).

The effects of e-adoption on corporate performance are not clear because not all studies have demonstrated clear payoffs from ICT investments (Kohli and Devaraj, 2003). But work by Koellinger (2004) suggests that e-adoption has in some way helped to drive ICT-enabled innovations. Van Ark (2002) through his work indicate that the countries that have higher e-adoption have shown an upsurge in productivity growth resulting from ICT investment. Similarly, few European authors mention that although productivity growth may be not as compared to U.S. but certainly e-adoption has increased productivity levels in the EU, in particular in service industries like banking, retailing and business services (O’Mahony and Van Ark, eds. 2003; Van Ark, Inklaar, and McGuckin 2003). Despite the different impacts that ICT had in the US and in Europe, it is widely accepted that e-adoption generally has positive effects on total factor productivity.

Information and Communications for Development 2009: Extending Reach and Increasing Impact report (2009) indicates that information and communication technology (ICT) are impacting economic growth and improving governance worldwide. The report analyzed data measuring ICT in 150 economies and describing the key trends in ICT development (OECD, 2007, 2009). As per report while internet use has not increased as rapidly as mobile communication, it did triple worldwide between 2000 and 2007, while increasing tenfold in developing countries in the same period. This has increased the pace of e-adoption for various applications both at the government as well as organization level. As per report “Convergence of mobile telephony and the internet is occurring, enabling voice, data, and media services to be transmitted over the same network. Such convergence could have an enormous impact on economic and social development - increasing productivity, lowering transaction costs, facilitating trade, and increasing retail sales and tax revenues.” (Information and Communications for Development Report, 2009). The document concludes that: “Countries that have taken steps to create a competitive market environment for ICT generally have a larger share of people using ICT services than those that have not”. However, in some developing countries, trade in ICT goods and services has not only sparked export-led growth and job creation but e-adoption is also transforming how governments deliver public services to citizens and businesses (Dutta & Jain, 2005, Unwin, 2009, UNCTAD, 2008).

Due to e-adoption the academic literature discusses tremendous substantial progress in economic and social development. The United Nations 2010 report indicates that “e-adoption has enabled better access to government services, the alleviation of fraud and skepticism in elections, increased quantity and quality of training opportunities, a balancing of gender inequalities
in access to opportunities, improved delivery of health care services and the education, facilitated broader public goods including improved literacy, civic responsiveness and equitable access to economic opportunity for the full leveraging of economic development potential. E-adoption has created a social inclusion, defined as empowerment and participation of every individual in the Information Society, irrespective of age, gender, socio-economic status or ethnic background.”

However, there is no denying fact that there is still a huge digital and knowledge divide that exits in the world (Brown and Licker, 2003, Courtney, 2009, Liu & San, 2006).

METHODS AND DATA SOURCES

Our dataset consists of a many published cases and stories of several countries both developed and developing ones. The data was collected from the published reports between 2000 to 2008. The paper draws and builds on several studies on ICT adoption in small firms (Gibbs et al., 2007; Beckinsale and Ram, 2006; Zappala and Gray, 2006; Manueli et al., 2007), and state and country level case studies. The paper mainly draws inferences from several studies from different countries that include e-government, information technology for health, education and other social and economic factors. Furthermore, it is designed to bring out the details from viewpoints of various studies by using multiple sources of data such as written documents by United Nations, published articles, and books.

SOCIAL AND ECONOMIC IMPACTS

There are various social and economic impacts of e-adoption. The foremost impact is “the connectivity” or the “death of distance” which is resulting to economic and social growth. The E-adoption revolution in form of access to the Internet has become a critical enabler of electronic commerce, e-business, e-learning, e-government and e-health (Esque, 2009). Some electronic commerce applications are emerging as effective means of enhancing the social infrastructure (Bandiera and Rasul 2002). E-adoption in form of using ICTs have begun to make a significant contribution to strengthening the social infrastructure through improvements in education, health, and other aspects of human resource development, including the sense of community (Gibbs et al., 2007). The connectivity has made lifelong learning, continuous upgrading of skills possible for many house makers, retired professionals and even regular college going distance students (Farrell, and Isaacs, 2007, Francis, and Iyare, 2006). The connectivity also has improved access to health related information and in a result has improved health standards. These improved health standards in turn has contributed significantly to economic prosperity. The virtual worlds, social networks, online communities all have become a reality to strengthen social and economic growth (Crank, 2006).

