

ICT4D: TOWARDS ICT ADOPTION IN THE BUSINESS SECTOR TO BRIDGE DIGITAL DIVIDE

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Abstract: The use of Information and Communication Technologies (ICTs) to enhance businesses grew rapidly with the advent of the internet in developed countries in the 1990s and this made their businesses benefit to a large extent. The advances made in ICTs and businesses have forced businesses to embrace emerging technologies so as to remain competitive. Industries and firms which have adopted electronic-business initiatives have a better management of their internal business processes, have an improved profitability and operational efficiency, have a competitive edge in the market over their competitors and have an expanded customer base. This study examines how ICTs have impacted the development of businesses. The findings show that organizations have improved their operations and performance through the adoption and incorporation of ICTs in their internal processes, and reached out to a wider customer base both nationally and internationally. This paper will be of great importance to both small and large business organizations as it affords them information on the importance of adopting ICTs in their business processes.

Keywords: Information and communication technologies; e-business; e-commerce; digital divide; service organizations; manufacturing organizations.

I. INTRODUCTION

The internet has revolutionized the way people interact with each other through computing devices and related technologies despite their geographical location. The impact of internet usage goes beyond computer communication and affects the lifestyle of people through enhanced mode of education, health, business, agriculture, tourism, government operations, information acquisition and community operations. Countries which have developed a reliable ICT infrastructure benefit more from electronic businesses (e-business). Suppliers and consumers in these countries share their experiences by using digital technologies and gain an insight over how the internet can inspire their commercial transactions (Iikin, 2003). Information Technologies create a conducive environment for advances of better commodities goods and services, current business models and newer markets in the digital economy which forms a basis for e-business.

Information Technology is considered as an enabler of other fields to enhance development of human life (Wabwoba & Nambiro, 2018). ICT incorporates a variety of devices, systems and facilities which are used for data collection, data manipulation to create information, storage and retrieval which forms the information technology aspect and telecommunication services and tools for information sharing between devices forming the communication technology aspect. The convergence of ICTs which include but not limited to computer systems, televisions, telephone, radio, video, digital and telecommunication networks have enabled the creation of a novel capacity for dissemination of information and knowledge.

ICT based innovations have profoundly changed and reshaped trade landscape through giving business organizations access to bigger market shares, hence enabling the organizations to enlarge their customer catchment and increase their profit margins (Ashrafi & Murtuza, 2008). It also compels business organizations

to take on world-class competitors, enlightens them with noble ideas and expertise, besides urging them to remain at par with current market trends (Clarke & Wallsten, 2006). The technological infrastructure of a country is critical in nurturing a conducive area for ICT to flourish and be adopted while the web technologies produces the ground for advances associated with better commodities and services, expanded market share and new ways of doing business in the digital economy. In the long run, this provides the foundation for e-commerce development (Xing, 2018).

According to April and Cradock (2000), e-business enables producers to market their products globally and overcome the traditional limitations of information barrier, high market-entry costs and isolation from potential customers. Electronic Data Interchange technology makes the web user friendly with expanded flexibilities and lower fixed and variable costs which implies that consumers can search for the best products without being constrained by distance barriers (Panagariya, 2000).

Internet-based business (e-business) is a system which provides a platform to enable businesses to link up with their customers, useful business partners, suppliers and employees through the internet. By having internal and external connectivity, businesses enhance their efficiency by virtue of heightening productivity, attaining their business related aims faster and lowering costs. The business response rate to customers and other related partners can be improved (Beheshti & Salehi-Sangari, 2007).

Many organizations adopt e-business as the benefits they get from it outweigh the related costs (Lefebvre, Lefebvre, Elia, & Boeck, 2005). Despite this, small micro-enterprises do not take full advantage of using e-business technologies like large organizations as they mostly deploy the internet for electronic mails and making advertisements (Grandon & Pearson, 2004). An organization requires a strategic plan for fully implementation of e-business practices so as to achieve a positive outcome.

