



E-COMMERCE INFRASTRUCTURE FOR THE DEVELOPMENT OF TECHNOLOGY AND COMMUNICATION

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Abstract: Intend of this study is to recognize the desirable infrastructure for e-commerce and trade with technology and communication infrastructure mainly. Also we are going to cram whether technology and communication foundation is one of emotional obstacles in creation and development of e-commerce, among other communications of e-commerce. Information systems rely on infrastructure in sharing data and information. Here we focus on IT infrastructure and discuss what skills and knowledge is needed in development of e-commerce infrastructure for the company.

The paper aims at to presenting the infrastructure for e-commerce and its impact on the current trends of economy.

Keywords: *Research Model, E-Commerce*

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I. Introduction:

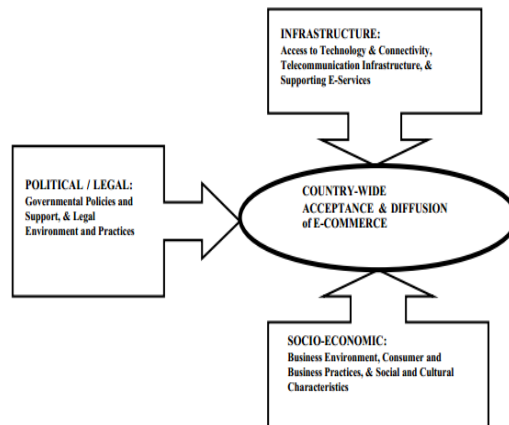
During the humane past some innovations have occurred that have caused great changes and have had wide cost. Innovations such as combustion discovery, language creation, and money creation have twisted surprising effects in human life. In the new two centuries, the creation of steam engine resulted in industrial revolt era and this new discovery augmented human welfare. Also in the 20th century plenty of innovations happened. One these vital innovations was utilizing computer networks and lastly internet in business and trade affaires. This change and growth in information technology and communications caused the appearance of information era in which information about computer to use computer networks seems necessary and vital. E-commerce also is the consequence of information technology development which is keenly welcomed in today's business world. Although e-commerce was shaped in the developed countries, it is accepted as a medium of exchange in rising countries, too. But as there are customary infrastructure and business tools in these countries, they are not ready to carry out the novel economics (digital economics). Thus, companies are forced to recognize and supply the needed infrastructure in order to use e-commerce [1].

1.1 Objectives

Our objective was to explore e-commerce connected concepts, infrastructure and socio-economic, as they relate to China as a mounting country with a government that has taken a individual interest in technical capabilities of its population. We knew from direct experience that, in malice of lately increased governmental efforts and investments ,the telecommunication and e-commerce infrastructure was not as developed in China as they were in U.S., Europe, or as would be in any developing country, and we predictable to find technical and infrastructural limitations to be important obstruction. Therefore, we focused on the societal issues and particularly wanted to recognize and explore the influence of culture on receipt and use e-commerce in this developing country.



Influences on Diffusion of E-Commerce



II. LITERATURE REVIEW

Billy and Lawrence [2] originate out in their studies that innovations and inventions in the pasture of information technology has cause an increase in the difficulty for technologies useful in the industry and has shaped competitions in service industries especially in a worldwide measure. Thus, countries seek those new technologies in order to advance their optimization level which is directly related to the increases in reasonable growth [3]. Pohjola and Javala (2007) found out that the reason for the development in economic status in America in 1990s which was about 2.3 percent was owing to work force optimization because of utilizing information technology and communications. Also they complete new confirmation to estimate the amount of utilize and creation of information technology and communications in contrast to economic growth in Finland. This research showed that the share of information technology and communications compared with production in Finnish markets, has amplified from 0.3 percent in the early 1990s to 0.7 percent in late 1990s [4]. Zaree (2004) deliberate this issue in his paper entitled: "Studying the obstacle of developed use of e-commerce in Iran, with a special look at the big import companies of the country". He used random example technique and his sample consisted 68 companies. The results of the investigate showed that increasing knowledge about the capabilities of e-commerce can augment the amount of e-commerce. Also knowledge of computer use and internet will have the most impact on the amount of e-commerce [5]. Torabi & et al. (2008) deliberate the significance and effects of globalization and the effects of novel economics highlight on the role of e-commerce on economic growth of the developing countries. The results of this research demonstrate that in developing countries with an takings level higher than the

