

Economical Implications under Digital Economy

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□ Digital Economy Environment (Value Networking Era)

Since the mainframe era in 1990s, IT has seen dramatic progress, driving the Internet penetration. This ended up shifting the focus of paradigm away from bloc-orientation and individualism to networked social structure, openness, and globalization.

The networking environment spurs the creation of new economic value and global community, encompassing all individuals and enterprises. As a growth engine of digital economy, the networking environment ushers in an “Era of Value Networking,” a new keyword characterizing the 21st century.

Unlike in the 20th century, when IT was applied within the boundary of the existing social and economic frameworks, the full-blown Internet expansion in the 21st century will lead to the emergence of various new communication-oriented business models, the blurring of geographical barriers, and the ubiquitous online application of IT to all industry sectors.

In particular, the spread of broadband and the emergence of new technologies, ranging from post-PC terminals—such as mobile phones and PDA—to Fixed-Mobile Convergence to Home Networking, are boiling down to the creation of the Anytime, Anywhere, Any device, Any media environment and the All Mighty Networking structure. The trend goes beyond just ensuring user convenience, to serving as the source of revolutionary transformation of all individuals’ lives.

□ Role of Information & Communications (Technology & Service Trend)

As such, IT technology is spawning new technologies, creates open environment, accelerates the technology shift toward software and intelligence, and serves as a catalyst to connect all economic players and devices over the Internet.

As one of the two engines behind these changes, PC has already reached ‘critical mass’ in terms of both diffusion volume and expansion speed. Internet, however, still stands at a level where only 8% of world population are identified as Internet users, and as much as 43% of PC users are without access to network. In this sense, the development of Internet, which is at an initial stage, promises enormous potential.

The worldwide trend is for telecom operators to develop their strategic position by pursuing either integrated line of business or targeted specific line of business. Either way, it is an imperative to specialize in an area of competence to create synergism. In this regard, the determining factor in the global telecom market competition would be the operator's capability to develop and globalize its strategic position in line with the broadband and fixed-mobile convergence trends.

With the broadband access service in full swing this year, the broadband infrastructure will stretch to the Last One Mile of each household and building. The broadband is constantly evolving, with ADSL and cable modem as the market leader.

Korea is notably the world's most developed country in terms of broadband technology, with over 8.5 million broadband Internet subscribers—among which ADSL subscribers account for 57%—and the number of Internet users accounting for more than 60% of total population. What is remarkable here is that the female Internet users are increasing at a rate equal to that of male users, with particularly sharp growth in the number of housewife users in their 30s and 40s, which is the leading consumer segment. This signifies how promising the Korean e-commerce market is.

In addition, the rapid emergence of wireless LAN, or Wi-Fi technology, is inducing operators to actively participate in the fixed-mobile convergence service, resulting in Korea's first commercialization of the service in the world. The second half of this year will see the FMC service available not only on notebooks but on PDA, offering Internet, phone, GPS, and reservation functionalities.

Another trend worth noting is Home Networking. Converging communications and broadcasting, and controlling home appliances, the Home Networking service will constitute an Entertainment Gateway market. Once created, the market, characterized by the convergence of communication, information appliance, software and contents industries, is expected to have substantial implications on all industry sectors.

Also an important role of information technology is the IT-orientation of enterprises. Enterprises will be able to enhance productivity and competitiveness, by capitalizing on IT-oriented management innovation tools, such as ERP and CRM. The quick spread of IT-orientation and online transactions is largely driven by conventional industries. The purpose of IT-orientation will reach beyond cost cutting and sales promotion to redefining the entire Value Chain.

By becoming the first in the world in installing an e-Portal exclusively targeted at small- and medium-sized enterprises, KT has presented a new business model that enables enterprises to freely conduct online transactions of business solutions. The service translates into a Total Outsourcing business in a broader sense.

The major driving forces behind the promotion of e-commerce and online financial transactions are the broadband penetration and IT-orientation of enterprises.

IT technology will continue to serve as the infrastructure for other industries' development, including biotechnology, Nano technology, environment technology, and energy industry. As such, IT technology will effectively create synergism, by serving as the magnet upon which other technologies converge.

□ Economic Implications

The networking environment is shifting the focus of paradigm away from individual to work groups, from independent system to mutually integrated system, and from vertical, hierarchical industrial structure to enterprise system, signified by the connectivity among different industry sectors. This leads to positive effects, facilitating communication among, and addressing tasks of individuals, local communities, and nation states.

IT technology is expected to continue advancing to the point of being fully digested into all individuals' daily lives. The increasing number of Internet users and the spread of broadband will add momentum to the growth of IT-related manufacturing industry—including that of computers and IT devices—and the development of various contents, software, and solution industries.

Moreover, the IT industry's ratio of added value has continuously increased to reach 44% as for OECD average, and 48% as for Korea. The portion of IT in total GDP has also increased from 4~5% in the past to the current 10% level, with that of Korea standing at 16%.

With the online community environment expected to continue promoted across all sectors, from economy, to society, and to culture, the 21st century will witness the full realization of Value Networking Structure, where all economic players can share value.