

**New Trend of Chinese Mobile Communication Industry
after China's WTO Accession**

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Abstract

This paper provides a picture of how the Chinese mobile communication enterprises deal with the threats emerging from the China's WTO Accession, and how the WTO Accession might impact the Chinese Mobile Communication industry. Specifically, this study attempts to address the three major questions: Will Chinese WTO accession break the oligopoly situation in Chinese Mobile Communication industry? How will the introduction of Third Generation affect the industry? What ways can domestic companies use in order to compete with these challenges?

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1. Introduction

The Chinese mobile communications sector is dynamic and vibrant for many foreign companies. The China's World Trade Organization (WTO) Accession can be seen as a tremendously rich set of opportunities for foreign investors. It also poses a serious threat to domestic mobile communications companies from direct foreign competition.

On November 2001, China was officially a WTO member. Market is now opened to foreign investors, although there are some restrictions for them. For China's enterprises, it is expected that they will face keen competition. Four years has gone, Chinese enterprises are still the majority group in the market. The Telecom market in china now dominates by four companies, they are namely China Telecom (中國電信), China Netcom (中國網通), China Mobile (中國移動) and China Unicom (中國聯通). For China Mobile and China Unicom, they are still the only two license holders which can operate mobile phone service legally. However, a new mobile phone substitute exited in the market, it is called *Xiaolingtong* (小靈通). It is operated by China Telecom and China Netcom. It acts as the wireless extension for the wired telephone system, and provides low-end mobile phone services to subscribers based on fixed-line networks within limited geographic areas. It performs like a mobile phone but enables roaming only within the city. As it functions like a mobile, it may bring

great influences to the mobile industry. Under this reason, China Mobile and China Unicom may compete drastically on one hand, and on the other hand, they both face the threat from China Telecom and China Netcom.

The strategies they used significantly affect the current market status. Moreover, it is reported that the Third Generation may be introduced in China during year 2006. The introduction will further change the market environment.

In this report, the major issue I would like to discuss is the new trend of the mobile market after WTO Accession until the end of 2006. During this period, how Chinese enterprises deal with the threats emerging from the China's WTO Accession? How do they compete with each others? And how will the introduction of Third Generation affect the market.

I will first discuss the current situation of mobile market by analyzing the background information of current market and strategies used by Chinese and foreign enterprises. Both of the Mobile Market and *Xiaolingtong* Market will be analyzed; finally I will forecast the impacts of the introduction of 3G. As 3G is one kind of mobile phone services, it will also affect the whole market situation when the licenses are announced. Therefore, based on the current strategies of enterprises and their preparation of 3G, I can forecast the new situation of mobile phone market until the end of 2006.

2. Literature review

Government presence in China's telecommunication market

Chinese government played important role on developing telecommunications service sector (Nie & Zeng, 2003). This industry began to restructure in the 1990s. Chinese government had implemented some steps to restructure the market, the most important step was splitting China Telecom, the sole monopoly operator before 1990s, into four parts. The new China Telecom focused on fixed-line service, China Mobile on mobile communication, China Satellite on Satellite network and service, and China Paging soon merged into Unicom. Another important issue was opening the telecom market to foreign investors but controlled by the government. Under this condition, China Unicom listed and set up a new joint venture in Shanghai with AT&T (Wang, 2001), and later become the second large service provider in China. It changed the mobile communication market to oligopoly situation and therefore it is essentially a significant part for my project.

Although it is appropriate to say that government role was important, I don't think that it can still apply to nowadays situation. Since China becomes a WTO member, she has to follow some restrictions. One of them is government can't intervene the market anymore. Government presence is no longer an important factor to analyze this industry. Thus, I will not concentrate on this part in my project.

What is oligopoly?

In economics definition, Oligopoly is a market in which control over the supply of a commodity is in the hands of a small number of producers and each one can influence prices and affect competitors. It has numerous features: there are only a few dominant firms; their products are similar but differentiated; entry barriers are so high that the incumbent firms can earn positive profits without luring new firms to enter; interdependence of firms, businesses have to take into account likely reactions of rivals to any change in price and output; and the last one is the degree of market concentration is high, that is a large percentage of market is taken by leading firms.

Limitations of several journals

I have read numerous journals, many scholars like Roseman (2005), Chuang (2000), Liang & Meng (2000, March) and Harwit (1998) are both concentrated on the whole telecom industry. Although it can give us an overall understanding of China telecommunication, it can't deeply discuss on a specific market, like mobile communication industry. I want to emphasize on mobile communication industry because this market has a rapid growth, insufficient information caused people could not be aware of the market. WTO accession even changes the circumstance of the market, for example the investment climate. The previous studies may not be enough to explain the new development trends, hence my project can overcome this problem.

3. Methodology

How to gather information

In my report, I will mostly base on the secondary data, through the literature search and companies' annual proposal/report to collect the information that I needed. My project is about how domestic companies compete with foreign competitors, it should be focused on the companies' strategies, and therefore previous methods that I mentioned are good alternatives. Moreover, in order to obtain the latest news, I will also base on the electronic resources. These data can provide my project with a concrete foundation with the detailed background information.

Data Issue

In my project, I will compare several companies' corporate strategies. For domestic companies, I will choose China Telecom, China Netcom, China Mobile and China Unicom as my reference. The reason for choosing them is they are the majority enterprises in telecommunication market. Moreover, their strategies are mainly used for competing with each others, so they have the greatest impact on the market. And for foreign companies, I will choose Vodafone and Telefonica to talk with as they have already entered Chinese market. I will discuss their intentions and entry mode in entering the market. By comparison, we can see the differences among them.

4. Background information of the current market

The Chinese Mobile Phone industry can be divided into two parts, one is the Chinese Mobile Communication industry; and the other is Chinese Mobile Manufacturing industry. The former is mobile service providers and the latter is mobile and equipment manufacturers. In this study, only Chinese Mobile Communication industry will be covered.

During the late 20 century, Chinese government played important role on developing telecommunications service sector (Nie & Zeng, 2003). Due to the government's presence in Chinese Mobile Communication industry (Nie & Zeng, 2003), domestic companies were grown up in a constant rate. Until now, the market was still mainly controlled by two service providers, China Mobile and China Unicom, and turn into an oligopoly situation of the industry.

In the following, we will have a look on **China's WTO Commitments, Competition, Market size and Market Share.**

4.1 China's WTO Commitments

On November 2001, China was officially a WTO member, and changes have to be made in different categories. There were some changes that deeply influenced Chinese Mobile Communication industry: Lower tariffs for importing IT products; Elimination of Non-Tariff Barriers and The opening-up of the service sector. Table 1

shows the summary of several Policies Changes and the Time Frame after WTO accession.

