Chapter 6
A Case Study on Collaboration in the Chinese Mobile Telecommunication Market

6.1 Introduction

Collaboration is influenced by many factors, some of which are country specific such as the regulatory system and industry structure. The Chinese mobile telecommunication market is one of the most rapidly developing and dynamic markets in the world, and is also the world's largest telecom mobile market in terms of subscribers. The potential growth in the near future is still large (ITU 2011).

This chapter provides an overview of the Chinese mobile telecommunication market's history and development, industry structure, contributions to economic growth, and government regulatory system. To study inter-firm collaboration types, benefits, and barriers, a set of face-to-face interviews was adopted. The aim of this case study is to answer the first primary research question proposed in Chap. 4.

The background and structure for the case study are discussed in Sect. 6.2–6.3. The results and implications from the case study are discussed in Sect. 6.4.

6.2 History and Development of the Chinese Telecommunications Market

The history and development of the Chinese telecommunications market is associated with the development and reform of the Chinese economy. When the People's Republic of China was established in 1949, China had only 260,000 telephones with 310,000 lines of switchboard capacity in all of its cities (Qiu 2005). There was no mobile service in China until the 1990s. The industry has undertaken a growth path from monopoly to competition and from government control to separate autonomous enterprises (GOVCN 2009).

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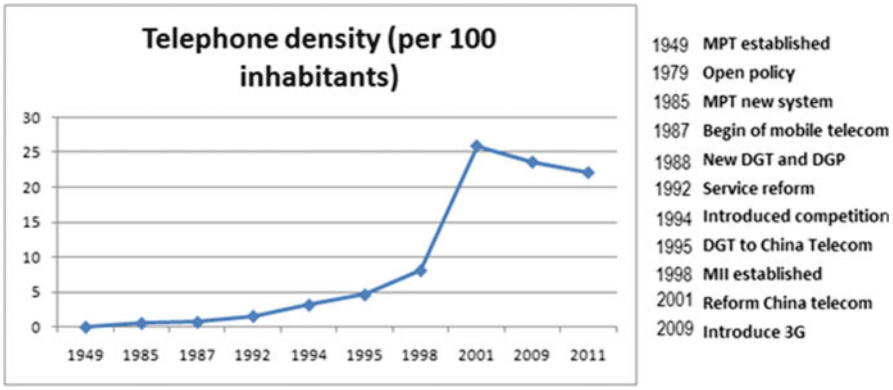

Fig. 6.1 Major events and telephone density per 100 inhabitants in China from 1949 to 2011 (Source: Ministry of Information Industry (2011))

6.2.1 Fiscal Expansion in the Chinese Telecommunication Market

Figure 6.1 shows the telephone density change from 1949 to 2011 in the Chinese telecommunication market. Telephone density (telephones per 100 persons) in the Chinese telecommunication market was only 0.05 in 1949 and grew to 4.66 in 1995. It then grew to 8.11 in 1998 and increased dramatically to 25.9 in 2001 (MII 2011). These fast growth periods are significantly influenced by policy and technology changes in the Chinese and global telecommunication markets. Each of the key periods will be further discussed in the following section.

Figure 6.2 shows the growth of mobile subscribers in the Chinese telecommunication market from only 20,000 in 1987 (the beginning of the mobile communication service in China) to 0.89 billion in March, 2011 (which makes it the biggest mobile market in the world). The significant increase of the Chinese mobile sector arose from establishment of the Ministry of Information Industry (MII) in 1998, and from a series of reforms that took place in the Chinese telecommunication market after that. The surprising increase in the growth rate generated many new business and market opportunities.

Another important result from Figs. 6.1 and 6.2 is the replacement of fixed line phones by mobile phones after 2001. From 2001 to 2007 the total revenue of the Chinese telecom industry increased from 371.9 billion Yuan (approximately US $46.5 billion) to 728 billion Yuan (approximately US$91 billion), with an overall 11 % annual growth rate. The total number of subscribers also tripled (GOVCN 2009). However, there was a significant decrease in telephone density (fixed line) from 2001 in the Chinese telecommunication market as shown in Fig. 6.1. During the same period mobile subscribers increased dramatically in China as shown in Fig. 6.2. Therefore, there has been a substitution effect between mobile phones and

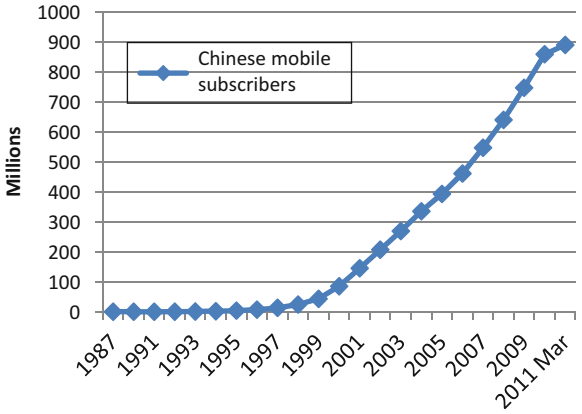

Fig. 6.2 Chinese mobile subscribers from 1987 to 2011 (Source: MII (2011))

fixed line phones (MII 2011) during this period. All of these changes are due to a set of policy and technology changes, which are discussed in the following section.

6.2.2 Institutional and Regulatory Changes

1. 1949–1979: Monopoly market

In 1949 the central government set up the Ministry of Posts and Telecommunications (MPT). The MPT was responsible for setting up networks, making policies, developing technical standards, conducting research, providing services, and manufacturing equipment (MII 2011). All enterprises were affiliates under the administration of MPT. The MPT also protected domestic telecom firms from foreign competitors. During China's First 5-Year Plan (1953 to 1957), all private telecom businesses became state-owned companies. From the 1950s to 1970s the telecom sector grew slowly in China. One major reason was the low priority given to the telecom industry by government (Qiu 2005). Telecom services were used mainly by the state administrative agencies and investment in the telecom sector grew very slowly during this period.

2. 1979–1985: Open door policy

In 1979, China began its economic reforms and adopted an open door policy. The prices and fees of most telecom services were very low before the reform to support other industries. In 1979, MPT increased the rates for its many services. The salaries of the managers and employees in local post and telecom enterprises (PTEs) were also linked to the firm's sales revenue. These reforms raised local PTEs' performance and revenues dramatically (Qiu 2005). The MPT launched a new accounting system in 1985 to provide incentives to local PTEs. All local PTAs were put under the dual leadership of local governments and the MPT (Qiu 2005).

3. 1987–1992: Separate functions and diversified services

In 1987, an analog mobile phone service was first introduced in Guangzhou and Shanghai, which is regarded as the beginning of mobile telecommunications in China (MII 1999). In 1988 MPT established the Directorate General of Telecommunications (DGT) and the Directorate General of Posts (DGP) (Qiu 2005). In 1992 MPT allowed domestic companies to enter the value-added telecommunications services (usually non-voice services and products provided by SPs and CPs) market, which is regarded as the beginning of the new reform in the Chinese telecommunications industry (Zhang and Dodgson 2007).

4. 1994–1995: Introduction of competition

China Unicom was established in 1994 to provide competition into the Chinese telecom market (GOVCN 2009). The Chinese government found that competition was an effective method to achieve sustainable development in the telecommunications industry. In 1995 DGT was registered as a corporate group called China Telecom.

5. 1998–2001: Oligopoly and fast growth period

The Ministry of Information Industry of the People's Republic of China (MII) was established to replace MPT in 1998. MII is a ministry of the central government. It manages all industries, industry policies, investments, network infrastructure, wireless channels, and international cooperation. MII also supervises and guides development of the telecommunication industry. In 1998, MII separated the role of government and enterprises by reforming China Telecom into four groups. As a result, six oligopoly telecom operators were formed: China Telecom, China Mobile, China Unicom, China Netcom, China Railcom (China Railway Communications Corp) and China Satcom (China Satellite Communications Corporation) (GOVCN 2009). In 1998, mobile subscribers reached 20 million, which made the national Global System of Mobile Communications (GSM) network the biggest in the world (MII 1999).

By October 2001, the number of fixed line subscribers reached 173 million, and the number of mobile phone users reached 136 million. Before China joined the WTO, foreign firms were not allowed to operate in China's telecommunication services market (Chen 2000). In November 2001, China was formally admitted into the WTO. Some of the major changes arising from its membership included lower tariffs for imported IT products, elimination of non-tariff barriers, and the opening-up of the service sector (Mobile phone services) (Nie and Zeng 2003).

