

I-3-1 User profile

(1) Outline

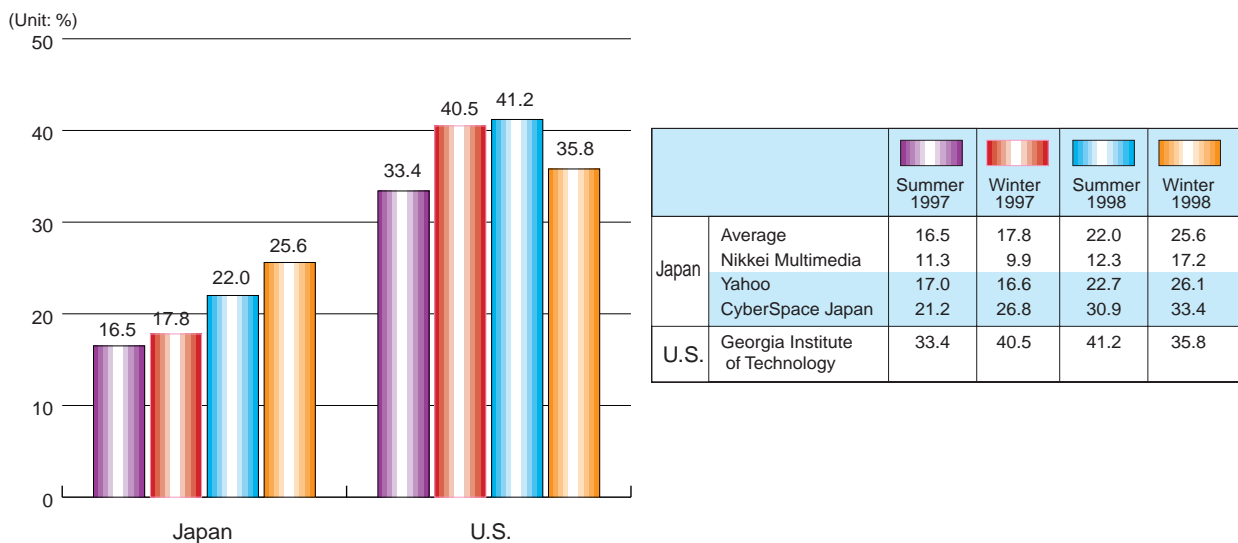
The number of female Internet users is increasing steadily in Japan.

The characteristics of Internet users were gained by carrying out surveys through questionnaires targeting users accessing specific websites and by comparing Japanese and American replies. According to the surveys carried out in the winter of 1998, women accounted for an average of about 25.6% of the respondents in Japan for the three surveys,

which compared with 35.8% in the U.S. being women showed that there was less Internet usage among Japanese women. However, the number of women users in Japan has been increasing steadily over the past two years (Fig. 1).

Comparing Internet users by age group, people in their 20s and 30s are the largest groups in Japan,

Fig. 1 Ratio of female Internet users in Japan and the U.S.



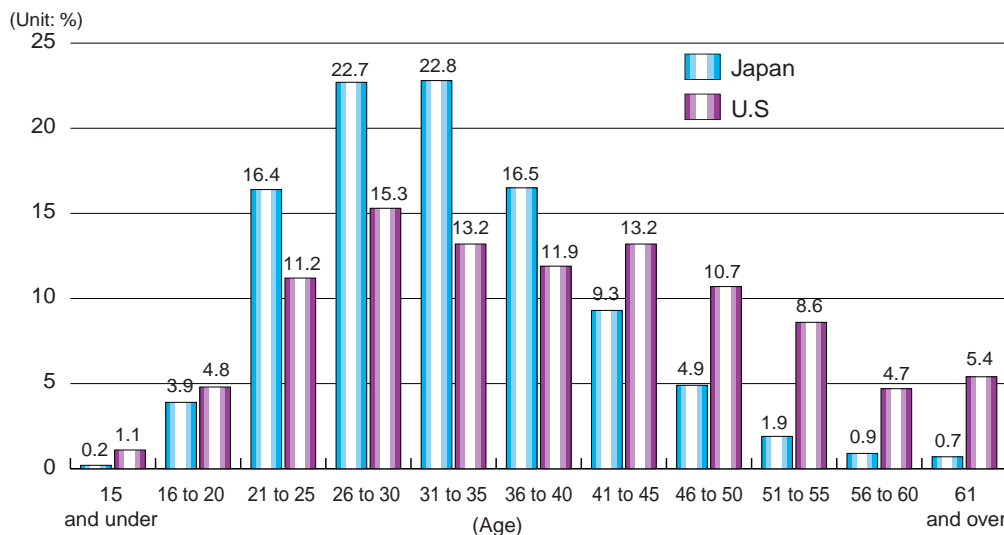
Sources: "The 4th through 7th Internet Active User Surveys," Nikkei Multimedia by Nikkei Business Publications, Inc. (<http://www1.nikkeibp.co.jp/NMM/active.html>);

"The 3rd through 6th Web User Surveys," Yahoo Japan Corp. (<http://www.yahoo.co.jp/docs/result/result6/>);

"The 6th through 9th WWW User Surveys," CyberSpace Japan, Inc. (CSJ) (<http://www.csj.co.jp/www9/index.html>);

"The 7th through 10th WWW User Surveys," Georgia Institute of Technology (http://www.gvu.gatech.edu/user_surveys/)

Fig. 2 Internet users in Japan and the U.S. by age group (Winter of 1998)



Sources: "The 7th Internet Active User Survey," the February 1999 issue of Nikkei Multimedia by Nikkei Business Publications, Inc.
"The 10th WWW User Survey," Georgia Institute of Technology

while those in the highest age brackets have a much lower usage rate. In the U.S., however, all age groups tend to use the Internet (Fig. 2).

Next, according to the "Survey of Internet Users," the Internet usage status in Japan shows that it tends to be at the workplace as the user gains usage experience (Fig. 3).

As for the objective of Internet usage, people using the Internet for work or study are likely to be more experienced users, while those with limited

experience more commonly access the network (Fig. 4).

As to the frequency of Internet usage, of those sending e-mail, 52.1% access the Internet more than once a day, while 82.0% of those checking e-mail receipt do so at the same frequency. Also, of those accessing WWW servers, 70.6% do so more than once a day. These show that the Internet is used quite frequently (Fig. 5).