average, the variable coefficient of e-commerce is positive and meaningful, but the globalization variable coefficient is meaningless statistically. And in countries with an income level lower than the average, both e-commerce and globalization criterion variables have a positive relationship with economic growth [6].

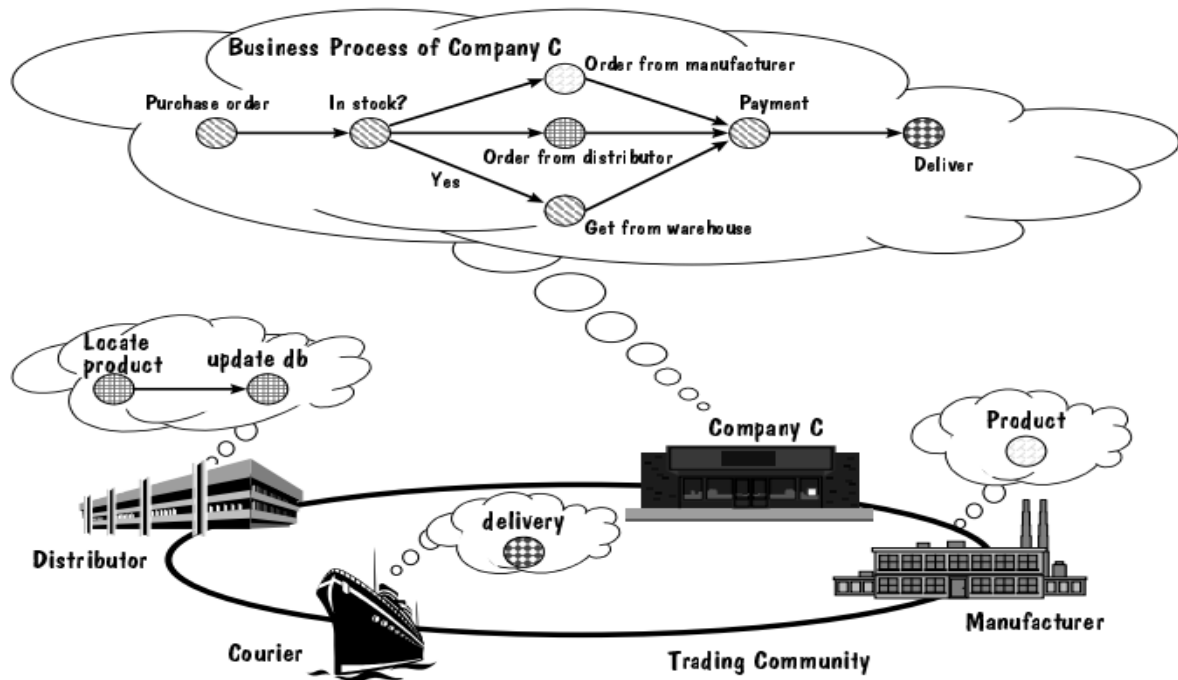


Figure 1: A company incorporating a virtual process as part of its own business processes.

2.1 E-Commerce in increasing Countries:

E-commerce is an objective effect of ICT enjoying such advantages as globalization of commerce, removal of time and space limits, increase in purchase rate, easy access to information, significant decrease of transaction costs and reduction of duration of transaction. Electronic commerce presents developing countries an opportunity that can potentially enhance economic growth and development [7]. The acceptance of e-commerce in rising countries differs greatly from developed countries. Developing countries often lack the necessary financial, legal, and physical infrastructures for the development of e-commerce. In calculation, developing countries often have different cultures and business philosophies, which limit the applicability and transferability of the e-commerce models calculated by Western countries. However, some developing countries have begun strategies to achieve an appropriate level of e-commerce development [8].