6. 2001–2007: Mobiles replace fixed line phones

As discussed before there was fast growth in the mobile phone market in China during 2001–2007, and the development of mobile phones had a substitution effect on fixed line density during the same period. In 2007, the domestic sales of cell phones in China reached 190 million and sales volume reached US$23 billion.

In the regulatory system the China Communications Standards Association (CCSA) was officially established in 2002. CCSA established an enterprise-based and market-oriented working system that incorporated industry, universities and R&D institutes. It also contributed to the development of the ICT industry and mobile market in China (CCSA 2007).

7. 2008–2009: Combine and reform

As a pre-requirement of releasing the 3rd generation (3G) license from the government, the Chinese telecommunication market undertook further reform in 2008. China Telecom purchased the CDMA assets and subscribers of China Unicom. China Unicom and China Netcom merged to become the new China Unicom. China Telecom combined the basic telecom services of China Satcom, and China Railcom merged into China Mobile (GOVCN 2009). After successful combination of these CSPs the Chinese government released three 3G licenses to the reformed operators on 7th January, 2009. There are three 3G standards in the global telecom market: TD-SCDMA, CDMA2000, and W-CDMA. China will support all of the three 3G standards. A TD-SCDMA license was released to China Mobile. A W-CDMA license was released to China Unicom, and a CDMA2000 license was released to China Telecom (MII 2011).

8. 2009–2011: Introduction of 3G and fast development of mobile services

The release of 3G licenses further pushed telecommunications and economic growth in China. The fixed telephone density in the Chinese telecommunication market was 23.6 in 2009 but decreased to 22.1 in March 2011. However, mobile telephone density increased from 56.3 in 2009 to 64.4 in 2011 (MII 2011). Given the huge user base, Chinese telephone subscribers reached 1.18 billion and mobile subscribers reached 0.89 billion in March 2011 (MII 2011). The rapidly developing network infrastructure and services also benefited businesses and individuals. In 2011, Beijing opened free wireless network access in six public regions to encourage the usage of the wireless network (CNII 2011).

The mobile telecommunication industry provided a direct contribution to China's GDP growth, employment, and tax revenue. It also provided an indirect contribution to support the growth of other sectors and benefit the overall society, which is discussed in detail in the following section.

6.2.3 Contribution of the Chinese Telecommunication Market to the Economy

Over the past decade the Chinese mobile telecommunication industry experienced rapid growth, which contributed to the high growth rate of the Chinese economy. Qiu (2005) examined the relationship of the Chinese telecommunication growth

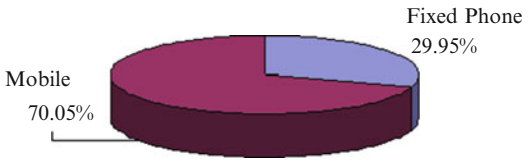

Fig. 6.3 Major revenue components of China's telecom services in Mar, 2011 (Source: From MII (2011))

and GDP growth rate from 1992 to 2002, and found there is a strong positive relationship between the two.

Total telecommunication market revenue in March, 2011 was 265 billion Yuan (approximately US$38 billion). As shown in Fig. 6.3 above, more than 70 % of total telecommunication revenue was generated by the mobile sector and less than 30 % of it was generated by the fixed phone sector (MII 2011). The highly developed value-added services available for mobile devices in China greatly contributed to the high growth in the mobile sector. Value-added services have helped promote innovation, employment and income.

The total number of mobile subscribers in China reached 940 million in August 2011, with 94 million 3G users (MII 2011). Both the total number of subscribers and revenue of the Chinese telecom market increased dramatically from 2001 to 2011 (MII 2011), contributing directly to China's annual GDP growth rate.

The great number of mobile subscribers also represented the considerable demand for mobile phone devices and services. With lower cost labour and rapid development in technologies, China has also become the biggest mobile phone producing base. The total number of exported mobile phones reached 1 billion in 2010, accounting for 71 % of the total global shipment (MII 2011). Export revenue generated by mobile phones and devices reached US$46.7 billion in 2010 (NBSC 2011).

On the other hand telecommunication prices decreased dramatically in 2007 (MII 2007). It greatly reduced business operating costs and communication costs, which increased business profits, access to information, inter-firm collaboration, and regional development. It also helped information transfer in all the other industries and markets. In terms of social aspects, it also helped reduce the crime rate (such as new applications in Apple Store[1]: Police Scanner, Scanner 911 Australia and 5–0 Radio Pro Police Scanner, which provide real-time information share on the police and fire radios); increased emergency rescue efficiency (such as new applications in Apple Store: First Aid, Drugs and Medications, Pregnancy and Symptoms Checker by Medibank, which provide self-check or rescue techniques and one-button call to emergency rescue); increase working efficiency (such as new applications in Apple Store: Australia Post Mobile, JotNot Scanner and CareerOne, which provide useful functions and information more efficiently; and increased community and family communications (such as famous applications in Apple

[1] Apple Store is an application store for Apple mobile devices. The applications used in this study were listed in Apple Store by 27th March 2012.

Store: Skype, Facebook, Twitter, Bump and Heytell, which provide free international calls and video calls). All of these applications and products help increase social welfare and happiness. Furthermore, new applications are developed and released every day, bringing invaluable benefits to all individuals and firms.

The next section analyses the structure of the Chinese mobile telecommunication market, different sectors in this market and their characteristics, the major firms in each sector, and inter-firm collaborations between them.

6.3 Current Structure of the Chinese Mobile Telecommunication Market

6.3.1 Overview

As discussed in Chap. 5, the majority of firms are separated into three groups: Device providers (including network infrastructure producers and mobile handset producers), Service Providers, and Content Providers. However, operators (carrier service providers) in the Chinese mobile market play a very special role in the Chinese telecommunications market.

Firstly, because of historical reasons, operators in China were separated from government departments, with all the high level managers assigned by government. Secondly, operator licenses are strictly controlled and managed by the government due to its development strategies and policies. Thirdly, the operators in China have strong market power in the telecommunication market so that all the device producers, service providers, and content providers have to collaborate with them to provide services to end users. The revenues are usually initially collected by operators before it is distributed to other service providers and content providers. Therefore, the operators group is separated from service providers in China, and there are four components making up the structure of the Chinese mobile telecommunication market (See Fig. 6.4). Inter-firm collaborations are close between them. Each of these components is discussed in detail later.

6.3.2 Device Producers

Device producers provide the basic infrastructure for telecom services: base station, optical fiber, exchange centre, server, handset device, and so on. All the software, data, information, and services are installed, maintained, and transferred through the hardware. A detailed analysis of the characteristics and major global producers of this sector were discussed in Chap. 5.

As shown in Fig. 6.5, by 2010 65 % of the mobile equipment market was lead by: Nokia, Research in Motion (Blackberry), and Apple (IDC 2011). However, Apple,

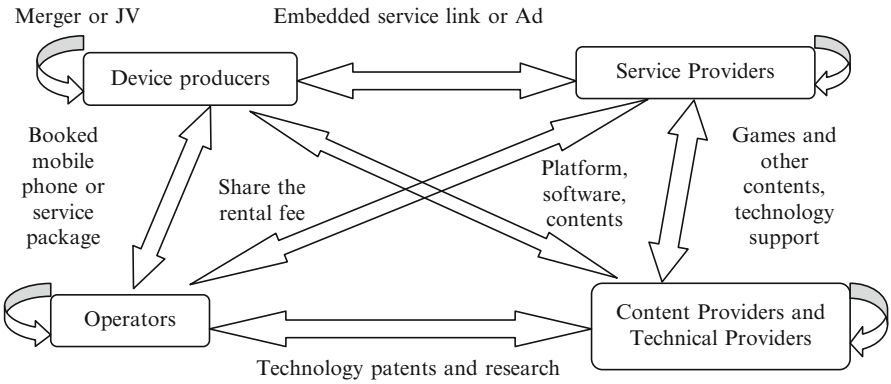

Fig. 6.4 Chinese mobile market collaboration (Source: Derived by the author)

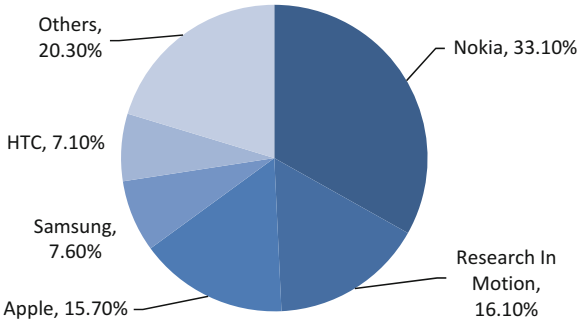

Fig. 6.5 Global mobile handset market shares in 2010 (Source: IDC (2011))

TCL, and HTC dramatically increased their market share during 2010 with growth margins of over 100 %. The sales of iPhone increased by 6 times from September 2010 to September 2011, reaching US$8.8 billion and was an "unexpected" and "amazing" growth to Apple (Apple 2011).