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The Internet in daily life

Fig. 3 Places of Internet use by experience (multiple replies possible)

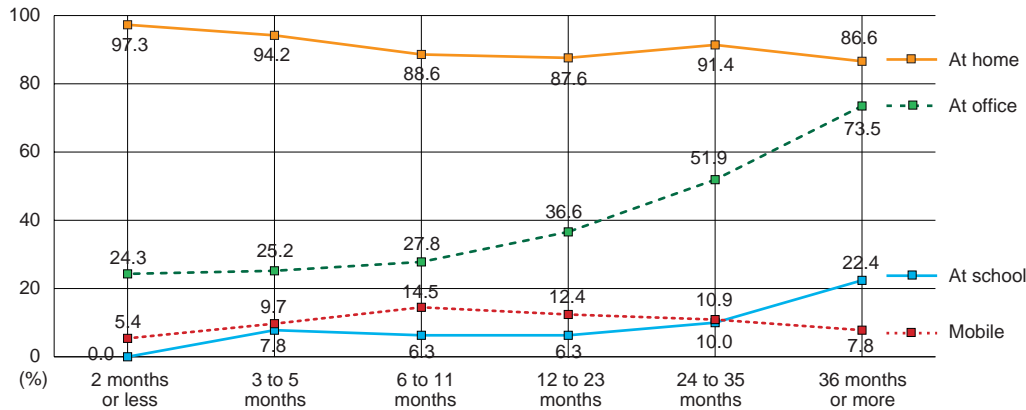


Fig. 4 Objective of Internet use by experience

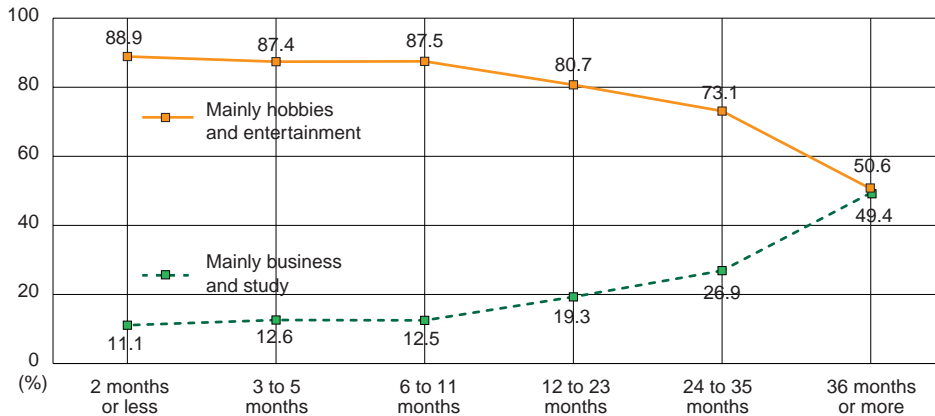
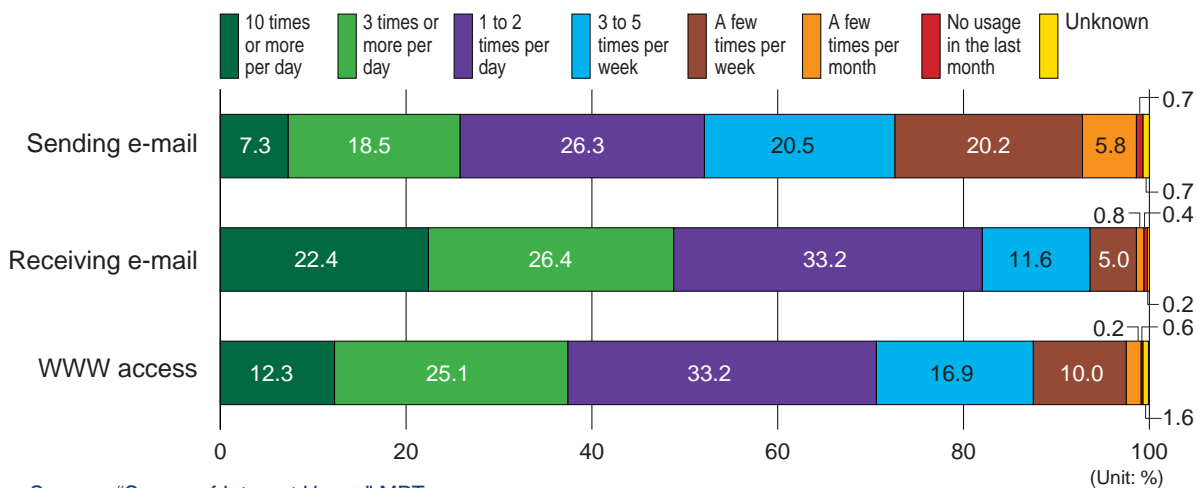


Fig. 5 Frequency of e-mail and WWW usage



Source: "Survey of Internet Users," MPT

(2) Young people

Young people use the Internet as “meeting places.”

According to the “Survey of Internet Users,” when comparing young Internet users (age 18 to 25) with the elderly (those over 50) and homemakers, the result is as follows.

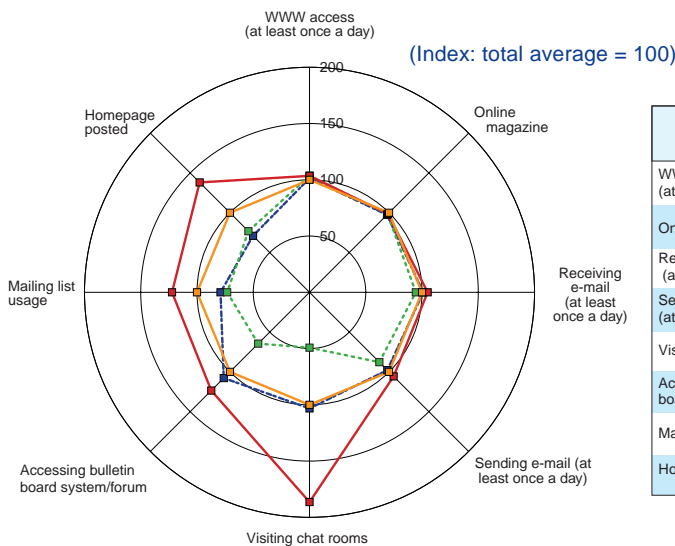
Comparison by Internet functions and services shows that access for information gathering (WWW access, mail-magazine browsing) or exchange (e-mail) does not show great difference among the groups. However, community activities (chatting, Bulletin Board System (BBS)/forum, mailing list) are much more common among young people. The same high usage rate was seen upon posting homepage ownership for information transmission purposes (Fig. 1).

Moreover, for e-mail, chats, BBS, etc., the com-

parison seen in Fig. 2 shows that more young people (32.8%) use the Internet in “getting to actually meet new people (offline),” at over double the rate than the elderly or homemakers. It appears that the younger the users, the lower the resistance to using the Internet to make new contacts with others.

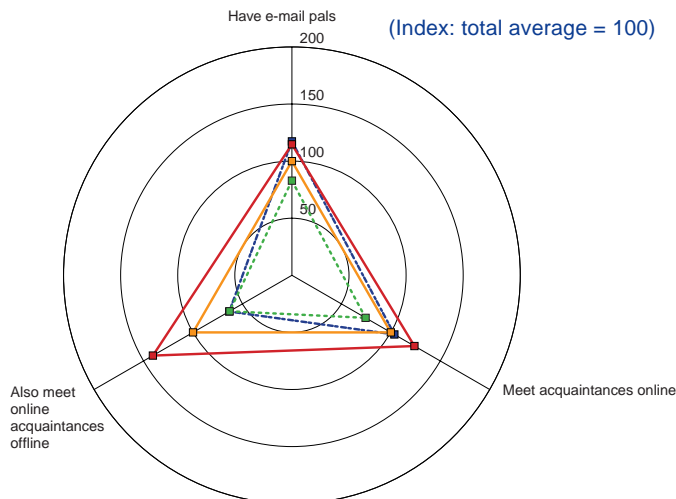
This is part of a trend among the younger Japanese generation to quickly adopt new methods of communications, not only the Internet but also cellular phones and PHS text messaging transmissions. It is thought that the younger the users, the quicker it is in adopting new methods into daily life and making full use of these methods.

