Chapter 2

Current Status of Information and Communications

Section 1 Trends in the Information and Communications Industry, etc.

1. Market Size

The market value of Japan's information and communications industry reached 116 trillion yen in 2002 (a 2.7% decrease from the previous year), the first decrease since 1995. One of the reasons for this is a reduction in investment in computers and peripherals as well as wired and wireless telecommunications equipment, which was the result of a curb in capital investment by each industry. In addition, the share of the information and communications industry as a proportion of total industrial market value stood at 12.0% (a 0.2 point decrease from the previous year), decreasing for the first time since 1995 **(Figure 2-1-1)**.

2. Amount of Added Value

The real GDP of Japan's information and communications industry reached 61 trillion yen in 2002 (a 2.0% decrease from the previous year), the first decrease since 1995. Its share of Japan's overall real GDP was 11.5%, and even though this marked the first decrease since 1995, it continues to account for more than 10% of the total. Furthermore, in contrast to an average annual growth rate in real GDP of 1.0% between 1995 and 2002 for all of Japan, the growth rate of the information and communications industry averaged 7.1%, showing an exceptionally high growth rate for the industry.

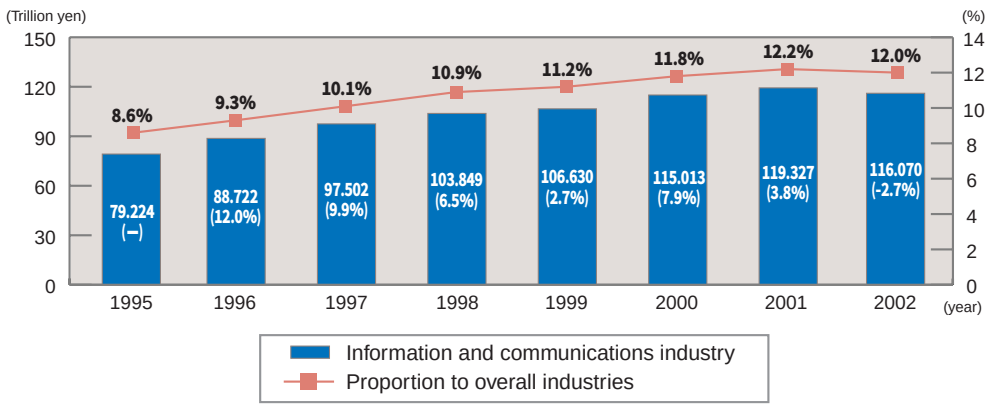
3. Employment

The number of people employed in Japan's information and communications industry in 2002 totaled 3.64 million, accounting for 6.8% of all employment. The size of the information and communications workforce continued to increase slightly from 1995 until 1999, but has declined slightly for three consecutive years since 2000. The information and communications industry was the third largest employer in Japan in 2002, after retail at 6.31 million employees, and construction at 4.96 million employees.

4. Productivity

Total factor productivity in the information and communications industry increased by 3.0% between 1995 and 2002. This shows the highest growth rate among all industries, far outpacing the 0.2% for all industries. Labor productivity for the information and communications industry stood at 16.77 million yen in 2002. Between 1995 and 2002, the information and communications industry far outpaced other industries in growth of labor productivity.

Figure 2-1-1 Transitions in the Market Size and Proportion of the Information and Communications Industry to Overall Industries



Note: The percentages in brackets indicate changes over the previous year.

Source: Survey on Economic Analysis of IT

5. Trends in IT Investment and Contribution of Information and Communications to Macro-Economy

In 2002, real IT investment by private sector companies totaled 19.5 trillion yen (a 15.4% decrease from the previous year), the first decrease since 1992. Capital stock for information and communications industry of private sector companies totaled 49.8 trillion yen (a 1.8% decrease from the previous year), the first decrease since 1993.

Between 1995 and 2002, the contribution of capital stock for information and communications was 0.98% against an economic growth rate of 1.01%. With labor contribution turning negative, the capital stock for information and communications is supporting economic growth **(Figure 2-1-2)**.

IT Investment contributes greatly to the vitality of the information and communications industry, and it also has a major economic impact on other industries. An estimate of the ripple effect of IT investment on Japan's economy shows a induced production value of 29.5 trillion yen across industries, and employment of about 1.27 million people, greatly increasing production and employment in all industries.

6. Capital Investment

The actual value of capital investment in the communications and broadcasting industries in fiscal 2002 declined to 2.7 trillion yen (a 15.6% decrease from the previous fiscal year). Capital investment plans for fiscal 2003 were for a further decline to 2.6 trillion yen (a 2.7% decrease from the previous fiscal year).

7. Information & Communications Ventures

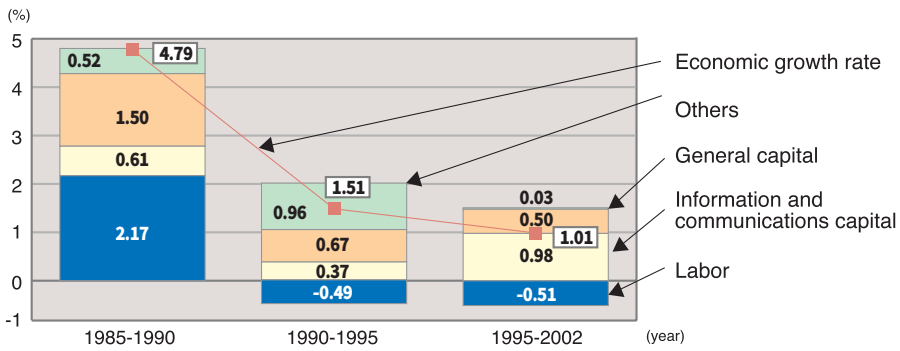
The number of ventures originating from universities, etc. in the information and communications industry totaled 157 companies in 2002, and had increased to 169 in 2003 (end of August). Information and communications companies accounted for 25.8% of ventures originating from universities, etc. (a 2.0 point decrease from the previous year). Even though there was a slight drop in ratio, information and communications continued to hold the largest share among ventures originating from universities, etc.

