

Internet Development and E-commerce Barriers in China*

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Abstract: With China's entry into WTO, electronic commerce becomes an indispensable premise for China to build a modern, competitive, knowledge-driven economy, and integrate its national economy into an increasingly networked, knowledge-based global economy. This study examines the current status of Internet and E-commerce development in China, finds the factors that lead to the current situation in terms of government policy orientation, identifies the major barriers to E-commerce adoption in China, and proposes strategies toward greater success of E-commerce in China.

Key words: E-commerce informationization payment system security

1. Introduction

After more than twenty years' reform and opening up, the Chinese economy showed a high and sustained growth, the overall strength of the country expanded noticeably. Rapid economic growth is usually accompanied with structural change. Two driving forces, Internet and E-commerce, have placed China on an inexorable path towards greatness, both economically and geo-politically in recent years. Although whether Internet and E-commerce will be the engine of economic development in China is still questioned by skeptics, they will bring positive influence to China, including reform to the education system, increase in the standards of living for the nation's farmers and urbanites alike, and greater openness.

According to the survey published by the China Internet Network Information Center (CNNIC), there were 45.8 million Internet users and 161.3 million computers connected to Internet in China by July 2002.^[4] The UNCTAD report on China's promising E-commerce says that China boasted US\$9.33 billion in E-commerce transaction in 2000, and between 1997 and 2000, the number of Chinese Internet users was doubled every six months.^[10] The potential of e-business market in China is undeniable. By the end of the first quarter of 2000, there has been over 1100 E-commerce network stations and as many as 20.3% of the network users made purchase online.^[8] This may suggest that E-commerce in China has been put into use and business operation. However, doing e-business successfully and profitably in China, as elsewhere in the world, is much more difficult. A number of obstacles, including those of technological, financial and legal natures, impede the growth of E-commerce in China.

2. The Internet and E-commerce Development

The United Nations Conference on Trade and Development (UNCTAD) released *E-commerce and*

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Development Report 2002 on November 18, saying that E-commerce and internet usage will see a soaring growth in next few years, with China heralding the E-commerce development in the Asia-Pacific region. In addition, the report held that China would soon witness an Internet population, the largest part in the Asia-Pacific region and play a leading role in this region's E-commerce development, thereby exerting an active impact on the global E-commerce in the middle of the term.^[3]

Since its debut in 1994, Internet users have grown exponentially from a mere 6 million in 1997 to 45.8 million in 2002. By the end of 2003, this figure has almost increased to 80 million. The total bandwidth of leased international connections has reached 27,216M in 2004. Meanwhile, the number of computer hosts, registered domains, and web sites has also been increasing at the similarly high rate. In January 2004, there were over 308.6 million computer hosts, 340,040 registered domains and 595,550 websites in China.

With the improvement of the Internet infrastructure and the domestic policy climate, E-commerce started to pop up in China. Bookstores took the lead. Shanghai bookstore was one of the first to go online in January 1999. Later on, China's most popular portal, sina.com, shifted its business strategy toward E-commerce by opening a shopping mall on its site. Various concept websites and commercial models such as business-to-consumer (B2C), business-to-business (B2B), consumer-to-consumer (C2C), business-to-consumer-to-business (B2C2B), consumer-to-business-consumer (C2B2C), consumer-to-consumer-to-business (C2C2B), and government-to-business (G2B) have emerged, with B2B being China's main development focus. The applications of EC include home banking, shopping online stores and malls, buying stocks, finding a job, customer services, traveling, and collaborating electronically on research and development projects.