2.2 E-Commerce in Iran & UAE

According to Internet World Stats, there was a sharp growth of Internet users 13180% in Iran. This is from 250,000 users in 2000 to about 33 million users in June 30, 2010; this shows the main amount of Internet users (52.5 percent) in the Middle-East. No misgivings to the United Arab Emirates and Dubai in particular, enjoy much compensation for Internet and e-commerce growth and development. Some of these advantages were throughout the opening of the Internet city. Dubai Internet City is predictable to attract \$400 millions in investment. With the cost of two and half billion dollars (\$2.5 billion), Dubai Technology and Ideas Oasis is under the procedure to be the largest enterprise for investors and dedicated people in the electronic industry [8]. More than two third of the citizens of the United Arab Emirates or 75.9% use the Internet regularly, according to Internet World Stats (2011). The top five countries of the list of nations of the Middle East in Internet penetration are as follows. First, Bahrain with 88%. UAE is the second, where 75.9% of residents use the Internet. Rank third is Qatar with 51.8%. Then Iran with the penetration of 43.2% connects to the World Wide Web.

2.3 RESEARCH MODEL AND THEORY

2.3.1. Explore Model

This paper examines the relationship among nation and attitudes towards e-commerce. The autonomous variables were the nations involved, national cultures, gender and previous Web purchase experience, while the needy variables were the approach about e-commerce. Public Policy is a major aspect of e-commerce identified by Turban (2010). According to Turban, Public Policy includes taxation, legal and privacy issues, regulations and technical standards [9].

2.3.2 Control and Privacy

Privacy has been defined in three main ways. First, privacy is a "claim, entitlement or right" of a person to determine what personal information may be converse to others. Secondly, solitude is defined in relation to the "control" of access to personal information. Lastly, privacy is often unwritten with an individual's "rightful sphere of autonomy", the intimacies of life and one's thoughts or body. [10]

2.3.4 Isolation Cost:



Nations enact laws to protect from the loss of privacy, and that the Internet has sensitive the consciousness of the potential privacy loss due to technology. Privacy can be secluded by information control, property control and the use of secrecy of addresses in Internet communications. [10]

2.3.5 Assets Rights and Infrastructure:

Academic property IPR legislation applies to e-commerce comprises the international Trade-Related feature of Intellectual Property (TRIPS) agreement. TRIPS provide international IP standards, and purposely provide copyright protection for computer programs as intellectual creations.

2.3.6 Access Rights:

The World Wide Web Consortium (W3C) defines the Web as the "universe of network-accessible information". One of the W3C's primary goals is to make these benefits, including universal access, available to all people, whatever their hardware, software, network infrastructure, native language, culture, geography, location, or physical or mental ability" (www.w3.org/Consortium/Points).

2.3.7 Consumer partiality

Consumer partiality was defined in this paper as the tendency to prefer the store as the purchase position instead of the Internet. Consumers in nations where face-to-face concord are considered important, such as the Middle East, may cause consumers to prefer stores over the Internet. These consumers may use the Web to obtain information, and conduct their transactions in the store.

III RESEARCH THEORY:

Nation Culture

The users in various nations have conflicting approach about aspects and issues related to information technology and electronic commerce, expressed in the hypothesis as:

H1: Cultural groups will differ in attitude about e-commerce. Attitudes may be statistically different yet essentially appear to relate the same opinion in differing degrees.

3.1 Gender

Genders might also differ in e-commerce approach.

H2: Gender influences attitude about e-commerce.



