



**E-BUSINESS FOR COUNTRIES ON COMPETITION INDUSTRY AND ADOPTION
FACTORS USING COUNTRY CHARACTERISTICS, BUSINESS TECHNOLOGY,
GOVERNMENT FRAMEWORK**

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Abstract: *Earlier studies on e-business adoption factors have been conducted from a firm level perspective or from a single country level perspective. In this study, we propose a framework entitled country characteristics, business-technology-government model that addresses a theoretical perspective on e-business adoption factors required for a nation level e-business development. The major goal of this study is to review existing key literature on e-business across the countries and identify key factors affecting e-business adoption and to propose a research model based on internet-based e-business, which will enhance the quality of business world wide in competitive market.*

Keywords: *E-business development, E-business use, E-presence, business-technology, government framework, Country-level-data, e-commerce, information technology*

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INTRODUCTION

This paper analyzes the impact of e-commerce on markets where established firms face competition from Internet-based entrants with focused offerings. Electronic Commerce is process of doing business through computer networks. A person sitting on his chair in front of a computer can access all the facilities of the Internet to buy or sell the products. Unlike traditional commerce that is carried out physically with effort of a person to go & get products, e-commerce has made it easier for human to reduce physical work and to save time. Internet plays the vital role for interactive e-business in worldwide.

Although many studies analyze the e-business adoption factors in a business organization level context, relatively few studies [5] examine e-business from a country-level perspective. Gibbs et al. presents a global perspective of e-business, discussing environmental and policy factors affecting country's e-business adoption decisions. Their empirical analysis used data from only 10 countries and their main focus was only on environmental and policy factors for e-business adoption. Some other studies also discuss cross-country e-business adoption factors, but are constrained to cross-country firm level studies. In another cross-country level study, Simon states several technical and societal critical success factors that a developing country should adhere to for successful electronic services. Another cross-country study by Berthon et al. [5] gives a different variant from others - their main crux was the importance of cultural values and corruption in building cross-country e-relationships.

E-COMMERCE

Electronic commerce or e-commerce is a term for any type of business, or commercial transaction that involves the transfer of information across the Internet. It covers a range of different types of businesses, from consumer based retail sites, through auction or music sites, to business exchanges trading goods and services between corporations. It is currently one of the most important aspects of the Internet to emerge.

The consumer moves through the Internet to the merchant's web site. From there, he decides that he wants to purchase something, so he is moved to the online transaction server, where all of the information he gives is encrypted. Once he has placed his order, the information moves through a private gateway to a Processing Network, where the issuing and acquiring banks complete or deny the transaction. This generally takes place in no more than 5-7seconds. There are many different payment systems available to accommodate the



varied processing needs of merchants, from those who have a few orders a day to those who process thousands of transactions daily. With the addition of Secure Layer Technology, E-Commerce is also a very safe way to complete transactions

PRESENT CHALLENGES FOR E-COMMERCE

Speaking of obstacles, there are a lot of them that need to be uprooted before e-commerce can compete with traditional commerce. The biggest obstacle in the course of advancement of e-commerce is that the consumer's senses are limited to seeing and hearing the product. The second largest problem that e-commerce has been facing over the past few years is that of security. Traditional buyers and sellers are still paranoid about conducting business online.

Will I receive the goods as specified on screen and who do I approach if I have a problem?

According to emarketer.com, "70% of US consumers are concerned about online security; this discourages consumers from using credit cards to shop online (Payment One)". Also according to e-marketer.com, in December 2001, 91% of websites collected personal information and in April-May 2001, 68% of US Internet users were concerned that transactions may not be secure and other companies and individuals might gain access to their personal information.