E-business calls for an organization to incorporate ICTs into their daily business transactions so that their business activities can be carried out on the online platform with data driven by corporate databases. Generally, coming up with and implementing a marketing strategy for electronic business requires significant reconstituting and rethinking of the processes which are in place. Managers are required to share with their employees the importance of e-business applications and provide training for them. On the other hand, employees are required to sympathize their duties and how they can make the venture successful for the company (Beheshti & Salehi-Sangari, 2007).

II. E-BUSINESS IN THE SERVICE SECTOR

The organization structure of service organizations basically adopts information and communication technologies to be used in advertising their service capabilities and competencies as they lack tangible products. This calls for them to create their name through exemplary customer service. Generally, the integration of e-business for service organizations in their daily routines is less demanding compared to manufacturing firms (Jebur, Gheysari, & Roghanian, 2012).

A case in point is in the transport sector for instance airline companies reaching out to their customers using an online platform where the customers can request for services or reach out for assistance from the management of the company. Despite having most of their transactions being carried out in an online platform, they use physical logistic systems which enable them to deliver services (Schultz, 2009).

III. E-BUSINESS IN THE MANUFACTURING SECTOR

The organization structure of manufacturing organizations requires a more complex adoption process for ICTs. Manufacturing companies can adopt ICTs in different sectors like advertising of their products, offering customer service, carrying out research with an aim of developing and promoting the quality of their products (Beheshti & Salehi-Sangari, 2007). Manufacturing organizations need to develop a collaborative plan with their suppliers, distributors and even retailers. Various ICTs can be deployed in the process of material requirement plan, manufacturing resource plan, flexible manufacturing system and computer integrated manufacturing.

IV. E-COMMERCE IN ORGANIZATIONS

Different scholars and organizations have explained this term using similar definitions. According to Kauffman and Walden (2001), this is an end-to-end business transaction using the internet as a transaction channel. A report by the Organization for Economic Cooperation and Development (OECD, 2009) emphasizes that an electronic commerce transaction is the process of buying or selling commodities and services over the computer network by placing and reviewing orders. A different definition by World Trade Organization (WTO, 2013) posits that electronic commerce is the process which deals with either buying or selling goods and services over the internet by methods specifically designed for the receiving and placing of orders.

E-commerce is a broad term referring to transaction of goods and services over long distances which may span across countries and even continents over the internet. The main benefit of e-business is reduced transaction costs which entails reduces traveling cost, market search costs, communication and administration costs (Xing, 2018).

Electronic commerce can be categorized into three different models: Business-to-Business, Business-to-Consumer, and Consumer-to-Consumer (Xing, 2018). Business-to-Business is an inter-company transaction. It may include intermediate trade of different commodities and services and wholesale trade. Business-to-Consumer involves trade between enterprises and consumers while Consumer-to-Consumer involves selling goods and services among consumers (UNCTAD, 2015).

There are different benefits which buyers and sellers can gain by virtue of using e-commerce. The people who make sales can access minute market sections which are sparsely distributed whereas the people out to buy goods and services benefit through accessing global markets with a large variety of products from different sellers across the world and at a reduced cost. E-commerce enables micro-enterprises to have a global market and have equal opportunities with large organizations besides providing time independence, ease of communication and location independence (Chong, 2000).

V. ICT AND CONTEMPORARY TRADE

ICT has given a new dimension to the rules of operation for industries. Business organizations which have incorporated digital technologies in their operations have found new trading platforms while those that lag behind are gradually losing their market share. ICTs are revolutionizing the way businesses compete for instance e-commerce has created essential changes in the business operations and different strategies at business-level. A re-structuring in strategic thinking by firms is essential so that e-commerce can be perceived as a drive for growth and profit venture instead of a costly operation (Fruhling & Digman, 2002).

Different studies have been carried out to assess the impact of ICT on trade in both developed and developing countries.

A study by Freund and Weinhold (2004) discovered that an increased internet adoption of 10 percent leads to increased trade in goods by 0.2 percent. A related study by Tang, (2006) whose purpose was to investigate the effect of using different means of telecommunication on USA imports of differentiated goods between 1975 and 2000 found out that the adoption of the internet, fixed line telephones and mobile phones on the exporting countries had a significant increase in USA imports on differentiated goods. Another study carried out by Clarke and Wallsten, (2006) pointed out that the use of the internet significantly fosters the exchange of goods and services from developing countries to industrialized countries while less significant effect is experienced on the exchange of goods and services from the industrialized countries to developing countries.