China started talking about E-commerce in 1998. In 1999, the nation of 1.3 billion people with only 8.9 million Internet users got a taste of e-business Chinese-style.^[6] By the end of 2002, China has boasted over 3,804 E-commerce websites. E-commerce transactions registered a total volume of 180.9 billion Yuan in 2002, wherein B2B transaction reached 178.4 billion Yuan and B2C was 2.5 billion Yuan. The volume of B2B transaction was expected to grow to 229.4.8 billion Yuan in 2003, while that of B2C was anticipated for 13.6 billion Yuan in 2003. Over 10% transactions of the 160 billion dollars national foreign exchange reserve of the import and export are done through EDI (electronic data interchange).^[1]

Considering the increasing number of potential Internet users in China, the possibility of current E-commerce platforms, and the uniqueness of the E-commerce solution in China, it seems that E-commerce has a bright future. The potential for e-business to bring new markets to Chinese companies, improve market information and transparency of pricing, and improve distribution of goods and services, is widely acknowledged. Admittedly, the two main crucial driving forces behind the China's New Economy are Internet and E-commerce. E-commerce has become an economic phenomenon that broadly affects the production, exchange, distribution, and consumption of products and services.

However, compared with the US and Europe, E-commerce remains in an embryonic state in China. When compared with the overall economy, E-commerce in China is hampered by the fact that there were only 458 million Internet users in China by 2002, comprising less than 3% of the total population. Furthermore, only 10% of China's large and medium-sized state-owned enterprises (SOEs) have computer networks that have previously done business electronically, according to the Trade Department under the State Economic and Trade Commission.^[5] There are factors that constrain the development of E-commerce in China. There are also challenges that domestic and foreign companies, and Chinese policy makers need to face.

3. China's Internet and E-commerce Policy

The bursting of the dot-com bubble and IT industry's downturn has led to recession through the US economy and international Internet development. To explore the interesting phenomenon of the Internet community in China continuing to expand, we need to investigate the Chinese government Internet and E-commerce policies. China is a developing country in the transition period. In developing countries undergoing a strategic change like China, the development of domestic and foreign markets is not only a measure of the increase in efficiency but also a measure of the success of government policy reforms. Chinese government functioning contributes to Internet and E-commerce growth in many ways, but only four of them are the most striking.

The first is propelling industrialization with informationization and making development by leaps and bounds. To achieve this strategy, in the 10th Five-Year Plan that began to be implemented in 2001, the growth rate of the IT industry is expected to triple that of the GDP. This suggests that in the coming five years, the IT industry will grow by 20 percent annually. Information technology was designated as "pillar industry" in China. The policy aims to reform traditional industry by high-tech and international advanced technology, thus enhancing the whole quality and the global competitive edge of national industry. In the next five years, Chinese government will further push forward the development of E-commerce and create favorable technology, network, business and legislature environment for it.^[7]

The second is e-government construction. China historically has a planned economy with state ownership system. Practices over years have proven that system is susceptible to the creation of bureaucratism, commandism, and blind leadership, and "doing things in accordance with the wishes of a superior government officer". To reduce corruption and improve efficiency, Chinese government spurs on e-government construction. An e-government project called "government online project" begun in China five years ago, and now all the provinces and all the state bureaus are online. A number of e-government services have been already on Internet. The "government online project" includes 8 topics as follows: (1) online electronic information exchange; (2) online government procurement bidding; (3) online welfare payment; (4) electronic delivery; (5) information center; (6) electronic document manage and publish; (7) electronic tax; (8) digital ID. Besides the "government online project", there are "corporation online project" and "family online project" as well. Citizens are encouraged to access e-government services as their convenience. In October 1997, there were about 323 domain names registered under the .gov.cn domain in China. Today, according to the CNNIC annual report, the number of .gov.cn domain names has increased up to 7796.

The third is education, especially college education related to the network education development. Chinese government's spending on education increased dramatically in the last two decades. Elementary and secondary schools in the country's rural areas have been arduously building computer labs so that they can run computer-related courses. IT infrastructure in universities is improved magnificently as the result of government education investment. CERNET (China Education and Research Network), which is a broadband computer network connects China's top-level higher educational and research institutions. Through the CERNET, university faculties and students have access to the information resources on Internet. According to CNNIC, in October 1997 there were 325 .edu.cn domain names in China. The number grew to 1629 in July 2002. At present there are over 200,000 students in the distance education network nationwide, and it is estimated to be one million in the coming three years. More and more educators agree that the universities without "walls" based on modern information technology will become another "pass" for young people to enter famous institutions of higher learning.