8. International Trade and Investment

Trends in the value of imports of IT related products into Japan by country and region show imports from China totaling 13.52 billion dollars (a 29.0% increase over the previous year), overtaking the United States at 12.37 billion dollars (a 22.1% decrease from the previous year) as the largest source of imports of IT related products into Japan.

Trends in exports of IT related products from Japan by country and region also show the value of exports to China in 2002 at 10.16 billion dollars (a 36.4% increase over the previous year), overtaking Hong Kong at 10.04 billion dollars (a 12.5% increase over the previous year) to become the second largest destination for Japanese IT related product exports.

Figure 2-1-2 Transitions in Contributions of Various Productivity Factors to Japan's Economic Growth Rate



Source: Survey on Economic Analysis of IT

Section 2 Telecommunications Business

1. Telecommunications Carriers

There were 12,518 telecommunications carriers in Japan at the end of fiscal 2003. New entrants during fiscal 2003 numbered 1,562 companies. Operators providing Internet services totaled 8,860 at the end of fiscal 2003.

Fiscal 2002 sales for the telecommunications business totaled 18.66 trillion yen (a 0.2% decrease from the previous fiscal year). Of this, sales of Type I telecommunications carriers accounted for 16.83 trillion yen (a 2.4% decrease from the previous fiscal year) and sales of Type II telecommunications carriers accounted for 1.83 trillion yen (a 26.6% increase over the previous fiscal year).

The call volume share of long-distance (inter-prefectural) communications carried by new common carriers (NCC) was 52.8% in fiscal 2002, accounting for more than half for the first time. The call volume share of NCCs in local (intra-prefectural) communications rose from 10.9% in fiscal 1997 to 39.0% in fiscal 2002. The international call volume share of NCCs increased to 60.5% in fiscal 2002, with competition getting fiercer.

2. Telecommunications Services

Ever since a subscriber telephone service was first introduced in 1890, Japan's telecommunications services have seen ongoing diversification such as the entry of NCCs into the local telephone business and the start of ISDN services. In recent years, the use of wireless LAN services and IP telephones using broadband lines has taken hold, following DSL, cable Internet, and IMT-2000, and there has been a rapid penetration of telecommunications services based on high-speed large-volume data transmission of images, voice, and the like.

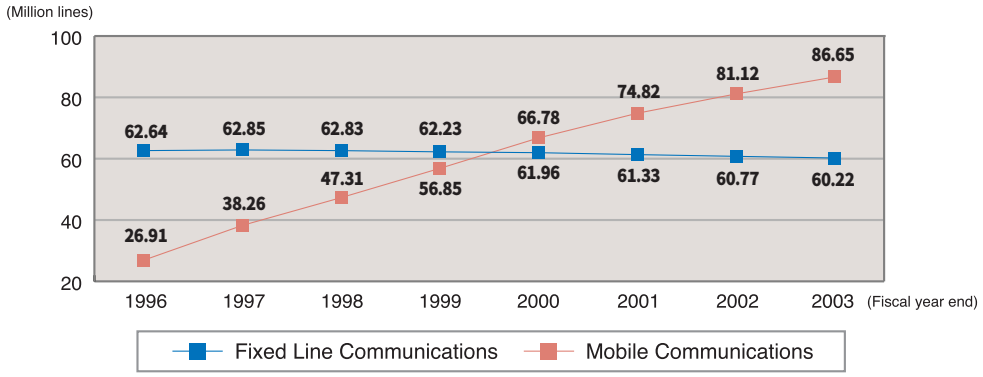
The number of subscribers to subscriber telephone service at the end of fiscal 2003 totaled 51.59 million (a 0.8% increase over the previous fiscal year), showing a continued upward trend from fiscal 2002. When comparing fixed communications (subscriber telephones and ISDN) and mobile communications (mobile phones and PHS), fixed communications remained on a slight downward trend as the previous fiscal year whereas the number of mobile communications subscriptions was on an upward trend, with the gap continuing to widen **(Figure 2-2-1)**.

The number of mobile phone subscribers at the end of fiscal 2003 reached 81.52 million, showing a continuing slowdown in growth since fiscal 2001.

3. Telecommunications Rates

According to the "Corporate Service Price Index (CSPI; 1995 base)" compiled by the Bank of Japan,

Figure 2-2-1 Transitions in the Number of Subscribers to Fixed Communications and Mobile Communications



communications rate levels in Japan between 1995 and 2003 showed a larger rate of decline than the CSPI average, both for fixed line and mobile communications. The drop in international call rates in fixed communications (a 51.9 point decrease from 1995) and mobile phone rates in mobile communications (a 52.1 point decrease from 1995) were particularly noticeable **(Figure 2-2-2, 2-2-3)**.

