

Chapter **1**

IT in the 21st Century:

The Expanding Internet and Mobile Telecommunications Frontiers

Issues in the 21st Century

During the 21st century, Japan will be forced to face several pressing issues, some of the most significant of which are described below. These issues will have an impact on the general population, businesses, and the government, all of which will need to participate in seeking solutions.

The Aging Society

Japan's society is aging at an increasingly rapid pace thanks to a lengthening average life span and a declining birthrate. The nation's total fertility rate in 1998, at 1.38, was the lowest on record. According to *Japan's Projected Future Population*, one of four people in the Japanese population in 2015 will be 65 or older, the highest proportion ever. Obviously, this also means that the working population, which plays the central role in supporting society, will be on the decline. Total production will likewise decrease, making it difficult to maintain per-capita income at current levels. In short, surmounting the difficulties inherent in an aging society and the resultant economic stagnation is one of Japan's biggest issues in the 21st century.

Globalization

People, goods, money, and information are moving around the world in unprecedented volumes thanks to the rapid development of advanced info-communications media and

means of transportation. As a result, an era of transborder mega-competition among multinational companies has dawned. With the many rivals they have to face, companies require both superior capital resources and efficient management.

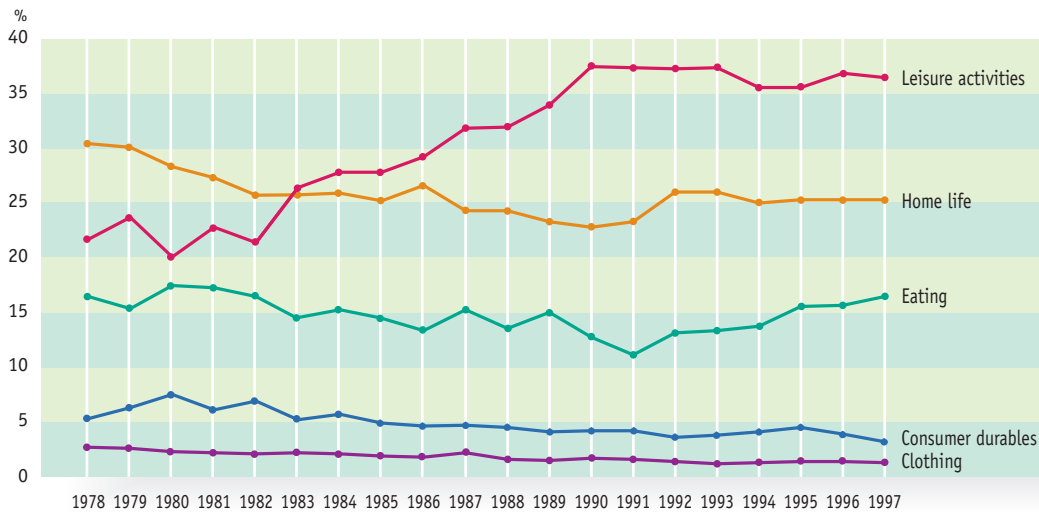
Diversification of Lifestyles

The sense of values of the Japanese people is changing, and their lifestyle is diversifying. According to *Survey of People's Daily Lives*, the largest single portion of respondents stated that, in the future, they wanted to live a life focused primarily on "leisure" (Exhibit 1). This would indicate that not a few people desire to spend more time enjoying themselves with others or engaging in hobbies and recreational activity. This attitude represents another issue for the coming century: building a society in which people can enjoy the riches of daily life and not merely build economic wealth.

Environmental Issues

Global warming, acid rain, toxic waste—these and other environmental problems intimately affect the existence of the human race, and they have a major impact on social and economic activity and people's lifestyles. With its electric power consumption and energy supply volume continuing to rise, Japan is the world's fourth-largest emitter of carbon dioxide, behind the

Exhibit 1. Future Lifestyle Focus



	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Leisure activities	21.5	23.5	19.9	22.6	21.2	26.2	27.6	27.6	29.0	31.6	31.7	33.7	37.2	37.1	37.0	37.1	35.3	35.3	36.6	36.2
Home life	30.2	30.0	28.1	27.1	25.1	25.2	25.7	25.0	26.4	24.1	24.1	23.1	22.6	23.1	25.8	25.8	24.8	25.1	25.1	25.1
Eating	16.3	15.2	17.3	17.1	16.3	14.5	15.1	14.5	13.2	15.1	13.4	15.0	12.6	11.0	13.0	13.2	13.6	15.4	15.5	16.3
Consumer durables	5.2	6.2	7.4	6.0	6.8	5.1	5.6	4.8	4.6	4.6	4.4	4.0	4.1	4.1	3.5	3.7	4.0	4.4	3.8	3.1
Clothing	2.6	2.5	2.2	2.1	2.0	2.1	2.0	1.8	1.7	2.1	1.5	1.4	1.6	1.5	1.3	1.1	1.2	1.3	1.3	1.2

Note: "Consumer durables" refers to such items as automobiles, electrical appliances, and furniture.
Source: *Survey of People's Daily Lives*, Prime Minister's Office.

US, China, and Russia. Clearly, Japan needs to take aggressive action relative to its energy consumption and CO₂ emissions. We need to preserve the natural environment for our descendents, by reducing road traffic volume and otherwise lessening the burden on the environment.

In light of the problems just described, in this chapter we will analyze how the issues of the 21st century can be resolved, focusing particularly on the Internet and mobile telecommunications, which will likely play key roles in Japan's IT revolution. In the first section we

summarize the extent to which these media have penetrated the Japanese market and make a few projections for the future. The subject matter of the other sections is summarized as follows: Section 2, global trends; Section 3, user trends; Sections 4 and 5, data and examples indicating the extent to which the Internet and mobile telecommunications can be expected to contribute to solving problems of business and daily life, respectively, in the 21st century; Section 6, basic directions in info-communications policy for the 21st century; Section 7, info-communications issues and policies for responding to them.