TECHNOLOGICAL BREAKTHROUGHS

Finally, in order to make the online shopping experience even better, there are a lot of new technologies like Verifi, DigiScent's iSmell and TouchSense that have emerged over the last couple of years. Even though iSmell and TouchSense are very new technologies and the majority of Internet shoppers haven't adopted them yet, they promise a consumer-friendly future. Verifi is one technology that has been widely adopted today, and for good reason. According to a recent BizRate study, over 50% of online shoppers stated that they would not make further purchases from a Web merchant that delivered an item in a colour that wasn't what they expected. This is the problem that Imation have designed their Verifi system to solve. Here's how it works. When a shopper visits a Verifi-enabled Web site for the first time they are invited to take a Web based survey that establishes how their monitor, computer, operating system and browser handle color. This information is then stored as a cookie in the shopper's browser. Then, when they view a product image, the Verifi system reads the information in the cookie and combines this with the profile of the scanner (or digital



camera etc.) that the merchant used to produce the image to generate a color-accurate image in the shopper's browser.

Universally electronic business can be defined as the use of the Internet and communication technologies in support of all business activities is growing at a very rapid pace. According to e-commerce statistics, the Internet trade is expected to reach \$248.7 billion by 2014. This signifies an increase of 60 percent to the current scenario in 2009. According to the statistics, the UK market for e-business was 540 million pounds in 2009. The Asia-Pacific report of Forrester predicts that countries in the region would triple their e-commerce market by 2015 with China being highest with \$159.4 billion. The remaining countries like Japan, Australia, Korea, and India would make about \$72.1 billion, \$29.9 billion, \$20.7 billion, and \$6.5 billion respectively by 2015. As suggested by these reports, e-business growth is high in some countries, but some others are still behind the curve. Under these circumstances, the following would be an interesting and challenging research question:

** How and why do some countries better than others in country-level business development with government support?*

**What are the dimensional factors that affect a country-level e-business development?*

E-business is no longer an alternative; it is imperative. E-business has a strong influence on the global economy. The growth of e-business furnishes the overall business environment and productivity-enhancing practices for a country. Countries of different sizes, cultures, and economies are adopting e-business. Despite variations in these factors among countries, there should be a unique framework and that is what many countries are looking forward to implementing.

E-COMMERCE IN DEVELOPING COUNTRIES

The potential offered by Internet based business-to-business (B2B) e-commerce for improving access to global markets for firms in developing countries .It addresses three questions:

- Is B2B e-commerce opening new and cheaper access to global markets for developing country producer firms or, conversely, is it strengthening existing buyer-producer relationship and existing power relations?
- Are developing country producers being marginalized by the spread of B2B e-commerce trading relationships that depend on sophisticated information and



communication technologies (ICT's) and on efficient logistics systems, electronic payment systems and new certification procedures?

- How can governments or technical assistance agencies help producers in developing countries to participate in B2B e-commerce developments on an equitable basis?

The question have been answered on how internet-based electronic marketplaces were actually working in 2001-2002 and how firms in developing countries were using internet applications to support and enhance their business support. This study does not examine any aspects of B2B e-commerce.

E-commerce offers greater returns to firms in developing countries than other trading channels.

Internet based E-commerce offers two important advantages for developing country firms. First, e-commerce related transaction costs are less sensitive to distance than traditional marketing channels, so access to global markets is made easier.

Second, by simplifying and making market channels more efficient, E-commerce enable developing country firms to retain a large share of the final consumer price of products. The process is not necessarily one of disintermediation, but rather one of more efficient, Internet –based intermediation.

Reduction in the costs of accessing global markets are particularly important for Small and Medium sized Enterprises (SME's).

“E-Trade opens new commercial opportunities to the export-oriented enterprise. In particular, it empowers the small and medium-sized enterprise (SME), allowing into participate in international markets where previously market entry and promotion costs were prohibitive. It enables the firm to source production inputs more expeditiously, to stream line (i.e. eliminate intermediaries) its own supply- and export-distribution chains and to reduce business transaction costs.

Towards the end of the 1990's, there were high expectations that B2B e-commerce would encourage substantial changes in the way firms buy and sell products and that this would be associated with major reductions in the costs of transaction on the international market. It was suggested that:

- Buyers and sellers could eliminate the ‘middlemen’ and intermediaries, establish one-to-one on-line trading and rationalize marketing channels.



- Electronic trading would create opportunities for developing country producer firms to enter new markets and to strengthen their position in international trade.

