Globalization and Competitiveness in the Telecommunications Industry

—China Telecom from Industry into Firms

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内 容 简 介

本书采用中国电信作为案例研究的基础，因为中国电信曾经垄断着中国的电信行业。通过这个案例分析，我们可以深入研究中国电信行业的改革历程，并且分析中国电信业务市场的开放状况。本书研究的主要目的就是探讨中国电信产业在中国加入世贸组织之后的竞争力，而这对于解析中国电信企业的前景有着相当重要的意义。书中剖析了中国电信产业发展的历史背景，并且涵盖了对中国 MII，中国移动，中国联通，中国铁通，吉通，中国网通以及一些外来电信企业的实地考察结果，更有对中国电信深入考察分析之后的一些结论性评述。

本书的研究得出了以下结论：推动中国电信产业发展的因素是，中国的改革开放、从发达国家借鉴的先进技术和设备，以及中国政府的相关优惠政策。本书通过应用"Marshall 之谜"解析了中国电信产业的竞争地位，并且认为在政府规范下的竞争才是建立一个健康竞争的市场至关重要的因素。

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Preface

Professor David P Mellor OBE
Chairman ITU-TDAG
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Over the past twenty years the world has seen dramatic changes in the way communication is performed. A pent up demand for knowledge has been resolved as a result of digitalization of communications networks worldwide.

No longer in many parts of the world is communication restricted to the chosen few and as a result of such technologies as GSM, mobility allows contact to be maintained with people as they move from town to town and continent to continent. It should not be assumed that all the world has access to a telephone, computer or the Internet, indeed more than a billion people are yet to make their first telephone call.

Dr Zeng whom I have known for over five years has explored in detail how China is facing the challenges of change and openness subsequent to becoming a signatory to the WTO Agreement.

Based on his PhD research in the University of Cambridge, Dr Zeng offers a new insight into the topic of Globalization and Competitiveness of Telecommunications Industry. He gives the reasons why and how China Telecom dismantled from an industry into firms and points to a need for more reorganizations of Chinese telecom firms, which stand on the studies of Marshall Puzzle and classification of physical network and service network.

China is now a leading authority on Telecommunications Design and Development and hosts the World's largest mobile telephone network. Despite current restrictions on Foreign Investment, China has indicated a willingness to open its doors in the near future!

The complexity of providing access to knowledge to over 1. 2 Billion people in China, whilst at the same time maintaining control of costs of infrastructure and labour should not be underestimated.

The need for globally recognized Regulatory and Legal Frameworks is key to China's future success. In the coming years and with the friendship of Dr Zeng, I look forward to helping these goals become a reality. With the help of the ITU, the UKTA is committed to sharing with China the experiences encountered by Europe when similar change was introduced.

David P Mellor
10. 10. 2004

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Part One Research Preparation

Part One outlines the research preparation and it includes three chapters. Chapter 1 explains the research objectives and the procedures. Chapter 2 comprises the literature review, focusing on the research topics to investigate the concepts and theories concerning telecommunications, natural monopoly, regulation, telecom globalisation and competitiveness. Chapter 3 examines the methodology of case study, compares the different functions of single and multiple case studies, and then justifies why a single case study was selected for this research.

"*It is true that China can get technology and funds through joining the WTO, but market competition will intensify too*" (*Mundell*, 1999)

Chapter 1 Introduction

1.1 Background

The motivation of this research is to study the competitiveness of China Telecom ● at the point at which China has entered the World Trade Organization (WTO) and opened up its telecom service markets. The research selected China Telecom as a single case study to see how China Telecom changed from an industry into firms, which can show Chinese telecoms reform and reorganization of China Telecom in 1999 and 2002 in order to understand the development of the firms and the market.

Economic globalization is driving telecommunication globalization (Zhang, 2000). The tendency of telecommunication deregulation● has attracted increasing attention because of the application of the Basic (WTO/GATS) Telecommunications Agreement● and rapid change in telecommunication technology.