Fig. 1 Internet usage



Activity	Classification	Total average	Young people aged 18 to 25	Elderly aged 50 or older	Homemakers
WWW access (at least once a day)	Information gathering	70.6	73.1	73.2	71.6
Online magazine	Information gathering	93.5	92.3	91.8	91.1
Receiving e-mail (at least once a day)	Social exchange	82.0	86.1	77.5	82.9
Sending e-mail (at least once a day)	Social exchange	52.1	55.1	45.8	51.0
Visiting chat rooms	Public communication	25.3	47.1	12.4	26.1
Accessing bulletin board system/forum	Public communication	45.1	55.7	29.1	48.6
Mailinglist usage	Public communication	43.3	52.9	31.7	34.2
Homepage posted	Information distribution	24.7	34.1	19.0	17.5

Fig. 2 Social exchange via network



Activity	Total average	Young people aged 18 to 25	Elderly aged 50 or older	Homemakers
Have e-mail pals	65.0	74.6	53.9	76.3
Meet acquaintances online	50.0	61.9	37.3	51.8
Also meet online acquaintances offline	23.3	32.8	14.7	14.8

Source: “Survey of Internet Users,” MPT

(3) Elderly

Elderly people generally have expectations for the Internet in expanding hobbies/self-improvement.

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According to the “Survey of Internet Users,” the future possibility for Internet usage by the elderly (age over 50) is as follows.

Elderly Internet users generally want to use the Internet for hobbies and studies for self-improvement in the future so as to make the most of their daily life. In addition, “communication with people who have similar interests” and “looking for a new goal in life” seems to be the motivation raised in using the Internet for about 30% of those surveyed.

By gender, while men wanted to expand their

opportunities for self-enhancement, women were more interested in gaining career opportunities and experience (Fig. 1).

However, there were problems and fears raised about the Internet such as “costing too much” and “possible invasions of privacy and exposure to on-line crimes” in this age group. The complexity of personal computers and the Internet also causes difficulties, but since many of those surveyed were in a workplace setting, only 10% said that it is “too difficult to use (not user-friendly enough)” (Fig. 2).

Fig. 1 Purpose of using the Internet from now on (the elderly)

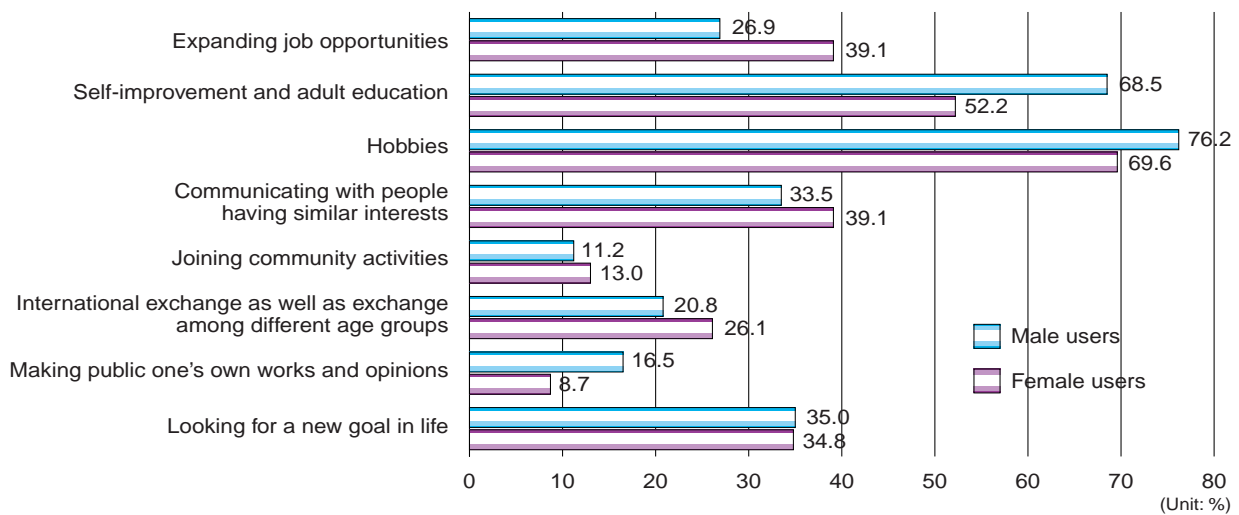
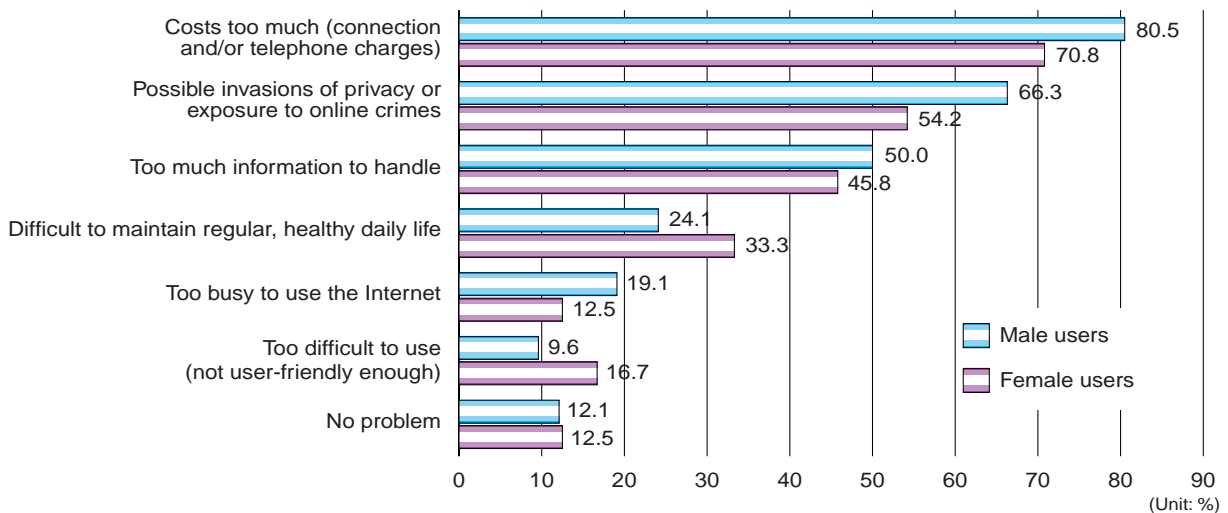


Fig. 2 Barriers to Internet usage (the elderly)



Source: “Survey of Internet Users,” MPT

(4) Homemakers

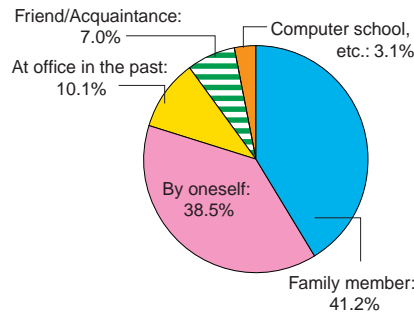
Homemakers expect the Internet to provide information for daily life.

According to the “Survey of Internet Users,” the status of homemakers who spend a lot of time for housework and childrearing as regards Internet usage is as follows.

Upon embarking upon Internet usage, 41.2% of the homemakers learned how to use the personal computer or to access the Internet from other family members (Fig. 1).

The main Internet information used by homemakers was “hobbies and entertainment-related information,” with the combination of those who “use it often” and “have used it before” adding up to 96.5% (Fig. 2).

Fig. 1 How homemakers learned to use personal computers and access the Internet?



