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A STUDY ON THE INTERNET USAGE IN CHINESE BUSINESSES

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Abstract

China's admission into WTO has brought Western businesses abundant opportunities to enter the enormous Chinese market. One of the promising areas that attract much business attention is the Chinese E-commerce market. The public use of Internet in China has seen a dramatic increase in the last few years. Is the Chinese business community ready for E-commerce? How widespread is the Internet technology being used in Chinese corporations? What are the barriers for adopting the Internet technology? This paper reports a survey conducted among Chinese managers and administrators to answer these questions.

Keywords: E-commerce, adoption status, CSFs, China

Introduction

China's economic growth has maintained its fast pace for over two decades. One of the fastest growing areas in Chinese economy is the Internet-related business. The public use of the Internet technology increases rapidly. According to surveys conducted by China National Network Information Center (CNNIC), the number of Internet users has reached 33.7 million as of December 31, 2001, an increase of 49.8% over the previous year. The number of computers connected to the Internet has reached 12.54 million, an increase of 40.6% over the previous year. According to industry analysts (Conlin 2000), by the year 2005, Chinese Internet users may reach an estimated 60 million, which is just 5% of the 1.2 billion Chinese population.

Inferred from the CNNIC December 2001 survey, the percentage of Chinese online shoppers could reach at least 10% to 15% among all Internet users. With 40 to 60 million Internet users in the next two years, the 10% to15% e-shoppers are a sizable market. According to International Data Corporation (IDC), the estimated E-commerce revenues totaled US $2.2 billion in 2000 and the forecast of 2001 E-commerce sales was US $5.6 billion. It is predicted to be $12 billion by 2004 (Conlin 2000; Dedrick and Kraemer, 2001)

Foreseeing an encouraging future of Internet usage and Web-based E-commerce in China, it is beneficial for practitioners and academic to have a good understanding of the current Internet E-commerce applications among Chinese businesses, as well as the trend of the applications. This paper reports the results of a study conducted among the business managers and government administrators in China. The study is designed to understand the current level of E-commerce applications in Chinese businesses, the barriers to, and the critical success factors for E-commerce in China. In the next section, a brief review of the previous studies on the Internet usage in Chinese business is presented. The survey, its results, and implications for foreign businesses are presented.

Internet Usage in Chinese Business

In contrast to the fast growth of PC users and the Internet users, the nation-wide level of IT applications in business and management remains low. Many small and medium businesses do not have computer information systems to support transaction processing or decision making (Lu and Jiang 1999). Since late 1980's the Chinese government has launched several national campaigns to promote IT development and its applications in both government departments and state-owned enterprises. The objective is to build a national information technology infrastructure. More recently, Dedrick and Kraemer (2001) cited the following percentages of Chinese firms that have Web presence: 51% in manufacturing (except chemicals), 19% in banking, 75% in chemicals, and 56% in telecommunications sector.

The Survey

The survey was conducted using a convenience sample of Executive MBA students and business managers in the summer, 2001 to winter, 2001 in two Chinese provinces (Zhejiang and Shaanxi) and two industrial port cities (Dalian and Xiamen). Zhejing, a southeastern province, bordering Shanghai, is one of the well-developed provinces in China. Shaanxi province is located in the Northwest of China. The province has been designated as one of the bases for heavy industries such as mechanical and chemical products.

Dalian in the Northeast is a rapidly developing port city with foreign investments from Japan and South Korea entering the city rapidly. Xiamen, located on the other side of Taiwan strait, is one of the first five "special economic zones" opened to the world in early 1980's. Foreign invested companies account for over two thirds of the companies in the metropolitan. All the provinces and cities in this survey have undergone dramatic changes in the last two decades. They are among the most promising regions for further economic developments.

Data Collection

The respondents in Zhejiang and Shaanxi were Executive MBA students in two major universities located in the capital cities of the provinces. Data in Dalian and Xiamen were collected from convenience samples.

The respondents were asked to fill out a survey (in Chinese). The survey consists of questions with a 7-point Likert scale assessing the respondent firms' use of the Internet technology, major problems facing the Internet usage and E-commerce, and their perceptions of critical success factors for E-commerce in China. One hundred forty usable responses were collected.

Demographics

The respondents are from a variety of industries such as manufacturing, service, financial institutions, software firms, and education sector. Out of eighty seven responses with known industries, about half (49.4%) of them are from manufacturing sector, about fifteen percent (15.3%) from service industries, and fifteen percent (14.9%) from financial sector. More than seventy four percent (74.4%) of the respondents are in middle- or higher-level managerial positions.

Current Business Usage of the Internet

The respondents were asked if their businesses have Web sites and what the functions of their Web sites are. More than seventy-three percent (73.5%) of the respondents indicated that they have Internet Web sites. A cross-industry analysis of Web presence shows that a higher percentage of surveyed firms in IT, Education, and Trade have Web presence than that of firms in other industries. The result concurs with the findings cited in Dedrick and Kraemer (2001).

As to the business functions (see Table 1) served by their Web sites, the most frequent answers are publicizing company general information (91.8%), publicizing detailed products & service information (66%), collecting customer feedback (53.2%), and E-commerce transactions at various levels (30.3%). An analysis of Web functions across companies of different sizes indicates that larger organizations tend to use their Web sites to provide detailed information about their products and services (significant at

0.01 level: p = 0.004). There are, however, only about ten percent (10.1%) of the Web sites that have capabilities for online payment.

Table 1. Internet Usage

Functions	Percentage
Publicizing company general information	91.8%
Providing detailed products & services information	66%
Collecting customer feedback	53.2%
Online transaction processing	30.3%
Online access of customer account & order information	16.5%
Electronic downloading of products & services	14.7%
Online purchase payment	10.1%

Barriers to E-Commerce Adoption

To understand the problems Chinese businesses face when they adopt the E-commerce strategy, the respondents were asked to rate some common problems (Table 2) on a seven-point Likert scale.