Harris and Davison (2009) study computer anxiety and involvement with personal computers in six Pacific Rim nations, and note that gender may have an influence on technology attitudes and use. They report that males have a more positive attitude towards technology. [11]

3.2 Infrastructure and e-support impediments to e-commerce:

Our reading contributor recognized exact infrastructure related obstruction that will contain and be obstacle to full development of e-commerce in China in the near future. amid the most repeatedly state issues were lack of credit cards (wide availability of them for the general public in China) and convenient payment means, poor distribution logistics, lack of specialized, trust-worthy online merchants of sensible size (too many small players facing many bottlenecks and without needed resources to set up e-commerce systems), imperfect legal system, and lack of large scale telecommunication transmission capability (broadband). As users of e-commerce, the primary obstruction for our study group, in the order of importance, were "Internet security", "lack of feel-and-touch associated with online purchases", "problems in returning products", and "selection" (product availability and breadth).

3.3 EXPANSION OF THE E-COMMERCE INFRASTRUCTURE:

In universal, information system development is defined as mounting a system that convene needs or civilizing the existing system [21]. The expansion process occupy organization of the process, mapping of the organization, mapping of the present state of information dispensation and the actual design process , [12]. Here we apply these stages into development of e-commerce infrastructure.

Once the need of or moving towards e-commerce is recognized the development process must be organized and a development group must be formed. Members of the group are often selected based on the skills, role and interest that they have towards the e-commerce platform. Here business knowledge and interactive skills are at stake. A typical development group could include IT people, business managers and other key people, users and outside consultants. The important issue is that the development group has enough expertise in order to evaluate different alternatives and make design choices. Also business understanding is vital as noted by interviewed business managers.



In development work can outside sources of information be valuable. This may include advice from consultants, academic people or experts. Also conferences, professional journals and other e-commerce sites can give ideas. The second stage in the development work is mapping the organization. This refers to developing a mutual understanding of the key sectors of operations, how the information flows from one department and person to others etc. It is vital to have business understanding because e-commerce should be integrated to business processes.