Also, when comparing call rates to those in major cities worldwide, Japan's domestic call services, domestic leased circuit services and mobile phone services all grew cheaper between 1996 and 2002.

4. Status of Use of Telecommunications Media

The total number of communications in Japan in fiscal 2002 was 132.39 billion (a 4.3% decrease from the previous fiscal year), and the total communication time was 5.75 billion hours (a 12.5% decrease from the previous fiscal year), both showing continuing declines. Looking at the figures by originating terminal, the number of calls made from mobile phones continued to rise at 47.45 billion (a 4.9% increase over the previous fiscal year), whereas the number of calls made from fixed line telephones and PHS both declined, at 82.72 billion (a 8.6% decrease from the previous fiscal year) and 2.22 billion (a 15.3% decrease from the previous fiscal year) respectively.

As for the length of time spent on each communication, calls lasting under 30 seconds made up 40% of all calls made from mobile phones, PHS, and subscriber telephones. PHS calls in particular showed a large proportion of calls lasting under 10 seconds, with calls lasting under 20 seconds accounting for 30% of the total, making it appear that they are mainly used for brief periods of time.

5. Telecommunications Networks

Installation of an optical fiber network nationwide had reached 80% by the end of fiscal 2003 (an 8 point increase over the previous fiscal year), including 94% of cities designated by cabinet ordinance and prefectural capitals (97% coverage in business areas - over 50% of subscribers are businesses), and 86% of cities with populations of over 100,000 (87% in business areas). Installation of the optical fiber network continues at a steady pace, and has reached 59% in other cities but there still remains a gap in the level of installations in major cities and other cities.

6. Complaints and Inquiries on Telecommunications Services

The number of complaints and inquiries on information and communications received during fiscal 2003 at the National Consumer Affairs Center of Japan totaled 448,090, about 2.7 times the fiscal 2002 figure. The increase in Internet-related trouble stands out within the field of information and communications. In concrete terms, many complaints and inquiries were submitted about receiving invoices for use of adult sites that the person had no recollection of visiting, or receiving usage charges for free mobile phone matchmaking-related sites.

Figure 2-2-2 Trends in Price Index for Business-Use Services (fixed communications) *

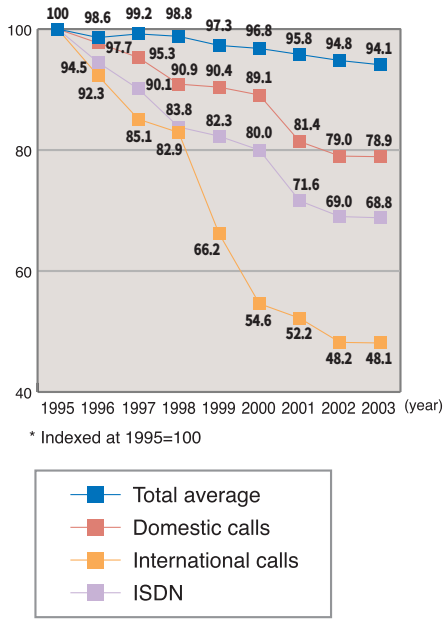
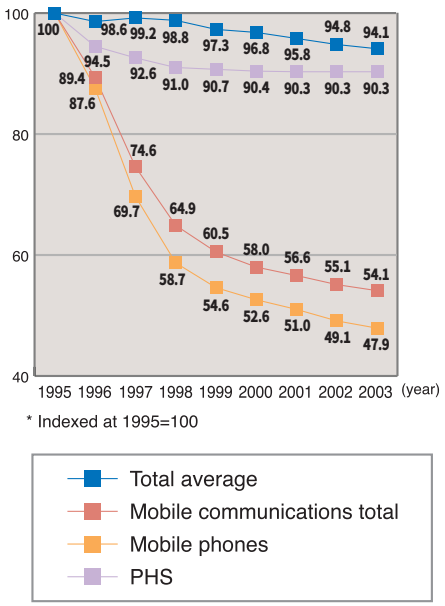


Figure 2-2-3 Trends in Price Index for Business-Use Services (mobile communications) *



Source for Figures 2-2-2 and 2-2-3: Produced based on Bank of Japan's Corporate Service Price Index

Section 3 Broadcasting Business

1. Broadcasters

There were 1,072 broadcasters (an increase of 46 over the previous fiscal year) at the end of fiscal 2003. Commercial broadcasters totaled 1,070 (an increase of 46 over the previous fiscal year) companies, of which 362 (an increase of 4 over the previous fiscal year) were terrestrial broadcasters, 134 (a decrease of 3 from the previous fiscal year) satellite broadcasters, and 571 (an increase of 43 over the previous fiscal year) cable television broadcasters (cable television companies engaged in self-originating broadcasting using licensed facilities). A system of broadcasting business using telecommunications services, such as communications satellites and optical fiber, was introduced in January 2002. By the end of fiscal 2003, 37 operators were registered to broadcast using satellite services, and nine operators using wire telecommunications services.

Fiscal 2002 sales for broadcasters totaled 3.74 trillion yen (a 0.6% decrease from the previous fiscal year). Of this, NHK's business income came to 664.8 billion yen (a 1.1% increase over the previous fiscal year), terrestrial commercial broadcasters saw sales of 2.49 trillion yen (a 4.2% decrease from the previous fiscal year), satellite commercial broadcasters saw sales of 276.9 billion yen (an 18.6% increase over the previous fiscal year), and cable television broadcasters saw sales of 307.6 billion yen (a 13.2% increase over the previous fiscal year).