The mobile device market is a highly competitive market with rapidly changing companies in the top positions. Technological development and innovations are keys to rapid development and market share. To keep their top ranking, these firms need to keep up with the latest technology and collaborate with each other to capture new information and innovations in this dynamic market. Therefore, the requirement for inter-firm collaboration is extremely high in this sector. Some Chinese domestic equipment manufacturers also grew and developed steadily, such as Da Tang, Jin Peng, Zhong Xin and Hua Wei, which produced 47.5 % of total global mobile handsets in 2008 (RIC 2006).

On the other hand, China has developed its own mobile standard (TD-SCDMA). ITU's (International Telecommunications Union) telecom division also approved TD-SCDMA as one of the international 3G standards (Steinbock 2006). In 2008, China Mobile released 3G connect licenses to eight domestic mobile phone providers, including Ku Pai, Panda, Hua Wei, Zhong Xing, Lenovo, Hai Xin, Xin You Tong, and Hua Li (MII 2011).

As shown in Fig. 6.4, device producers need to collaborate with operators to access the end users as no mobile phones can be used without a licensed SIM card and operators in China. They either developed special mobile phones for each operator or provided special packages (mobile phone and services) with operators to sell their products in China. They collaborate with content providers and service providers to embed some pre-installed applications, games, wall paper, music, or web links or advertisements of special services in their devices. Users get access to these contents or links when they purchase the devices. They also collaborate with technical producers on the operating system (platform), managing software, and research and development. They usually collaborate with other device producers on research, information share, and new patent licensing.

6.3.3 Operators

Operators are the companies that own the basic telecommunication infrastructure or hardware, such as optical lines, base station, data centre, and channels. They link customers and provide basic services. In most countries, like Australia, operators are also service providers. As discussed before, operators are separated from service providers in China because of their special roles. In 2009, the Chinese government further reformed the operators in China and released three 3G licenses to new China Mobile, new China Unicom, and new China Telecom, thereby forming oligopoly competition in China's operators' market. To register as a telecommunication operator covering all provinces in China, the required registered capital is one trillion RMB (approximately US$143 billion), and for a local operator in one province the required registered capital is 100 million RMB (approximately US $14 million) (MII 2011). However, without huge initial investments in basic mobile networks (e.g. base stations) or a 3G license, it is not possible for other competitors to compete with the current operators in the market.

As shown in Fig. 6.6, China Mobile has the largest share (69 %), with total 616.79 million mobile subscribers in June 2011 (China Mobile 2011). China Unicom and China Telecom have 181 million and 108 million mobile subscribers separately in June 2011 (China Telecom 2011; China Unicom 2011). The total revenue of China Mobile in 2010 reached 485 billion RMB (approximately US$69 billion) (China Mobile 2010), which is more than twice[2] the total revenue of China Unicom (101.4 billion RMB in 2011, approximately US$14 billion) and China Telecom (120.2 billion RMB in 2011, approximately US$17 billion) (China Telecom 2011; China Unicom 2011). The 3G subscribers were 32 million for China Mobile, 22 million for China Unicom, and 20 million for China Telecom at the end of May, 2011 (MII 2011).

[2] The annual report of China Mobile was released at the end of 2010, which is in a different period to the data collected for China Unicom and China Telecom in June 2011. However, the number of mobile subscribers and revenues are expected to be higher in 2011.

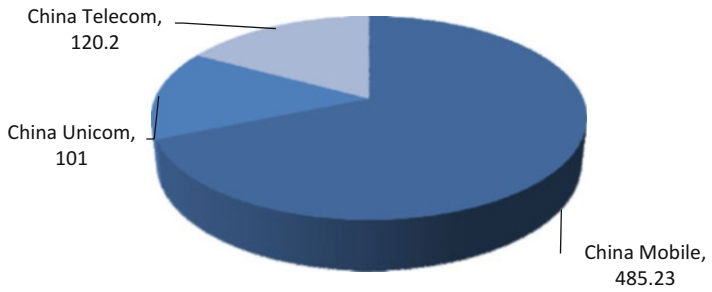

Fig. 6.6 Operator's market shares in the first quarter of 2011 (subscribers) (Source: China Mobile (2011), China Unicom (2011), and China Telecom (2011))

Operators have market power in the Chinese telecommunication market as there were only three licensed operators in China in 2010 (there were more operators from 1998 to 2008 as discussed in an earlier section). Therefore, all the device producers, service providers, and some content providers need to collaborate with these three operators to access the end users. Unlike other countries, device providers usually provide a special type of mobile device for each operator in China. The special ordered or booked device cannot be used in another operator's network or in another country. The services and content also need to be produced separately with each type of mobile device, which has increased development costs dramatically.

However, the introduction of iPhone (by Apple) in the Chinese market broke this situation. China Mobile failed to reach a collaboration agreement with Apple after 2 years of discussion (Apple 2011), which significantly influenced its market share in the 3G market after China Unicom signed a collaboration agreement with Apple to first introduce the iPhone into the Chinese market in 2009. As discussed in Chap. 5 the reason for the long-run discussion with Apple was the new business model brought by Apple Store, which reduced the profit share of operators and service providers. China Unicom and China Telecom had higher growth in mobile subscriber (15.7 % and 19.7 % respectively) compared with China Mobile (11.8 %) from 2010 to 2011 (China Mobile 2011; China Telecom 2011; China Unicom 2011). One of the major drivers for this high increase for China Unicom and China Telecom was the collaboration with Apple on iPhone. China Mobile is now discussing with Apple a potential collaboration opportunity on 4G products (Spforum 2011).

6.3.4 Service Providers

Until the 1990s mobile services were driven by text messaging and voice services. New technologies and broadband has enabled new services and opportunities. The new mobile services can be represented in four groups: "rich voice and data

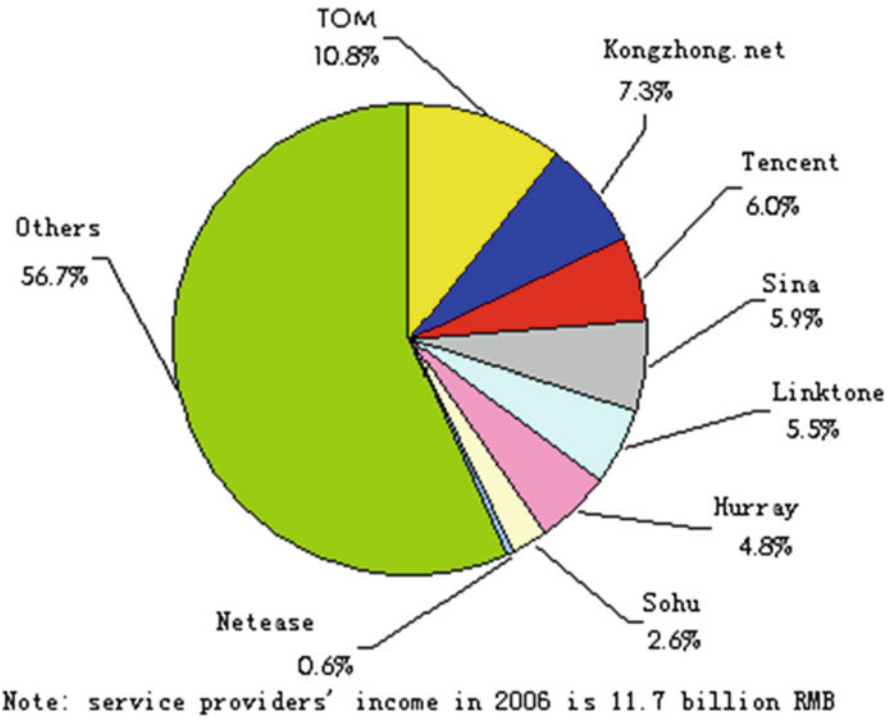

Fig. 6.7 Chinese service providers market share in 2006 (Source: IResearch (2007))

(associated with other electronic contents such as pictures and music), the Internet (mobile Internet, mobile intranet/extranet), messaging (location-based services, people communications, such as SMS, MMS), and personalized content (including information, entertainment, transactions, and data bases)" (Steinbock 2006).