TABLE 1
Policies Changes and Time Frame

Current Policy	Changes	Time-frame
13% Tariffs for IT products	Eliminated	2003--2005
Quota for import	Eliminated	2005
Coordinated purchase of domestic products	Ceased	Not specified
No foreign investment allowed in mobile service sector	Up to 49% equity holding by foreign investors	EU: 3 yrs. After accession US: 5 yrs. After accession

Source: (Nie & Zeng, 2003)

However, the most significant policy for the Mobile phone services is opening-up of the market. Mobile phone services will be opened to foreign competition within 3 years of WTO accession, and foreign interests will be permitted to constitute up to 49% of the equity (Nie & Zeng, 2003). Foreign investors can participate in mobile service by Equity Joint Venture in all cities within China by the end of 2006. It is rich set of opportunities for them. Table 2 shows the market access schedule in opening-up of the mobile communication industry.

Type of Service	Percentage of Foreign Investment Permitted					
	As of 12/11/01	As of 12/11/02	As of 12/11/03	As of 12/11/04	As of 12/11/06	As of 12/11/07
Value Added Services	30% in Beijing, Shanghai and Guangzhou	49% in 17 cities	50% with no geographic restrictions	No Change	No Change	No Change
Basic Telecoms Services - Mobile	25% in Beijing, Shanghai and Guangzhou	35% in 17 Cities	No Change	49% in 17 cities	49% with no geographic restrictions	No Change
Basic Telecoms Services - Fixed	0%	0%	0%	25% in Beijing, Shanghai and Guangzhou	35% in 17 Cities	49% with no geographic restrictions

Table 2: market access schedule in opening-up the mobile communication industry

Although the market will be enlarge after WTO accession (Liang & Meng, 2000), it can be expected that domestic companies will face a keen competition with the foreign companies in coming few years.

4.2 Competition, market size and market share

There are only two mobile license holders, China Mobile and China Unicom, can operate mobile phone service legally in China. That means others telecommunication enterprises can not operate any mobile communication services. In order to use mobile phone service, users must choose either one of them. As there are two mobile operators and they provide similar services, the mobile communication industry is in

an oligopoly situation.

China Telecom and China Netcom are two main fixed-line communication service providers. Since they don't have mobile license, they can't operate mobile phone service. As a result, they use "Little Smart" or *Xiaolingtong* (it will be discussed in the latter part.) to compete with China Mobile and China Unicom. Although it is not mobile phone, it functions as a mobile and acts as a substitute of mobile phone service. Hence, in this report, I will analyze the market size and market share for both mobile phone market and *Xiaolingtong* market.

The Mobile Market is continued to grow in recent year. Based on the statistical data from Ministry of Information Industry of the People's Republic of China (MII), the total number of mobile users (the market size) grows constantly. In 2002 to 2005, the number increased from 206,616,000 to 393,428,000, the growth rate in each year was about 15%-30%. The following two figures show the growing trend of mobile phone users in china, the growth rate in each year and the popular rate of mobile phone respectively.

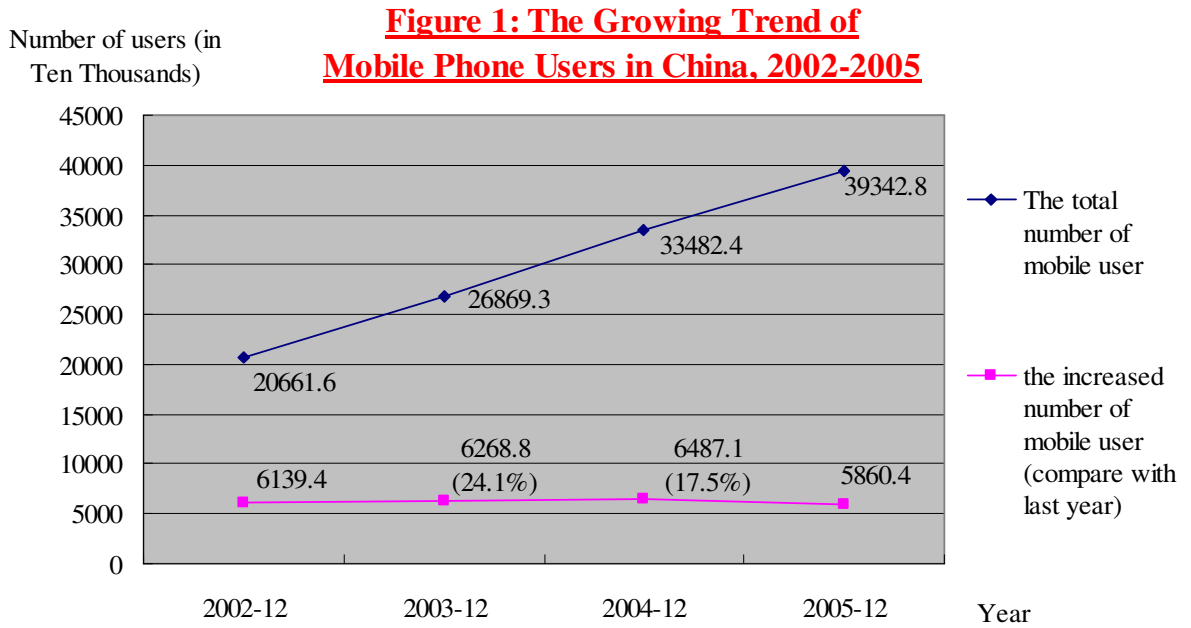


Fig 1: Source: Ministry of Information Industry of the People's Republic of China (MII)¹