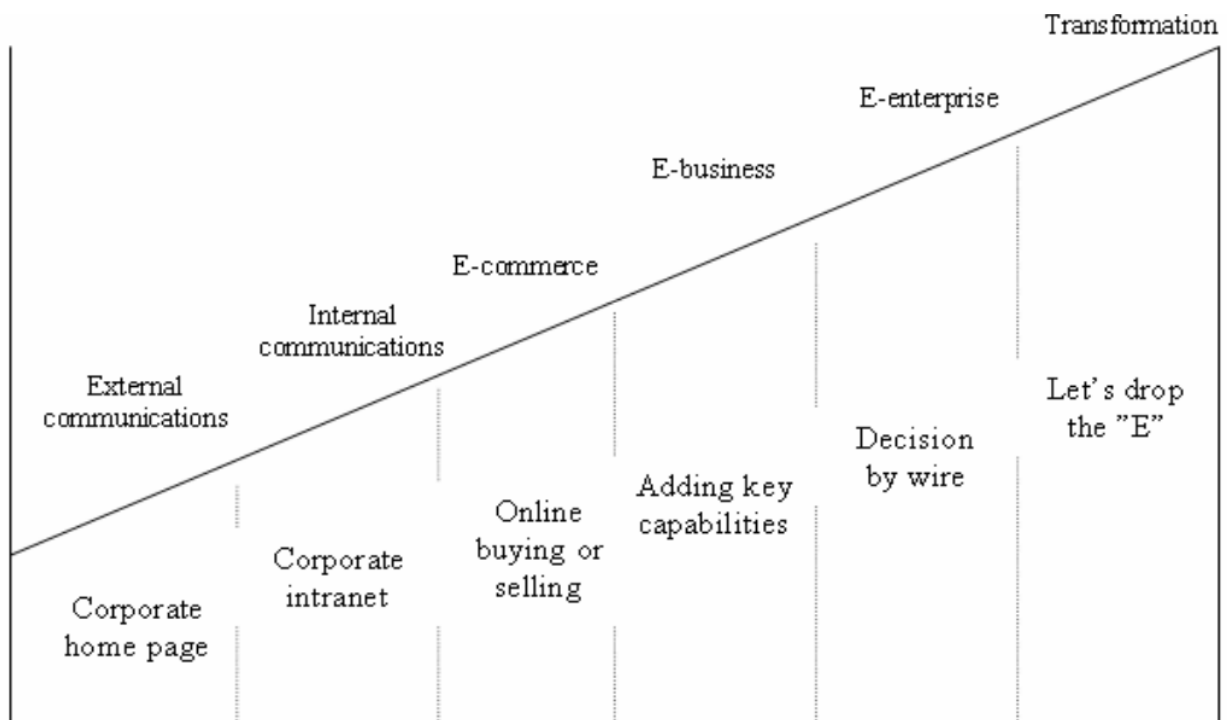


Fig2. Evolving the E-Enterprise

Mapping the present state of information systems refers to existing information system: the development group needs to understand what the underlying infrastructure is. For example, e-commerce applications are often linked to existing databases and financial systems. This is why new technology should fit into the existing IT infrastructure [13], [10]. Building a robust and reliable system that integrates existing systems with new technologies is a challenge for the development group. Therefore the actual design process calls for technical expertise. The development of an e-commerce infrastructure takes a long time. It involves also other than technical issues, for example identifying potential products and customers for e-commerce. Typically, the development of e-commerce is an evolutionary process of moving traditional business into e-business [14]. The other alternative is that company builds operations to Internet alone. In both cases there are several stages involved in the



process (Figure 2). As Earl [15] notes “lessons learned in each stage and where each stage leaves behind critical imperatives for the next “one” .In first two stages the main emphasis is often on external or internal communication. Possible applications range from company’s home pages to extranets that connect business partners to company’s information systems. In these stages learning how IT can be applied has an important role. It involves skills and knowledge in technology (web -technology, security etc.), business understanding (importance of up -to- date content on the home page etc.) and interactive skills (organizing the development work, involving technical experts, business people and outside service providers etc.). The next two stages are about selling or buying online. The key challenges here are connected to promoting e-commerce, selecting and pricing products for e-commerce and managing brand. On deeper level e-commerce and e- business involves positioning e- activities with traditional business and redesigning business processes [16]. These challenges require mostly business expertise and understanding of what are the strategic goals of e-commerce related activities in the company. E-commerce makes it possible to collect and use data of all online transactions. It allows decision-making that is based on real -time information. Therefore, management processes should be redesigned so up -to- date information can be used in company management. This can introduce new ideas of management control, thus being the basis for ins situation ailing the online business model [14].Another interesting framework of e-commerce positioning and development is a awareness/positioning framework (or commitment -implementation matrix)proposed by Stroud [17]. It is based on two questions: firstly, what is the managements’ vision of the relative importance of technology. Secondly, how can Internet be integrated into existing organizational structures? Based on these questions company’s level of commitment ranges from wait and see –approach to bus lines innovation where processes are redesigned so that the potential of Internet can be used maximally. Similarly, the mode of development varies from building separate applications to business centric development where the potential of Internet is understood [17].

The interplay of technical and business understanding is a key issue in this framework. If company lacks technical expertise, opportunities may be lost as technology is not utilized. It is also possible that the importance of technology is diminished, left to technical people alone and not considered worthy of management’s time and effort [17].The solution to



these problems is in interaction between technical people and less-technically oriented business people. In general, interaction is recognized as one of the primary requirements for successful information systems development and implementation [18]. Open discussion and changing opinions are critical for the development work. However, there are also other factors such as personal characteristics of the group members and rewarding methods that affect the interaction and performance of the development group. Consequently, enhancing group interaction and discussion are important, but may not automatically ensure better results.

IV CONCLUSION:

Expansion of e-commerce infrastructure and information technology development in general is more than production right scientific choices. Administration the expansion process is a challenge, it requires business Understanding in how technology can be utilized in the best possible way. In this extended abstract, we have presented a basic infrastructure for business to business electronic commerce.

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