As of December 2007 there were total 22,240 service providers in China, including 95 % none-state owned firms (MII 2007). Most of the service providers do not have their own mobile hardware infrastructure (base stations or lines). They provide services to users via operator mobile networks and share profits with operators and content providers.

Figure 6.7 summarizes the market share of Chinese mobile service providers in 2006. The top seven service providers had 67 % of the market share (Iresearch 2007). Before 2008, CPs had to collaborate with operators through SPs in China. This business model has changed since operators started to collaborate directly with CPs from 2008. As a consequence, the role of SPs in this market had been reduced and many SPs acquired or merged with CPs after 2008. The introduction of Apple Store further reformed the market by including new business models for the market. Therefore, many SPs and CPs focused on producing mobile applications and games for Apple Store as it brought more revenues than collaborating with the operators, and helped them reach global mobile subscribers directly (Spforum 2011).

A license for service providers is a barrier to entry. To apply for a SP license for all provinces, a firm must have more than 100 million RMB (approximately US$14 million) registered capital (including 1/3 in cash), more than 10 technical staff (which excludes micro firms), the personal details and contacts of the management and related staff, a list of firm locations and equipment, and many other registered and certified documents (MII 2011). The requirement for a local region value added SP license is that the firm must have more than 10 million RMB registered capital (MII 2011). If the firm is jointly owned by a foreign parent (outside China), the foreign investor must have less than a 50 % share in the joint venture SP firm. In other words, foreign firms must collaborate with local firms to access the Chinese telecommunication market.

To get a telecommunication licence, it takes 60 days for value-added services and 180 days for basic telecommunication services (MII 2011). Nevertheless, to collaborate with different operators (e.g. China Mobile or China Unicom), a SP needs to apply and sign agreements with different operators and local operators. From interviews with some managers from SPs in this study, the costs of maintaining a business relationship with different operators is very high in China. Therefore, SPs in China are usually medium and large sized firms.

Service providers must collaborate with operators to provide services to end users in China. They also collaborate with content providers to provide special content (e.g. games or music) to users. Some service providers buy content from content providers and ask for technical support during testing by operators on different mobile devices. The small service providers prefer collaborating with content providers and then share revenue afterwards. They sometimes collaborate with device providers to embed their service link or special advertisement in the pre-installed mobile devices. Service providers have less bargaining power when collaborating with operators. Therefore, a lower revenue share and a lag in payment are common problems facing most service providers in China. The mobile service market is largely unregulated and has many problems in China (e.g. phishing[3] messages and forced service packages). These have been seen from the monthly penalty announcement of China Mobile on its website (China Mobile 2011).

6.3.5 Content Providers

Content providers (e.g. software developers, music creators, and arts designers) are the companies that develop all the content for end-users. They provide mobile games, mobile software, mobile music, mobile pictures, video, news, weather forecasts, real-time sports information, and all the other mobile applications. They sell or share the products and revenues with operators and service providers.

[3] Phishing is a cheating method through electronic communication (such as emails or phone calls) to obtain their usernames, password or personal information.

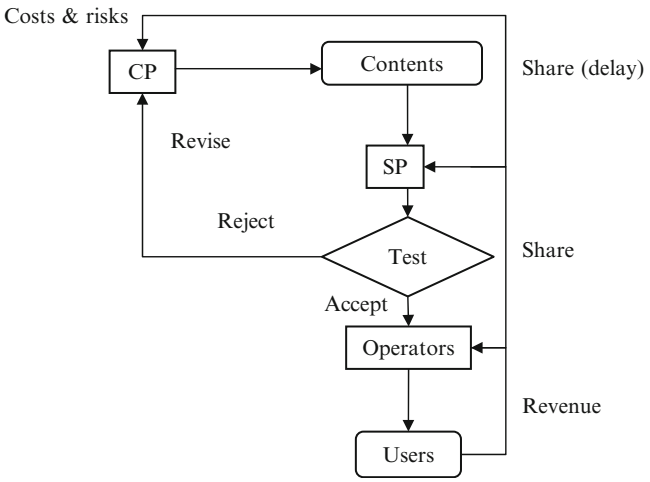

Fig. 6.8 Flowchart of inter-firm collaboration among CP, SP and operators in the Chinese telecom market (Source: Derived by the author)

A (ICP) license for content providers acts as a barrier to entry. To apply for an ICP license, firms must have more than 10 million RMB (approximately US$1.4 million) registered capital and more than five technical staff (MII 2011). As a consequence, many micro and small sized CPs remain informal in this market.

There are numerous content providers in China. Most of the biggest content providers are also service providers themselves, such as SOHU and SINA. Keane (2009) has identified five characteristics of the Chinese animation industry (which consist of mostly small CPs): low-cost production, imitation, co-production and formatting, focused on East Asian markets, and based on industrial clusters. He has argued that the Chinese market is driven by government policies.

As shown in Fig. 6.8 the general business model among Operators, SPs, and CPs can be shown in the form of a flowchart. This model came from the author's observations during 5 years industry experience and the qualitative interview results obtained from this study. Usually operators test the content before they accept and release it to the end users. These tests are very subjective in China and the criteria are normally unclear. It largely depends on the industry reputation level of the CP or relationships of the SP with the operator. If the content is rejected by the examiners the content will have to be given up by the SP or be revised by the CP. Therefore, most development costs and risks are allocated to the CP.

However, the revenue share for CPs in this model is the smallest. In the Chinese mobile games market the revenue share of SPs is 47.1 %, operators 35.7 %, and CPs only receive 13.3 % (Iresearch 2007). Keane (2009) found that even the high performing animation companies in China receive less than 15 % of total revenue (of the production budget) obtained from selling animation within China. The gaps are usually offset by local government incentive bonuses. Results from the interviews showed that the small CPs suffer more from the unfair benefit distribution. Unfair benefit distribution is very common in every case study in China for CPs.

One CP did not receive its share for more than 2 years, and another CP was told that their content generated only a small revenue (without showing the real revenue evidence) and, therefore, their part was "negligible". Besides the low share in revenue, delay in payment is a problem facing most small content providers in the mobile market. As operators have strong market power in deciding services and content (e.g. games) for users, it also increases collusion and opaque processes in the evaluation process.

This situation and the benefit distribution model in China changed when China Mobile announced a new collaboration strategy in 2008 to collaborate directly with CPs. Many SPs merged or acquired CPs after 2008 to increase their competitiveness. Another change was the introduction of the iPhone into the Chinese market in 2009. Apple collaborates directly with CPs in its Apple stores and iTune shop. CPs that produced iPhone applications in China admitted that the collaboration with Apple and revenue generated in Apple stores was much easier and greater than through operators or SPs in China (Spforum 2011). However, Apple also experienced 2 years of discussion with the operators before iPhone was formally introduced into the Chinese market (Apple 2011), as this business model significantly reduced the operators' benefits. It failed to reach an agreement with China Mobile (China Unicom 2011) and turned to the second largest operator in China, China Unicom. In September 2009, iPhone was finally released into the Chinese market by China Unicom (2011). Although it brought many new 3G subscribers, the release of iPhone did not bring significant profits to China Unicom (2011) because of several concessions in its discussion with Apple. The direct collaboration with operators and DPs helped CPs and TPs to increase their revenue share in this market. However, without proper intellectual property rights protection (IPP), CPs and TPs are still in an unfavourable position in China. A good example from our interviews is that one of the top download games in the China Mobile games box, was copied and put on internet for free downloading just 2 days after it was released.

To study further the Chinese market, face-to-face interviews were conducted in China in late 2008 to answer the key research questions identified in Chaps. 3 and 4. The data and results are explained in detail in the next section.