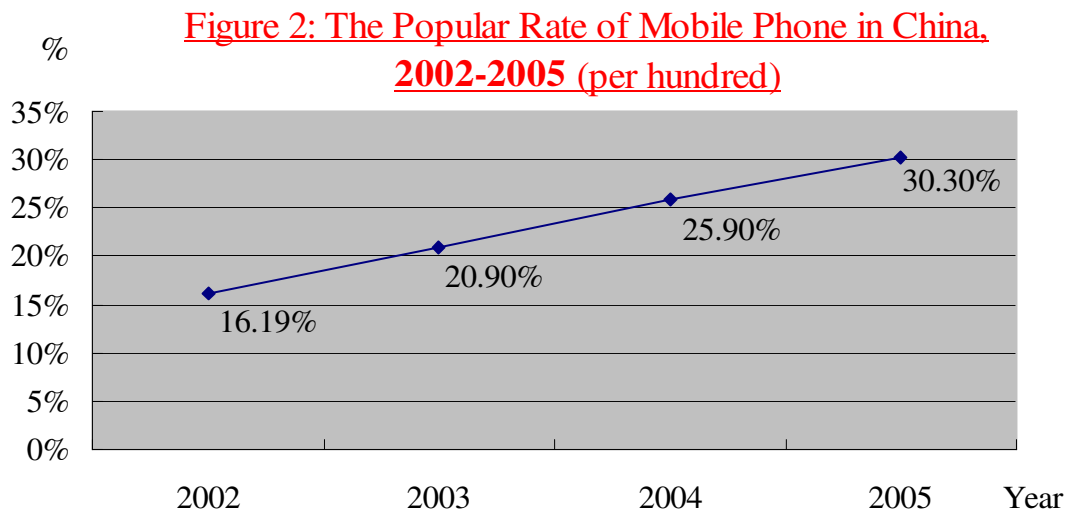


Fig 2: Source: Ministry of Information Industry of the People's Republic of China (MII)²

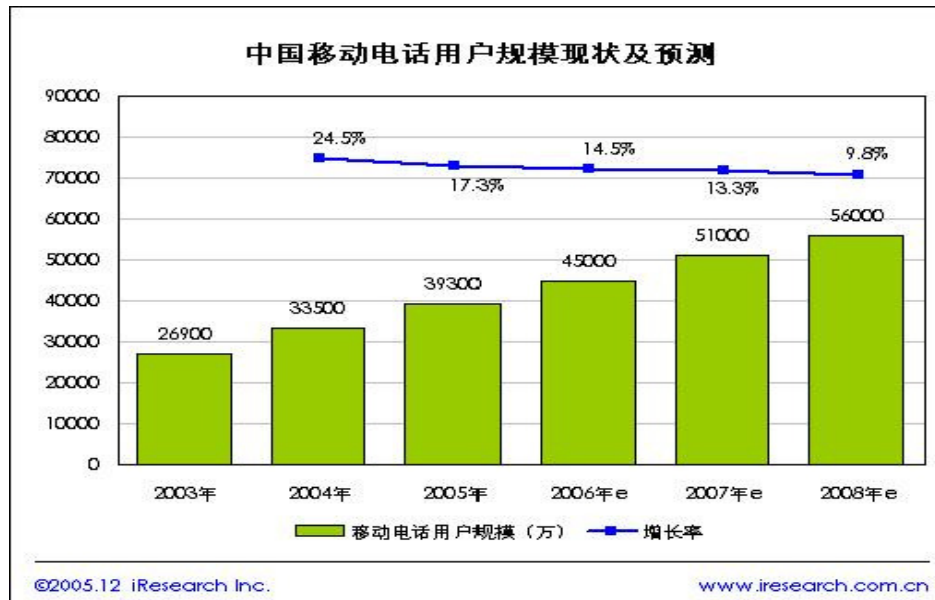
From figure 1, we can see that the percentage of users growth rate increased is decreasing, but the actual users increased are still at a constant rate. In figure 2, it illustrates the popularity of mobile phone is increasing and more and more people use

¹ Statistical data, 2002-2005: <http://www.mii.gov.cn/col/col166/index.html>

² Statistical data, 2002-2005: <http://www.mii.gov.cn/col/col166/index.html>

mobile phone. It is expected that the market will keep on growing rapidly and steadily.

The figure below shows the estimated growth rate of mobile phone market in 3 years.



Beside the Mobile Market, *Xiaolingtong* places an important role in competing with mobile service. *Xiaolingtong* targets on low end users, it is cheap in price, but performs as a mobile phone. The main difference of them is *Xiaolingtong* can only be roaming within the city as it based on fixed-line networks. Since it is cheap and the functions are quite comprehensive, it attracts many customers. In the latest year, the total number of *Xiaolingtong* subscribers has grown to 85 millions. Figure 4 shows the rising trend of *Xiaolingtong* subscribers in 2001-2005. It is clear that *Xiaolingtong* is a strong substitute to mobile phone. Thus, fixed-line service providers (China Telecom and China Netcom) can erode some potential users from mobile service operators (China Mobile and China Unicom).

Figure 4: The growth of Little Smart (Xiaolingtong) subscribers in China, 2001-2005 (in millions)

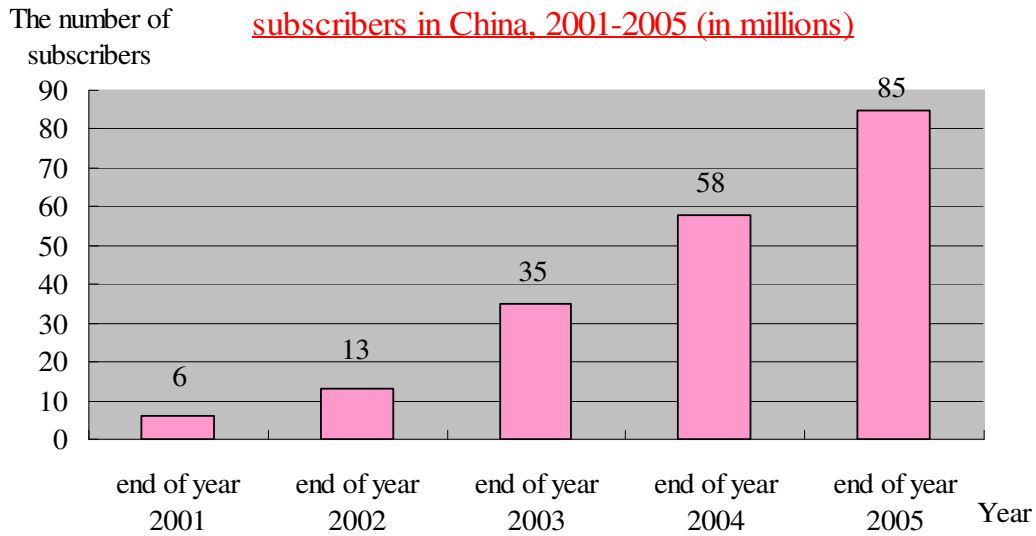


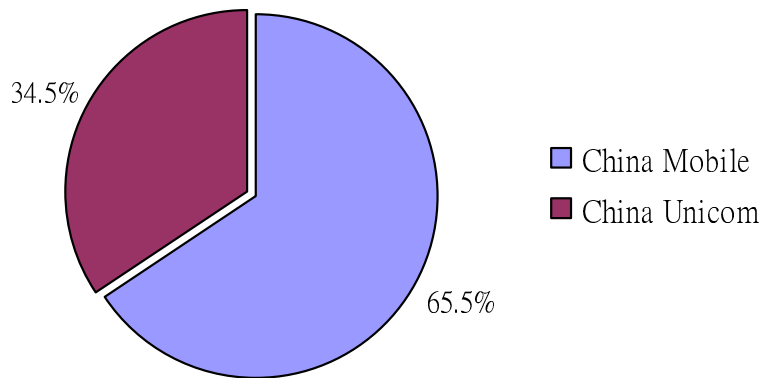
Fig 4: Source: Liu (2004)³ and China Communication Network⁴

