

The Internet Revolution in China: Current Situation and Future Prospects

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I. The Internet Revolution: Development Opportunities and New Challenges

1. Emerging Opportunities for Development

Like all other developing countries, China views the speedy expansion of the Internet as an opportunity, because through networking China can be better positioned to combine its intelligence, knowledge, and creativity for breakthroughs in the creation of economic growth, social development, and human ingenuity. The Internet will create a kind of "latecomer's advantage" helping China to catch up with and surpass advanced technologies and promoting China's modernization. These opportunities mainly involve enterprise business activities on the Internet which

- Opens access to a huge market and unlimited commercial opportunities.
- Provides a new tool for joining global competition and obtaining competitive advantage.
- Illustrates the best ways to improve productivity and management efficiency.
- Introduces new business models.

2. The Coming Challenges

In the context of economic globalization, the Internet explosion may be a double-edged sword, with challenges as well as opportunities. It is easy to imagine that a country may lose its development opportunities in the Internet Revolution if it is not able to transform these disadvantages into advantages. The challenges posed by the Internet are more serious for China than for other countries. For example, the Internet is

- Shaking the still formative market-based social system.
- Subjecting enterprises to fierce global competition.
- Pressuring employment in traditional industries.
- Raising new issues regarding economic security and social stability such as hacking, viruses, privacy protection, and information security.

As we enter a new millennium the Internet will certainly deeply revolutionize our society, economy and technological system. Both the official "informatization" drive and individuals' online frenzy have generated opportunities and challenges to the political system and socio-cultural legacy. Only nations that are well prepared to embrace the Internet Revolution will be able to catch the opportunities. China appears to be firm in choosing to ride the Internet wave, perhaps with an ancient heart and a modern soul.

II. Informatization: Riding the Internet Wave

Rapid technology evolution and strenuous economic integration since opening and reform began in 1979 have stimulated China to rethink its development strategies and to restructure its industrial and regulatory framework. China's only strategic choice is to speed up industrialization and simultaneously promote informatization. In 1993 the National Economic Informatization Co-Meeting under the State Council initiated "Three Golden Projects" as the country's first step to building an information technology infrastructure. These projects were to construct national networks for public communication, customs clearance, and electronic bank payments. China's enthusiasm to embrace information networks originated from urgent domestic needs and strong international pressure. China has attained international standards of information society in several fronts.

1. Information Infrastructure Growing Fast

After the three Golden Projects, China constructed 12 state-level professional networks

for financial, railway, science and technology, and other systems. ChinaNet, the skeleton for the country's Internet, was established in 1995 and was followed by GBNet, CERNet and CSTNet, three Internet gateways. At the end of June 2000 China's total international line capacity for the Internet stood at 1,234 million, 512% above the level in June 1999, and it reached 2,799 million by the end of the year 2000.

As China put advanced communications and information on the fast track, the Internet is one of the fastest growing sectors. Internet-using applications have been encouraged, and the number of PCs with Internet access and the number of Internet users have risen dramatically (Table 1). China now has the third largest number of Internet users in the world, after the United States (80 million) and Japan (20 million). It is estimated that by the end of 2000 China had surpassed 20 million users, a key threshold for electronic commerce. This base of users will support a rapid increase in online transactions.

Table 1: Recent Development of the Internet in China
(Million)

	1996	1997	1998	Jun.30, 1999	Dec.30 1999	June.30 2000	Dec.30 2000
PCs with Internet access	0.10	0.33	0.75	1.46	-	6.5	8.92
Internet users	0.20	0.67	2.10	4.00	8.90	16.90	22.50

Source: Center for China Internet Information, *Report on China's Internet Development*.

China has also worked on constructing telephone networks, and telephone exchange capacity has grown by nearly 20 million lines per year. This is equivalent to the total network capacity of a regional telephone company in the United States or the total switching capacity of Australia's national telephone network. By the end of September 2000, 200 million people in China were connected by telephone networks, of which 65 million were wireless connections through mobile phones. China stands behind only the United States in the number of users of wireless mobile.

2. Online Transactions: Embracing and Developing Fast

According to the Ministry of Information and Infrastructure (MII), in 1999 online transactions totaled 55 million RMB (US\$6.5 million)¹, which represents only 0.00177% of total retail consumption and only 0.23% of US online consumption in 1999 (US\$ 20.2 billion). This means that electronic commerce (EC) in China is still in the initial stage, and there is a big gap between China and advanced countries such as the US. But the prospects for EC in China are good with International Data Group (IDG) recently reporting that China's online business will climb up to over US\$ 11 billion within a 5-year period.²

It will not be surprising if EC eventually becomes an emerging industry for China as a result of continued opening-up policies and efforts to merge with the world economic system, such as WTO entry, in keeping with the tide of globalization.