6.4 Case Study

The selection of Chinese sample firms was from the mobile telecommunication market, supplemented by the researcher's previous business networks from 5 years working in this industry. This strategy was aimed at increasing the response rate to interview invitations. The results supported this strategy as all of the invited firms agreed to be interviewed and provide feedback, including seven firms who introduced their business partners to participate in this interview. As a consequence 24 firms were interviewed. Among the 24 interviewed firms, 12 firms provided 1 collaborating case, 5 firms provided 2 collaborating cases, 3 firms provided 3 collaborating cases, 2 firms provided 4 collaborating cases, and

Table 6.1 Basic descriptive statistics of firms interviewed in China

Basic descriptive results (China)	Total interviews: 24		Total collaborating cases: 45	
Type				
Firm type	**Public**		**Private**	
(* based on firm)	6		18	
Nationality	**China**		**Foreign**	
(* based on firm)	15		9	
Sectors	**DP**	**Operator**	**SP**	**CP/TP**
(* Multiple selections)	6	5	15	17
Size				
Firm Size	**Small**		**Medium**	**Large**
(* based on firm)	9		5	10
Size difference	**Smaller partner**		**Peer partner**	**Larger partner**
(* based on case)	5		13	27

Source: Interview results from this study

2 firms provided 5 collaborating cases. As a result, a total of 45 collaborating cases were collected during the interviews. The average interview time for each interview was 1 h (which was much longer than expected).

6.4.1 Descriptive Statistics

Table 6.1 showed the basic descriptive results of the interviewed firms in China. The selected firms included micro, small, medium, and large sized firms. They also included local firms, foreign firms, and multinational firms. To study in detail cases of inter-firm collaboration between DPs, operators, SPs and CPs in the Chinese mobile market, face to face interviews were conducted in China in 2008. As a result, 24 interviews (involving 45 cases of collaboration) were completed from 4th August 2008 to October 17th 2008 in China. The interviewed firms included China Telecom, China Unicom, China Mobile, France Telecom (Beijing), Motorola, and many other small and medium sized firms in the Chinese mobile telecom sector.

6.4.1.1 Studied Firms

As shown in Table 6.1 above, the Chinese cases included firms from all sectors: DPs (device providers), operators, SPs (service providers), ISPs (internet service providers), CPs (content providers), and TPs (technical providers, include consulting firms, outsourcing development firms, platform providers, and data service providers). However, the sector question in the questionnaire was a multiple-choice question. For example, one company could be a 70 % device provider and 30 % service provider, which contributed to both DPs and SPs. As shown in Table 6.1, the interviews included 6 DPs, 5 Operators, 15 SPs and ISPs, 17 CPs and TPs. The

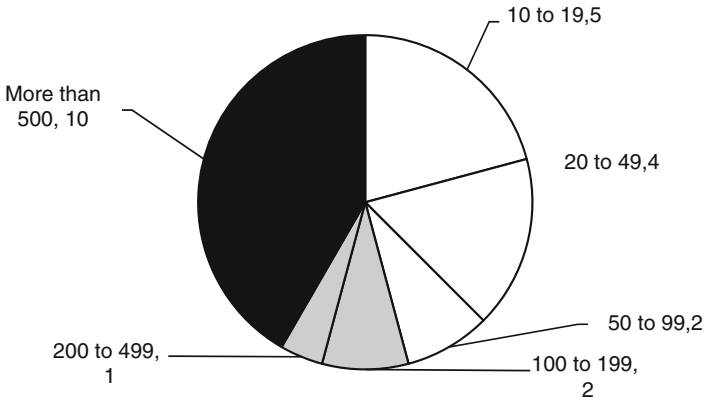

Fig. 6.9 Size of interviewed firms based on employees (by no. of firms) (Source: Interview results from this study)

interviewed firms also vary in nationality. The study contains 15 Chinese firms, 4 U.S.A firms, 1 Hong Kong firm, 2 French firms, 1 Spanish firm, and 1 Japanese firm. In this study, 6 interviewed firms are from the public sector and 18 interviewed firms are from the private sector.

6.4.1.2 Size of Studied Firms

In China, firm size was generally measured by the number of employees. The definition for small and micro enterprises was less than 100 employees. The definition for medium sized enterprises was between 100 and 500 employees. Large enterprises were defined as enterprises with more than 500 employees (Harvie and Lee 2003).

In general, all operators in China were large firms. All of the 3 Chinese operators were large firms. The other 2 foreign operators (without an operator's license in China) were small and medium sized firms. Most DPs in China were large firms. Half of the DPs in the studied cases were large firms, and the two small DPs were also TPs in this study. The size of SPs varied. Most (8 out of 15) CPs and/or TPs in China were small firms. The 7 large CPs and/or TPs in this study included 5 foreign firms (that are also CSPs or TPs in other countries). The other 2 large local CPs and/or TPs were also SPs, ISPs, or DPs.

Figure 6.9 showed the sizes of the studied firms based upon number of employees. Due to the official definition, 45.8 % (in the three white pie slices) of the interviewed firms were small and micro sized enterprises, 12.5 % (in the three grey pie slices) of the interviewed firms are medium sized enterprises, and 41.7 % (in the black pie slice) of the interviewed firms were large enterprises. Different sized firms were separated in this research to study the importance of firm size in terms of their strategies and behaviour in inter-firm collaboration.

6.4.2 *Is Cultural Difference Still Important for Collaboration?*

The results answered the first sub-question in Chap. 4: Is cultural difference still important when firms choose business collaborators in the telecommunication market? Results from the interviews are consistent with findings from the previous literature (Das and Rahman 2009; Vilana and Monroy 2010) and suggests that cultural difference between collaborating firms still matter in the Chinese telecommunication market.[4]

Although the number is very small, the partners of foreign firms in China show a trend in their selection criteria. The top collaborators of the interviewed American firms (three firms) came 42.9 % from North America, 28.6 % from Europe, 14.3 % from Asia, and 14.3 % from the Middle East. American mobile firms find it easier to collaborate with partners from North America as it requires lower transaction and communication costs and reduces risk. The collaborators of French firms (two firms) came 40 % from Europe, 40 % from Asia, and 20 % from North America. The collaborators of the Spanish firm came 100 % from South America. Cultural similarities contributed to this collaboration in the studied cases, which will be further examined in a quantitative study in Chap. 8. The collaborators of Japanese firms came 100 % from Asia. The collaborators of the Hong Kong firm came 14.3 % from Australia, 14.3 % from North America, 14.3 % from South America, 14.3 % from Europe, 14.3 % from Africa, 14.3 % from Asia, and 14.3 % from the Middle East. Hong Kong has a traditional Chinese culture and is located very close to mainland China. However, the management structure and business system were inherited from Europe, which makes it more open and easier to connect with all the other countries of the world. Hong Kong's special historical and political background contributed greatly to these successful and diversified inter-firm collaborations. These cases show a trend of business partner selection – similar cultural backgrounds or closer geographic distance (local firms dominated). The results will be examined in the Australian cases and further verified in a quantitative study.

From the cases studied, geographical and cultural reasons are still important when foreign firms choose business collaborators. Reasonable economic explanations for these barriers are transaction costs and risk (Ronen and Shenkar 1985). Country distance increase business costs in terms of transportation, communication, and information updating (Hofstede 1980; Park and Ungson 1997; Felzensztein and Gimmon 2007). Cultural difference also adds to communication costs and may increase the risks of misunderstanding, which may lead to failure in the inter-firm collaboration. However, as these interviews were conducted in China, all of the interviewed foreign firms have a subsidiary or department in China which may introduce bias to this results.

[4] This is from a descriptive qualitative analysis, which is consistent with the findings from previous management and business studies.

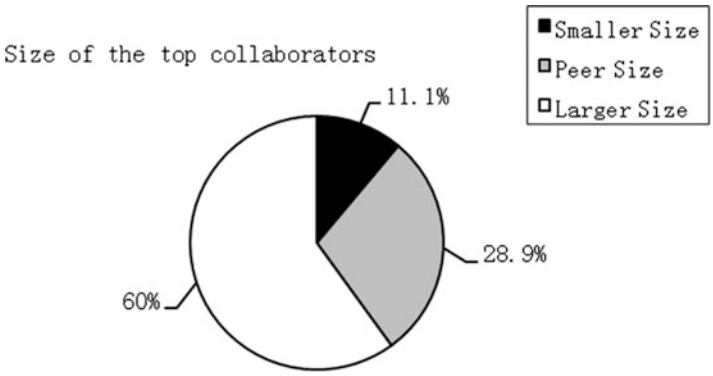

Fig. 6.10 Size of top collaborators (by collaborating cases) (Source: Interview results from this study)

6.4.3 Does Size Matter When Firms Choose Business Collaborators?

The outcome of the study answered the second part of the first primary research question in Chap. 4: size still matters when firms choose business collaborators. The interviewed managers were asked to select their top five important business partners and answer part two of the questionnaire for each collaboration case. This is supported by an interviewed manager: "...size is still a problem. Who is bigger, who has more resources and power in the market." A peer-sized or larger-sized partner is usually preferred. Firms choose peer-sized or larger-sized firms to keep their position, market share, and competitiveness. This is also supported by an interviewed manager: "We only select the top 10 firms in each field to collaborate with to keep our leading position in the world (interviewee)."