As mentioned above, there are only two mobile service operators in the market, China Mobile and China Unicom. They carve up the whole mobile market. From the MII's statistical data and the company's annual financial report, China Mobile enjoys 65.5% of the total market share in year 2005. On the other hand, China Unicom captures the remaining 34.5% market share. Figure 5 shows the market share each company possessed in 2005.

³ Statistical data, 2001-2004 : Liu (2004)

⁴ Statistical data, 2004-2005 : <http://www.c114.net/>

Figure 5: The Market Share of Mobile Phone Market, 2005



Source: MII⁵, China Mobile's⁶ and China Unicom's⁷ Annual Financial Statement

In comparison, the *Xiaolingtong* market is mainly controlled by two fixed-line service providers, China Telecom and China Netcom. They are the major *Xiaolingtong* providers. China Telecom has 65.4% market share while China Netcom has 32.2% market share. The following figure (figure 6) shows the market share of the market, illustrates the distribution of market share.

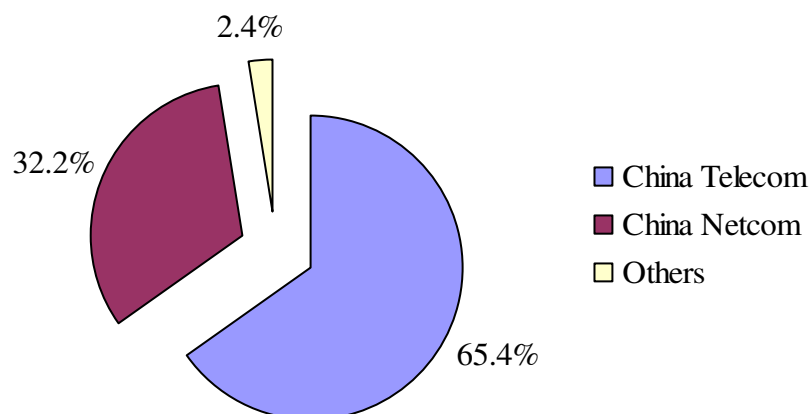
To conclude this part, we can see that in competing with the mobile phone service, two routes have appeared: original mobile phone market and *Xiaolingtong* market. Enterprises' strategies had an important impact on this situation. Therefore, the following part: "Strategies used by Domestic Service Providers and Foreign Investors in competing mobile phone service" will deeply discuss their strategies.

⁵ MII's Statistical data, 2005 : <http://www.c114.net/>

⁶ <http://www.cnii.com.cn/20050801/ca341334.htm>

⁷ <http://www.cnii.com.cn/20050801/ca342114.htm>

Figure 6: The Market Share of Xiaolingtong Market, 2005



Source: MII⁸, China Telecom's⁹ and China Netcom's¹⁰ Annual Financial Statement

⁸ China Communication Network's Statistical data, 2005 : <http://www.c114.net/>

⁹ <http://www.cnii.com.cn/20050801/ca341811.htm>

¹⁰ <http://www.cnii.com.cn/20050801/ca341604.htm>

5. Strategies used by Domestic Service Providers and Foreign Investors in competing mobile phone service.

From the market analyzed above, it is clear that mobile service operators are facing competition against two fixed-line service providers, which have offered *Xiaolingtong* service too. As *Xiaolingtong* is a substitute of mobile phone, mobile service operators not only compete with each other, but also take precautions against *Xiaolingtong*. Thus, strategies they used become very important to their business. It is interesting to see that their strategies/services are quite similar, or even the same. The changes of the market rely on companies' strategies, in order to analyze the new trend of the Chinese Mobile Market, it is essential to compare different strategies from different enterprises. In the following part, it will discuss three main parts: **four major operators' strategies used in competing with mobile phone service; the limitations foreign investors facing and the solutions they can apply to overcome those limitations.**

5.1 China Mobile's Strategies: GSM, GPRS Network and Brand Making

China Mobile has a better performance than China Unicom because it enjoys the First mover advantage. China Mobile inherited the mobile communication business formerly operated by China Telecom after the 1994 Reform. It enjoyed the huge user

base from China Telecom and started its mobile communication service. After ten years, China Mobile is still the biggest mobile operator in China.

China Mobile has a significant superiority against China Unicom, that is the GSM network it owns. As China Mobile took over the mobile communication business formerly operated by China Telecom, it enjoys first mover advantage in constructing Global System of Mobile communication (GSM)¹¹ network. GSM network is a network for the Second Generation (2G) users. It can provide conversation and SMS (Short message service) to customers. It is widely used in China nowadays. In operating GSM network, China Mobile owns 6 sections of mobile phone serial number(手機號段), which are from serial 134 to 139¹². Seeing China Mobile owns 6 sections, it can then serve a larger customers base, mainly included high-income and middle-income customers. The network is well-developed and boasted an apparent advantage in coverage, especially indoors coverage¹³. Moreover, China Mobile keeps on improving the network quality so that it provides a stable and reliable network service to customers. Therefore, in comparison of GSM network, obviously China Mobile is superior over its main competitor, China Unicom.