3. Gradual Improvement in Regulatory Structure

In 1998, the Ministry of Telecommunication & Post, the Ministry of Electronic Industry, the Ministry of Electricity merged into MII, which includes the network management function of the former Ministry of Broadcast, Film and Television. Policies must focus on transition from the long-term planning system.

China promised to open its huge telecom market following the signing of WTO-related agreements with the United States (at the end of 1999) and with the European Union (in the first half of 2000).

¹ <http://www.finance.sina.com.cn/view/market/2000-05-23/33753.html>

² Data taken from IDG, a global market research firm (See Frank Xing Fan, "Foreign Investment in China's Internet Business: Forbidden, Forgiven, Forced Open?" /WAYS, First Quarter 2000, P.15).

Several other important changes in regulatory structure occurred in 2000.

- The signing by Shanghai Telecom (a branch of China Telecom) of a basic telecom cooperation agreement which represented the first foreign investment in basic telecom in China.
- The division of China Telecom into four companies and the granting of basic telecom licenses to several other companies, bringing the number of licenses to seven in total.
- The release of "Telecom Management Rules".
- The issuing of some rules related to Internet management, such as "Internet Information Service Management", "Web-sites Management with Up-Load News Business", "Electronic Promulgation Management on Internet".

III. Future Prospects: Developing Electronic Commerce

The Chinese government has realized the power of the Internet to change economic and social life. EC has been developing rapidly around the world in conjunction with the explosion of the Internet. The government has focused on developing EC because of such characteristics as its high efficiency, low cost, unlimited transaction time, rapid growth, and extremely strong market-extending ability.

1. Barriers and Blocks

China has some problems to resolve in order to develop EC, particularly the online payment system. Even though all state-owned commerce banks have set up online banking services since the end of 1999, most EC business payments are still made through a bank or by postal remittance rather than online. Developing EC in China faces many other barriers, which can be divided into ones involving utilization of technology and ones related to the system and environment for commerce. It is mainly the latter sorts of problems that are holding back EC development in China. These include payment of tariffs and taxes; management of electronic payment and foreign exchange; protection of copyrights, patents, trademarks, and other property rights; collection and utilization of private information; ensuring national economic security; laws and regulations relating to EC; information infrastructure; security certification; and propagandizing, educating, and popularizing EC.

2. The Role of Government

Even though technology and market forces influence Internet growth, government policies and regulations will remain critical in determining its direction. The important roles for the government are in the establishment of national policies, objectives, and strategies for developing a nationwide infrastructure and for equitable use of public resources. Actually, China needs a good monitoring mechanism as it proceeds with economic reform. Weak and ineffective macro-control could lead to a setback or failure in economic development. According to international experience, the role of government in a market economy also involves providing financing and incentives for development of information infrastructure and strategic projects, defining regulatory arrangements and institutional responsibilities, and resolving conflicting objectives and interests. Accountability, transparency, flexibility, and efficiency of government operations are required for governance of the information society.

Through the Government Online Project, started in 1999, the central government encouraged government departments, commissions, and provincial and local governments to set up web-sites and supply information through the Internet. Through the Enterprise Online Project initiated in 2000 the central government is encouraging state and collective-owned enterprises to establish an Internet presence.

3. Establishing a Perfect Commercial Environment

To establish the ideal environment for EC development China must focus on:

- Enhancing online transaction security.
- Perfecting online payment means.

- Improving cost and other conditions of Internet access.
- Perfecting the commodity distribution system.

4. Speeding up Social System Innovation

The accelerating Internet revolution has already had tremendous impact on virtually all aspects of human life and social structure. China needs to make and enforce policies, regulations, and legislation to create an environment that promotes the development of the Internet. China is now speeding up the restructuring of the social system. The EC Framework, which is now being formulated and may be issued in the near future, could set an example. The main principles of the Framework are:³

1. Government should use macro-programs and guidance to encourage EC development
2. Enterprises must play a leading role in EC.
3. Demonstration projects should be used in specific industries, regions, and enterprises to promote infrastructure construction, payment systems, and legal and regulatory changes.
4. Government should strengthen legislation and the management system to safeguard the national economy
5. China should actively cooperate internationally in order to establish a globally coordinated and consistent EC environment.

Another important aspect of social system innovation is to improve legal and regulatory systems. As China is still shifting from a planned economy, it needs to establish legal and regulatory systems that are suitable to a market economy. For all developing countries social system innovation is more important, to some degree, than technology innovation.

A recent sign of innovation in China's system is the Tenth Five-Year Development Plan released in September 2000, which did not define specific growth rate targets as previous plans did. The current plan emphasizes the wide utilization of information technology and the enhanced popularization and application of computers and networks. "Speeding up EC" was included in the government document for the first time. Undoubtedly we will find that electronic commerce has a bright future in China.

³ Xiaodong Li, *Scheme and Choice* (in Chinese) Beijing: Friendship Publishing House, 2000, p.211.