As shown in Fig. 6.10, 60 % of our studied collaborating cases (in the white pie slice) selected larger-sized firms as their top five important[5] collaborators, and 28.8 % of the studied collaboration cases (in the grey pie slice) selected peer-sized firms as their top five collaborators. Only 11.1 % (five cases) of the studied collaborating cases (in the black pie slice) selected smaller sized firms as their top five collaborator, including 60 % international collaborations. In all of these five cases the partners are content providers who have unique or original resources, technology, or products. Bigger firms usually have more resources, assets, research investment, business networks, and bargaining power.

When separated by sector, 67 % of DPs, 60 % of Operators, 82 % of SPs, and 68 % of CP/TPs chose large firms as their top five partners. When separated by firm

[5] The measurement of the top important collaborator is based on the subjective views from the interviewed managers.

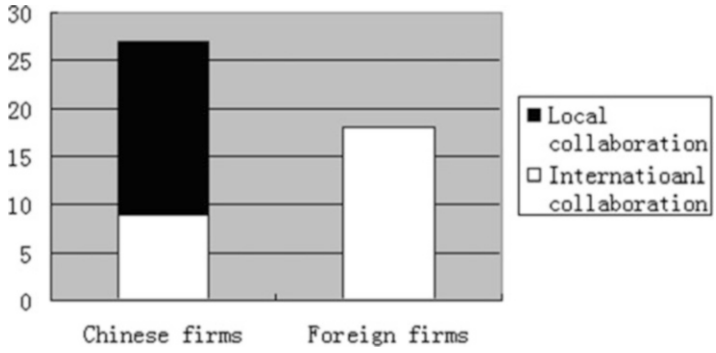

Fig. 6.11 International and local collaboration (by collaboration cases) (Source: Interview results from this study)

size, 54 % of small sized firms, 88 % of medium sized firms, and 78 % of large firms chose large firms as their top five partners, which also contributed to the average positive size difference in this study.

The results show that firms prefer larger or peer sized collaborators. They only choose smaller partners when the partners have specific advanced technology, unique resources, or products that are hard to copy. Therefore, in this research, the only smaller partners selected by the interviewed firms are that of CPs and TPs. A possible reason for this result is that bigger firms possess more resources, capital, and experience. Firms usually obtain more revenues by collaborating with large firms. However, it can also be argued that more profits are usually associated with more risk.

To study the different selections of collaborations by local and foreign firms, the results are separated into two groups: local and foreign firms. Figure 6.11 shows the difference in choosing collaborators by Chinese firms and foreign firms. All of the studied foreign firms (firms coming from outside Mainland China) chose international collaborators as their most important partners. From the 45 cases of collaboration, 27 cases (60 % of total) were international collaboration cases. However, only 9 cases (33.3 %) involved Chinese firms.

In other words, all the foreign firms from the U.S.A, France, Spain, Japan, and Hong Kong collaborated with global partners, which also made them more competitive in the global market (no failures were reported from these cases as Chinese interviewed firms tend to tell only the positive aspect of a story). There is no clear evidence that international collaboration is related to the size or sector of the interviewed firm when results are separated into size/sector groups. Chinese firms usually choose local partners because of language requirements and the cultural need for understanding to collaborate with foreign partners increased costs, which is a barrier to some micro and small firms.

6.4.4 *Do Firms Prefer Deep Collaboration and Can Traditional Forms of Collaboration be Applied in the Chinese Mobile Telecommunication Market?*

The results from the survey answer the third question of the first primary research question. Firms prefer deep and long-term collaboration (e.g. co-production) in the mobile telecommunication market. This result is also supported by one interviewed manager:

> We prefer long-term collaboration than short-term ones because it saves time and cost of searching and rebuilding business relationships with others.

To find a suitable collaborator, firms need to justify the technology, employees, structure, history, financial status, research capability, strategies, and market share of its potential collaborators. An evaluation of the partner is usually conducted by large firms (e.g. Motorola) before the collaboration.

Long-term collaboration can reduce transaction costs and strengthen the relationship and understanding between the collaborating firms as time goes by. On the other hand, risks are also generated with collaboration. Our case study showed that a failed inter-firm collaboration may threaten the development or even existence of a firm. Long-term collaboration can provide more stable support for both firms and greatly reduce the risks accompanied with collaboration.

The research results also answer the fourth part of the first primary research question. Previous collaboration types are not applied in new industries. Franchising did not appear in the sample of China mobile collaboration cases. On the other hand, the interviewees proposed new collaboration types in this market. Results show that co-production is the most usual collaboration type in the Chinese telecom sector. The second collaboration type in the Chinese market is management and service agreements, which indicate that value-added services have developed rapidly in China. However, joint R&D and joint ventures are not in the top three types. The business and product life cycle for Chinese firms is much shorter than that of foreign firms.

This result is also supported by an interviewed manager:

> The survival of the firm in a developed country may be dependent on the strategy or plan for the next year or next 3 years. But for Chinese firms, it is dependent on next week or even tomorrow.

Even one of the world's biggest firms during the interview indicated:

> No firm will invest in a project that will payback after more than 10 years even if it can produce great amount of returns.

Within the broad array of theoretical collaboration types used to study inter-firm collaboration (Contractor and Lorange 1988), co-production service (68.9 % in all collaboration cases), management and service agreements (46.7 %) and market share service (44.4 %) have tended to dominate, alongside know how licensing (24.4 %), joint R&D service (22.2 %), joint venture service (15.6 %), technical

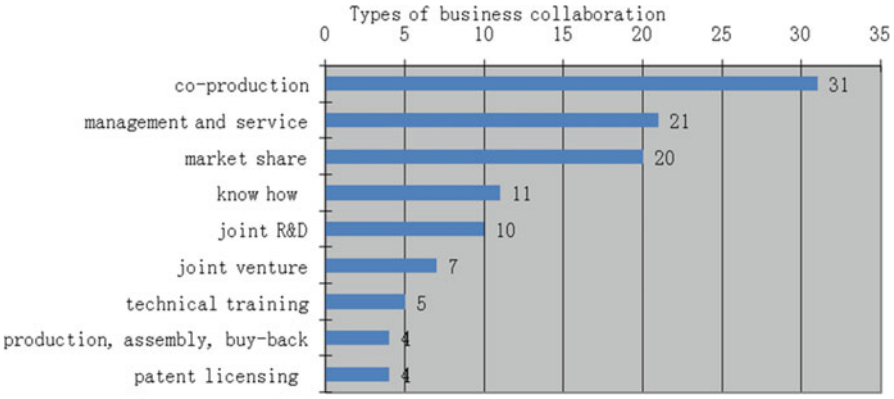

Fig. 6.12 Types of inter-firm collaboration (by collaborating cases) (Source: Interview results from this study)

training and start-up assistance service (11.1 %), production, assembly, and buy-back agreement (8.9 %), and patent licensing (8.9 %) (see Fig. 6.12). Franchising did not appear in the studied Chinese collaboration cases. High selection of the co-production type is contributed to by operators (25 %), SPs (32 %) and CP/TPs (25 %). However, the top selected collaboration type for DPs is joint R&D (30 %), followed by co-production (25 %) and market share (20 %).[6] The types of collaboration are obtained by means of a multiple choice question that allowed for more than one response to the question. In other words, there could be more than one type of collaboration in one collaboration case.

Another notable result is that a joint venture is usually adopted by SPs (23 %), CP/TPs (18 %), and DPs (15 %) in their inter-firm collaboration. Only 3 % of operators had joint venture collaboration with their partners. Soft policy barriers (e.g. regional protection laws, different registration fees or application processes to foreign firms) added barriers to this kind of collaboration in many countries.