The fourth is flow of talented people. China needs well-educated and well-experienced professionals to bring along their knowledge and skills. This will change the structure and flow of talented human in China. The need for talent people results in a strong inter-dependence between the flow of people and Internet. Headhunter firms grow rapidly in China. Headhunting services have become an important channel for organizations to seek high-level talents and the flow of such talent individuals. To attract intelligence, the central and local governments have introduced different human resources policies including the gradual elimination of “Hu Ji” system. China also has a huge overseas talent pool. To appeal to the overseas scholars, through Internet, the governments have offered special packages and treatments to them. Statistics indicate that since reform and opening up in 1978, China has sent more than 300,000 people to study in 103 countries and regions. Around 100,000 have returned to the motherland and have been an important force in pushing forward China’s development in all aspects. The need for talent people also happens within the county.

4. Major Barriers of E-commerce Development

There is no question that the Chinese market is an awesome opportunity. Considering the increasing number of potential Internet users in China, the possibility of current E-commerce platforms, and the uniqueness of the E-commerce solution in China, it seems that E-commerce has a bright future. However, the rush to pour marketing and sales resources by using E-commerce is a shortsighted view. There are factors that constrain the development of E-commerce in China. There are also challenges that domestic and foreign companies, and Chinese policy makers need to face.

(1) China’s E-commerce is still at the initial stage, so it needs a comprehensive legal framework as discipline. As with other Chinese industries, E-commerce is subject to supervision by a variety of government agencies at both central and local government levels. The Ministry of Information Industry, created in 1998 by the consolidation of the Ministry of Posts and Telecommunications, the Ministry of Electronics Industry and the Ministry of Radio, Film and Television, oversees the computer and telecommunications industries, including Internet. Foreign investment of any kind, including investment in areas related to Internet and E-commerce, is subject to approval by and supervision of the Ministry of Foreign Trade and Economic Cooperation. The State Administration for Industry and Commerce (SAIC), as the government department responsible for the registration of enterprises, has general responsibility to supervise the activities of Internet content providers, Internet service providers and other entities registered in China, and also has a supervisory role over online and other forms of advertising in China. There is no formal, centralized regulation or law of E-commerce, but certain agencies have begun regulating E-commerce. The problem is that not only there are no clear uniform policies, but also there is no strong enforcement system of the policy. How to regulate website-based business is a new project for all of the world. In fact, it is a difficult task paced by the Chinese government. This is not just because there is a strong tradition of regulating market (or economic activities) in China, but the some attributes of E-commerce (virtual space, borderless, etc.) make it more difficult to enforce any regulations. In general, there have not been a clear idea on how regulate this new model economy in China. Now the regulation policies, mainly made by the various government departments, focus on the content control, but some local governments have tried to regulate the online transaction.

(2) The Internet infrastructure is underdeveloped, Internet linkage connecting speed is slow and the costs are expensive. Currently, Internet access remains a relatively urban luxury, because 80 percent of all Chinese Internet

users are located in large cities while more than 80 percent of China's population resides in rural areas where infrastructure is not so developed and per capita income is much lower than that of the urban area. Undeveloped rural infrastructure largely contributes to the problem. The Chinese government attempts to develop telecommunications in the rural area have achieved some promising results. However, generally speaking, rural telecommunications are still undeveloped and lag far behind the urban areas. For instance, in many remote areas, the whole village may have only one telephone line. The Chinese government has experimented with eliminating installation fees in some rural areas. However, in areas where infrastructure is undeveloped, this policy is virtually of no effect, because marginal costs there are much higher and telecom operators can barely make profits under the current scale. This problem is unlikely to be fundamentally solved without major investment in infrastructure in these areas.