The telecom industry has undergone a fundamental shift from an engineering-dominated sector to one that is commercially oriented, with high resilience to cycles of growth and recession (Sarker, 1999; Kramer, 1993). Telecommunication has now been transformed from a public utility into a competitive industry that should be run commercially (Wang, 1998). The topic of competitiveness in the telecom industry has become significant to academic researchers, policy makers, and industrial businessmen.

1.1.1 Technical Change in Telecommunications

Technological change is creating a borderless world of cyberspace.

● China Telecom monopolized 95% of the Chinese telecom service market until 1999.

● Deregulation is a sub-set of regulation, and is defined as the reduction in the level of regulation.

● The WTO has begun to implement, under the general agreement of opening up the global market for services, an agreement to create competitive markets for telecom services. The basic agreement is contained in the 4th Protocol of the General Agreement on Trade in Services.

Louis Tanguay[1], put forth his main ideas in '*The Future of the Telecommunications Industry*' at the beginning of the new century as follows:

"*So those are characteristics that I see in the communications industry of the early* 21st *century*:

• *The complete blurring of the old and familiar lines between television, telephone and computer networks and industries*;

• *A new competitive industry model which will be akin to today's computer industry, with a very different, though still unclear, pricing and investment model*;

• *An industry where technology will be the enabler, but marketing and customer service will be the driver*;

• *A seamless, multiplayer web of interoperable and interconnected networks, an internet with both wire line & wireless dimensions, with thousands of practical applications accessible by dozens of different devices*;

• *Global networks which will be based primarily on broadband fiber optic technology and internet protocol packet-switching*;

• *Highly intelligent, powerful networks and devices driven by molecular computers*;

• *Networks which will allow the realization of true personal communications, allowing access anytime and anywhere*" (*Tanguay*, 2000, p. 1).

The telecommunication technology of the 21st century cannot reap without sowing and it should grow on the foundation of the communication technology development of the 20th century[2]. Technology and competition push forward the telecommunication industry (Zhu, 2000). With the development of IT technology, digitalization has permeated into telecommunications, computers and entertainment. Global integration in the telecoms field results from the convergence of telecom technologies. The creation of open and competitive markets for telecommunications in the last two decades of the 20th century is taking place at the same time as the convergence of audio-visual data and media technologies. Computers can be used to develop telephones, whilst TV can

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[1] Louis Tanguay, president and chief operating of Bell Canada.

[2] See: Appendix 1: The Development Trend of Telecommunications Technology.

be used to browse the Internet; the mobile phone can be used to inquire about stock prices; a simple network terminal can be used to download a CD; and E-shopping has arrived. Software companies can provide telecommunications services, entertainment companies can provide Internet services while telecommunications companies can engage in bank services and wholesale and retail in other business. Broadband technology makes it possible for subscribers to accomplish the transmission of data and audio-visual signals via the Internet conveniently and at lower costs.

Global integration makes the digital divide between the rich and the poor wider. According to the data from the Fifth Conference of Telecom Minister of APEC in May, 2002, more than one billion people in the world had not even touched a telephone, but 62% of fixed lines and 84% of mobile phones were found within twenty-three developed countries whosh population occupies 15% of the world in 2000[1]. A senior officer of the MII of China said: "The digital divide is growing in the world. Developing Chinese telecom industries and strengthening Chinese telecom firms' competitiveness is a choice that China must make" (Zhang, 2002).

1.1.2 Growth of the Chinese Telecom Industry in Comparative Perspective

China's telecommunication industry[2] has developed enormously over the past decade compared to other countries (Table 1-1).

Table 1-1 Changes of Telecom Density Rate[3]

Country	TDR in 2000	TDR in 1990	Rank in 2000	Rank in 1990	Change (+/−)
China	17.8%	0.6%	95	159	+64
Vietnam	4.2%	0.1%	141	189	+48
Botswana	21.6%	2.1%	91	129	+38

[1] The data can also be seen in *Network Communication Market*, Volume 6, 2002.

