

# Chapter X

## China's Practice of Implementing a 3G Mobile Telecommunications Standard: A Transaction Costs Perspective

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### ABSTRACT

*This chapter analyses and evaluates the Chinese government's 3G policy of supporting the creation and implementation of the country's indigenous TD-SCDMA standard. On the supply side, the addition of a new standard has enriched choices available on the 3G mobile telecommunications market; however, on the demand side, the government had to force operators to adopt this standard due to their lack of interest in the new standard. Building on insights gained from North's theory on the transaction costs of politics, the authors explain this standardization process as a result of interaction between the political market and the economic market which has ultimately been driven by ideology shifts that took place on multiple levels of China's society in recent years. They contribute to the standardization literature by demonstrating how North's theory can be used for integrating political and economic aspects in the analysis of standardization processes.*

*But it is political markets in non-democratic polities that urgently need ... transaction costs analysis. The far greater imperfections of such markets in communist and Third World countries*

*are the root of their poor economic performance since it is polities that devise and enforce the property rights that are the incentive structure of economies. Douglas North, a Transaction Cost Theory of Politics, 1990*

*The exceptions in the modern world to the representative polity as a prerequisite to economic growth suggest the high pay-off from modeling the political process in third world countries.* Douglass North, Institutions and Credible Commitment, 1993

## **I INTRODUCTION**

Generally speaking, there are three mechanisms in coordinating industry standards selection and standardization processes: (1) the committee approach, including trade associations and standards developing organizations (SDOs); (2) the market leadership approach, either led by a single dominant market player or through consortia and alliances; (3) by government fiat. While the first two approaches may be categorized as “voluntary” and are gaining more and more dominance in mature economies, recently a renewed interest in initiating and facilitating IT standardization processes by the state can be observed, especially in the EU (Anonymous, 2008).

In line with this trend, the Chinese government has been strengthening its involvement in the development and implementation of standards in the ICT industry in recent years, which provides a good case study for studying government behavior in the ICT standards setting and standardization process. With rapid globalization of the ICT markets, it is foreseeable that battles over control of industry standards will become more and more fierce. Lessons learned from the China case will have implications not only for the national strategy of emerging economies in similar stages of economic development as that of China; rather, firms and governments in more developed economies can also gain insights regarding how to better penetrate emerging ICT markets in this ever more integrated business world.

As summarized in Suttmeimer and Yao (2004), the Chinese government's strong support for

developing its domestic ICT industry standards comprises: China's 3G mobile phone standard “TD-SCDMA”; an alternative to the Windows operating system standard through the promotion of Linux; its own successor to DVD's, the “EVD” (Enhanced Versatile Disc) standard; a new digital audio standard (AVS—Audio, Video Coding Standard) for MPEG (Moving Picture Experts Group); a Chinese-developed standard IGRS (Intelligent Grouping and Resources Sharing) for communicating among digital devices; and standards concerning radio frequency identification tagging (RFID). The introduction of a new security standard for wireless devices, the WLAN Authentication and Privacy Infrastructure (WAPI) standard, has received international attention and become a major issue in U.S.-China trade relations. Most recently, the central government's Standardization Administration has decided to integrate two domestic digital TV transmission technologies, developed by Tsinghua University and Shanghai Jiaotong University respectively, to form the national standard for digital broadcasting in place of the previously adopted European standards.

While the most cited rationale for developing and adopting domestic ICT standards has been the hope for eliminating or reducing royalty payments to foreign intellectual property (IP) holders, the cost of this practice has been obvious and significant. After years of efforts directed at developing the industry value chain based on the TD-SCDMA standard, China's 3G mobile networks have still not been put in place; while the government had announced that the digital TV broadcasting standard would be implemented by August 2007, the implementation date has been delayed indefinitely. Almost all the efforts spent on the other ICT standards initiatives are encountering significant obstacles as well.

Motivated by the policy acts aforementioned, this chapter attempts to build a transaction cost perspective for explaining government behavior

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