E-BUSINESS DEVELOPMENT

Growth in adoption of e-business by businesses would increase their revenue and profits. Concurrently, an upturn in business processes would increase the overall economy of a nation. This kind of economic growth could sustain the nation to an extent in this global competitive world. E-business Development is defined as the degree of maturity with which a nation's business conducts its transactions using the Internet. In this study, we assess country level e-business development with two indicators: E-business use and E-presence.

E-business use can be defined as the extent to which e-business is being used by the businesses in a nation. In this study, it is measured as the Internet use by businesses in the particular country to buy and/or sell products and services. This use of e-business is increasing constantly among the firms for their front-end and back-end business processes. Although e-business use is varied among the firms depending on their type and size, all of them use e-business in their daily business operations, ranging from product design to pre- and post-sales services. According to Kalakota and Whinston, cost benefits are the main reason for increased use of e-business by firms. These benefits can be in the form of reduced transaction cost, improved logistics, lower personal costs, and reduced support costs. The level of business use of Internet indicated the level of development of e-business in the country. This means that a country with a high volume of business (B2B and B2C) over the Internet has a high level of e-business in it. Although we do not completely agree that only the Internet use by business increases e-business in a nation, we argue that e-business measured, as the Internet use by business would yield an approximate estimation of e-business development in a country. There are relatively few data sources that collect the statistics of indicators like e-business use across the countries.

Another indicator of e-business development is E-presence, which is defined as the measure of the number of cyber storefronts for B2B and B2C activities taking place within a country. It indicates the existence and transaction volume occurring over the websites of the country. In this study, e-presence is the list of the number of e-commerce and e-business websites and activities by them on the web. To successfully measure a country's e-business development, it is essential to know about its existence along with its use. The dependent



indicator, e-business use, indicates the use of e-business by firms of a nation resulting in transactions from the firm. These transactions are the activities that are carried out either internally or externally by the firm. The activities that are internal to the firm are the e-business activities and the activities that are external to the firm are the e-commerce activities. With this dependent indicator, E-presence aims to aggregate both of them by trying to explain the level of online activities in various nations. It is believed that E-presence in a country is driven by e-readiness factors, and that differences in online activities in different countries are attributable to adoption of e-business. We can posit that e-business adoption within a country is dependent on the level of E-presence taking place within a country, and this variable can support our definition of a nation's use of the Internet for supporting e-business.

COUNTRY CHARACTERISTICS

Some country-level characteristic factors could foster e-business development within a country. Past studies have identified demography, population, and economic resources as some of the factors that contribute to e-business development. Berthon et al. [5] suggest that the level of the corruption in a country affects the e-business development of the country. Another country characteristic that is to be considered is human capital. Among the national resources that a country possesses, citizens' knowledge appears to be a vital resource for e-business development. Educated citizens can use and implement e-business as like organizations and nation's do. The usage and implementation of e-business by citizens can be in both B2B and B2C channels of business transactions. This kind of utilization of e-business leads to increased business performance thereby increasing e-business of a nation as a whole. Hence from above discussion we can posit that the E-business development in a country is associated with the country characteristics (i.e. corruption and human capital).

BUSINESS DIMENSION

This dimension indicates the external factors needed for a country to adopt e-business. Businesses need to adopt e-business as they deploy their applications more on an international basis [15]. Earlier research shows that e-business has an effect on the performance of the firms. Businesses can interact with each other through e-business and therefore increase benefits to their buyers and suppliers. An increase in use of e-business by



individual firms' processes could lead to an increase in the overall productivity of the nation as a whole [16]. In this way, the ebusiness development in a country expands along with an increase in the economic growth of the nation. Business dimension has two indicators: business environment and business competitiveness. Business environment pertains to the general business climate within a country. It is mainly concerned with the operations that affect firms in a nation such as government activities, social and economic factors, and technological developments. A better business environment can lead to an increase in e-business development of a country. Business competitiveness of a nation is another indicator of our business dimension. The business competitiveness of a nation is an indicator of the micro-economic capabilities of its constituents via productivity and living standards . Previous research has shown that e-business enhances the performance of large firms by enabling them to transact with each other efficiently and effectively [12]. This increase in performance of firms leads the national performance of the business firms in aggregated way. This increases the productivity of a nation as a whole, leading to an increase in business competitiveness [16]. Hence we can state that business competitiveness and e-business development has a positive relationship in a nation.