A study by Vemuri and Siddiqi in 2009 on the impact of ICT infrastructure and use of the internet to foster worldwide trade between 1985 and 2005 pointed out that an increase internet adoption rate of 10 percent led to an increase in bilateral trade by 2%. A study carried out between 1995 and 2010 discovered that internet hosts and internet subscriptions positively correlated with trade performance in emerging market economies (Liu & Nath, 2013).

By applying the business index of internet application to approximation the impact of the internet on the total number of exports of different commodities in 2011 for 40 OECD countries, Yushkova (2014) discovered that the

application of the internet by different business organizations in different countries for both exporting and importing of goods and services had a positive correlation with the exportation of goods and services among these countries. According to a study by Xing, (2018) a 10% growth in bilateral internet acceptance increases export of different commodities and services by 1.2%.

Some of the benefits achieved by organizations and individuals by virtue of having online business are making transactions at the global markets at decreased costs, improved efficiency in their business transactions, reduced cost in doing businesses, organizations gaining customers in bulk, reduction of inventories, unlimited exchange of goods and services with respect to time, decreased cost of communication, increases business transactions and profit rates for organizations. Customers have a variety of options to choose from, new markets, time independent access to goods and services, ability to compare prices, convenience, access to extensive information, better prices due to a competitive environment. Different people in the society gain from enhanced living standards due to a collective bargaining power and some merchandice can be sold at a lower price, improved social linkages and facilities delivery of public service which in the long run lowers the prices and improves the quality of offered services and flexible working conditions (Jebur, Gheysari, & Roghanian, 2012).

Developed countries for instance the USA have incorporated ICT in business to come up with electronic business transactions where organizations sell products and services to customers all over the world for instance e-merchants (Amazon), manufacturers selling online (Dell), airlines selling their tickets online, entertainment services and others (Majmudar & Prabhu, 2000). Other e-commerce firms within developed countries which operate internationally are Alibaba (China), eBay (USA), Rakuten (Japan), and TradeMe (New Zealand) which act as intermediaries allowing individuals to sell both new and already used commodities (Xing, 2018).

ICTs have been incorporated in businesses in developing countries like Kenya and this has opened a totally new online platform for businesses to operate and increase their customer base. Some of the relatively successful online companies in Kenya include but not limited to Olx, Rupu, Cheki, Jumia, BuyRent, and BrighterMonday which act as intermediaries allowing individuals to sell new and used goods. Most of their businesses are purely internet-based and are performed online despite having physical logistic systems to aid in delivery services.

VI. BRIDGING DIGITAL DIVIDE IN THE BUSINESS SECTOR

Digital divide negatively impacts the people living in less developed countries as well as those in lower socio-economic cadre. The people living in the Least Developed Countries and Developing Countries have been exploited in the past due to lack of information and know how. However, the advent of ICTs and their incorporation into the business sector has gradually helped to overcome the hurdles that were initially being experienced by the marginalized people.

A report by United Nations Development Programme in 2004 about internet entrepreneurship pointed out that a small scale group of farmers cultivating soybeans used an internet kiosk in the village to monitor the cost for their commodities on the Chicago Board of Trade's website based in the United States, and getting better prices by cutting out local brokers.

The online companies have enabled people in marginalized areas to have a wider market to select from the products and services they want to purchase. This implies that they can select the best that they want at a reasonable cost from any online supplier even across the borders. People also have the ability to sell their used products at a reasonable price to willing buyers through online platforms thus by-passing brokers.

ICTs have enabled organizations to reach out to a wider customer base and increase their profit margins and operation efficiencies. Customers have the ability to request for goods and services from the organizations directly thus getting them at affordable prices.

VII. CONCLUSION

E-business has the potential of transforming an organization into an internationally linked entity which has coherent procurement process and value creation processes through fostering and managing relationships with different stakeholders like the customers, suppliers, employees, and partners. This paper has reviewed how ICTs benefit organizations through their adoption in different business processes. Both service and manufacturing organizations have benefitted from the adoption of ICTs.

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