When asked how the Internet had affected their lifestyle, 73.2% of homemakers said it had expanded the “areas of hobbies and entertainment” while 64.2%

said it gave these areas more depth. Also, 45.5% replied that they had “met people with similar hobbies or interests,” which is a higher figure than the 37.7% average for all survey respondents, showing that it allowed homemakers to expand their social contacts. Since the time spent at home is long and links with society weaker, the general feeling seemed to be that the Internet provided access for expanding upon hobbies and other interests.

Among the homemakers surveyed, some 70% said they would like to use the Internet more in future to “obtain information that is useful to their daily lives” or to “obtain or enhance information about hobbies,” with the former being quite high on the list (Fig. 3). However, since there was a big difference between the replies of “use often” and “have used before” to the question of “obtain information for use in cooking or household chores,” there may be a “gap” among respondents as to the actual information included in the “information for daily life” and those expected by these homemakers. Furthermore, 53.3% of the respondents answered that the Internet would expand “opportunities or possibilities for working at home,” indicating a great desire to work at home (Fig. 3).

Fig. 2 Information accessed on the Internet (homemakers)

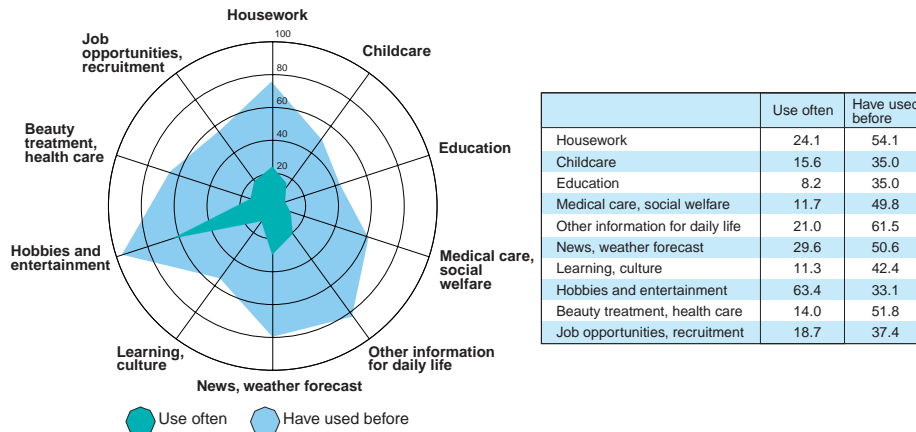
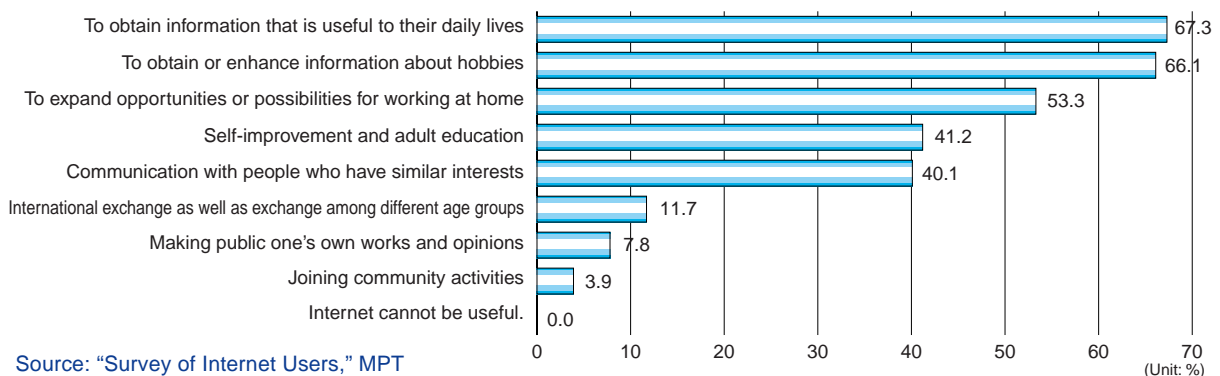


Fig. 3 Intended future use of the Internet (homemakers)



Source: “Survey of Internet Users,” MPT

Column 4 Use of cryptography

Cryptography technology permits authentication and security of transmissions.

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Cryptography, which has long been used in earlier forms of communication, is now in widespread use in Internet commerce to authenticate the identities of communicating parties and ensure that communications has not been falsified. The cryptography technology used for communications over the Internet can be roughly split into the symmetric and asymmetric cryptosystems.

A key used for cryptography technology refers to specific data used for encryption and decryption.

In the symmetric cryptosystem, the same keys are used both by the sender and the receiver of a message to encode and decode its content. In the asymmetric cryptosystem, a pair of keys is used: one is the "private key," which is kept securely by the owner, and the other is a "public key" that is available to the public. Data encrypted with one of the pair cannot be decrypted without the other key. For example, only a person owning a private key can decode a message received via the public key. Thus, if the private key is kept secure, it is extremely difficult for the message to be decoded by a third party. Also, when a sender uses his or her own private key to encode a message, the receiver can decode the message only with the appropriate public key, thus confirming the identity of the sender.

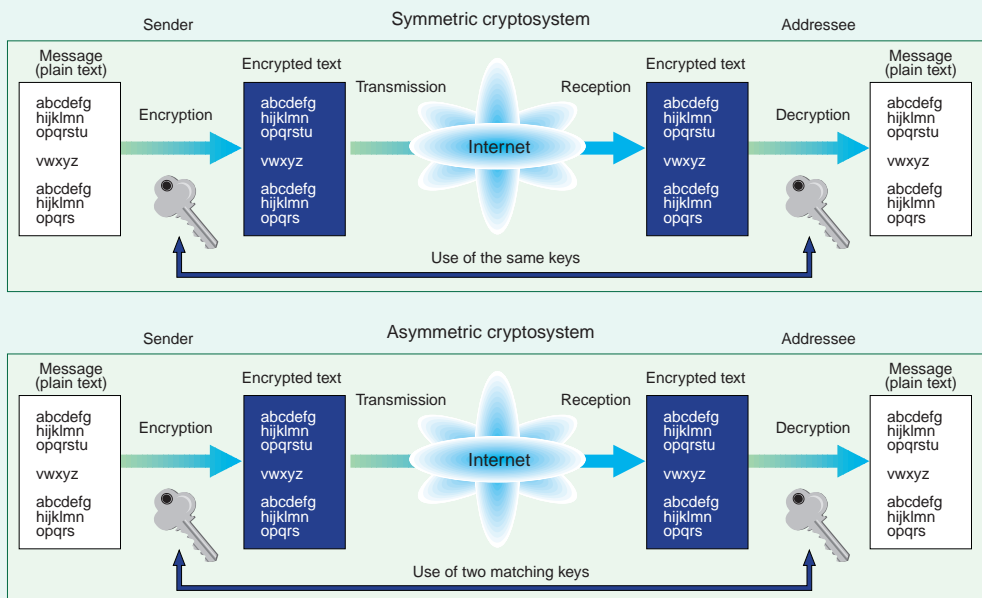
These two cryptography methods each have

merits and demerits. The symmetric cryptosystem allows quick encryption and decryption, but involves the need to make multiple matching keys as many as recipients and to transit these safely. The asymmetric cryptosystem, on the other hand, allows disclosure of the public key, dispensing with the need to prepare multiple keys or to transmit them to the other party, but messages take much longer to encrypt and decrypt. Recently, a combination of the two types has been developed, in which both the encryption and decryption are done with the symmetric cryptosystem, which are transmitted via the public-key cryptosystem.

