

1 A Way Forward: Technological Convergence

Amid the ever-changing landscape of Information Communication Technology (ICT), technological convergence, defined as “the ability of different network platforms to carry essentially similar kinds of services and the coming together of consumer devices such as the telephone, television and personal computer,” has opened up unprecedented opportunities for many.¹ As remarked, at the heart of technological convergence rests the capacity to integrate different services which were previously exclusive to one another. In this essay, the opportunities and challenges posed by the technological convergence in ICT sector will be presented.

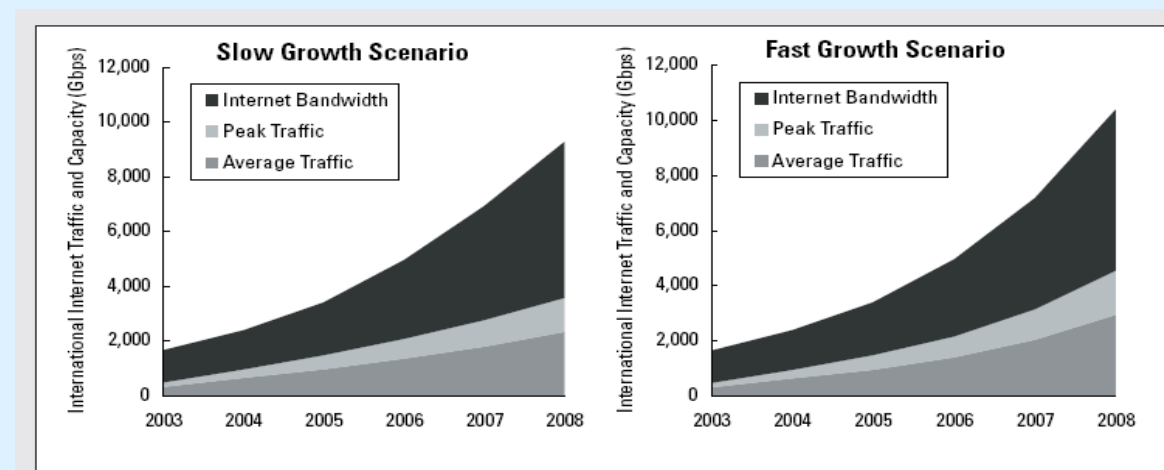
2 Opportunities

2.1 New Device, New Service and New Market

One of the most visible changes brought with the technological convergence is the introduction of new devices which integrate different functions that were previously available only through separate appliances. People using 3G mobile phone services enhanced with wireless internet access is not a new phenomenon, and the evolution of devices along with the emergence of new innovative services provides greater efficiency and convenience to our everyday lives.

The integration of telecommunication, information technology and broadcasting opened up a variety of new value-added services.² Increasingly, the convergence unleashes its wave to the product and service providers as well, accelerating the strategic alliance and competition. For instance, now a variety of players who provided landline telephony, cable television and broadband exclusively through different channels – either in terms of the network layer or in terms of the device – have been brought together in front of a new ‘converged market’ of triple play service. And thanks to this new form of competition, end users now have more choices than before, and consequently, in ideal sense, indulge in more consumer power and cheaper prices offered with the bundled packages. Technological convergence poses a great opportunity for many in ICT sector as well, by relocating the existing market structure and introducing a variety of new services.

International Internet Traffic and Capacity, 2003-2008³



Source: TeleGeography research (<http://www.telegeography.com>)

2.2 ICT as a Great Enabler

Another opportunity posed by technological convergence transcends the boundary of its direct impact on ICT market in economic terms. The application of convergence largely affects the procedure of operation in various sectors of society including the commerce, governance, education and health, working as a great enabler of social development as well of in economic development. The potential is particularly noteworthy in the context of many developing countries in a sense that the integrated technology can scope down the

distance between the providers of essential services and the beneficiaries for instance through mobile banking and telemedicine services.

3 Challenges

3.1 Regulatory Challenges

However, since different subdivisions of ICT industry were previously governed under separate regulatory bodies not necessarily interconnected with one another, technological convergence brings a problem of coordination which should ensure a greater amount of cohesion both at the national and international level. Traditionally, the key challenge of ICT regulation was in providing a 'timely' adjustment to the existing regulatory framework and legislation so as to catch up with the fast-changing market geography and facilitate new innovations that are usually believed to be the driving force of its success.⁴ Convergence adds a challenge on top of such picture, now that the regulators should also be able to integrate and coordinate different regulations for different subdivisions and produce set of policies and strategies to ensure the interconnectivity. However, the task remains a challenge which requires coordination of the existing regulatory agencies not only at the national level, but also at international level.

3.2 Security

Another problem that arises from the technological convergence regards to the potential threat to cyber security. As the degree of complexity deepens with the introduction of converged devices and services, the end-users are more alienated from the technological aspect and consequently become more vulnerable to threats and attacks from outside. Threats may come in variety of ways including a new type of cyber crime penetrating to the loophole in the regulatory structure. In addition, the protection of privacy is likely to sit at the centre of many discussions, as the amount of information obtainable and manipulatable from rogue users far exceeds that before the technological convergence, as well as the magnitude of detrimental impact that would have on the society.

3.3 New Divide

ICT is increasingly gaining characteristics as a necessity, indispensable to our everyday lives. In this sense, the problem of access adds another layer of challenge to the technological convergence, as to whether the new change brings its fruit to everyone to enjoy or exacerbates the current divide between the rich and the poor, the urban and the rural and those in developed countries and those in developing countries. This social impact of technological convergence should also be taken into careful consideration, since the access provides the ground for the knowledge economy and its impact not only in the economic senses but also in social, political and cultural aspects. In this sense, the role of the regulators and policy makers are not limited to providing regulations but also to incentivizing the private sector to offer the essential services to the marginalized population. In addition, in many developing countries, the issue of intellectual property raises an issue in leapfrogging from the current level development in technological convergence, adding complication to overcome the new challenge.

4 Looking Ahead

By and large, technological convergence promises unprecedented opportunities to users with greater efficiency and convenience, the ICT providers with potential economic gains, and the public in general with its role as a catalyst to development. However, it is also important to ensure adequate regulation and protection to take place so as to prevent drawbacks of technological convergence such as the increased vulnerability to cyber crime and polarization outweighing the benefits. Timely and coherent regulation as well as policies to incentivize private sectors should be ensured so as to utilize the technological convergence as an enabling tool for development in the information society.

Reference

- 1 Communications and Strategies, IDATE, Special Issue, Nov.2005, Technological Convergence and Regulation: Challenges facing developing a, edited by Jérôme Bezzina & Bernard Sanchez, pg.19
 - 2 Bridges.org. Convergence: technological change and effective regulation can bring benefits to the developing world Homepage, <http://www.bridges.org/commentaries/109>
 - 3 http://www.telegeography.com/ee/supplemental_files/pdf.php?pdf_file=gig06_exec_summ.pdf&pub_code=free_resources
 - 4 Bezzina and Sanchez, pg.16
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