[2] The Chinese telecom industry mainly refers to the Chinese telecom service sector in this research. The data of China here is from China Telecom.

[3] Fixed lines and mobile phones are considered together here and this table shows the obvious changes of countries in the world from 1990 to 2000. The Chinese telecom service market mainly refers to fixed lines and mobiles in this research. TDR here refers to Telecom Density Rate.

续表

Country	TDR in 2000	TDR in 1990	Rank in 2000	Rank in 1990	Change (+/−)
Salvador	21.8%	2.4%	90	125	+35
Jamaica	34.1%	4.5%	71	106	+35
Hungary	67.4%	9.6%	43	78	+35
Mauritius	38.6%	5.4%	67	100	+33
Philippines	12.4%	1.0%	112	143	+31
Morocco	13.3%	1.6%	107	136	+29
Paraguay	20.7%	2.7%	92	120	+28
Cambodia	1.2%	0.0%	167	194	+27
Poland	45.6%	8.6%	60	85	+25
Armenia	15.6%	15.7%	102	60	−42
Iraq	2.9%	3.9%	149	109	−40
Tajikistan	3.6%	4.5%	143	105	−38
Kirghizia	7.9%	7.2%	125	90	−35
Angola	0.2%	0.8%	177	146	−31
Libya	0.2%	0.4%	190	162	−28
Canada	96.1%	58.6%	33	6	−27
Turkmenistan	8.4%	6.0%	123	97	−26
Cuba	4.4%	3.1%	140	115	−25
Ukraine	22.7%	13.6%	87	66	−21

Source: ITU[1]

From Table 1-1, we can see that the Chinese telecom density rate was 0.6% and the rank was one hundred and fifty-ninth in the world in 1990. It rose to 17.8% and ranked ninety-fifth respectively in 2000, and the rank increased by sixty-four and China became the country with the fast increasing telecom development in the world.

The Chinese telecommunication market is attractive and the global telecom giants are interested in this potential market. The percentage of numler of principal line[2] will increase from 17.8% in 2000 to 38% in 2010 (Wei, 2000). One industry expert has observed that the huge poten-

[1] See *The Telecom World*, Volume 6, 2002, p. 3.

[2] Numbers of practical telecom lines contacting subscribers.

tial Chinese telecom market attracts all the international telecommunication firms. The Asian market, especially the Chinese telecom market is the main part of future development markets of BT (Aubrey, 1999). The report entitled "*The Telecommunication Market and Strategies in China*" by Pyramid Research Cambridge also gave the following results mainly about China Telecom:

"*China is not just famous for its Great Wall. Over* 30 000 *new principal lines are added to China's fixed-line network every day. The priority position of telecommunications will mean that China will add over* 1% *penetration annually by the year* 2003, *outstripping most of the rest of developing Asia.*"[1]

The opening of China's telecommunication market that has occurred to date is a direct result of the country's desire for WTO membership (Zhang and Peng, 2000). China has been a WTO member since 2001 and it has to open up its full telecommunication markets. Does China recognize the need to prepare for the inevitable arrival of global competitors? Without the support of preferential policies from the government, can China Telecom develop rapidly and be competitive? Through the use of a case study, the ability of China Telecom to withstand the competitive threats within the WTO could be evaluated.

1.2 Core Issue and Research Goals

On the basis of the preceding arguments, the core issue of this research is: under the circumstance of globalization, can China Telecom compete?

The objectives of this research are designed as follows:

- To describe the development of the Chinese telecom industry and to investigate the reorganization of China Telecom, looking at the forces that push China Telecom forward.
- To analyse the changes in the Chinese telecom service market in order to understand the competitive capabilities of China Telecom after the opening-up of the Chinese telecom service market.
- To compare the competive situation between China Telecom and the global telecom giants to see if China Telecom has competitiveness within the WTO.

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[1] Pyramid Research, 1999.