Cryptography technology is becoming indispensable to ensure the security and reliability of transactions via the Internet, but codes constantly face the great risk of being broken. Therefore, enormous efforts are being made worldwide in the research and development of new cryptography technology, in fields such as quantum cryptography. Meanwhile, international organizations and forums, such as OECD and the Wassenaar Arrangement, are discussing ways to establish international frameworks for cryptography policies.

Note: Established in 1996, the Wassenaar Arrangement is an international export control framework that covers conventional weapons as well as applied items and technologies (including cryptography technologies); its signatories number 33 countries, including Japan, the U.S. and major European countries.

Fig. Comparison of "symmetric" and "asymmetric" cryptosystems



(5) Working women

Need to enhance hobbies/entertainment and daily information

According to the "Survey on the Use of the Internet by Full-Time Female Workers," conducted by MPT with the assistance of the Japan Association for HEIB (Home Economists In Business) and others, about three-fourths (73.5%) of these workers use the Internet for either business or private purposes. This figure greatly surpasses the Internet usage rate for homemakers (6.7%: "Survey on the Use of Telecommunications Equipment," MPT), indicating the popularity of the Internet among working women (Fig. 1).

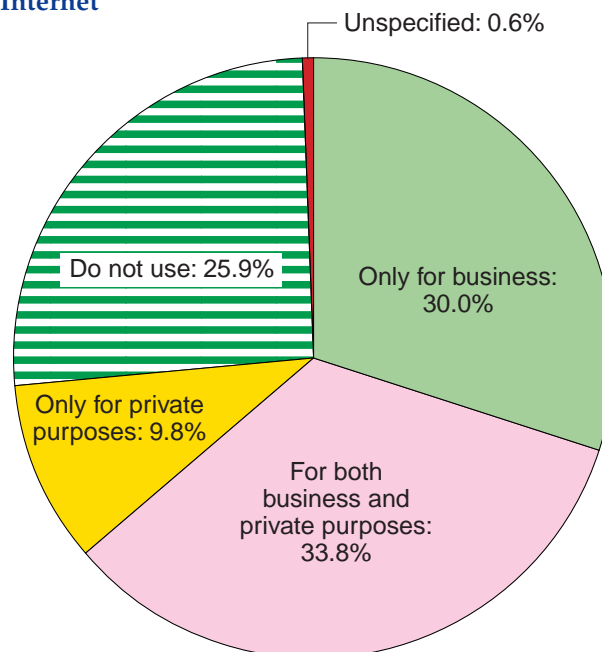
However, fewer than half the respondents to the survey said they accessed the Internet for private use (total of 43.6% for those who use it both for business and private purposes and those who use it only for private purposes). In order to further popularized the Internet among full-time female workers, increased Internet usage by working women as well as increased private-purpose usage are thought to be prerequisites.

Among women who only use the Internet at work, 47.7% said they did not use it in their free

time because the "terminal equipment was too expensive," while 37.2% said "communications and connection charges were too high" -- indicating problems with the price-tag -- and 14.0% said that "provided services were not attractive" (Fig. 2). Thus, despite their familiarity with the Internet at work, many women seem resistant to expanding their use for private purposes.

When those using the Internet for private purposes were asked as to what type of information they have accessed or what type of information satisfied them, the replies of "information for daily life," "news/weather forecasts" and "learning/culture" in addition to "hobbies/entertainment" made up 50% of replies. However, the satisfaction level with such information only rose above 50% in the "news/weather forecasts" category (Fig. 3). From this, it appears there is a need to make such information as "hobbies/entertainment," "information for daily life" and "learning/culture" more attractive to increase Internet access for private purposes.

Fig. 1 Usage of the Internet



Source: "Survey on the Use of the Internet by Full-Time Female Workers," MPT

Fig. 2 Reasons for not using the Internet for private purposes (multiple replies possible)

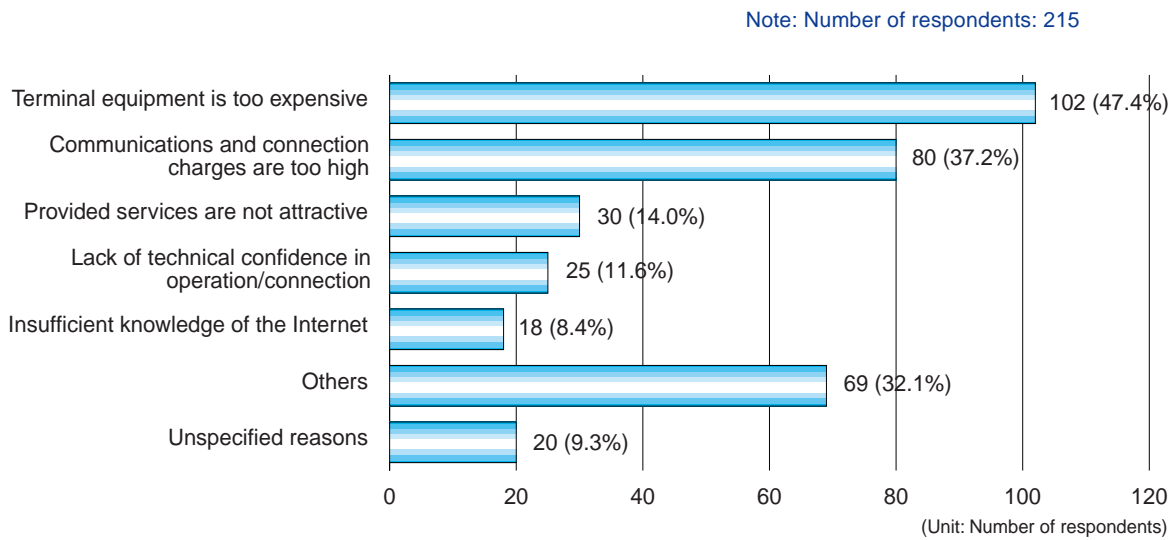
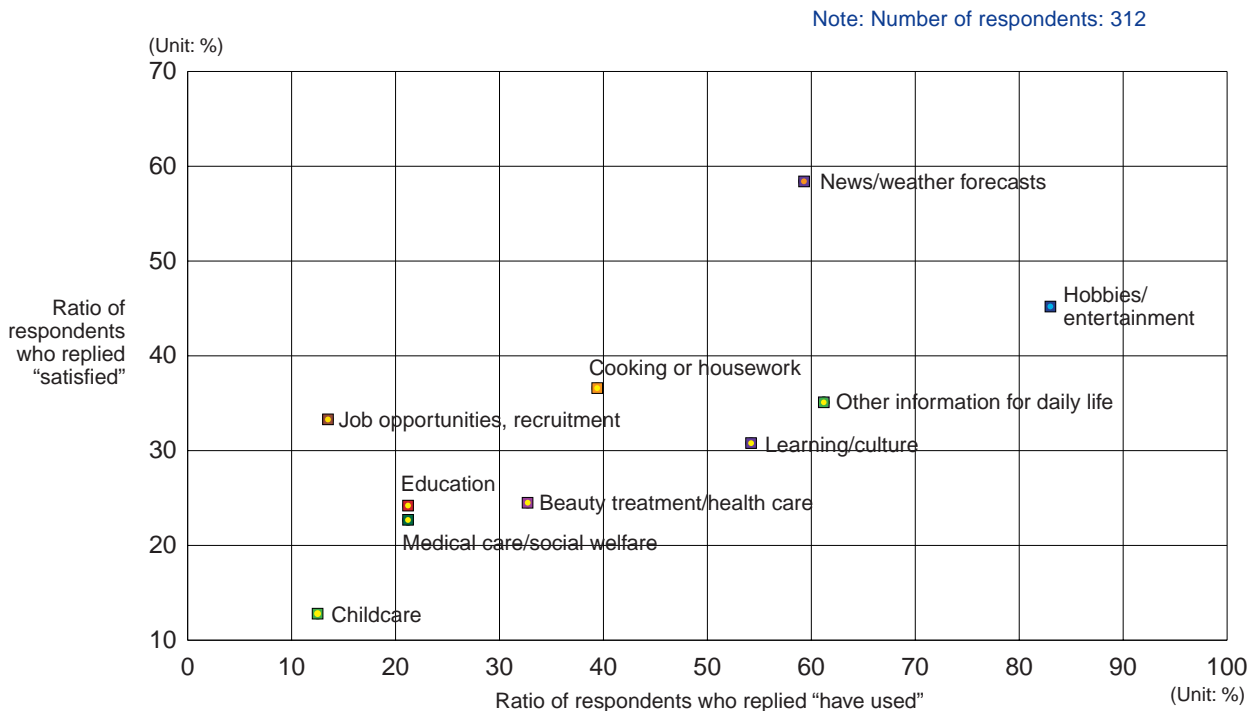