2. Broadcasting Services

Terrestrial television services started in February 1953 with NHK, followed by the first commercial broadcaster, Nippon Television Network Corporation, in August of the same year. Full-scale color broadcasts were introduced in 1960 and are now the norm with wide penetration nationwide. Terrestrial digital broadcasts were inaugurated in the three major metropolitan regions of Tokyo, Nagoya, and Osaka in December 2003.

As of the end of fiscal 2003, there were 127 commercial terrestrial broadcasting stations (analog broadcasting). The community broadcasting system was institutionalized in January 1992, and the number of stations has been growing steadily, reaching 167 companies as of the end of fiscal 2003.

BS (broadcasting satellite) analog broadcasting was introduced in June 1989, followed by digital broadcasting in December 2000. The number of subscribers at the end of fiscal 2003, for analog and digital broadcasts combined, was 12.01 million for NHK (a 3.7% increase over the previous fiscal year), and 2.49 million for WOWOW (a 0.6% decrease from the previous fiscal year). CS (communications satellite) analog broadcasting was introduced in April 1992, followed by digital broadcasting in June 1996. The number of subscribers at the end of fiscal 2003 was 3.52 million for Sky PerfecTV (a 4.0% increase over the previous fiscal year). The number of subscribers at the end of fiscal 2003 to 110˚E CS digital broadcasting was 123,000.

The number of subscribers to cable television companies engaged in self-originating broadcasting using licensed facilities was 16.54 million (a 9.2% increase over the previous fiscal year) at the end of fiscal 2003, showing a steady increase in penetration to 33.6% of all households. In addition, subscribers to overall cable television, including cable television companies not engaged in self-originating broadcasting using licensed facilities, increased to 24.68 million (a 5.8% increase over the previous fiscal year).

As for international broadcasting meant for reception overseas, NHK offers international radio broadcasts using short wave as well as international television broadcasts via satellite broadcasting. In terms of program distribution overseas, NHK and commercial broadcasters offer news, information, and entertainment programming, etc. to overseas broadcasters and overseas cable television operators.

3. Status of Broadcasting Media Usage

According to the National Individual Audience Rating Survey conducted by the NHK Broadcasting Culture Research Institute in June 2003, the length of television viewing per day (weekly average) was three hours and 42 minutes. Of this commercial broadcasting accounted for two hours and 39 minutes and NHK for one hour and three minutes. Looking at viewing by time of day, the peaks are at 7 to 7:30 am, noon to 12:30 pm, and 8 to 9 pm.

Section 4 Postal Service

1. Finances of Postal Service

Postal services have been seeing a decline in earnings or difficulties in growth, and despite efforts to cut costs through a variety of measures to increase efficiency, deficits were recorded for three consecutive years, 62.5 billion yen in fiscal 1998, 55.3 billion yen in fiscal 1999, and 10.0 billion yen in fiscal 2000. However, the effects of the efficiency-boosting measures gradually became apparent as the deficit shrank each year, and in fiscal 2001, accounts returned into the black for the first time in four years.

In fiscal 2002, revenues decreased 1.8% from the previous fiscal year to 2.17 trillion yen, due to the stagnant economy, but costs could only be reduced by 0.4% to 2.19 trillion yen despite efficiency measure such as cutting the number of postal employees and an overall cut in expenses, resulting in the first deficit in the two years since fiscal 2000.

2. Volume of Postal Items

A total of 25.6 billion of domestic and international postal items was processed in fiscal 2003. Looking at the total volume of mail handled by country in fiscal 2002, Japan ranked second after the United States. However, in terms of per capita annual mail volume, Japan ranked 16th worldwide, accounting for about 31% of the volume in the United States.

3. Post Office Network

As of the end of fiscal 2003, 24,715 post offices (a 0.1% decrease from the previous fiscal year) offered mail-handling facilities. By type, there were 1,310 ordinary post offices, 18,935 special post offices (a decrease of 6 from the previous fiscal year), 4,470 postal agencies (a decrease of 31 from the previous fiscal year). Dividing ordinary and special post offices by collection and delivery and non-collection and delivery facilities, there were 4,792 collection and delivery post offices (a decrease of 31 from the previous fiscal year) and 15,453 non-collection and delivery post offices (an increase of 25 over the previous fiscal year).

4. Correspondence Delivery

In fiscal 2003, 41 companies entered the special correspondence delivery business, of which 37 were in operation by the end of April 2004.

Section 5 Contents

1. Status of Contents Usage

In 2003, 9.5% of people accessing the Internet via personal computers for-fee Internet contents. Those in their 20s were the largest age group, accounting for 12.1% of the total, with the percentage dropping in inverse proportion to the older age group. On the other hand, 36.2% of those accessing the Internet via mobile phones or PHS used for-fee Internet contents, accounting for a larger proportion than personal computer users. Of these, 49.5% were in their teens, showing that almost one in two in this age group accessing the Internet through mobile phones or PHS use for-fee Internet contents **(Figure 2-5-1)**.

The contents used by those accessing the Internet via personal computers in 2003 include software at 28.0%, music at 21.3% and video at 19.7% **(Figure 2-5-2)**. On the other hand, the contents used by those accessing via mobile phones and PHS include ringtones at 84.0%, wallpaper at 43.4% and music at 21.9% **(Figure 2-5-3)**.

