

## Do the benefits of convergence outweigh its drawbacks?

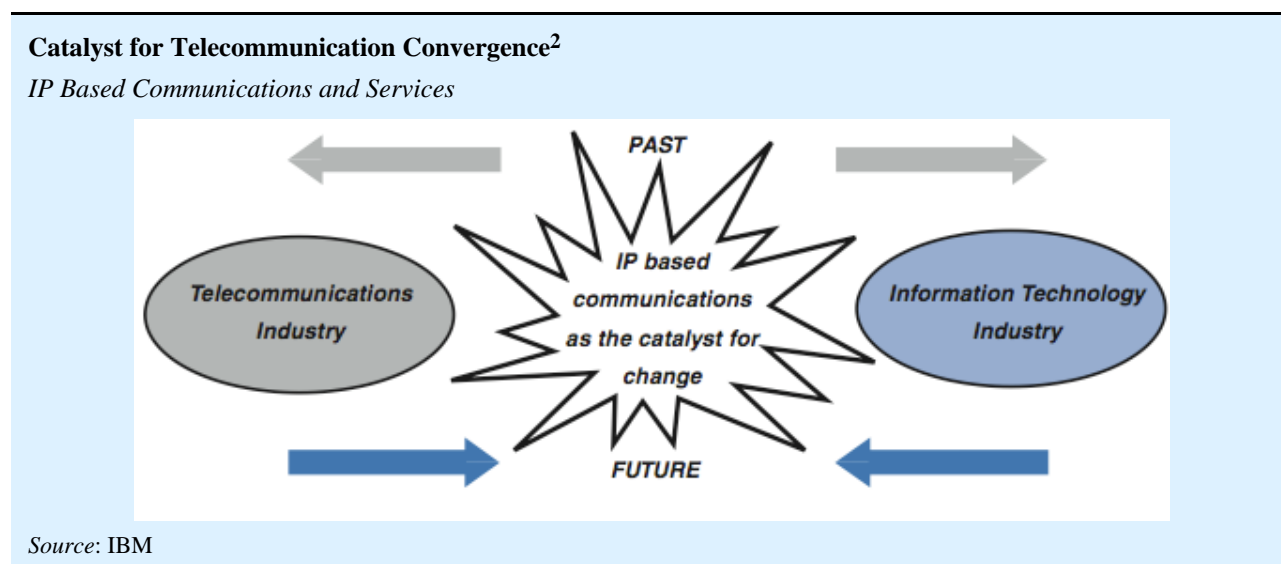
### 1 Introduction

We face unprecedented level of uncertainty in the era of technological convergence. Although many telecommunication companies advertise the benefits their new services can offer, many people, including policy makers and even business people themselves, are not certain whether the benefits exceed its costs. This essay investigates the benefits and drawbacks technological convergence generates in the telecommunication industry, and argue the benefits will eventually outweigh the drawbacks in the long term.

### 2 Benefits

#### 2.1 Definition of Convergence

Technological convergence is combining two or more previously discrete technologies to create a new product or a service.<sup>1</sup> Currently, this trend is most prevalent in the telecommunication industry due to IP (Internet Protocol) networks. From phone conversation, text and photo messages to even television channels, IP networks enable any data on the Internet to be transmitted in a cheaper and more efficient way. As more contents are delivered by one common network, traditional boundaries defining traditional communications services are blurred. Rather, one company can offer traditionally separated services such as fixed and mobile telephony, broadband Internet access, and television within a single bundled pricing scheme. Such trend will intensify the competition among companies, and those companies that exploit the greatest technological potential with innovative services will gain a competitive advantage in the era of technological convergence.



#### 2.2 Innovation

Technological convergence results in greater benefits from increased diversity in products and services in the telecommunication industry. Using IP technology that connects all telecommunication services with a single network, companies can add services to their previous ones, without new investments in infrastructure.

Currently the main focus of telecommunication companies is bundling existing services together, such as VoIP (Voice over Internet Protocol), fixed-mobile convergence, and IPTV (Internet Protocol TV), to offer bundled price schemes to customers. These new attempts allow customers to experience new services that were not possible before. For example, Korea's Hana TV service, based on the concept of IPTV, enables its subscribers to watch any program at any time they want, freeing them from time constraint. Since the heavy investment cost traditionally required to launch a new service in the telecommunication industry is no longer necessary, we will observe many innovative services launched by telecommunication companies, and part of them are bound to meet some consumers' needs that were never fulfilled before.

### **2.3 Commercial Viability**

In addition, compared to many previous innovators, these new services can be offered at reasonable price. Firstly, since the competition in the telecommunication industry is so severe because of the blurred boundaries, companies should set only reasonable level of prices; otherwise, their services should be defeated by new entrants that offer similar functionalities at lower price.

Secondly, technological convergence itself is contributing to lower the operational costs. A converged IP network costs much less to manage, thanks to its simpler architecture and the economies of scale. Additionally, it also shows the economies of scope, in that a number of services can operate in one network. For example, telephony companies are now charging less than before, because they transmit telephone calls over a high-speed Internet connection rather than a dedicated circuit.

Finally, a bundled service under a single brand reduces marketing costs such as advertising and customer-acquisition activities. Considering lower costs, higher competition, and more inherent proclivity towards innovativeness all together, it is natural to conclude that technological convergence will open a new paradise of communications, broadcasting, entertainment, and information services.

