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A COMPATIBILITY STUDY OF E-COMMERCE IMPLEMENTATION

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The explosive growth of the Internet has made Electronic Commerce (e-Commerce) indispensable in today's business environment. e-Commerce takes advantage of the Internet technology to conduct business electronically via advanced information networking and communication facilities. The features of ubiquity and platform independence contribute to the rapid growth of the Internet. The Internet technology has been evolutionary, but the business aspects of the Internet have been revolutionary.

In addition to enhancing traditional business practices, e-Commerce and the Internet also enable (often in a revolutionary manner) the creation of new business opportunities as well as effective business processes. E-Commerce and the Internet are about access: to information and business opportunities. Timely access to information allows a company to operate more effectively: in inventory control, in supply and value chain management, in customer care and in procurement. Information enables better coordination between business partners (suppliers and distributors) to reduce transaction costs and to streamline operations.

The Internet also extends the reach of business to geographically dispersed sets of customers at minimum costs. It represents a new distribution channel to an otherwise out-of-reach market. Note that the "Internet" channel is not revolutionary in extending a company's geographical reach. The mail-order catalog business accomplishes the same function. The Internet model enhances this geographical distribution model, at a fraction of the cost. Other new businesses are made possible (enabled) because of the Internet: the auctioning market places, notably e-Bay. Such business models are not possible without the Internet. Businesses cannot afford not to incorporate the Internet infrastructure in their strategic as well as operational planning, in order to remain competitive.

Information flows in both directions between consumers and businesses. Customers obtain product and price information from companies, and companies obtain "profile" information from consumers (through their web surfing activities). To establish an Internet storefront, businesses have to decide on how to advertise, how to attract "eyeball" (foot traffic in traditional brick-and-mortar storefront model), what to sell and how to sell. Many radical business models have emerged because of the Internet: free e-mail and PCs giveaways. How do we make sense of these business models? This will be one objective of our research effort: to create taxonomy for Internet business models.

While there are an estimated more than 30 million commercial web sites worldwide, with the addition of 5000 new commercial sites per month, some critical problems have to be understood. These include how to make your web site recognized, how to know customers' interests (e.g., the time customers staying on certain contents of your page, etc), how to manage the www contents, how to make the customers doing purchase, and how to manage the e-logistics, e-distribution, and e-customer service, etc. Only after these problems been studied, we then can harness the full potential of the Internet in order to be successful on e-business. In short, e-business definitely is not just to open a virtual site on the Internet and then sit and wait for customers to come. Internet technology is the enabler of E-Commerce, but E-Commerce is not "about" the technology. There is more than the technology to deal with to be successful in E-Commerce. As a second objective, we propose to examine consumer behavior with data derived from the Internet via log-file analysis.

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Many US companies have reported success in implementing E-Commerce concepts to open their own business and to gain market share. According to the survey of "Business 2.0", the total sales of E-Commerce are more than 48 billion for the top 100 firms within US. The top-five list includes Cisco Systems, Dell Computer, IBM, AOL, and Amozon.com, which have all been experiencing tremendous growth of the Internet sales revenue and the contribution of the Internet sales to total sales. Another important consideration concerns local conditions: how to apply e-Commerce to Countries outside the U.S. with different business environments and cultures. Considerations include customized e-Commerce strategic planning and implementation (see compatibility chart below), economic globalization trend and the issue of core competence. Take, for example, Taiwan: a developing country with a population around 23 million primary in a small island of Fareast region. The economic situation, business environment, and culture in Taiwan are unique to its own and the development of e-Commerce for most of aspects is a few years behind the U.S. For example, the number of Internet users is expected to reach 6.5 million in this year. Also according to some recent surveys, only less than 20% users in Taiwan ever shopped on the Internet. These numbers are in sharp contrast to U.S. data, which has around 100 million Internet users and more than half of them have participated in on-line shopping. In addition, there are also other issues such as the demographic issue, the culture issue, the retail channel and local logistics issues that contribute the different consumer behavior in Taiwan versus in US. Therefore, we studied the issue of local adoption of U.S. Internet business models based on the compatibility chart.