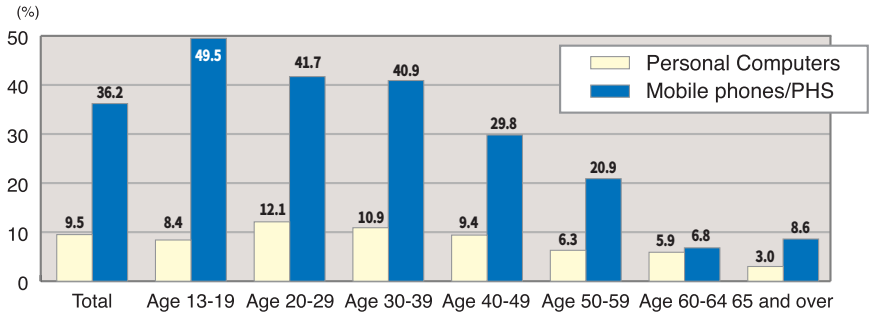
2. Contents Volume

Total Internet contents data volume as of February 2004 for .jp domains was 13,609GB, a 45-fold increase in the six years since February 1998. The total number of files reached 291.73 million, a 15-fold increase over six years.

3. Information Flow

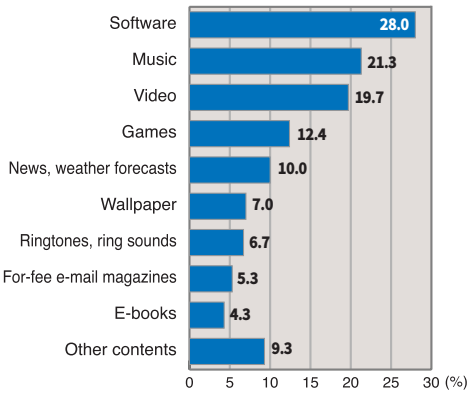
The MPHPT conducts "Census of Information Flow" to grasp in a comprehensive and quantitative way the volume of varied information flow that makes up the information environment. In the last 10 years (fiscal 1992 to fiscal 2002), the average growth rate was 28.4% for information supplied, 24.4% for information transmitted, 10.2% for selectable information, 8.7% for consumable information, and 17.8% for information consumed.

Figure 2-5-1 Usage Ratio of For-fee Internet Contents by Age Group*



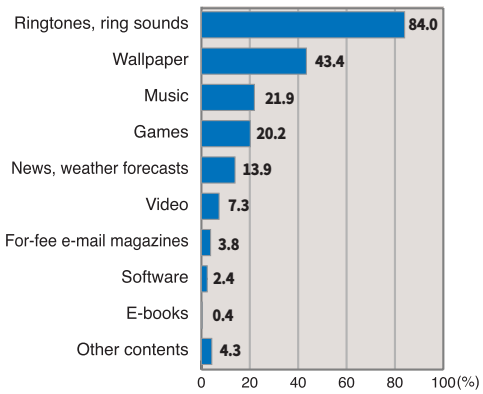
* For-fee Internet contents usage ratio by mobile phones/PHS Internet users

Figure 2-5-2 Breakdown of For-fee Contents by Internet Users from Personal Computer (multiple responses possible)*



* Percentage among users of for-fee Internet contents from personal computers

Figure 2-5-3 Breakdown of For-fee Contents by Internet Users from Mobile Phones/PHS (multiple responses possible)*



* Percentage among users of for- fee Internet contents from mobile phones and PHSs.

Source for Figures 2-5-1 to 2-5-3: Communications Usage Trend Survey in 2003, MPHPT

Section 6 Human Resources Development

1. IT Education in Public Schools

In fiscal 2002, there was one educational use computer for every 9.7 pupils at public schools, and 99.5% of public schools were connected to the Internet. High-speed Internet connections at over 400 kbps were available in 56.8% of all public schools, and 29.2% of regular classrooms had LAN installations. In fiscal 2002, 58.0% of schools has their own website, showing an upward trend.

In fiscal 2002, 87.6% of teachers at public schools knew how to operate computers, and 52.8% of teachers were able to use computers to conduct their classes.

2. Development of IT Experts

The use of IT in corporate activities has both spread and expanded with the introduction of various information systems for e-commerce and greater business efficiency. The importance of developing and maintaining well-informed human resources to address the growing corporate competition arising from the creation of new services, and deal with the threats of unauthorized access and virus infections, is increasing. In terms of problems arising from usage of corporate information and communications networks, "employee awareness" was cited by 43.4% of companies, "lack of operational and managerial personnel" by 40.2% of companies **(Figure 2-6-1)**. In-house IT training is offered by 53.2% of companies, with the most common contents being "in-house IT-related education and training programs" and "participation in external IT-related education and training programs" at 20% **(Figure 2-6-2)**.

According to a study conducted by the Ministry of Education, Culture, Sports, Science and Technology, 15,318 people obtained a master's degree in an IT-related field in fiscal 2002, with 1,790 obtaining a doctoral degree.

