Chapter 13
Are Asian Countries Ready to Lead a Global ICT Standardization?

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ABSTRACT

East Asian countries are booming with both technological and demographic advances. They have traditionally developed their economies by being licensed foreign Information and Communications Technology (ICT) standards and using them to develop their home market and to export products. This chapter proposes that East Asian countries should start to develop a leadership role in global ICT standardizations even though their focuses are currently still primarily on developments in their own nations.

1. INTRODUCTION

Traditionally, U.S.A and Europe have led Information and Communications Technology (ICT) standardizations (Seo, 2013). However, along with the economic and technological globalization, some Asian countries have grown rapidly over the past two decades (Lee & Oh, 2008). Although they started their industrial developments by adopting or adapting ICT standards from U.S.A and Europe to manufacture products, they have recently gained more capabilities to develop innovative technologies for global standards themselves (Seo, 2013).

In the early 1990s, Japan was the only developed country in the Asian region that had tried to make its second-generation wireless telecommunications system, Personal Digital Cellular (PDC), an international standard, but it was not successful (Seo, 2010). Since then, the ICT standardization environment has changed drastically. The globalization of economies, the liberalization of industries, the fast development of ICT, the revolution of Internet, and the emergence of Asia countries as major ICT producers and consumers all contribute to this environmental change.

As globalization grows and ICT is further developed, more and more Asian countries are interested in becoming involved with ICT standardization. It was impossible for Japan to make its technology an international standard almost two decades ago. Now, can it be possible for Asian countries to develop and globally standardize their
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technologies as European countries did? Do they have the global leadership qualities necessary to lead ICT standardizations? These are the main questions I will try to answer through this paper.

National prosperity does not simply grow out of a nation’s labor pool and its currency’s value, but it depends on the capacity of its industry to innovate and upgrade (Porter, 1990). Based on Porter’s the competitive advantage of nations, this research explains how some Asian countries have been transforming themselves to ICT standard-setters.

This paper is organized as follow: first, the brief historical background of ICT standardization by region is presented. Second, the current status of ICT capabilities by region is explained. Third, roles in East Asia are evaluated. Finally, a conclusion is addressed.

2. HISTORICAL BACKGROUND OF ICT STANDARDIZATION BY REGION

The historical background of ICT standardization by region provides a basic understanding of nations’ approaches to ICT standards and standardization. With the collapse of the Soviet Union, the breakup of AT&T in U.S.A., the privatization of the postal, telegraph, and telephone (PTT) unit in Western Europe, and the ICT developments in the U.S.A and Western Europe in the 1980s, the environment was favorable for companies and authorities in these two regions – the U.S.A and European Union - to standardize ICTs internationally (Bekkers & Smits, 1998). This was especially true for the telecommunications industry, which required large investments in networks and infrastructures before commercializing products or services. These regions could lead ICT standardizations because they had ICT innovation, production, and consumption powers, while the rest of world was under-developed. A notable exception was Japan. Some electronic companies from Japan such as Sony and JVC were able to internationally standardize their electronic products (e.g. Video Home System as a videotape format) through market competitions that can produce de facto standards. However, the EU and U.S.A. led most ICT standardizations, particularly in the cases of de jure standards (for the explanations of de facto and de jure, please see De Vries [2006]).

During the late 1980s and early 1990s, four Asian countries, the so called four Asian Tigers (Hong Kong, Singapore, South Korea, and Taiwan) emerged as fast developing countries, while China and India have received increasing attention since the late 1990s and 2000s. Therefore, it is important to overview the historical backgrounds of ICT standardizations in these regions as well as those in the EU, U.S.A. and Japan.

2.1. Europe

The primary aim of the European Union (EU) regulation is to create a large ‘home market’ with harmonized, homogeneous, and liberalized EU-wide competition. Harmonization can only be achieved through standards. Therefore, standards have played a central role in European plans for unification and industrial development (Lathia, 1995).

The increasing demand for harmonization had led to the introduction of the ‘New Approach’ in 1985, which was a detailed plan to achieve a common market by 1992. The new approach was essentially aimed at creating a single European market by reducing trade barriers among member states. The approach was successful in unifying standard activities through three European standardizing organizations: European Committee for Standardization (CEN), European Committee for Electrotechnical Standardization (CENELEC), and European Telecommunications Standards Institute (ETSI). “The European system is much more centralized. Traditionally, it did not follow a sector-based approach; rather, the three ESOs