Fig. 3 Information accessed on the Internet for private purposes and satisfaction level



Source: "Survey on the Use of the Internet by Full-Time Female Workers," MPT

I-3-2 Social activities

(1) Online communities

Websites offer expanding opportunities to exchange views with others.

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The Internet provides a virtual social space in which communities can form on a myriad of sites, including bulletin board systems (BBS), chat rooms, mailing lists and individual homepages for users interested in common themes such as travel, sports, environmental issues, games, business or health.

Taking fans of professional baseball as an example, Internet users among them can enter the online community, hold conversations and exchange views with other users interested in the sport. No matter what the topic, users can express themselves freely and gain opportunities for social contact via the Internet.

In the United States the Internet community has expanded rapidly. As well as a lack of constraint on the location, time of access time or need for users to reveal their true identity, this expansion has been fuelled by commercial support from businesses. Online media are funded mainly by advertising revenues and a community site can be easily established through the advertiser providing space without having to arrange for content. Since the advertising value of the site is determined by how many "hits" it attracts and the level of repeat visits, the development of sites for community use is an effective means of promotion for private companies.

Search engines, content sites and shopping sites on the World Wide Web have all tended to add community functions in order to encourage more repeat visits. According to a December 1998 "WWW Sites Reach Estimate" by Media Metrix Inc., which surveyed the rankings of websites by home and workplace users, of the 25 most popular sites in the U.S., 20 were for community use or were content sites that included community functions. Now that it is relatively simple to use freely available software to add bulletin boards to individual homepages, such community locations are on the rise, leading in turn to an expansion in the number of users.

The World Wide Web itself is another important factor behind the diversification and expansion of online communities. As well as an open network of such sites as BBS (forum or electronic conferencing), chat rooms and homepages, the Internet community also provides means of private communication between individuals, or among groups that need to share such information as schedules and address lists. Such diversity allows users to participate at different levels, whether just for posting or retrieving information, or for active exchange of views and the establishment of social contacts.

Table Examples of major Internet communities

Site	Theme	Service	Usage
GeoCities (Yahoo! Inc., the U.S.) http://www.geocities.com/	Community	Homepage, chat rooms	3.3 million members, 1.8 million visitors per month (as of January 1999)
theglobe.com (theglobe.com, inc., the U.S.) http://www.theglobe.com/	Community	Homepage, chat rooms, BBS	2 million members (as of December 1998)
iVillage (iVillage, Inc., the U.S.) http://www.ivillage.com/	Content site for women	Homepage, chat rooms, BBS	77 million page views per month (as of November 1998)
ThirdAge (ThirdAge Media, Inc., the U.S.) http://www.thirdage.com/	Content site for the elderly	Chat rooms, BBS	2.2 million page views per month (as of February 1998)
GeoCities (GeoCities Japan Corp., Japan) http://www.geocities.co.jp/	Community	Homepage	0.2 million members (as of January 1999)
GALA Friend (GALA Inc., Japan) http://www.friend.ne.jp/	Community	Homepage, chat rooms, BBS	0.1 million members (as of February 1999)

Related site: Media Metrix, Inc. (<http://www.mediametrix.com/>)

(2) Volunteer activities

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Information network born from the ashes of the 1995 Great Hanshin-Awaji Earthquake

1. Immediately following the Great Hanshin-Awaji Earthquake

The Great Hanshin-Awaji Earthquake in western Japan in January 1995 established computer communications and the Internet as a major means of providing information in Japan, and gave birth to new types of voluntary activities focusing on such information networks. This was because the new systems of communications imposed no limits on the amount of information carried or the time when it can be accessed, and allowed data to be stored and exchanged to meet the precise needs of users.

Between 1 pm on 17 January 1995, the day the earthquake struck, and 6 pm the next day, the earthquake information menu of the computer network Niftyserve was accessed some 1.01 million times, comprising 2.7 million minutes' worth of access time. With the start of full-scale recovery activities, on 26 January an online "Disaster Volunteer Forum" was opened with the aim of providing information for volunteers and logistical support for the distribution of relief goods. It also provided a link for the many voluntary organizations operating in the area.

In March, Japan's three major commercial computer networks (Niftyserve, PC-VAN and People) were linked via the Internet to share information on the "InterVNet" interoperable network of newsgroups, bulletin boards and various Internet sites. By April 1995, ASAHINet, Nikkei MIX and ASCIINet had joined the InterVNet, allowing the establishment of a comprehensive information network encompassing voluntary organizations, businesses, the public sector and the mass media.

2. Further development of information networks to support voluntary activities

Also in April 1995, the "NHK Volunteer Net" was set up to link organizations around Japan seeking volunteers for a wide range of activities and people wishing to offer their help. The system uses a host computer in Tokyo on which information can be freely exchanged between potential volunteers and organizations that have completed a screening process before being listed. As of February 1999, some one-thousand information was constantly available and the network had a membership of 140 registered organizations around the country, and recorded an access rate of over 400,000 per month on average. An example of the network's success is the case of the Social Welfare Committee of Unazuki, a town in Toyama Prefecture, which requested donations of old gramophone records and cassette tapes of Japanese folk-tales and music for the benefit of the elderly people with disabilities. As a result, some 1,700 items were sent in from across the country, together with record players, and a number of volunteers came forward to help catalogue the collection.

The NHK Volunteer Net also operates special bulletin boards during emergencies. The one operated from five days after the "Nakhodka" shipwreck and oil spill of January 1997, was accessed a million times over a 50-day period. On another occasion, after torrential rainstorms had wreaked havoc in the northern Kanto and southern Tohoku regions in August 1998, a voluntary group in Fukushima Prefecture used the network to call for assistance, and its request was answered by another group in Fukui Prefecture which had previously received help through NHK Volunteer Net. These examples show how voluntary activities are being encouraged and supported by computer networks.

(3) Recruitment

The Internet is becoming a major means of job recruitment in Japan.

According to MPT's "Recruitment Survey," the Internet is increasingly used by businesses to seek new employees.