General Packet Radio Service (GPRS) is a 2.5G network, which is developed from GSM foundation. Its connection is faster than 2G, but slower than 3G. In order to

¹¹ <http://zh.wikipedia.org/wiki/GSM>

¹² http://www.chinamobile.com/gzygyd/ppzq.asp?ClassID=4&ClassChild_ID=33

¹³ <http://www.chinamobile.com/ENGLISH/communications.html>

compete with China Unicom's CDMA network, China Mobile detruded a new network, GPRS, on 15th May, 2002. It has an advantage of smooth transition, on the other words, users do not need to replace the original mobile phone number during the transition from GSM to GPRS network, so it is convenience for them to use GPRS. Moreover, as GPRS is a 2.5G service, it provides more functions than GSM network, such as Multimedia Messaging Service (MMS, in Chinese "彩信")¹⁴. MMS provides better capacity for voice, images and data messages, in 2G network, these services can not be provided. Thus, GPRS network helps China Mobile to provide different services to different target groups. However, compared with CDMA network, GPRS network has a weakness: the speed of the network is not as fast as CDMA, this is the congenital limitation of GPRS.

The last strategy used by China Mobile is Brand making¹⁵. Based on market segmentation, China Mobile succeeded in shaping nationwide household brands like "GoTone"(全球通)¹⁶, "Shenzhouxing"(神州行)¹⁷ and "M-Zone"(动感地带)¹⁸. "GoTone" has gained a massive take-up among high-value customers for the superior value of service, while innovative brands like "M-Zone" are welcome in the Fun-Love-Youth group. Finally, users can roam in different cities throughout

¹⁴ <http://www.boraid.com/darticle3/list.asp?id=20257>

¹⁵ <http://it.sohu.com/20050518/n225608752.shtml>

¹⁶ <http://www.chinamobile.com/gotone%5Fnew/>

¹⁷ http://www.chinamobile.com/shenzhouxing/Channel_intro/index.html

¹⁸ <http://www.m-zone.com.cn/homepage/homepage.html>

Shenzhouxing. Through different brands, China Mobile can target different market groups. Since it helps to develop company's image effectively, it is the most successful strategy for China Mobile.

5.2 China Unicom's Strategies: GSM, CDMA and CDMA 1X Network

China Unicom has tried to develop an ideal strategy: GSM network focuses on low income group and CDMA network focuses on middle income group. In operating GSM network, China Unicom is in the interior position. It has one mobile phone serial number(手機號段), serial 130 only. As a result, China Unicom can only focus on middle to low-income users, and most of the high-income and middle-income users belong to China Mobile. At that time, the revenue of China Unicom is very low. However, in 2002, China Unicom started to promote a new network communication technology: Code Division Multiple Access (CDMA)¹⁹.

CDMA is a 2G network, it is a digital cellular technology that uses spread-spectrum techniques. CDMA consistently provides better capacity for voice and data communications than other 2G service, allowing more subscribers to connect at any given time, and it is the common platform on which 3G technologies are built. China Unicom invested over 24 billions to set up CDMA network. It promoted

¹⁹ <http://zh.wikipedia.org/wiki/CDMA>

CDMA in 2002 aimed to enlarge its market share and snatch the existing users from China Mobile. In marketing positioning, CDMA focuses on middle to high income groups. Through the introduction of CDMA, China Unicom can target different market groups²⁰.

In March 2003, China Unicom further promoted a 2.5G network, CDMA 1X²¹. This network developed in CDMA foundation. Throughout CDMA 1X network, China Unicom developed a new brand call “MyUni”(聯通無限) and provided more functions to users. For example “CaiE”(彩e), which is a multimedia messaging service providing data, voice and images messaging, video frequency and e-mail service²². This network has a better capacity than GPRS, and so it can provide more powerful functions than GPRS. Afterwards, it kept on developing the market and improving the network. As a result, the numbers of CDMA 1X users continue to increase. In addition to enlarging the customer base, China Unicom also exerts to operate more new services through 2.5G; more brands are developed under “MyUni”. The strategy’s outcome is remarkable. It is reported that the number of CDMA 1X users have grown 72.7% throughout 2005²³.

In competing with China Mobile, China Unicom had been under a passive

²⁰ http://www.ceceo.cn/Detail.asp?II_ID=5704&CLS=128

²¹ <http://www.cnii.com.cn/20040423/ca249813.htm>

²² <http://www.myuni.com.cn/caie/caie.aspx>

²³ China Unocom’s Annual Report: <http://www.cnii.com.cn/20050801/ca342149.htm>

position for a long time. However, in recent years, China Unicom has improved its business and kept on upgrading its service quality. Through GSM, CDMA and CDMA 1X network, China Unicom can gain more market share. It is clear that those strategies are successful, and the relative benefit of CDMA network may help China Unicom to compete with China Mobile in the future.

5.3 China Telecom's Strategies: *Xiaolingtong* Wireless Phone Service

China Telecom is the largest fixed service telecommunications provider in China, which includes data, Internet and, the *Xiaolingtong* PAS wireless system. In fact, China Telecom can not provide mobile phone service because of the 1994's reform. But how can it compete with those mobile phone operators? In which form can it erode part of the mobile users with no laws are violated? The following part answers these two questions.

The 1994's reform restructured the China Telecom Group (the previous China Telecom) into four parts according to several service provisions. Consequently, China Telecom was stripped of its mobile phone license, although it still retained its monopoly on the country's largest fixed-line networks. As mobile communication service was one of the major revenue drivers of China Telecom, it lost almost half of its revenue even it can keep its fixed-line service. It was a serious problem to China Telecom since mobile communication service has larger profit return and higher

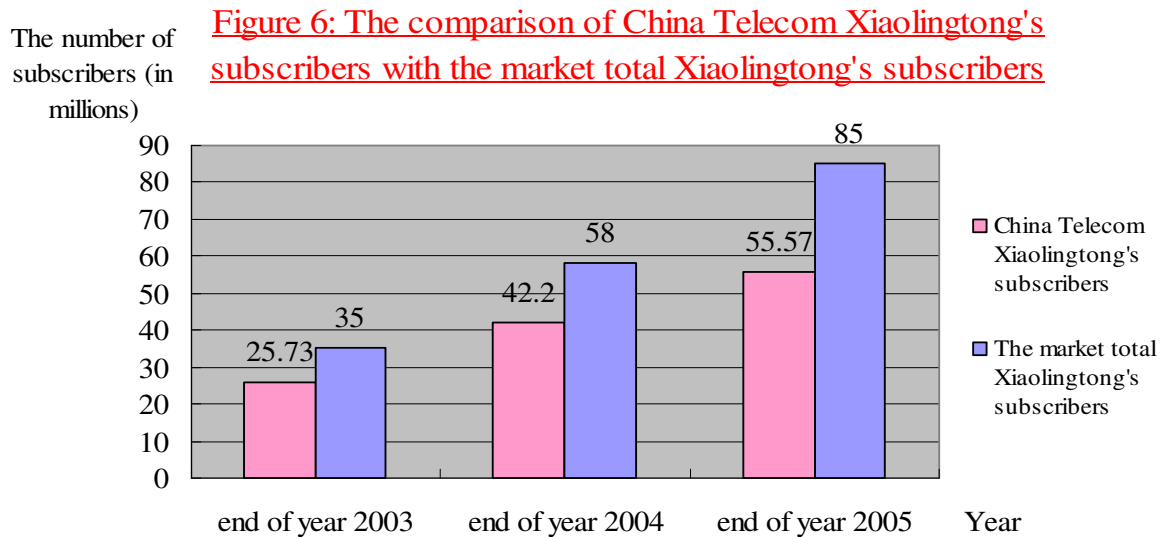
growth rate than fixed-lined service, only providing the fixed-line service could not generate enough profit. Moreover, in 2000, the fixed-line market also divided into two parts, one is the southern China and the other is northern China. China Telecom owned the operation permission for southern part. These two policies greatly influenced China Telecom, in order to supplement income sources, China Telecom has tried to promote a quasi-mobile service, "Little Smart" wireless phone service, or *Xiaolingtong* since 1999.