Table 2. Problems in E-commerce and Internet Applications in General

Problems	Rating	Ranking
Internal Problems		
Information only flows one-way	4.70	1
Upload/download too slow	4.68	2
Data incomplete or inaccurate	4.67	3
Shortage of network personnel	4.66	4
Lack of top management support	4.62	5
Business partners do not use Internet	4.54	6
Lack of training of staff	4.44	7
Lack of awareness of importance of EC	4.41	8
Network problems	4.23	9
Not networked or too few are networked	4.05	10
External Problems	Rating	Ranking
Security of online transactions	5.25	1
Customer trust	5.13	2
Reliable warehousing and delivery	4.62	3
Credit cards not well-developed for EC	4.50	4
Banking, taxation, auditing not ready for EC	4.22	5

The problems are classified and ranked into two groups: internal and external. It is obvious that the security of online transactions (rated 5.25) and customer trust (rated 5.13) are the two most concerned problems among all. The lack of consumer trust in business is caused by the long time problems of unethical business practices such as fake name-brand products and poor product/service quality. Although there are laws and institutions for customer recourse, the enforcement of laws is weak, often nominal.

The internal problems can be grouped in two types: technical (slow network speed, network problems, Web design), and organizational (skills shortage, poor data management, lack of staff training/ management support/ EC awareness). A cross-firm-size and cross-industry analysis shows that slow network speed is a more severe problem in small and medium size organizations than in large organizations (significant at 0.05 level: p = 0.029). It is a more severe problem in service industry than in manufacturing (significant at 0.01 level: p = 0.008) and financial institutions (significant at 0.05 level: p = 0.011).

Online payment and delivery are two other problems. Credit cards and bank debit cards are not prevalent methods of payment in China. Most people still prefer to pay by cash. There is no nation-wide credit card processing system – credit cards are normally

accepted only in upscale hotels or shopping centers. Banking services are limited. Transportation and delivery systems are poor in general. These are all major problems hindering the growth of E-commerce applications in China.

Critical Success Factors for Chinese E-Commerce

The respondents were asked to rate factors such as top management support, Web site design, price, delivery, and after-sale service on their respective importance in successful E-commerce (Table 3). Among the factors, good after-sale service is ranked the most important. On-time delivery and secure online payment are ranked the second and the third most important factors. Good interactivity and online information privacy protection were ranked the fourth and fifth in importance. It is interesting to note that developing E-commerce business model, marketing planning, and attractive Web site design are among the least important factors to Chinese respondents.

Table 3. Critical Success Factors

Critical Success Factors	Rating	Ranking
Good after-sales service (return, repair, tech support, etc.)	5.809	1
On-time and reliable delivery	5.642	2
Secure and effective online payment method	5.591	3
Good interactivity, strong support for two-way communications	5.552	4
Protecting customers' information privacy and security	5.489	5
Enabling online check of order status	5.309	6
All management functions have strong support for E-Commerce	5.284	7
Support and commitment of top management	5.119	8
Cost savings and pass the savings to customers with low price	5.045	9
Convenient navigation and strong search features of Web site	5.41	10
Providing Web-enabled customized/personalized product/services	5.03	11
Develop and adopt effective E-Commerce business models	4.99	12
EC-related marketing planning and implementation capabilities	4.89	13
Attractive Web site design	4.407	14

Future Actions and Implications for American Business

At the end of our survey, the respondents were asked to choose a set of actions they would take in the next two to three years to tackle the problems they are facing in the Internet and E-commerce applications in their organizations. The top three actions they selected are Capital and Equipment Acquisition (56%), Expanding IT and Network Professional Team (54%), and Staff Training (46%). A cross-industry analysis reveals that Capital and Equipment Acquisition was chosen by about seventy three percent of manufacturing firms (73.2%), about sixty nine percent of service firms (69.2%), and about fifty five percent of financial institutions (55.6%).

The growing Chinese IT and E-commerce market presents abundant business opportunities to American business. In fact, more than twenty percent (22.2%) financial institutions and about fifteen percent (14.6%) manufacturing companies in this survey plan to hire consulting firms to improve their Internet and E-commerce applications. Among large companies, about twenty percent (20.7%) intended to hire foreign consulting firms – a very encouraging message for American IT/IS and marketing consulting firms.

However, American business should never underestimate the potential risks of doing E-commerce business in China. The cultural, regulatory, logistic, and technical challenges still remain big obstacles. China is a nation of no tradition for remote shopping. It may take longer than one thought for ordinary Chinese to be willing to purchase things without first seeing and touching them. The Chinese government is pushing for E-commerce. But on the other hand, it exercises a tight control over the information flowing into the country, which is counter-productive to Chinese E-commerce development since free access of information is an important foundation of successful E-commerce.

Conclusion

The study shows that Chinese businesses are rapidly adopting the Internet technology. More than seventy three percent of the surveyed have Web sites. But only ten percent of the Web sites can process online payment. The problems for adopting the Internet and E-commerce strategy are network security concerns, lack of customer trust in online transactions, lack of effective and secure online payment method, and lack of timely and reliable delivery system. The top three perceived critical success factors for E-commerce are good after-sales customer service, timely and reliable product/service delivery, and secure and effective online payment method.

The Chinese IT and E-commerce market is growing rapidly. American business can play an important role in this world's largest market. However, the risks should not be underestimated. Cultural, regulatory, and logistical problems remain major obstacles. Future research should compare the perceived critical success factors in E-commerce between American and Chinese managers. It is also desirable to compare the critical success factors identified by successful E-commerce adopters and less successful adopters.

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