E-adoption has made businesses possible to transact their business on 24-hour, seven days a week service delivery basis. This has improved the competitiveness of global firms and consumers bargaining power. The use of technologies such as e-mail, Internet discussion groups, social networks have not only improved communication but have resulted to form social groups and geo-political relationships. These technologies are also helping to bring down the gaps among various ethnicity, race, language and disability groups. The Internet and the other e-adoption technologies have allowed small and medium enterprises (SMEs) to collaborate and to extend their geographical reach and secure new customers in ways formerly restricted to much larger firms. In many European countries, recent literature through findings of several case studies indicates that ICT is not only an enabler of innovation and productivity but e-adoption in general has a positive impact
on corporate performance, productivity and on economic performance. The literature highlights that ICT adoption, use and diffusion has changed competition levels and value chain characteristics (Beckinsale and Ram, 2006, Blackburn and Smallbone, 2008).

As e-adoption is helping to increase productivity more and more both in developed as well as in developing countries, investments in ICTs have also been increasing (Inklaar and McGuckin, 2003). According to the OECD report, the share of ICT capital has increased over the period from 1995 to 2007 particularly in Finland and Korea (UNCTAD, 2008, OECD Report, 2007). E-adoption has also been empowering users of all kinds: citizens, consumers, workers, patients, and students and has been improving the relations between governments and citizens, producers and consumers, doctors and patients, teachers and students etc. It is important to know that the growing use of information and communication technologies in general is linked to the rise of literacy, science and scientific management. Since e-commerce transcend geographical boundaries, many big firms of known brands may not only expand their markets but also may enter into new business activities across the broad spectrum of business activities. This may help to reduce the costs and prices. Some studies credit e-commerce for an increase in the level of GDP by 2-5 per cent (Penbara, 1999, Islam, et al., 2007). The growth of e-commerce has both direct and indirect impacts on labor markets as well as the composition of employment. This has resulted into change in swift labor policies for reallocation of labor to the changing needs of the economy. Electronic commerce is widely expected to improve efficiency due to reduced transaction and search costs, increased competition and more streamlined business processes. Take for instance the case of telecommuting that is becoming a reality. Today many organizations allow their employees to work from their homes. There are some positive aspects of telecommuting to organizations and society. With increased employee autonomy, organizations are able to retain their employees by providing more flexibility in their work schedule. Organizations benefit from fewer costs in recruiting, training, and disability costs. Organizations are also able to locate satellite offices in less densely populated areas. Environmental issues decrease with the elimination of carbon dioxide from commuting cars. Quality of life in general increases where parents are able to spend more time with their children and can play a more dominant role in their community (Zhao, et al., 2007, Unwin, 2009).

**DISCUSSION AND SUMMARY**

As the use of Internet and e-adoption continues to expand rapidly, it would create both challenges and opportunities to both business and society as a whole. E-commerce has provided opportunity for better interactions with partners, suppliers, and targeted customers for service and relationships. E-commerce is also providing the customers with choice, information, convenience, time, and savings with improvements that add value to their shopping (Zorn, et al., 2008, Zappala and Gray, 2006). However, loss of privacy with e-commerce, security issues, increasingly sophisticated frauds, abuse of personal information, and impact on prices have aroused as the main concerns (Brown and Licker, 2003).

As per the OECD report, e-adoption in terms of the use of ICT by large, medium as well as small and medium enterprises is increasingly common. The widespread uses of ICTs are changing the way people or companies work. For the elderly, disabled or those simply short of time, e-commerce offers the convenience of goods being ordered online and delivered to their doorstep (Ekanem and Smallbone, 2007).

The findings presented in this paper are only based on the several published reports or papers in various journals as well as in trade journals. Future research involving more focused socio-
economic variables needs to be conducted to get more detailed insights into e-adoption impact.

REFERENCES