Access to Internet not only requires infrastructure but also needs certain expensive equipments such as computers and paying fees to ISPs. Several factors have kept the cost of Internet access very high in China. Low social information level, limited application fields and scale makes E-commerce investment cost high and unparallel to its output ratio. Many institutes and families do not have computers or have computers not capable of connection of Internet. Low-income people have to afford expensive Internet connection fee. Internet in China is the realm of young people with lower income. Over 25% of China's current Internet users have a monthly income below RMB 800 (US\$96), and 42% earn between RMB 800-1,500 (US\$96-181) per month. ^[2]

(3) New monopoly of Telecommunication and ISP market undermine the acceleration of E-commerce development. In 1990s, China Telecom dominates 90% of current ISP market and only leases out limited band to other small ISPs who have to rely on China Telecom mercy to be able to have a foothold in the market. As a result, the Chinese people have to pay exorbitant prices for Internet access, even if they can afford a PC. In May 2002, China Telecom Group and China Netcom Group were officially established as the result of restructuring the telecommunication industry. The central government split the former China Telecom state telecoms operator into two parts, north and south, to create more competition. The new China Telecom Group covers the 21 provinces and metropolitan areas in the south and north-west of China, serving a population of 824 million with an estimated GDP of US\$898 per head (2001). China Telecom also has the right to compete in the 10 northern provinces where China Netcom is the incumbent. ^[9] Many analysts predict that this strategy can only create regional monopoly and will not foster the kind of competition the government has wished. External Competition is badly needed to break the monopoly.

(4) Traditional consumption behavior is deeply rooted, so it takes time for people to accept E-commerce. Firstly, Chinese people have formed rooted consuming habits, and they tend to carefully select and try before they buy. The idea of buying something is that they would like to have a chance to sample or even touch a product before buying it. Secondly, customers do not trust an unknown faceless seller, paperless transactions, and electronic money. By switching from physical to virtual stores may be difficult. Thirdly, Chinese people are accustomed to living in a savings environment, not living on credit. According to the survey by CNNIC, only 0.86% of the people's primary goal of accessing Internet is online shopping. This has created a culture of mistrust in consumers about online merchants and the concept of secure electronic payment.

(5) Payment system is a bottleneck for E-commerce development in China. The China inter-bank and intra-bank infrastructures are lack of relevant laws to support E-commerce. In order to assure financial stability, some enterprises revoke its credit to customers, or audit or check customers by means of association system, so that they can set up their own credit management system. Some large enterprises have to set up special line or

network by themselves to solve the weak infrastructure problem.

Credit cards are not popular and few retailers use credit. Chinese people have a strong preference for using cash. Many E-commerce transactions in China typically involve selecting a product online but paying offline, usually via cash-on-delivery. This is to overcome payment barriers and the cumbersome authentication process involved in online payment. Popular commodities for online shopping are relatively less expensive and low-risk items like books, CDs, computer peripherals and cosmetics, which do not require post-sales service or speedy delivery.

(6) The lack of security and privacy embarrasses E-commerce. There are security issues. Many people do not trust online transactions; likewise, the policies and regulations for encryption software and security products are unclear. The insufficient experience of most Chinese network system administrators, and vulnerable hardware and illegal copy of software make customers sensitive to online business. There are no specific laws made to govern the legal use of personal information and transaction records of consumers as well as the safety and the authorization of the use, and effectively protect customer's such legal rights as privacy. The EC industry in China has a very long and difficult task of convincing customers that online transactions and privacy are, in fact, very secure.

5. Conclusion

The application and development of E-commerce and network technology in China have received nationwide attention from various walks of life, which leads to a nice foundation for the full realization of informationization and the popularization of E-commerce as well. As the 16th China's Communist Party Congress has placed the informationization with a high priority, it offers a great opportunity for E-commerce. Even though there are many problems in the informationization propelling process in China, we should not underestimate the rapid development of E-commerce. Great attention should be attached to the driving force from both the private and industrial and commercial sectors as well. The policy makers should form an industrial pattern that takes high and new technological industries as the lead and basic industries and manufacturing industry as the support, and ensures the all-round development of the service industry. Because China's human resources are particularly rich which generate tremendous pressure on employment, therefore, we should not give up traditional industries and labor-intensive industries even for dozens of years. Chinese government should correctly handle the relations between the development of high and new industries and traditional industries, among capital-intensive industries, technology-intensive industries and labor-intensive industries, and between virtual economy and entity economy.

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