## **3 Drawbacks**

### **3.1 Antitrust Issues**

However, there are several concerns on the potential problems technological convergence might cause. The first one is about antitrust issues. In the market economy, every participant should be given an equal opportunity; but in the era of technological convergence, we have seen many decisions that do not meet such precondition and burdens considerable amount of unnecessary social costs to customers. For example, incumbent network operators are often not willing to share their existing networks with rivals, hindering entrants offering new services. In addition, a dominant player's bundled services can also damage the fair competition, in that it misuses its monopoly power in one industry to other industry, limiting the freedom of choice among its customers.

Nevertheless, as traditional regulatory systems are revised to embrace various changes, policy makers start to find ways to minimize unnecessary social costs caused by unfair competition. Thus, though many experts worry about current antitrust issues and social costs accompanying them, they will be resolved in the future.

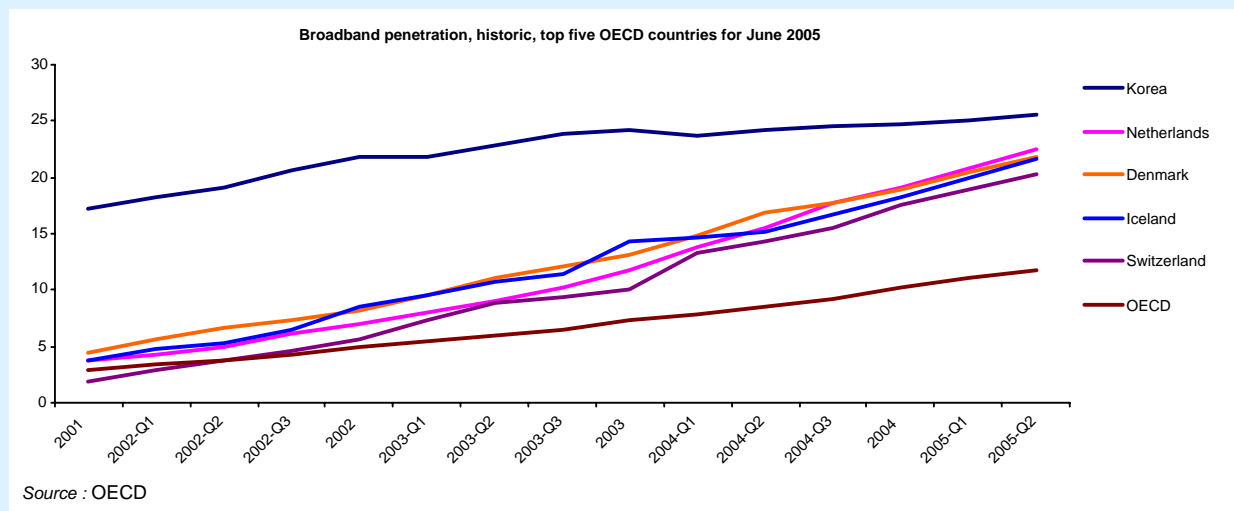
### **3.2 Excessive Investment**

The second issue is about excessive investment. To deliver various services in one single network, a faster broadband network should be established, which requires a huge amount of financial investment. Since it is still not clear whether new services based on such broadband network add more value than the costs, some argues these excessive investments are socially undesirable.

However, such unnecessary investments will be minimized as companies gain insights from trials and errors of other companies, as well as themselves. For instance, while Verizon installed FTTP (Fiber-to-the-Premise) network, the most expensive network, to offer IPTV services, other companies realized that similar

quality could be achieved on the FTTN (Fiber-to-the-Node) network, which is relatively less expensive to set up. So, they were eager to benchmark PCCW's commercial success of IPTV services based on the FTTN network in Hong Kong.<sup>3</sup> Moreover, as the broadband penetration rates in many countries have increased steadily, the need for additional investments is shrinking. Therefore, the over-investment issue is in fact not so much severe as some experts anticipated.

#### Broadband Penetration Rate for Top Five OECD Countries<sup>4</sup>



Source: OECD

## 4 Conclusion

Telecommunication industry has been the one where mass production still dominates, and customers could not enjoy freedom to choose the exact services they wanted. However, under the trend of technological convergence, now companies try to create more innovative services at reasonable price, and this will ultimately satisfy both customers and suppliers. Although there are several costs for implementing them, they can be minimized through well-prepared policies and rigorous researches. Overall, the benefits technological convergence can offer outweigh its drawbacks, and the gap between them will become larger and larger as time passes.

### Notes

<sup>1</sup> Deloitte. 2006. *The trillion dollar challenge - Principles for profitable convergence*, <http://www.deloitte.com/dtt/article/0,1002,cid%253D99700,00.html>.

<sup>2</sup> IBM. 2006. *Convergence – driving profound change in the telecommunication industry*, [www-03.ibm.com/servers/eserver/telecom/pdf/convergence.pdf](http://www-03.ibm.com/servers/eserver/telecom/pdf/convergence.pdf).

<sup>3</sup> The Economist. 2006. *Tuning into the future?*, [http://www.economist.com/surveys/displaystory.cfm?story\\_id=7995280](http://www.economist.com/surveys/displaystory.cfm?story_id=7995280)

<sup>4</sup> See [http://www.oecd.org/document/16/0,2340,en\\_2649\\_34225\\_35526608\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/16/0,2340,en_2649_34225_35526608_1_1_1_1,00.html).