

ADAPTATION OF THE E-COMMERCE BUSINESS MODEL IN IRAN: PLANNING AND HINDERING FACTORS

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ABSTRACT

Utilizing a sample of small to medium-sized Iranian organizations, this study examines current e-commerce practices and relevant constraints in the Iranian business culture. Based on the results of this study, it appears the Iranian business organizations are slowly catching the e-commerce wave. The effectiveness of these practices appears to be clearly hindered by technological and know-how information technology related constraints.

INTRODUCTION

Information technology, related systems, and practices are reshaping the operational strategic models for organizations across the globe. In this context, Iranian organizations are no exception. In fashion similar to their counterparts elsewhere, Iranian organizations are facing the challenges of doing business in a technology driven marketplace. These challenges are forcing Iranian organizations to rethink and re-orient their strategies, operations, and linkages with the external environment. In addition to universal challenges brought about by the increasing role of information technology in shaping the business model, Iranian organizations are facing unique realities which tend to magnify the score and nature of these challenges.

The purpose of this research is to shed some light on e-commerce practices of Iranian organizations. In the process, this study examines the overall implementation or lack thereof of e-commerce by Iranian business organizations. To accomplish the objective of this study, data collected from fifty (50) Iranian small to medium-sized organizations on the different facets of e-commerce are analyzed.

BACKGROUND AND RELEVANT LITERATURE

The Islamic Republic of Iran (from here on referred to as Iran) with a population of more than 70 million and the GDP of about \$270 billion is the second largest economy in the Middle East (Asemi, 2006) . With a relatively strong economic growth (about 4.8%) and a diverse industries, Iran offers a great potential in e-commerce in the future. Although there are still some major infrastructural issues related to the expansion of the high speed internet services in the country, Iran has the largest number of internet users in the Middle East (Internet World Stats, 2007). Until recently with the government

monopoly on IT infrastructure controlled by the Ministry of Communications and Information Technology resulted in high cost and poor quality of internet services, thus limiting the ability of small and medium size companies to take advantage of e-commerce. Realizing that the lack of e-commerce has been stifling internal as well as international competition and contributed to isolation from the global economy (Ministry of Commerce, 2004), the government has loosened the tight control and monopoly of internet providers in recent years. Today, there are several internet service providers (ISPs) offering ADSL and wireless services at a more affordable prices in all major cities and expanding rapidly to smaller cities as well [1].

Electronic commerce can be described as an emerging area that encompasses processes directly and indirectly related to the buying, selling, and trading of products and services, and information electronically. Kalakota and Whinston (1997, pg 8) define electronic commerce based on four perspectives. These four perspectives are: *communication perspective* –electronic commerce is the deliverer of information, products/services or payments over telephone lines, computer networks or any other electronic means, *business process perspective* – electronic commerce is the application of technology towards the automation of business transactions and work flows, *service perspective* – electronic commerce is a tool that addresses the desire of firms, consumers, and management to cut service costs while improving the quality of goods and increasing the speed of service delivery and *online perspective* – electronic commerce provides the capacity to buy and sell products and information on the Internet, as well as other online services.

E-commerce involves the buying and selling of information, products, and services [Nath et al. 1998, Gunasekaran et al. 2002, Poon 1999, Chang et al. 2002, Phan 2003, Cockburn and Wilson 1996, Ngai and Wat 2002, Foley and Sutton 1998, Vieyra and Claycomb 2001, M2 Communication Ltd 2000]. It includes all aspects of trading, including commercial market creation, ordering, and the transfer of money [Gunasekaran et al. 2002, Sharma 2002]. Businesses have shown significant interest in using the internet as a mean for building stronger relationships with customers, suppliers, employees, and business partners [Decina and Trecordi 1999, Dutta and Segev 1999, Hoover 1999, Poon and Swatman 1999, Chang et al. 2002, Phan 2003, Sharma 2002, Cockburn and Wilson 1996, Ngai and Wat 2002, Wilson and Abel 2002, Foley and Sutton 1998, Vieyra and Claycomb 2001, Gunasekaran et al. 2002, Singh et al. 2001].

E-commerce is also used as a low-cost product advertising and marketing tool [Nath et al. 1998, Strader and Shaw 1997, Cockburn and Wilson 1996, Gunasekaran et al. 2002]. It facilitates ease of access and global reach [Nath et al. 1998]. The e-commerce medium is effective as it can overcome time and geographic limitations [25] [3] [27] [20] [11]. E-commerce also poses minimal entry barriers [Foley and Sutton 1998, Nath et al. 1998, Chang et al. 2002].

E-commerce is significantly reshaping manufacturing organizations. It is changing manufacturing systems from mass production to demand driven, possibly customized just-in-time manufacturing systems. Strategic flexibility enables an organization to provide customers with personalized products, while retaining the economic advantages of mass production [4] [3] [29]. The internet, as an enabling force for improved supply chain management, offers efficiency and cost reduction to business processes across industries and nations [16]. E-commerce provides manufacturers with a great opportunity to sell and distribute directly to final customers [11].

Electronic commerce improves the flow of organizational information. It is especially useful at gathering intelligence on customers, competitors, and potential markets [Robert and Mackay 1998,

Lichtenthal and Eliaz 2003, Vieyra and Claycomb 2001, Gunasekaran et al. 2002, Lancioni 2003]. E-commerce increases an organization's ability to sense and respond to the market needs by collecting and disseminating market information throughout the organization. With this information, the organization could accurately assess or stimulate market demand, as well as search for new markets [Chang 2002].