Figure 2-6-1 Problems Deterring Use of Information and communications Networks (Corporate Networks and the Internet) (multiple responses possible)

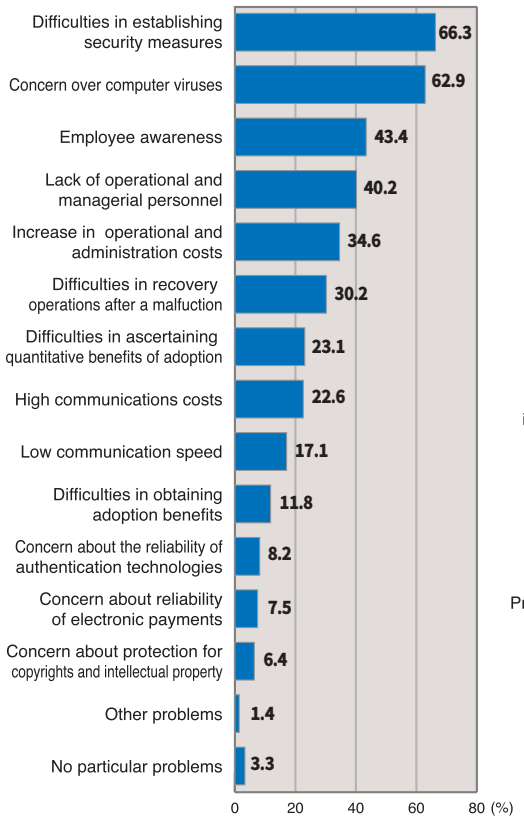
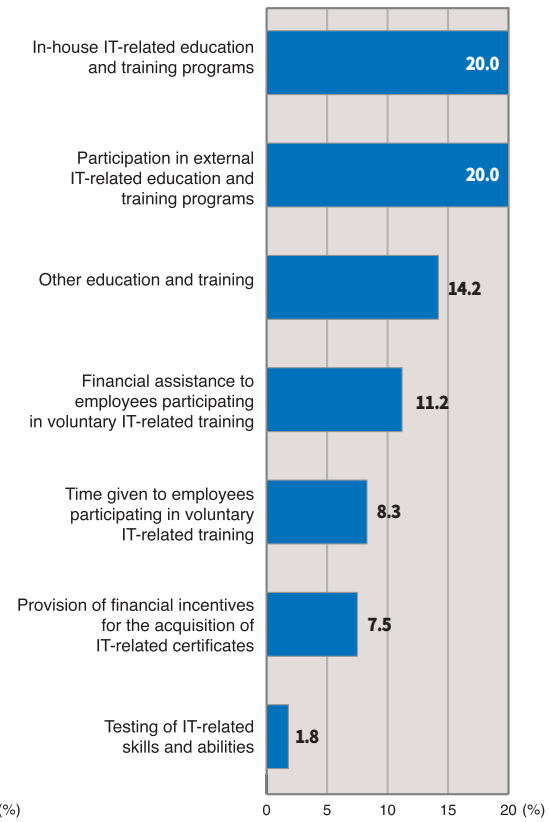


Figure 2-6-2 Types of IT Training for Employees by Corporations (multiple responses possible)



Source for Figures 2-6-1 and 2-6-2: Communications Usage Trend Survey in 2003, MPHPT

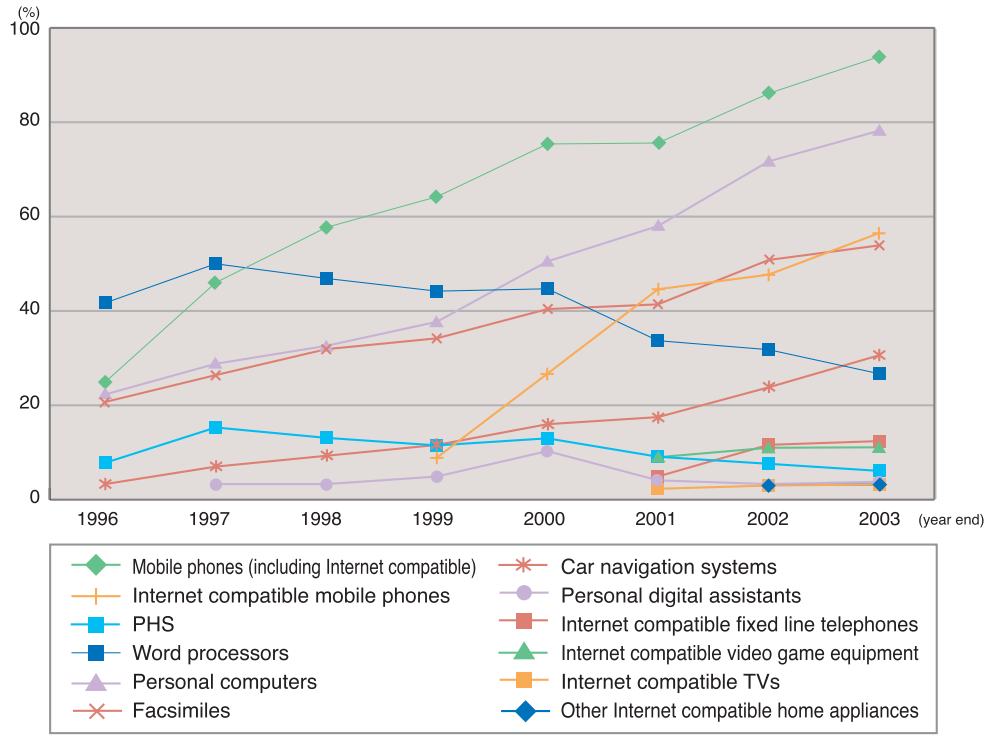
Section 7 Digitization of Homes and Companies

1. Digitization of Homes

As of the end of 2003, household penetration rates for information and communications equipment included 93.9% for mobile phones (a 7.8 point increase over the previous year), of which 56.5% were Internet compatible (an 8.8 point increase over the previous year). The household penetration rates stood at 78.2% for personal computers (a 6.5 point increase over the previous year), 53.9% for facsimiles (a 3.1 point increase over the previous year), and 30.6% for car navigation systems (a 6.8 point increase over the previous year), these showing a continuing increase **(Figure 2-7-1)**.