In this paper, we investigated the followings:

(a) Environmental scanning of Taiwan E-Commerce market including current situations and future opportunities.

(b) Discussion and analysis of companies successfully applying E-Commerce in the U.S.

(c) Assessment and evaluation of the different situations between Taiwan and US markets. And

(d) constructing a mapping mechanism from US cyber market to Taiwan cyber market and identifying the favorable business sectors to invest.

To achieve the research purpose mentioned above, a research procedure would be followed with a number of studies. These studies can be represented as a matrix which called the E-Commerce compatibility study matrix. (Table 1) In addition, a framework of e-Commerce strategic planning and deployment (Fig.1) is also proposed and discussed.

◆ E-Commerce compatibility study matrix:

A compatibility matrix was designed to construct the analysis of business environments versus functions and business opportunities provided over the Internet. This matrix can be used for US market study as well as for Taiwan market study. In addition, we can use this matrix to compare the US and Taiwan business environments and to suggest the future development of Taiwan E-Commerce direction. In this matrix, each cell can be seen as an analysis of whether and how an element of the business environment affects the facilitating of a certain E-Commerce function. For example: in the upper-left corner cell, we would study whether the legal system in each country affects the implementation of information storing, sharing, and distributing over the Internet, then we would discuss how and to what degree. In addition, in the cell corresponding to culture and shopping, we studied how the culture issues affect the market size of the Internet shopping. Even though we have seen fast growth of Internet shopping in US but there is just a very small market in Taiwan. Can Taiwanese buy behavior or the characteristics of Chinese culture explain these differences? We provide our viewpoint on it.

Table   1   The E-Commerce compatibility study matrix

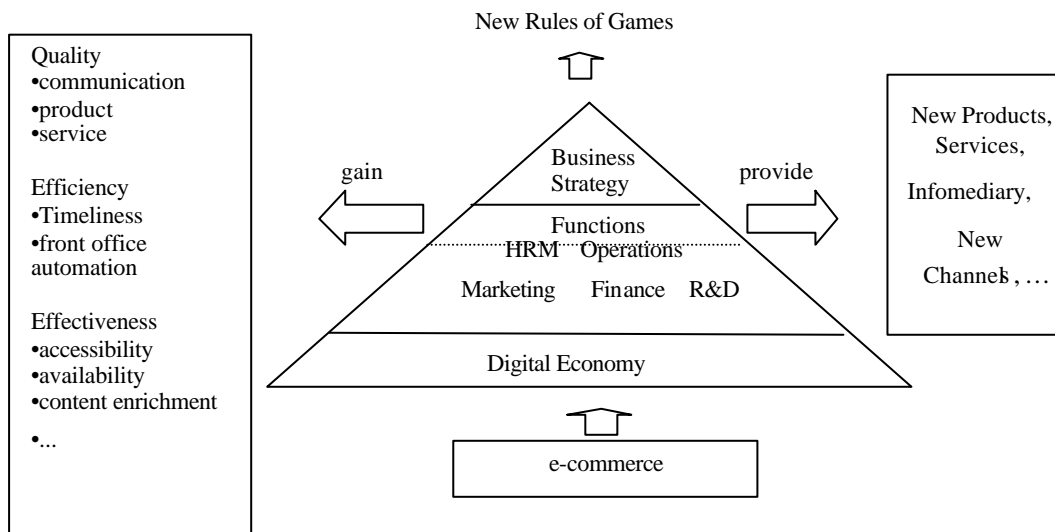|	Legal System (tax, e.g.)	Political	Culture	Security	Size	Revenue Model	Market Size	Barrier-to-entry	Competit ion	Infra-structure	Tech-nology	Capital
Information: data base												
Shopping: What are you selling?												
Auction												
email												
voice mail												
Fax												
Unified Messaging												
Business-to-business transaction												
Banking												
Entertainment												
Community Building												

Fig.1 Framework of E-Commerce Strategic Planning and Deployment