Electronic commerce offers numerous organizational benefits, including reduced costs and improved customer service [DeCovny 1998, Levy et al. 2005]. The costs involved include transactional [Chang et al. 2002, Mariotti and Sgobbi 2001, Strader and Shaw 1997, Lichtenthal and Eliaz 2003, Robert and Mackay 1998, Vieyra and Claycomb 2001], operational [Wilson and Abel 2002, Mariotti and Sgobbi 2001, Gunasekaran et al. 2002], distribution [Gunasekaran et al. 2002], communication [Gunasekaran et al. 2002], purchasing [Lancioni et al. 2003, Gunasekaran et al. 2002, Vieyra and Claycomb 2001], delivery [Gunasekaran et al. 2002], advertising [Nath et al. 1998, Strader and Shaw 1997], administrative [Wilson and Abel 2002], and management [Mariotti and Sgobbi 2001].

The challenges to effective implementation of e-commerce are multiple and complex. Dutta and Segev (1999) indicate that these challenges are more organizational in nature, as opposed to being technology-related. In this context, a well-structured business strategy is the backbone of organizational effectiveness, regardless of the chosen business model [Wilson and Abel 2002, Decovny 1998]. Therefore, organizations, which integrate e-commerce business models with their strategic orientation are more likely to have successful e-commerce efforts [Chang et al. 2002, Phan 2003]. Successful e-commerce strategies emphasize the importance of organizational innovation and willingness to change [Cohen and Jordan 1999, Kickul and Gundry 2001]. To implement e-commerce solutions, it is necessary to have supporting information, and organizational infrastructure and systems. In this context, organizational infrastructure needs to be designed with sufficient flexibility to allow for adaptive change [Gunasekaran et al. 2002].

METHODOLOGY

Research Instrument

This survey-based research utilized a research instrument which was constructed based on an extensive literature review and feedback obtained from practitioners. Similar versions of this instrument were utilized in previous studies [32] [2]. A panel of practitioners and academicians examined the instrument for face validity before it was used. The final research instrument consisted of 25 questions. Three questions were open ended, eight used categorical scales, and fourteen utilized a Likert-type scale. A double translation procedure was utilized to translate the instrument to Farsi. The research instrument was distributed to Iranian small to medium sized Iranian organizations through personal contacts and research seminars conducted by one of the authors. The fifty (50) responding organizations were all well established with consistent track record of business activities in the manufacturing sector.

Table 1 presents a profile of the participating organizations with regard to their utilization and plans for e-commerce. The table shows that the majority of these organizations are either currently utilizing e-commerce or plan to do so. It is interesting to note that while some of these organizations have been utilizing some aspects of e-commerce for the last five years (11.4%), others (about 1.9%) will take another two to three years to implement e-commerce. Perhaps technological constraints may be the reason for this delay. Table 2 presents a sample profile in terms of information technology (IT). Based on Table 2, it appears that organizations which are in a high IT technology tend to be more likely to implement e-commerce than their counterparts in low IT technology industries. Thus, industry pressure

appears to motivate e-commerce practices. Overall, it appears that e-commerce practices are finding their ways slowly to Iranian organizations. In this context, industry characteristics and available of technological resources appear to mediate the willingness of these organizations to adopt e-commerce practices.

RESULTS

Table 3 presents the results of the data analysis in relation to the lack of implementation of e-commerce. As the table shows the reasons for the lack of implementation are multifaceted in nature. The lack of technological resources appears to be more responsible for the lack of e-commerce implementation in the case of Iranian organizations. It also appears that customer demands and readiness for e-commerce practices tend to drive the e-commerce implementation process of business organizations.

Table 4 sheds some light on the different factors and issues considered during the planning process for e-commerce. The potential competitive impact of e-commerce appears to have received considerable attention. In general, it appears that the different aspects of e-commerce all received due considerations during this critical stage. Thus, indicating a systematic approach to the e-commerce planning process.

Table 5 presents the factors which tended to hinder the implementation of e-commerce practices in the responding Iranian organizations. The lack of knowledge and experience are two of the main hindering factors identified. The lack of technological resources appears to be a unique hindering factor to the efforts of Iranian organizations to implement e-commerce practices effectively. This can be attributed to the embargo imposed on transferring technology to Iran.

CONCLUDING REMARKS

The purpose of this study was to investigate the different aspects related to the e-commerce efforts of Iranian business organizations. The Iranian business culture with its rich business traditions and unique operational realities presented the setting for this investigation. An attempt was made to include as many organizations as was possible in this study. However, only fifty (50) small to medium-sized organizations responded by completing the research instrument. Based on the results from Iranian sample and the review of relevant literature, the following conclusions are withdrawn.

First, most small to medium-sized Iranian businesses are beginning to slowly realize the need to re-invent their business models to be more e-commerce oriented. Despite this realization, some organizations are delaying their plan to implement e-commerce practices due to industry-specific factors, lack of pressure from customers and the unavailability of technological resources.

Second, it appears that the lack of customers demand for e-commerce related practices and the lack of readiness of customers to utilize such practices are delaying e-commerce investment or organizations.

Third, Iranian organizations appear to approach the e-commerce implementation effort systematically. They tend to plan for the implementation of e-commerce carefully and adjust their existing processes, practices and procedures in order to achieve effective outcomes.

Finally, based on the results of this study, technological constraints appear to play more critical role in the success of the e-commerce efforts than the culture factors. It also appears that the availability of information technology resources tends to drive the e-commerce initiative. Therefore, despite

understandable difficulties, Iranian organizations should make all efforts to invest in modern information related technologies and know-how.

REFERENCES

(References are available from the authors)

Tables

(Tables are available from the authors)