Little Smart, or *Xiaolingtong*²⁴ (also known as PAS "Personal Access System", or PHS "Personal Handy-phone System") acts as the wireless extension for the wired telephone system, and provides low-end mobile phone services to subscribers based on fixed-line networks within limited geographic areas. It performs like a mobile phone but enables roaming only within the city.

In the beginning, China Telecom launched *Xiaolingtong* in small cities in mountainous areas. Afterward, it penetrated medium-sized cities, provincial capitals, and finally the major city-regions such as Guangzhou, Beijing and Shanghai. Taking advantage of its vested fixed-line networks; luring users with low per minute rates; one-way charges and cheap monthly fees to customers, the number of *Xiaolingtong's* subscribers grew rapidly. At the end 2004, China Telecom had 42.2 millions

²⁴ <http://www.cnii.com.cn/classtechxl/>

subscribers; until the end of 2005 September, it had 55.57 millions subscribers. The following figure illustrates the growing trend of its *Xiaolingtong's* subscribers and the market total number in between 2003 to 2005.



Source: The annual financial statement in year 2002-2005

From the figure, we can compare China Telecom *Xiaolingtong's* subscribers with the market total subscribers. China Telecom has nearly possessed of 2/3 market total subscribers. This remarkable speed and scope shows the reasons why China Telecom's success in promoting *Xiaolingtong* service.

Although the fee is cheap, *Xiaolingtong* has most of the mobile phone functions. At first, it was used to communicate only. After a period of time, it provided more and more value-added service to users. For example, users can enjoy short messages service (SMS) with both *Xiaolingtong* users and mobile phone users; they can

customize the ringtone to fit their own style; Miscall function (if there is a call to user but user's mobile is switched off, he/she can receive the calling record when he/she switch on the mobile phone again), etc. Keep on improving the service quality and providing more and more value-added services to *Xiaolingtong* users helps China Telecom enjoys a fast subscriber's growth rate.

5.4 China Netcom's Strategies: *Xiaolingtong* Wireless Phone Service

Like China Telecom, China Netcom is also a provider of fixed-line telecommunication service. China Netcom established in August 1999 by the State Administration of Radio, Film and Television, the Ministry of Railways and the Shanghai municipal government to operate broadband networks. In 2000, it consolidated the business formerly operated by China Telecom's branches in the Northern China and owned the operation permission for fixed-line service there.

In order to capture more revenue, China Netcom provided *Xiaolingtong* service too. Before China Netcom owned the operation in northern China, the development of *Xiaolingtong* is only concentrated on southern China and western China. After that, China Netcom did their best to develop *Xiaolingtong* in northern China. During 2002, it started *Xiaolingtong* service in *Henan, Hebei, Neimenggu, Shanxi, Shandong* and *Liaoning*, etc. In these regions, China Netcom obtained more than 2 millions subscribers. In 2003, it even launched *Xiaolingtong* in *Sichuan, Guangzhou, Nanjing*,

etc. China Netcom had a significant demonstration in this action: they not only focused on their northern China market, but also tried to challenge China Telecom in the southern China market. There are two benefits in this strategy: Impeding the development of China Telecom in the northern China and expanding its market share in the market of southern China.

For its *Xiaolingtong* service, the cheap price is the main competitive advantage among mobile service. Moreover, it provided more and more value-added service to users, such as customized ringtone and short messages service (SMS) with both *Xiaolingtong* users and mobile phone users. China Netcom also keeps on providing more and more value-added services and improving the service quality to their subscribers. It regards *Xiaolingtong* as its major tool to compete with mobile service operators.

5.5 Foreign investors' limitations under the China's WTO Commitments

Under the WTO Policies made by the Chinese Government, no matter foreign investors participates in mobile communication service by Equity Joint Venture (EJV) or strategic alliance, they need an approval/ operating permit. For Equity Joint Venture, there are some Qualification Criteria²⁵ to both the foreign investors and

²⁵ <http://www.perkinscoie.com/page.cfm?id=86> PART II - THE FIE REGULATIONS

Chinese investors.

Under Article 7, foreign investors should:

- 1) they should be legal person entity;
- 2) they should be licensed telecom operator in jurisdiction of incorporation;
- 3) the average annual telecom operators revenue should be more than US \$10 billion over prior 2 years;
- 4) their representative office in PRC should be more than 3 years;
- 5) they should have solid performance/experience in industry.

For the Chinese investors, Article 6 of the FIE Regulations state that:

- 1) they should have telecom operating permit;
- 2) the average annual telecom revenue should be more than RMB \$3 billion over prior 3 years;
- 3) they should be the enterprise legal person;
- 4) they are state-owned/state majority controlled enterprises;
- 5) they should have more than 5 branches or subs in China engaged in telecom service for more than 2 years
- 6) they should have solid performance/experience in industry.

After its establishment, a Telecom EJV is obliged to apply for an operating permit in accordance with the procedures set out in the Administration Regulations.

However, from the above, we can see that there are some entrance barriers for foreign investors. To establish an EJV, their partners ought to be one of the 6 major state-owned enterprises. If they want to operate in mobile service, they can choose two enterprises only, the China Mobile and China Unicom. However, China Mobile and China Unicom are the only two licensed companies that can operate mobile phone service in China, they can seize all the vested interests. Under this circumstance, we can anticipate that they may not be willing to help foreign investors entering the mobile communication market and share these interests with them. Moreover, it is time consuming in obtaining the operating permit. It always costs a year of time to get the approval because the process involved different government departments. As there are entrance barriers, there are only few foreign investors in China now.

