Trends of the IT Society

By Tsukio Yoshio

Advance of the IT Society

In Japan, the IT society started with the VI&P Plan, a long-term initiative announced by Nippon Telegraph and Telephone (NTT) in the spring of 1990. From having telephones for voice communications in every home, the aim shifted to "visual," centering on image communications, "intelligent," offering various added convenient functions, and "personal," reflecting the spread of mobile handsets. The promise of NTT's initiative was the realization of this kind of society by 2020.

Behind the VI&P Plan was the idea that digital technology would become the predominant communications technology. As a result, we would move from an era in which voice communications were handled by telephone, text by telex and documents by facsimile, to an era in which voice, text and images could be sent and received via a single terminal. Threatened by this concept, the United States initiated an opposing technology – the Internet. The Internet was an innovative technology based on a fundamentally different concept to conventional communications technologies, and it brought economic innovation with it.

With the Internet, communications charges were no longer proportional to distance and the length of time of the communication, as they were with the telephone. Communications even to the other side of the world were charged at a fixed rate regardless of how long they lasted. The charge itself was a lot cheaper, too. For the past five years, prices relative to PC processing speeds have gone down to 1,000th of what they used to cost, while prices relative to Internet communications capacity have dropped by an equal ratio. As a result, the number of people using the Internet has soared.
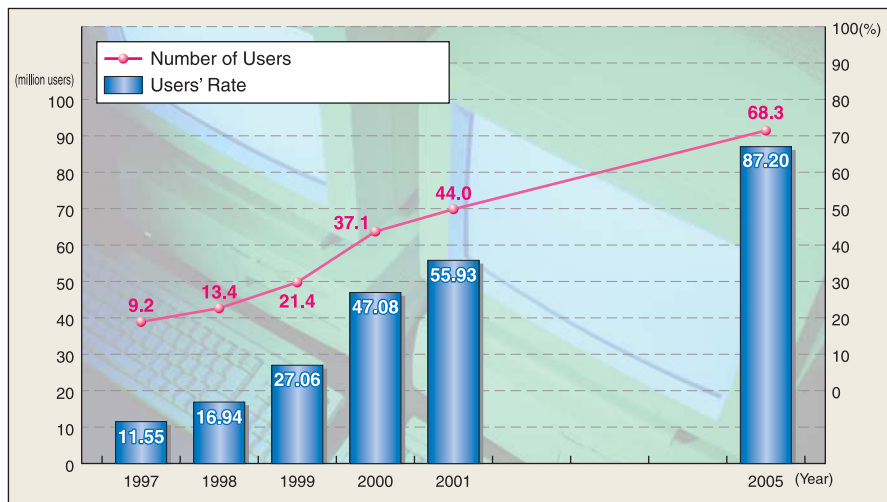
In 2001, the Japanese government announced its "e-Japan Strategy." The centerpiece was the spread of broadband lines, which offered a substantially higher capacity than existing communication lines. With this technology, the visual communications envisaged by the VI&P plan became a reality. Society has changed to where the movement of people and things are supplanted by electronic communication, and e-commerce and teleworking are now everyday realities instead of just a dream.

Today, a major topic of discussion in Japan is "ubiquitous" information technology. This aims to create a society where broadband communications can be freely accessed anytime and anywhere. The main characteristic of ubiquitous communications is the possibility not only for exchange of information between people and people as in the past, but between people and things, people and places, things and things, things and places, and places and places.

For example: attaching an IC tag to each book in a bookshop would automatically detect whether that book had been paid for at the entrance of the store, and could prevent shoplifting. The effect of this on Japan's bookstores, where around ¥50 billion is lost each year to shoplifters, would be huge. Experiments have begun with "independent mobility support systems" that provide voice and visual street directions based on IC tags attached to road signs or to the textured paving blocks for the visually impaired on sidewalks.

Characteristics of an IT Society

An IT society has some fundamentally different characteristics from the existing society. First of all, the location or size of places and the distances between them have had a large influence on our lives and jobs, but there are no longer problems with the flattening of communications charges. Service facilities such as telecom companies' directory services, which used to be concentrated in major cities like Tokyo or Osaka, have often migrated to outlying regions like Okinawa or Hokkaido, where local people use computers to provide callers from Tokyo with Tokyo telephone numbers.

Some of the creative professionals who work in fields such as animation produc-

Figure 1 Internet Users' Rate

Source: 2004 White Paper on Information and Communications in Japan, Statistics Bureau, Ministry of Public Management, Home Affairs, Posts and Telecommunications

tion, website design and editing images are also migrating to the regions, as their jobs can be performed anywhere as long as computers and communication networks are available. Japan's social systems are switching to a decentralized model, and IT is a powerful driving force behind this.

In a society which adopts the principle of the "economy of scale," the more the population increases, the more lifestyle and work benefits will increase as well. With the spread of IT, this principle is starting to change. Previously, the larger the city, the greater the variety of bricks-and-mortar stores. Today, however, the Internet harbors a vast variety of virtual stores, and with the click of a button, the shopper can order books, second-hand books, CDs, flowers or clothes – from any terminal. The advantages of centralization are diminishing.

The structure of society is also changing from a supply-driven model to a demand-driven one. Unlike the traditional model of the mass production and distribution of identical goods, IT makes it possible for a single item to be ordered, produced and delivered. The most successful company using this model is Dell Computer. A computer ordered over the Internet can be manufactured within several days and delivered directly to the customer. This system has made Dell the biggest PC manufacturing company in the world.

These structural changes are not limited to the parameters of everyday life and economic activity, but have spread to the governmental and political fields as well. Over the past 10 years, regional government has become very active. With the tide of growing decentralization, active prefectural governors and municipal leaders have appeared on the scene. In the background to this, too, is the power of information disclosure. IT allows citizens to easily monitor their governments and has changed the conventional model of a "spectator democracy" into a "participatory democracy." Regions that have embraced this are thriving.

■ Issues Facing Japan's IT Society

At the time of the Meiji Restoration when Japan opened itself to the outside world, it was lagging well behind the industrialized societies of the United States and Europe. After more than a century of efforts, the Japanese have succeeded in making their country a world leader in such fields as the production of steel, automobiles and integrated circuits. Japan is now the second most powerful economy in the world. However, with Japan making a huge change in direction from an industrial nation to an information society, it is in danger of lagging behind once again.

Consider some figures. Per capita, Japan is 13th in the world for the number of fixed telephones and 29th for mobile phones. In computer use it comes in 18th, and in Internet subscription, it is 12th. The "e-Japan Strategy" was devised to improve Japan's standing in such areas, and Japan has improved over several years to 9th place in the popularization of broadband networks. The problem, however, lies in the will of the people to use this social infrastructure.

Let's look at the following statistics. Japan's productivity in the service sector is 15th in the world, and its corporations come 37th the in ability to respond to social change. Japan is in 51st place in terms of venture start-ups, and the suitability of its banking system to contemporary society is ranked 46th. In terms of the ease of raising venture capital, it ranks 44th, and for managers with international experience, it comes 51st. The statistics are from 51 countries, so 51st place means that Japan has the lowest international ranking.

When the VI&P plan was announced in 1990, Japan clearly had the best prospects in the world for realizing an IT society. Just 15 years or so later, it has the worst such prospects among the industrialized nations. This is not because there are problems with Japan's social infrastructure, but rather because Japan's citizens may lack awareness of the need to develop the frontiers that have arisen in the 21st century. Recalling the spirit of the young people of the Meiji Restoration, we can only hope that the Japanese will once again rise to meet the challenge. **JS**

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