Annual spending by household on information and communications services (the total of telephone communication charges plus broadcast reception charges) totaled 141,372 yen (a 6.4% increase over the previous year). Of this, fixed telephone communication charges came to 51,034 yen (a 6.9% decrease from the previous year), mobile phone communication charges to 67,749 yen (a 21.7% increase over the previous year), and broadcast reception charges to 22,589 yen (a 0.9% increase over the previous year). The proportion of information and communications charges whithin household expenses increased to 3.9% (a 0.3 point increase over the previous year). Internet connection charges in 2003 came to 10,513 yen (a 33.2% increase over the previous year).

Figure 2-7-1 Transition in the Ownership Rate of Information and Communications Equipment (households)



(%) (Year end)	1996	1997	1998	1999	2000	2001	2002	2003
Mobile phones (including Internet compatible)	24.9	46.0	57.7	64.2	75.4	75.6	86.1	93.9
Internet compatible mobile phones	–	–	–	8.9	26.7	44.6	47.7	56.5
PHS	7.8	15.3	13.1	11.5	13.0	9.1	7.6	6.1
Word processors	41.7	50.0	46.9	44.2	44.7	33.7	31.8	26.7
Personal computers	22.3	28.8	32.6	37.7	50.5	58.0	71.7	78.2
Facsimiles	20.7	26.4	31.9	34.2	40.4	41.4	50.8	53.9
Car navigation systems	3.3	7.0	9.3	11.6	16.0	17.5	23.8	30.6
Personal digital assistants	–	3.3	3.3	4.9	10.3	4.1	3.3	3.8
Internet compatible fixed line telephones	–	–	–	–	–	5.0	11.6	12.1
Internet compatible video game equipment	–	–	–	–	–	9.0	11.0	11.1
Internet compatible TVs	–	–	–	–	–	2.3	3.0	3.2
Other Internet compatible home appliances	–	–	–	–	–	–	3.2	3.2

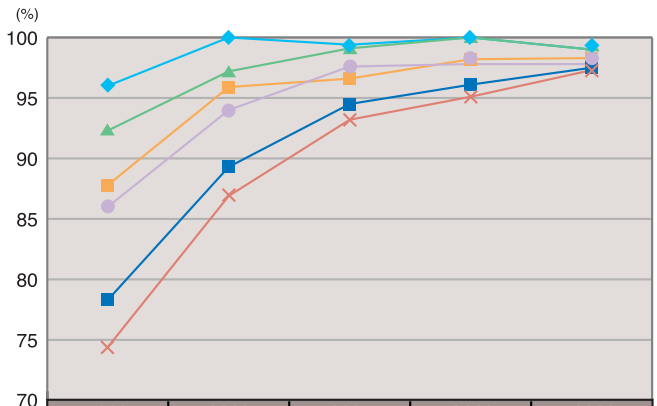
Source: Communications Usage Trend Survey, MPHPT

2. Digitization of Companies

The percentage of corporate Internet usage (companies with more than 100 full-time employees) is increasing from year to year, and had reached 97.5% by the end of 2003 (a 1.4 point increase over the previous year). Comparatively smaller companies with between 100 and 299 employees had a rate of 97.3% (a 2.2 point increase over the previous year), so the gap due to company size has almost been eliminated **(Figure 2-7-2)**.

The MPHPT also noted in its 2003 Communications Usage Trend Survey that 9.4% of companies were implementing teleworking (a 1.0 point increase over the previous year). Among the reasons given for introducing teleworking, the most numerous were "increases in work productivity" and "a reduction in commuting times for employees". Of the companies that had introduced teleworking, 30.9% replied that it had produced excellent results, and 66.1% that there had been some improvement, so that the majority of companies that had introduced teleworking recognized positive results.

Figure 2-7-2 Trends in Internet Usage Rate of Companies



	1999	2000	2001	2002	2003
Overall	78.3	89.3	94.5	96.1	97.5
100-299 employees	74.4	86.9	93.2	95.1	97.3
300-499 employees	86.0	94.0	97.6	97.8	97.8
500-999 employees	87.8	95.9	96.6	98.2	98.3
1000 to 1999 employees	92.3	97.2	99.1	100.0	99.0
Over 2000 employees	96.0	100.0	99.4	100.0	99.0

Source: Communications Usage Trend Survey in 2003, MPHPT

Section 8 R&D

1. R&D in the Information and Communications Field

In fiscal 2002, spending on science and technology research in Japan totaled 16.68 trillion yen (a 0.9% increase over the previous fiscal year). Total industrial R&D came to 12.12 trillion yen, and R&D spending by the information and communications industry accounted for 4.74 trillion yen of this, or 39.1% of the total. Research spending in the information and communications field by companies, non-profit organizations, public bodies and universities in fiscal 2002 came to 2.26 trillion yen. There were 995 joint research projects (a 30.4% increase over the previous fiscal year) in the information and communications field between national universities and companies, accounting for 14.7% of all (6,767) joint research projects between national universities and companies.