5.6 How Foreign Investors deal with these limitations

From the pervious part, we can see that entrance barriers give some limitations and restrictions to foreign investors in accessing the market, so there are only few foreign investors in China now. To deal with these limitations, most of the foreign investors don't focus on operating mobile communication service, but providing a large amount of capital, R&D and technology skills to Chinese enterprises. In other words, they participate by signing strategic alliance with Chinese enterprises and buying Chinese enterprises' shares rather than by EJV .As they are not operating

business, they don't need the approval. In this case, although they can't operate mobile service in this period, they can still obtain the latest information of the market and take a firm stand in the market. Vodafone and Telefonica are good examples in using this method. This report uses Vodafone as an example to explain it.

Vodafone is the World's Largest Mobile Community. On 9th November 2001, a few days before China accessed in WTO, it set up a representative office in Beijing. It invested US \$33 to obtain 3.27% China Mobile's shares during 2001 and 2002.²⁶ Through these actions, Vodafone and China Mobile signed a strategic alliance. This alliance helps both parties: Vodafone can help China Mobile in expanding the oversea market and developing the Third Generation. On the other hand, China Mobile helps Vodafone in accessing the Chinese market.

Before the end of 2006, the WTO Commitment limits the development of foreign investors in China, so it will not change the situation of China Mobile Market. We can forecast that China will keep on opening her market, once foreign investors take a firm stand in the market, they can make use of this chance to further develop its mobile service in the future. Therefore, signing strategic alliance with Chinese enterprises and buying Chinese enterprises' shares are important methods for them.

²⁶ http://big5.xinhuanet.com/gate/big5/news.xinhuanet.com/classad/2005-05/30/content_3019072.htm

To make a small conclusion, we can see that their strategies are quite similar. China Mobile and China Unicom concentrate on consolidating their own market share in 2G and 2.5G market while China Telecom and China Netcom focus on capturing mobile phone users by *Xiaolingtong*. For foreign investors, as there are some limitations in entering the china market, it is difficult for them to compete in the market. This situation will be continued until the end of 2007; therefore, foreign investors can not affect the market at this time.

Moreover, as I mentioned above, *Xiaolingtong* is just a kind of mobile substitute, even it can capture some of mobile users, it is not a mobile. In the truth, the mobile market is still dominated by two licensed companies, China Mobile and China Unicom. If the market has no changes, the situation will be going on.

Recently, there is some news predicting that China will introduce Third Generation in 2006. It is expected that it will bring great influence to the market. Therefore, in the following part, I will forecast the impacts of Introduction of Third Generation (3G) in China

6. Forecasting the impacts of Introduction of Third Generation (3G) in China

In the recent news, the Chinese government has chosen three telecommunication companies to trial 3G network. They are China Telecom, China Netcom and China Mobile²⁷. The places they choose are *Baoding, Qingdao, Xiamen*²⁸ respectively. Obviously this news demonstrates that 3G will soon be introduced in China. If 3G really introduces in 2006, the market will change a lot. Beside this test, although the licenses for operating 3G service are still not announced, four major domestic communication operators, China Telecom, China Netcom, China Mobile and China Unicom, have already well-prepared themselves so as to cater to the introduction of 3G. In the following part, I will briefly **introduce 3G, discuss companies' preparations for 3G and forecast the impacts resulting from the introduction of 3G.**

6.1 What is 3G?

3G is a new technology for mobile communication. Unlike 2G, except conversation and SMS (Short message service) can carry out in the 2G. It provides broadband data service, so the speed can as high as several hundreds kbps. It can possess not only data, but also images, music and video. Moreover, it provides

²⁷ <http://finance.people.com.cn/GB/1039/4229825.html>

²⁸ <http://finance.people.com.cn/GB/1038/4191179.html>

homepage browsing, teleconference and information of electronic commercial service²⁹.

There are three networks can be used to develop 3G service, they are Wideband Code Division Multiple Access (WCDMA)³⁰, Code Division Multiple Access 2000 (CDMA 2000)³¹ and Time Division - Synchronized Code Division Multiple Access (TD-SCDMA)³². These three networks are approved by International Telecommunication Union (ITU)³³ in May 2000. WCDMA is developed by European and Japanese enterprises, such as Ericsson and NTT. To upgrade GSM network, the only way is to use WCDMA pattern, therefore, this network system can develop on current GSM network, as GSM network is quite popular in Asia and Europe, WCDMA has a competitive advantage over the other two networks there and so it is widely used. CDMA 2000 is another 3G network, through the current CDMA One network (that is CDMA), the network system can upgrade to CDMA 2000. Hence, the construction cost is low. However, only Japan, Korea and North America are presently using CDMA, it is not as famous as WCDMA. The last approved 3G network is TD-SCDMA, which is developed by China. It is a new 3G network compared with

²⁹ <http://zh.wikipedia.org/wiki/3G>

³⁰ <http://zh.wikipedia.org/wiki/W-CDMA>

³¹ <http://zh.wikipedia.org/wiki/CDMA2000>

³² <http://zh.wikipedia.org/wiki/TD-SCDMA>

³³

<http://zh.wikipedia.org/wiki/%E5%9B%BD%E9%99%85%E7%94%B5%E4%BF%A1%E8%81%94%E7%9B%9F>

WCDMA and CDMA 2000. TD-SCDMA can be transitioned directly from GSM network³⁴. Since China is a huge potential market, nearly half of the world's famous telecommunications manufacturers respect this network.

As I mentioned above, China is going to release 3G licenses, and therefore, there are three telecommunication enterprises trail 3G service to test whether 3G services is workable in China. In this experiment, TD-SCDMA network will be tested. It shows that the Chinese government wishes to use TD-SCDMA as China's main 3G network. Nevertheless, there are some in-house predictions: As there are three types of 3G standard, the Chinese government will release both of the WCDMA, CDMA 2000 and TD-SCDMA 3G licenses³⁵. That means there will be three groups of 3G networks in the market. Regardless of the predictions and the intention of Chinese government four enterprises have their own plans to prepare for the introduction of 3G. The following part will briefly talk about their plans.

6.2 How the four enterprises cater to the Introduction of 3G

In prediction, China Telecom, China Netcom and China Mobile have the greatest chances to get the 3G licenses. However, nobody knows which enterprises will get the license before the announcement. Therefore, four major enterprises are yet trying their best to prepare for 3G.

