

# Critical Issues and Implications of Digital TV Transition

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## INTRODUCTION

Since the inception of digital terrestrial TV (DTT) in the United Kingdom on September 23, 1998, many countries have developed keen interests in this changing landscape of digital television. Soon after, the U.S. also started DTT on November 1, 1998, and other countries such as Germany, France, Japan, and Korea would join the technological trend. Most countries are scheduling the transition of analog TV into digital TV by around 2010 (Table 1).

In the digitalization process, each government has two main concerns; one is about when the conversion from analog to digital TV (DTV) is scheduled, and the

other is about how smoothly the schedule is completed. While the U.S. currently set analog switch-off for February 17, 2009, the European Commission has planned that switchover from analog TV should be completed in Member States by 2012. The spectrum plans of Member States in the EU said to be flexible enough to allow the introduction of other electronic communications services, along with DTT (Indepen, Ovum, & Fathom, 2005). According to EU Directive, the UK is planning to finish the switchover in 2012 and Germany in 2010. In Asia, South Korea is expected to be completed in 2010, Japan in 2011, and China in 2015.

Unlike government-announced timetables, each country has some difficulties in keeping for the transition

*Table 1. National DTT transition timetable*

Nation	Date	Nation	Date
Germany	2002 DTV launch Ongoing on a regional basis with end date of 2010	U.S.	1998 DTV launch 2010 Switch-off (Berlin/Bradenburg, switch-off on August 4, 2003)
Japan	2003 DTV launch 2011 Analog Switch-off	United Kingdom	1998 DTV launch Partially ending from 2008 2012 Analog Switch-off
Sweden	1999 DTV launch Partially ending from 2005 2008 February Analog Switch-off	Australia	2011 Analog Switch-off
Canada	No switch-off date	Italy	2003 DTV launch 2011 Analog Switch-off
Finland	2001 DTV launch 2010 Analog Switch-off	Norway	2009 Analog Switch-off
Spain	2000 DTV launch 2010 Analog Switch-off	Austria	2010 Analog Switch-off
Hungary	2012 Analog Switch-off	Belgium	2012 Analog Switch-off
Greece	2012 Analog Switch-off	Slovenia	2012 Analog Switch-off
Malaysia	2008 DTV launch 2015 Analog Switch-off	Netherlands	2003 DTV launch No switch-off date
Switzerland	2004 DTV launch 2015 Analog Switch-off	Denmark	2005 DTV launch No switch-off date
Luxemburg	2002 DTV launch No switch-off date	Korea	2001 DTV launch 2010 Analog Switch-off (over 95% Penetration)

process so that the successful conversion within the scheduled timeline may not be possible. Thus, this article first examines which kinds of problems and alternatives are emerging in the policy process for DTV transition in several countries. Secondly, it attempts to find the global implication from what sorts of DTV transition issues are observed in most countries and from how they are broaching the problems of existing regulation systems and the social conflicts among stockholders, especially in Asian countries.

## **BACKGROUND**

The reasons why many countries try to speed up the switchover to DTV is due to several economical benefits as follows (Jung, 2006a, p. 162):

- DTV will improve both the range and quality of services, notably thanks to digital compression.
- It will expand business opportunities due to new services.
- It can create new job markets and industries.
- It will increase both spectrum efficiency and network payloads.

Digital conversion has lots of benefits in several respects, but the policy process that each country promotes is not so simple. Galperin (2004) overviewed the digitalization processes of the U.S. and UK and showed that digital TV offers many advantages over analog TV, but the transition process is complex and costly, so it requires a change in the legal framework as well. The Commission of the European Communities (2003) also explained that the switchover from analog to digital broadcasting is a complex process with social and economic implications going well beyond the pure technical migration. The General Accounting Office (2004) proposes the factors of speedy completion of the DTV transition in Berlin and shows that failure to meet the DTV transition deadline will delay the return of valuable spectrum for public safety and other commercial purposes.

Considering this aspect, each country at last has begun to take legislative measures to spur the DTV transition not to let it occur under market forces. In April 2002, the FCC announced a proposal called “Voluntary Industry Actions to Speed the Digital Television Transition,” requiring the networks to produce and broadcast

more digital programs. The UK government founded “Digital UK,” a non-profit organization coordinating the UK’s move to digital TV. In Asia, Korea is considering “the Special Law of DTV transition” as of April 2006, and Japan’s MIC (Ministry of Internal Affairs and Communications) organized the “Study Group on Digitalization and Broadcast Policy” in 2004.

## **CRITICAL ISSUES OF DTV TRANSITION**

The hurdles or critical issues in the process of a certain country’s digital TV conversion are very similar to that of the other countries’ that the alternatives can also be circulated among nations.

### **Non-Voluntary Conversion and Subsidy for Digital TV Set-Top Boxes**

The most difficult thing in which each government promotes the digitalization policy is that the rate of DTV prevalence does not grow as rapidly as expected. Despite the hard efforts of the FCC (Federal Communications Commission) and CEA (Consumer Electronics Association), the prevalence rate did not increase as expected until 2002. Even the UK, known as the country having the highest digital penetration in the world, has DTV penetration rates totaling about 63% of the second quarter of 2005 (Karger, Klein, Reynolds, & Sales, 2005, p. 2).

The situation in Asian countries is much worse. As of the end of 2005, the prevalence of DTV sets in Korea is only 17.8%, a percentage mostly occupied by high incomers, white color class, and those from urban areas/capital area. According to the survey, 44.3% of DTV have-nots responded to buy DTV sets by 2010. Therefore, the prevalence of DTV would be 58.2% including 44.3% of DTV have-nots by the transition deadline (Korean Broadcasting Commission, 2005, p. 16). This expectation shows a considerable gap with a primary plan to achieve prevalence of 95% in 2010.

It is estimated that around 10% of all primary sets and 16 % of subsequent sets will be subjected to non-voluntary conversion in almost every country by the switch over deadline (Karger, Klein, Reynolds, & Sales, 2005). The government has to support these groups to make them continue to watch DTT in the aspects of public universal services after the analog cutoff. On this account, the main critical issue of DTV conver-

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