2. Patents

There were 17,703 information and communications related patents registered in 2003 (a 10.1% increase over the previous year). The number of information and communications related patents registered in Japan between January and September 2003 totaled 13,083, which is 44.3% of the information and communications patents registered in the United States over the same period, and 2.1 times the number registered in Europe.

Section 9 Trends Abroad

1. Overseas IT National Strategies

As with the case in Japan, new national IT strategies or revising existing strategies are also being formulated overseas in response to advances in information and communications. For example, Germany formulated in December 2003 a new IT action plan, "Informationsgesellschaft Deutschland 2006" (Information Society Germany 2006). The Republic of Korea also announced in December 2003 "Broadband IT KOREA Vision 2007".

2. Usage Status and Market Size of Telecommunications Worldwide

The number of Internet users worldwide continues to increase. According to estimates announced by the ITU (International Telecommunication Union), there were over 623 million Internet users worldwide as of the end of 2002.

As for worldwide usage of telecommunications services, the number of fixed telephone lines (including pay telephones) was 1.09 billion in 2002, and the number of mobile phone subscribers was 1.16 billion. The number of mobile phone subscribers continues to increase rapidly and the worldwide number overtook the number of fixed telephone lines in 2002. The scale of the worldwide telecommunications market grew to 1.02 trillion dollars in 2002 (a 5.2% increase over the previous year), according to the ITU. Of this, the fixed communications market totaled 465 billion dollars (a 1.5% decrease from the previous year) in 2002, and is expected to decline slightly again in 2003, whereas the mobile communications market is growing considerably, totaling 364 billion dollars (a 14.8% increase over the previous year) in 2002.

3. Trends in Overseas Communications Carriers and Broadcasters

In the United States, Cingular Wireless, the second largest mobile carrier in terms of subscriber numbers, announced the acquisition of the third largest carrier, AT&T Wireless, in February 2004.

In the UK, various companies improved their financial situation, including BT, which had accumulated debts of about 28.0 billion pounds in 2001 in conjunction with overseas investment and obtaining permits for third-generation (3G) mobile communications, had reduced its debt to about 8.8 billion pounds by the end of 2003 through the sale of assets.

4. Trends in IT Policies in the United States

The Federal Communications Commission (FCC) announced in February 2003 the partial liberalization of regulations for incumbent local exchange carriers, and announced the new regulations in August of the same year. However, in March 2004, the United States Court of Appeals for the District of Columbia Circuit ruled for the partial abrogation of this decision, and it is expected to take some time for the contents of this decision to be settled.

With regard to the problem of regulating IP telephones, investigations are under way at state public utilities commissions, and the FCC, having held its VoIP (Voice over Internet Protocol) Forum in December 2003, has already begun to investigate regulatory problems, started in February 2004 to invite comments on how to tackle regulations concerning IP related services.

5. Trends in IT Policies in the EU

Against a background of growing competition and the fusion between communications and broadcasting, the EU has been revising its existing framework of regulations in the telecommunications field in order to make the telecommunications market within the EU region dynamic and competitive. In April 2002, the EU promulgated and put into force a series of new telecommunications regulations (July 2002 with regard to the EU Directive on privacy and electronic communications).

Each member country was under the obligation to complete the work of making these into law domestically by July 2003 (October 2003 with regard to the EU Directive on privacy and electronic communications). Seven countries, including the United Kingdom, Finland, and Denmark had put the laws in place by October 2003. The EU began infringement proceedings against the eight countries that were late in putting the laws in place, including Germany and France. Of these, Spain has since completed the legal preparations and the infringement proceedings have been stopped.

6. Trends in IT Policies in Asia

The growth of the telecommunications market in China remains conspicuous. According to China's Ministry of Information Technology and Telecom Industries, there were 255.14 million fixed line telephone subscribers and 256.94 million mobile phone subscribers in October 2003. According to the China Internet Network Information Center (CNNIC), the number of Internet subscribers had reached 79.5 million at the end of 2003, supposedly placing China in second position worldwide after the United States.

Having mostly achieved the goals of "Digital 21 Strategy" (formulated in 2001), the Hong Kong government announced its "2004 Digital 21 Strategy" in March 2004. This will promote actions in the fields of government leadership, sustainable e-government program, infrastructure and business environment, institutional review, technological development, vibrant IT industry, human resources in a knowledge economy, and bridging the digital divide.

With a new government in place in February 2003, the completion of its e-government base, and against the background of the Internet trouble incidents in January 2003, the Republic of Korea announced in December the "Broadband IT KOREA Vision 2007", a partial revision to its "e-Korea Vision 2006". This targets the realization of the age of national income of 20,000 dollars per capita by prompting a information society (increasing Internet penetration to 90% by 2007), building grounds for knowledge information society and establishing a basis for generation new IT growth, and strengthening international cooperation for the global information society.

7. Status of International Digital Divide

In comparing the state of penetration of information and communications in various countries, there exists a pronounced gap between high income and low income countries, making the closing of the international digital divide into a major issue.

In 2002, the population of high-income countries (countries with per capita gross national income of over 9,076 dollars per annum) accounted for only 15.8% of the global population, but 51.5% of fixed telephone lines, 54.9% of mobile phone subscribers, and 68.7% of Internet users are concentrated in high-income countries.

On the other hand, the population of low-income countries (countries with per capita GNI of 735 dollars or less per annum) accounts for 39.6% of the global population, but for only 6.3% of fixed telephone lines, 3.6% of mobile phone subscribers, and 5.2% of Internet users.