³⁴ http://www.c114.net/market/ZZHtml_20062/M200621313372216655-1.shtml

³⁵ http://www.c114.net/zhuanti_simple/Read_401_boardnew.asp?articleID=5882&ZhuantiID=170

China Telecom has its 3G investment planning. This plan will be carried out in three phases, including the network system (WCDMA network) and plants construction³⁶. It is essential for China Telecom as it has fixed-line network only, it needs a new mobile network (3G network) to operate 3G service. Moreover, China Telecom plans to achieve 95% coverage throughout the network in the first phase. The reason is that the broader of the coverage, the larger of the customer base. For the current *Xiaolingtong* service, China Telecom is trying a substantial networking test between *Xiaolingtong* and WCDMA. If the test is success, China Telecom can transfer its customers from *Xiaolingtong* service to 3G service. Therefore, it will continue attracting *Xiaolingtong* users in order to have a stable customer bases for 3G service.

The key issue China Netcom concerns is to acquire more experiences on operating 3G network. Since May 2005, it has started WCDMA test in *Shanghai, Jinan, Beijing, Zhengzhou*. The goal of this test is let the WCDMA network of these four places connect to the present network, and provide services to customers. In service platform cooperation, China Netcom has signed strategic alliances with several mobile manufacturers such as OR-ACLE, Nokia, NEC and Ericsson. Through cooperation with these companies, China Netcom can provide more customized

³⁶ http://www.c114.net/market/ZZHtml_report/M200571211420242-1.shtml

service to users in the future³⁷.

As China Mobile has given the chance to operate trial 3G service, the market predicts that it may be the only mobile communication operator owns 2G and 3G licenses. In the preparation of 3G service, China Mobile focuses on upgrading its original network, the GPRS network. The motive of China Mobile is that GSM network can continue to serve 2G users, on the other GPRS network is prepared for serving 3G users. As GPRS network can upgrade to WCDMA 3G network, broad coverage of GSM network is an advantage for China Mobile³⁸. China Mobile has also developed WCDMA network in several cities³⁹, getting ready for 3G. Although the trial 3G service in China uses TD-SCDMA as the testing network, it is clear that China Mobile will tend to WCDMA network as its 3G network system. Moreover, In planning the 3G service, China Mobile makes use of European 3G experience⁴⁰. It plans to divide China into three parts: Type I areas including nine provinces and municipalities, *Beijing, Shanghai, Tianjin, Guangdong, Zhejiang, Shandong, Fujian, Jiangsu, Hebei*; Type II areas including *Liaoning, Shanxi, Shaanxi, Sichuan, Chongqing, Hunan, Hubei*, and other 12 provinces and municipalities; Type III areas are the remaining 10 provinces and cities. It thinks that to start offering 3G service in

³⁷ http://www.c114.net/market/ZZHtml_report/M200571211420242-1.shtml

³⁸ <http://www.cww.net.cn/zhuanti/yyzhuan/Article.asp?Id=26066>

³⁹ http://www.c114.net/market/ZZHtml_20062/M200621313372216655-1.shtml

⁴⁰ http://www.c114.net/market/ZZHtml_report/M200571211420242-1.shtml

developed cities can be easier to succeed.

China Unicom has not been given the chance to operate trial 3G service. However, it is still optimistic in obtaining the 3G license. China Unicom keeps on preparing itself. It paves two ways for 3G. The first one is CDMA 1X network. As this network can be upgraded to CDMA 2000 in 3-4 months, it is less costly for them to develop a new 3G network. Moreover, only China Unicom has CDMA 1X, it is technological superiority against others. Recently, it invested large amount of capital to stabilize CDMA network, it is an explicit act in preparing for 3G operations. Besides CDMA, China Unicom also invests a large amount of capital to upgrade its GSM network to GPRS network. The reason for this upgrade can be seen as the second way for the preparation of 3G. GPRS can be transited to WCDMA, so if China Unicom upgrades its GSM network, it may have two networks which are available to become a 3G network. The wishful thinking for China Unicom is that no matter the government releases which group of 3G networks, China Unicom can still obtain at least one license. This is how China Unicom caters to 3G.

6.3 Forecasting the Impacts resulting from the Introduction of 3G

3G is the latest type of mobile communication, it is a competitor of 2G service. After the release of 3G licenses, there will be more enterprises can operate mobile services. If the reality is what the market predicts, there will be four mobile license

holders in the market, they are China Telecom, China Netcom, China Mobile and China Unicom. If users want to use 2G service, they can choose China Mobile and China Unicom; if users want to use 3G service, they can choose those 3G license holders (It may be China Telecom, China Netcom and China Mobile.). As they are in the same industry, some users may choose to use 3G instead of 2G service, it may affect revenue of the 2G license holders.

Although 3G licenses are still not released, it is clear that 3G will affect the mobile communication market. Releasing 3G licenses means there are more mobile license holders in the market. No matter providing 2G services or 3G services, the competition will become very keen. As a result, it will have several companies operating mobile service in the market and the current oligopoly situation of the mobile communication industry must be broken.

7. Conclusion

To conclude, until the end of 2006, the China's WTO accession does not change the current situation of the market. China Mobile and China Unicom are still the only two mobile license holders in the market, and the oligopoly situation is maintained yet. Although *Xiaolingtong* service is another choice for users, it is not real mobile service. It is just the income source of China Telecom and China Netcom and is only a substitute of mobile phone. It still can't break the oligopoly situation of mobile communication industry even it has similar target group as mobile subscribers.

However, the release of 3G licenses will create more competitors in the market. Even only Chinese enterprises obtain the licenses, the current oligopoly situation would be changed as well. After the introduction 3G in 2006, two more licensed companies, China Telecom and China Netcom, can enter the market and compete with China Mobile and China Unicom, so the oligopoly situation in China will be no longer existed.

At the end of 2001, foreign investors can own 25% equity in three cities only (Beijing, Shanghai and Guangzhou). Three years later, the equity changed to 49% and foreign investors can access to 17 cities. At the end of 2007, they can even own 49% equity with no geographic restrictions. During these previous years, we can see that China keeps on opening its market. In prediction, China will fully open its own

market to foreign enterprises. At that time, foreign investors can choose to enter the market by sole proprietorship, and they can operate their own business in the market. Although it may take a long time to access that situation, this trend is a “MUST”. Even though this report is only forecasting the new trend until the end of 2006, I think that the mobile communication industry will be an open market with several competitors in the future.

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