6.4.5 What Are the Major Benefits From Collaboration?

This result answers the fifth question of the first primary research question. What are the major benefits from inter-firm collaboration? As shown in Fig. 6.13 the top three perceived benefits coming from inter-firm collaboration are increasing market share (80 %), increasing profitability, and increasing innovation (77.8 %). Improved productivity (68.9 %), improved product quality (66.7 %), access to new technology (62.2 %), greater participation in the global market (62.2 %),

[6] There is no evidence that different sectors of firms (e.g. SPs) have an influence on the selection of types of inter-firm collaboration in the Chinese mobile telecommunication market.

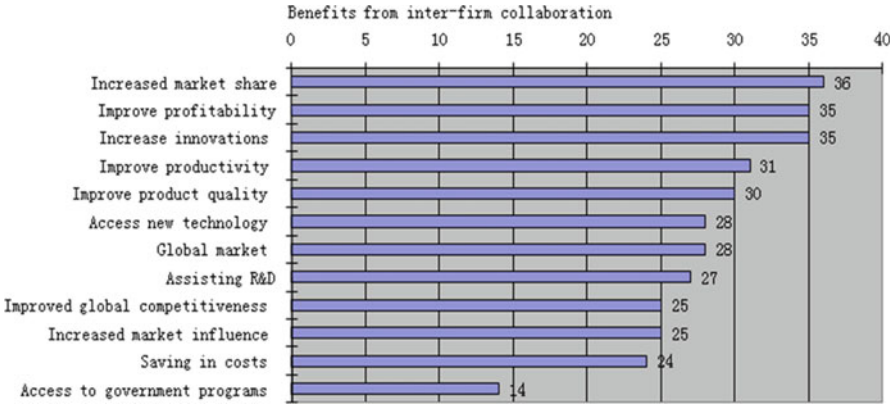

Fig. 6.13 Benefits from inter-firm collaboration (by collaborating cases) (Source: Interview results from this study)

assisting research and development (60 %), improved global competitiveness/market influence (55.6 % each), saving in costs (53.3 %) and access to government programs (31.1 %) are the remaining benefits received by firms.

Because of the different histories, experience, environments, cultural backgrounds, social environment, technologies, and relationships of firms, they have very different needs and benefits from collaboration. The benefits brought by different collaboration, even for the same firm, are different. However, the benefits are not significantly related to the size or sector of the interviewed firm. When focusing only upon foreign firms, the top benefits are improved global competitiveness and increased market share (88.9 %). Hence, for both international firms and domestic firms, increasing market share, increasing profit, and increasing innovation are the most important benefits from mobile inter-firm collaboration.

6.4.6 What Are the Major Risks From Inter-firm Collaboration?

The results answer the sixth and seventh questions of the first primary research question. What are the major risks towards inter-firm collaboration in China? The results also supported previous empirical studies (Lewis 1990; Roos 1994; Parker 2000). Benefit distribution is vital to inter-firm collaboration, which is agreed by interviewed managers:

> no firm will enter a win-lose or lose-lose cooperation with others.

As shown in Fig. 6.14 the first risk threatening inter-firm collaboration in the Chinese mobile market is unfair benefit distribution, which was selected by 58.3 % of interviewed firms (in 14 collaborating cases). The second barrier is lack of trust,

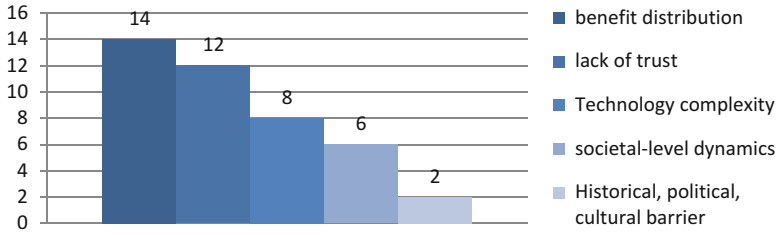

Fig. 6.14 Barriers for inter-firm collaboration (by no. of firms) (Source: Interview results from this study)

which was selected by 50 % of firms. Technology complexity, societal-level dynamics, historical, political, or cultural barriers are the key remaining barriers towards inter-firm collaboration.

The dominant barriers for SPs and CPs in China are unfair benefit distribution and trust problems. They are also dominant barriers for inter-firm collaboration for SMEs. However, there is no dominant barrier for DPs and operators as they usually have strong market power in the market. This is influenced by the regulatory system in China as discussed in a previous section of this chapter. Furthermore, the results show that large firms have fewer barriers in inter-firm collaboration compared with SMEs. This is because large firms are more likely to possess more specialized assets, business networks, patents, and skilled labour (Teece 1986).

As for the seventh question in Chap. 4, risk is different when international collaboration is involved (Eiteman 1990; Jia and Rutherford 2010; Vilana and Monroy 2010). As shown in Fig. 6.15 the first barrier to international collaboration (in 13 out of 24 international collaboration cases) is language, cultural, or communication barriers. The second is lack of international business experience (in 12 cases). The third risk is not enough access to finance and lack of trust in international business (in five cases each). Regulatory or government constraint is the fifth risk (in 4 cases). The sixth risk is lack of global competitiveness (in three cases). The last is lack of access to advanced technology (in one case).

Language and cultural differences are still the biggest barriers for most Chinese firms. They do not feel confident when communicating with foreign firms. Possible misunderstandings due to poor language or cultural differences also increase risks from inter-firm collaboration. The experiences of the general manager or business manager are also important for a firm to engage in international collaboration. If the manager has studied or lived abroad, it is more likely that the firm will engage in international collaboration. However, international firms have fewer barriers than Chinese firms when they engage in international collaboration (Kuada 2002). Copyright and intellectual property protection is also pointed out by foreign companies as the issue of most concern when collaborating in China. Firms are reluctant to transfer their technology and knowledge to less protected countries (Lin et al. 2011).

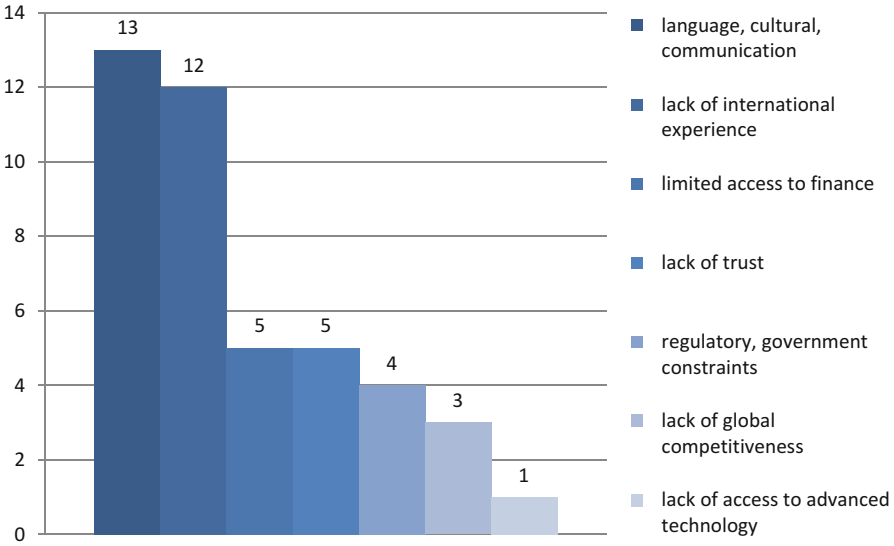

Fig. 6.15 Barriers to international collaboration (by no. of firms) (Source: Interview results from this study (by no. of firms))

6.4.7 Key Determinants of a Successful Collaboration

To collect data to support the quantitative study, one probe question was added to the questionnaire for the interviewees as follows "what do you think are the key determinants for a successful collaboration". Table 6.2 showed the answers from the Chinese interviewees.

Most of the managers highlighted the importance of understanding each other in terms of (i) the goals and requirements of collaboration; (ii) compliance with each other on negotiated process and policy; (iii) keeping effective communications; and (iv) having a fast and open information exchange. The social environment or policy risk was also mentioned by one interviewee. Several managers indicated that the contact person is vital for inter-firm collaboration. One of the interviewed managers said:

> When the contact person changed the collaboration results could be totally different.

Interviewees focused on their real business experience rather than theoretical knowledge when proposing the key determinants of a successful collaboration. Therefore, the answers are different from those identified from literature review in Chap. 3.