GOVERNMENT DIMENSION

The Government dimension is identified as a key factor in many studies for a company level e-business adoption decision. Every government should not only make use of the Internet by itself but also actively encourage business and consumers to use the Internet. A government could support industries or research environments by providing subsidies, by procurement, or government itself acting as a trusted third party. Jutla et al.state that a government should support e-business by using partnership models. Some studies [13] have also spoken about International Trade Agreement between governments to foster e-business. For example, the Korean government came up with a *u-KOREA Master Plan* in an effort to boost e-business development in its country. Many other countries like Malaysia, China, Singapore, and Chile are also developing strategies to promote e-business in various ways. Government dimension has three indicators: E-government development, E-participation, and Government policy & vision. As discussed above many governments are bringing forth various projects for developing e-business in their country. Many of these e-government projects are meant to enhance the relationship between the government and



its citizens or firms. According to Cohen [11], government activities in public domain encourage businesses to adopt same kind of activities. Greater usage of ICT by governments is said to have influence citizens and businesses, encouraging them to adopt e-business. Thus, we expect that e-business development in a country depend on e-government development and the extent to which governments involve themselves in ICT enabled activities.

E-participation is another indicator of Government dimension. E-participation is defined as at the level of a country's willingness to engage its citizens in e-government process. E-government development is influenced by the citizens' use of their services. Any e-government project should not only be usable to its citizens but also encourage them to participate in e-government service. This kind of participation enhances e-government development [4]. Increase in e-government development spurs e-business development. Government policy and vision is the last indicator of our government dimension. Economist Intelligence Unit (EIU) identified Government policy and vision as one of the factors for formulating their e-readiness rankings. They define this indicator as the government rules and strategies, which are employed for successful e-business development within a country. The government rules and strategies significantly impact and improve the e-business development in a country . Better governments' policies towards ICT development will encourage above discussion we postulate that: H4: The E-business development in a country is associated with the government dimension (i.e. e-government development, e-participation, and government policy & vision).

BENEFITS OF E-COMMERCE

Looking at the brighter side however, e-commerce obviously has numerous advantages over traditional commerce, the number one advantage being convenience of use. The user can browse online stores; compare prices and order merchandise sitting at home on their PC. According to Forrester, 37 percent of online consumers use customer service more from Web retailers than traditional retailers because of its potential for ease of use and quick response times. "Once excellent proactive customer service is in place, merchants must build their brands around the promise of a satisfying experience," said Forrester's Christopher Kelley. "This means not only advertising a call center but also bragging about speedy response times and knowledgeable service reps". Dell, for example has adopted the



same approach to selling their products both online and offline. This however, has proven beneficial for the company, since it helped them cut down on warehousing costs. One way in which the company has encouraged online ordering is by offering rebates on the products that are bought online. Other companies should follow Dell's example if they want to succeed in the online world.

CONCLUSION

Understanding facilitators for e-business development is vital for effective implementation and usage of e-business by a nation [17]. E-business development in this study represents the maturity of nations to conduct their business transactions online. Facilitators for this aspect of e-business have not yet been studied in detail in past literature. Before we discuss the contributions of the study and its implementations, we want to discuss the limitations of this study first. For a cross-country study like this, collection of primary data would consume large amount of resources. Hence, due to the constraint of resources available for this research, we empirically test the proposed research model using the available data set with 61 countries from various secondary sources.

Further research can attempt to understand e-business more at a global level and test the model with more countries. Another stream of research can explore the development of e-business by identifying more intermediate variables and adding more dimensions. E-Commerce refers to all forms of business activities across the Internet. This can include E-tailing, B2B, intranets and extranets, online advertising, and simply online presence of any form that are used for some type of communication. E-Commerce has several advantages and disadvantages as indicated in these papers. E-Commerce applications that started in early 1970's needs to be still developed in terms of security and efficiency. For the developing country like our India advancement in e-commerce is a challenge to compete with the developed countries.

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