1. Use of websites

During the two-year period 1996 to 1997, among companies answering the survey, 66.7% said they had used their Internet websites to provide recruitment information. As for the timing, 52.7% of firms began posting recruitment information immediately upon opening their websites, and 18.3% did so one year after opening them. The information on posted websites included details of working conditions, application procedures and information similar to that in printed company profiles.

Of the firms that used the Internet for recruitment, 37.6% accepted requests from prospective applicants by e-mail sent via the company website for participation in recruitment meetings. For these companies, 36% of applications for such meetings were handled via their websites, 25% by telephone

and 38% by letter. For companies without such e-mail systems, 72% of applications were handled over the phone and 27% by letter, indicating that, when available, the Internet partially substitutes for the telephone as a means of communications.

2. Use of e-mail

As regards e-mail, 52.7% of respondent companies said they used it to correspond with applicants for jobs and those selected for final interviews (Fig. 1). These companies noted that some 60% of the applicants' e-mail addresses were in the "academic" domain.

3. Companies' evaluation of the Internet in recruitment

According to the survey, among companies using the Internet for recruitment, the biggest advantage of the network was seen as its capacity to act as a route for providing general information on recruitment. Other characteristics that were evaluated highly included the ability to deal with inquiries outside regular working hours, receive job applications and communicate with applicants, (Fig. 2). As well as helping firms to deal with applications, and to save time through having fewer phone calls to handle, use of the Internet was also seen as lowering such costs as advertising expenses and printing costs for corporate brochures (Fig. 3).

Fig. 1 Use of e-mail to contact job applicants

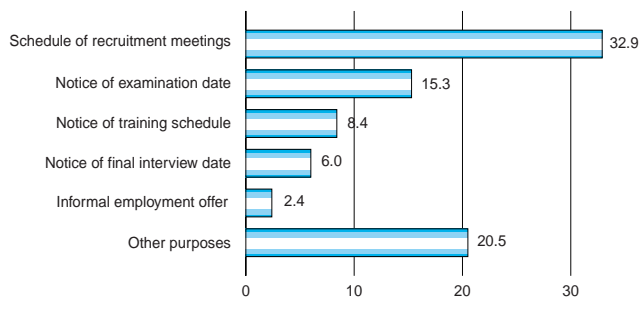
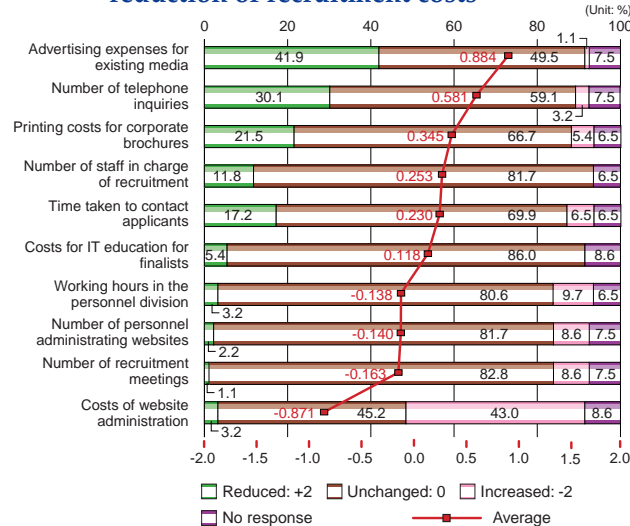
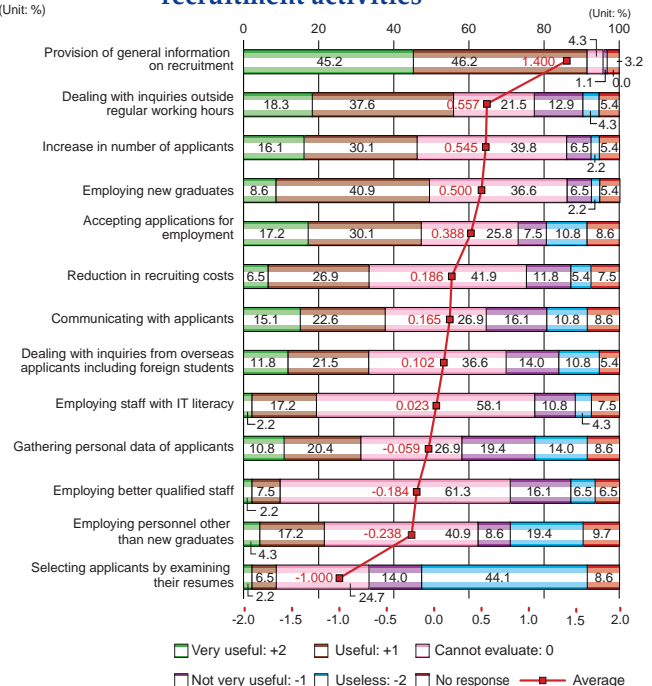


Fig. 3 Contribution of the Internet to the reduction of recruitment costs



Source: "Recruitment Survey," MPT

Fig. 2 Evaluation of the Internet in recruitment activities



(4) Job hunting

More and more people are using the Internet to search for jobs.

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Alongside the increased use of the Internet by Japanese companies for recruitment purposes, job hunting over the Internet has also increased. According to the "Internet Usage Survey," the following results were provided by young people aged 18 to 25.

Among respondents in that age group, although in 1996 only 22.0% said they had used the Internet to seek for work, this figure reached 93.7% in 1998. In addition, some 30% of potential job hunters used the Internet for that purpose (Fig. 1). In the main, the network was used to gather information, and usage for communicating with prospective employers was low (Fig. 2).

Despite the fact that 93.7% of young respondents to the survey reported that they used the Internet for job hunting in 1998, only 58.7% of them said it was "indispensable" to their efforts. Users of the network praised it as a means for obtaining information faster or more easily than by conventional telephone calls or letter. However, this was offset by complaints about websites not being kept up-

to-date and that some companies were still not geared to handle questions via e-mail.

From this, it is thought that by improving the information provision geared toward job hunters on the corporate side together with use of the Internet as a communications method as well would make the Internet more indispensable.

Finally, for "information gathering" upon job hunting and "evaluation of applicants" upon recruitment, both would lead to the improved standing of activities on the Internet.

Fig. 3 Does Internet make difference in job hunting?