Table 6.2 Proposed key determinants for successful inter-firm collaboration in China

Proposed key determinants	No. of times proposed by interviewees
Profit distribution	3
Copyright protection	3
Effective communication	2
Fast information transfer	2
Same objective	1
Good understanding	1
Working process	1
Clear requirement	1
Policy support	1
Good understanding	1

Source: Interview results from this study

Table 6.3 Expected government roles in inter-firm collaboration

Expected roles	No. of times proposed by interviewees
Provide fair playing field	4
Fast and simple services	3
Openness of market	3
Provide funds support	2
Reduce monopoly	2
Access to land	1
Adopt global standard	1

Source: Interview results from this study

6.4.8 Role of Government

To collect suggestions on good policies and supporting services from the government, another question "the role of government" was asked at the end of the interviews. Some interviewees expected that some general government policies will help with business or industry development. Ensuring a level playing field was emphasized four times during the interviews. Openness of the market was emphasized three times, and was proposed by both foreign and international firms. Table 6.3 shows the expected government roles in supporting inter-firm collaboration by Chinese interviewees.

Foreign firms usually have a higher expectation of government policy. They believe that new policies will help them engage in inter-firm collaboration as well as business development. Domestic firms, especially SMEs, have lower expectations of policy support. Most of them believe that policies will benefit more large firms and SOEs, and have a lesser impact on small private firms. It is more important to adopt a good business strategy or find good collaborators by themselves.

This is supported by the following comments from the interviewees:

. . .government should provide an equal and open environment for all firms in the telecommunications market.

We need more support from the government for both funds and regulation.

The government should simplify its working process.

. . .policy should be flexible and change with market change.

It is impossible for a small company like ours to get a subsidy from the government, even if I know when and how to apply for it.

The playing field in the Chinese telecom market is not even. One operator has most of the government policy support than all the others, which makes for an uneven revenue structure.

In summary, the interview results answered all seven questions of the first primary research question, and the comments from the interviewees provided ample and useful information for the following study. The research results were organized and compiled into a report. Some interviewees also showed interest in participating in further research.

6.5 Global Financial Crisis and Its Influence on Collaborative Strategy

The global financial crisis from 2008 influenced almost all industries and nations. Although the telecommunication industry is more stable than other industries, most firms still faced difficulties and needed new strategies to respond to it. Short of financial support, facing a shrinking market with tough international competition, a reduced number of projects is the key problem facing most firms, especially SMEs.

During the 2008 global financial crisis, firms relying on international business were influenced more than others firms. Reduced projects and requirements from the global market brought them into difficulty. A general manager from a local small private firm said: "The global financial crisis brought us great trouble. All of our projects and orders from foreign markets have been cancelled or withdrawn, which made us change to the local market. Fortunately, we have got two projects in China now. Although the project and products are new to us, we have great confidence in completing them on time." Another manager from a big foreign company said: "We have not had any project for several months. Our company has combined some departments and raised some small projects inside our company for us to do."

To understand better the influence of the global financial crisis and the collaborative strategies firms adopted in response to it, an additional interview was conducted from April 2009 to June 2009 in Beijing. As a result, 12 firms participated in this additional interview, including foreign companies (with headquarters located outside mainland China) and local companies, big firms and small firms, state-owned firms and private firms. Most of the interviewees were general managers or senior managers that participated in the first interview round. Their

participations and answers provided invaluable contributions to this thesis. The responses are categorized into three groups:

6.5.1 Small Private Firms

Small private firms are regarded as vulnerable to financial crises and policy changes. However, the speed of making and adopting new policies for Chinese small firms is very fast according to this research. As most of their global business partners are influenced by the financial crisis, many small firms turned to the local market and changed their business partner within 1 month. Some even grasped a chance (for example, a local policy support opportunity) to start a new business and collaborate with government instead of global partners. The new collaborative strategies took effect very quickly and relieved the problem of the sudden broken financial chain (closure of international orders).

A manager from a local small telecom firm said: "During the financial crisis the (Chinese) government announced and implemented many new policies to support the high technology and telecommunication industry, which provided us with many opportunities. We have now applied an exclusive license that will provide us with great profit. We will start a new firm for this project and are now discussing with investors. This project has taken us one month and is expected to be conducted within the next month." A general manager from another small private firm said: "The crisis caused a tight financial plan for us. However, I have changed my business also to the investment market, which will help our high technology business from another side." The answers show that small businesses during the financial crisis not only changed their collaborating strategies, but also markets and investing strategies to reduce the potential risks.

6.5.2 Foreign Firms

Although foreign companies were more influenced by reduced international market demand, and short of financial support from their original country, they have plenty of experience in dealing with such a situation. The formal strategies adopted by foreign companies are reduced production and managing costs, delaying new recruitment (actually, from the start of the financial crisis some firms stopped new enrolment programs for nearly half a year), reducing outsourcing projects, and combining departments. These strategies helped foreign firms during the financial crisis. The collaborative strategies were not influenced in the short-term as it is usually defined as a long-term strategy and not easily changed.

The effects take a longer time to implement in big firms than in small firms. A manager from a big foreign company said: "All of our outsourcing teams have been retrenched now because of reduced requirements and projects. Even permanent

employees now have no work to do. We have moved some employees from departments without projects to other departments with projects. The company has announced the first lay-off plan in its local area, which has not influenced us yet. However, it will announce a second lay-off plan very soon, which may affect us." Another manager from a big telecom company said: "We are facing a reduction of executive and management fees. However, the Chinese telecom market is still quite stable now."

6.5.3 State-Owned Firms

State-owned companies, on the other hand, were less influenced than other firms as most of their customers are Chinese firms or government departments. But they still faced reduced demand and projects, which may influence their current business partners. The strategy they adopted in the short run also involved reducing salaries or laying-off employees. A manager from a big state-owned company said: "We have already laid-off some staff since the financial crisis. Although it has less of an influence on us, projects are still reducing now."

The interview results show that different firms adopted different strategies during the global financial crisis. Inter-firm collaboration relationships were influenced and changed during the global financial crisis. As a result, small firms showed more flexibility in their strategies during the crisis. Foreign firms had more experience and could adjust quickly in their developing and collaborating strategies. State firms were influenced less than other firms as most of their customers are Chinese firms and departments. However, these changes provide new opportunities for new collaborating relationships locally and globally.

6.6 Conclusions

China's telecommunications industry was a typical socially planned one, which has undergone many reforms. The domestic industry had been highly protected before the 1990s. China Telecom was the monopolist in this market for a long time. The Chinese mobile market was controlled by China Mobile and China Unicom.

The rapid development of the Chinese mobile market brought many opportunities for new investment and attracted global telecom firms. The most important component of telecom revenue during that period was mobile telephony. An open policy, telecom reform, and international collaborations greatly contributed to the entire telecom industry in China. The mobile sector has significantly contributed to Chinese economic growth.

The Chinese telecom market is composed of four sectors as highlighted in this thesis. They are DPs, operators, SPs and CPs/TPs. Inter-firm collaborations among them brought high-technology, advanced management systems, and matured

products and more value added services, which have contributed greatly to rapid mobile development in China. With further international collaborations, the development of the Chinese mobile market is expected to lead and push the growth of the global telecom market.

Results from the case studies in China have answered all questions related to the first primary research question in Chap. 4. Size, country, and cultural similarity are important when firms select collaborators. Firms prefer larger-sized or peer-sized (same-sized) firms as their collaborators. Foreign firms tend to search for collaborators in the global market and have fewer barriers than domestic firms when engaging in international collaboration.

The major types of inter-firm collaboration in China are co-production, market sharing and management and service collaboration. Franchising does not appear in the Chinese mobile market and there are new types of inter-firm collaboration in the Chinese mobile market. For all the interviewed firms the most important benefits of collaboration are increasing market share, increasing profit, and increasing innovation. The benefits generated from inter-firm collaborations show great variety.

The main risks towards local inter-firm collaboration in the Chinese mobile markets are benefit distribution and lack of trust. The main barriers for international collaborations are language, cultural, or communication barriers and lack of experience in international business.

Most of the interviewees took understanding, communication, and fast information exchange as the most important key to a successful inter-firm collaboration. Most interviewees agreed that the government should provide an open and fair playing field for all competitors.

The study of Chinese mobile cases shows, in this dynamic developing market, firms are very active in inter-firm collaboration. However, size, country, and cultural differences are still important in inter-firm collaboration. International firms have fewer barriers in global collaboration than domestic firms. Most interviewed firms emphasized that trust and benefit distribution are key determinants for successful collaboration. This result will be compared to the Australian case study in the next chapter and the qualitative research results will be further examined in the quantitative study.

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