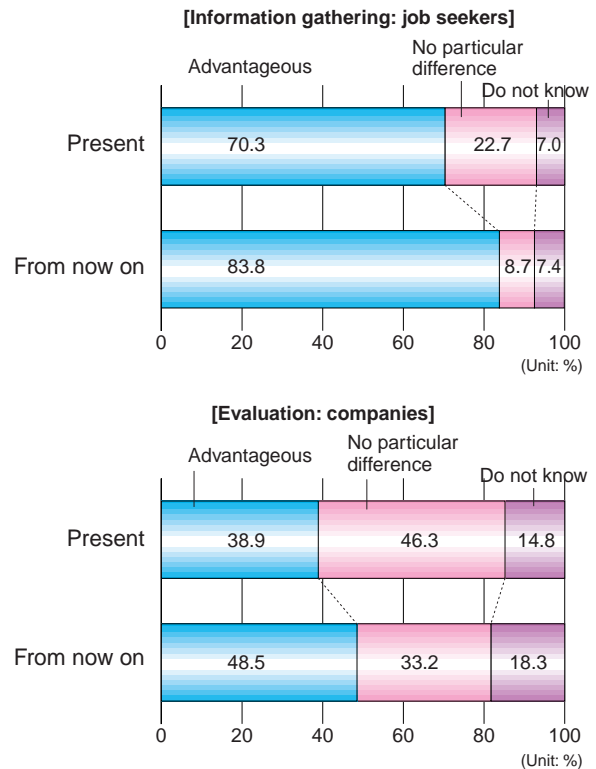


Fig. 1 Internet usage in job hunting

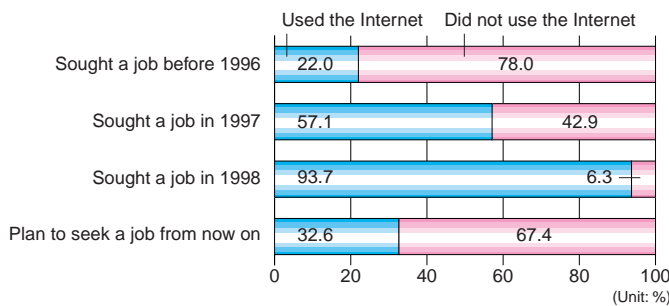
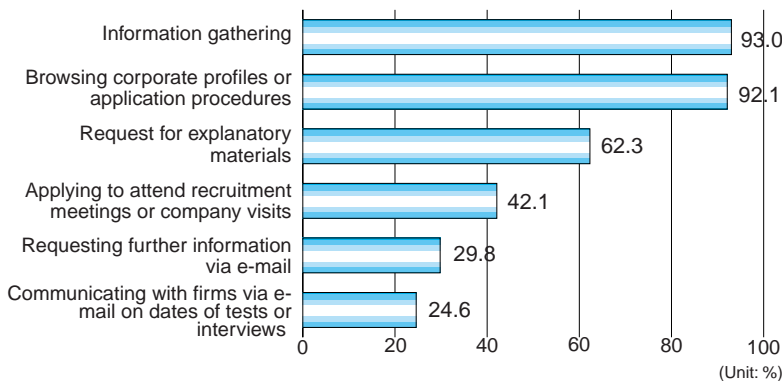


Fig. 2 Purpose of Internet usage in job hunting



Source: "Internet Usage Survey," MPT

(5) SOHO

Internet use firming up centered upon e-mail use

In recent years, with the increasing penetration of Internet, attention is being focused upon Small Office Home Office (SOHO). As one form of "telework," SOHO cuts both commuting time and costs (including mental ones), as well as allowing for flexible workstyles. The telework category includes employees of large companies working at home or satellite office, but SOHO is basically self-employed people working from home or small offices (Fig. 1).

1. Outline of SOHO

The work conducted via SOHO can generally be divided into the categories of "creative," "systems engineering," "editorial" or "writing" (Fig. 2). Each SOHO unit is independent, but they often form net-

works to handle the workload in a big project. In such cases a crucial role is played by the coordinating SOHO unit, which needs managerial skills, since sales or price negotiations are usually required.

2. SOHO Internet usage status and problems

E-mail handled via the Internet used to be mainly a way to transmit text, but with advances in e-mail technology in recent years it has expanded into transmission of image, voice and moving picture data, as well as software. Among SOHO units, use of all types of telecommunications equipment is basically equal. E-mail is used more often to send data for writing work than for other creative jobs, due to limitations of transmission capacity (Fig. 3).

Fig. 1 SOHO and telework

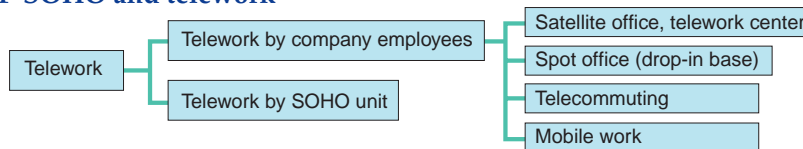


Fig. 2 Outline of SOHO

	Creative	Systems engineering	Editorial	Writing
Typical business	Design/Production	Programming	Inputting text, tape transcription	Translation, writing on a freelance basis
Break down	Web design, CG design/production, book design, block copy production	Program design/development, coding	Inputting text, tape transcription, editing/proofreading	Translation (English to Japanese, to English)
Major clients	Advertising companies, publishing companies	Manufacturers, system integrators, editorial companies	General companies, publishing companies, mass media	Publishing companies, editorial companies, advertising agents, manufacturers
Remarks	Freelance designers	Ex-employees of software houses	Homemakers, part-timers	Small offices (many female writers)
Working hours	Mainly full time	Mainly full time	Mainly part time	Mainly part time
Access lines	ISDN/leased circuits	ISDN/leased circuits	Analog lines	Analog lines

Monthly income

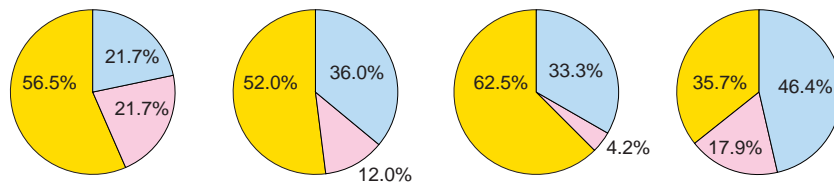
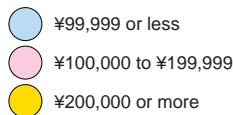


Fig. 3 Usage of communications equipment in SOHO business

Job flow	Major methods
1. Recruitment/sales activities	1. Human networks, homepages
2. Receiving and placing orders	2. Face-to-face, telephone, e-mail
3. Confirmation of specifications	3. Face-to-face, telephone, e-mail
4. Liaison activities	4. Telephone, e-mail
5. Information gathering on works in progress	5. Homepage, e-mail
6. Exchange of data and materials	6. E-mail with files attached
7. Deadline management	7. Facsimile, e-mail with files attached
8. Delivery	8. Face-to-face, e-mail with files attached

Source: Analysis on "SOHO Business' Current Status" by Makoto Sadahira and Nobutane Kayama (material for the Applied Statistics Society Annual Meeting in May 1999)

(6) Enhancing social participation by elderly and people with disabilities

Activities are being organized to help people use computers and the Internet.

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In the U.S., a non-profit organization called Seniornet was established in 1986 to help educate people aged over 55 about computers and to build an online community. Based in San Francisco, it now has 20,000 members. Although no such activity exists on a nationwide scale in Japan, grass-roots efforts are being made at a local level to encourage the elderly and people with disabilities to use the Internet to enhance their participation in society.

Photo Computer Granny Club homepage



The “Computer Granny Club” is one such group. Originally started using local community newspapers, it now has members other than from its Setagaya (Tokyo) base, with some 200 members as of February 1999 including an 88-year-old and two severely disabled persons, though there are many elderly who are afflicted with some degree of disability as well. The club seeks to make members familiar with computers through holding practice sessions and visits to computer shops with volunteers called “supporters” (whose qualifications are that they can remain calm and patient even when asked the same question ten times over). Some of these volunteers also visit people at home to provide training in use of computers.

Organizer of the club, Ms. Kayoko Ohkawa, believes that, amid the rapid aging of Japanese society, computers and the Internet can help the elderly and people with disabilities to remain independent and active. Volunteers must be extremely patient and spend a lot of time helping members to use the technology; however, once members have mastered e-mail, many become reinvigorated by online conversations with other members and “supporters.”

Related site: Computer Granny Club (<http://www.jijibaba.com/>)