

Rapid Growth of Internet Use: From the “Time Use Survey in the IT Age” 2006

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The “Time Use Survey in the IT Age” is a fact-finding survey employing the time use survey method to determine Internet use via personal computer or mobile phone along with other activities in daily life. The first such survey took place in 2001. Since then, broadband has spread rapidly, flat rates for data communication introduced by mobile phone carrier companies in 2003 are now more common, and many more people today access the Internet using their mobile phones. With such major changes in conditions relating to the Internet,¹ it was decided to conduct a second survey, five years after the first one, in order to get a more accurate picture of Internet use today.

The survey took place on Sunday, October 22 and Monday, October 23, 2006, among 3,826 Japanese citizens aged 10–69 from all parts of Japan selected by stratified two-stage random sampling. The survey used pre-coded questionnaires according to the distribution-and-collection method. The questionnaires consisted of diary-style entries divided into 15-minute units where respondents indicated the activity they were engaged in by placing a line in the relevant box. Valid responses were collected from 2,431 individuals, a valid response rate of 63.5 percent. Figure 1 shows the breakdown for valid survey samples. Figure 2 lists the survey items, which were divided into three main categories: basic daily activities such as sleeping, eating, working, traveling from one place to another, leisure activities, exposure to mass media, etc.; personal computer and mobile phone usage; and type of partner respondents were phoning or e-mailing. Further, PC and mobile phone use were analyzed not only for individual items but also calculated and analyzed in the following combinations (see Figure 2 (2)):

¹ According to *Heisei juhachi-nen ban Joho tsushin hakusho* [2006 White Paper on Information Telecommunications] from the Ministry of Internal Affairs and Communications (Gyosei, 2006), there were 23,300,000 contracts for broadband access as of the end of 2005. (Figure for 2001: 3,870,000) The number of Internet users via mobile phone, PHS or other mobile information terminal was an estimated 69,230,000 as of the end of 2005, a sharp increase from the FY2001 figure of 25,040,000.

- 1, 2, 3 = personal computer
- 4, 5, 6 = mobile phone
- 1, 6 = Web browsing
- 2, 5 = e-mail use
- 1, 2, 5, 6 = Internet

Figure 1. No. of Valid Samples and Sample Breakdown

		Monday			Sunday		
		No. of samples	Rate	2001	No. of samples	Rate	2001
All respondents		2,378 persons	100.0%		2,382 persons	100.0%	
Male/Female Age Groups	Male Teens	185	7.8	6.5	184	7.7	6.6
	Male 20s	137	5.8	6.7	134	5.6	6.4
	Male 30s	193	8.1	8.7	189	7.9	8.7
	Male 40s	193	8.1	9.6	189	7.9	9.5
	Male 50s	225	9.5	10.2	229	9.6	10.4
	Male 60s	205	8.6	8.0	210	8.8	7.8
	Female Teens	183	7.7	6.9	184	7.7	6.9
	Female 20s	159	6.7	7.2	159	6.7	7.5
	Female 30s	227	9.5	8.8	224	9.4	8.8
	Female 40s	210	8.8	9.4	210	8.8	9.3
	Female 50s	238	10.0	10.5	245	10.3	10.7
Female 60s	223	9.4	7.6	225	9.4	7.5	
Occupation	Agriculture, forestry, fisheries	53	2.2	2.4	53	2.2	2.4
	Self-employed	169	7.1	9.0	170	7.1	9.1
	Sales, service	276	11.6	12.3	279	11.7	12.5
	Craft skill, labor	343	14.4	15.0	339	14.2	14.8
	Clerical, technical	455	19.1	19.2	454	19.1	19.2
	Business operator, manager	76	3.2	3.0	75	3.1	3.0
	Specialist, freelancer, other	94	4.0	4.1	94	3.9	4.1
	Housewife	316	13.3	12.6	318	13.4	12.7
	No occupation	181	7.6	6.7	183	7.7	6.7
	Student	404	17.0	15.0	405	17.0	15.0

This way we can obtain information on the following:

- Day-basis rate of users, length of use, and rate of users by hour (with weekday activities represented by Monday and weekend activities represented by Sunday), rather than ordinary frequency of use or past experience using such devices
- A breakdown of personal computers and mobile phone use in terms of Web browsing, e-mail use, and calling, etc.
- Who respondents are calling or sending e-mail to
- Quantitative comparison of mass media, such as television and radio
- Use of these devices in conjunction with other daily activities

Figure 2. Classification of Activities

(1) Basic Daily Activities		Time spent at home	At home
		Sleeping (30 mins. or more)	Sleeping
		Washing, bathing, dressing and other personal chores, going to the doctor	Personal chores
		Eating	Eating
		Commuting to work/school or other transit (round-trip)	In transit
		Working, work-related social activities	Work-related
		Classes, school activities, sports or other school clubs, study or homework at home or prep school	Schoolwork
		Housework (meal preparation, cleaning, laundering, caring for family, shopping, tidying up)	Housework
		Social participation (PTA, community activities, weddings, funerals and other ceremonial occasions, volunteering, etc.)	Social participation
		Talking or chatting with friend	Talking with friend
		Talking or chatting with family	Talking with family
		Games, hobbies, lessons, sports, day trips or walks	Leisure activities
		Watching television	Television
		Listening to the radio	Radio
		Reading newspapers, magazines, manga, books	Print
		Listening to CDs, MDs or tapes	CD/MD/tape
		Watching videos	Video
	Playing video games	Video game	
	Resting, not doing anything in particular	Resting	
	Other (describe)	Other/not known	
(2) PC/ Mobile Phone Use		Telephoning from a home, office or public telephone	Calling (fixed line telephone)
	1	Using websites on the PC (searching for information, reading or posting to a bulletin board or blog, etc.)	Web browsing (PC)
	2	Reading or writing e-mail on a PC (communicating or chatting by e-mail, etc.)	E-mail (PC)
	3	Other task on a PC (creating spreadsheets, word processing, game-playing, etc.)	Other use (PC)
	4	Talking on a mobile phone or PHS	Calling (mobile)
	5	Reading or writing e-mail on a mobile phone or PHS	E-mail (mobile)
6	Accessing information service on mobile phone or PHS (searching for information on i-mode, EZweb, etc.)	Web browsing (mobile)	
(3) Communi- cation Partner		Family	Family
		Friend	Friend
		Work/community-related	Work- or community-related individual
		Other	Other individual

In addition to the above, changes since 2001 can also be tracked. This report will outline findings having to do with use of personal computers, mobile phones, and the Internet.

The main indices used in this report are as follows:

- 1) User rate: Proportion of those among all respondents who engaged in a particular activity for 15 minutes or more in one day
- 2) Average time per user: Average time spent on a particular activity, among those respondents who engaged in that activity for 15 minutes or more
- 3) Average time for all respondents: Average time among all respondents including those who did not engage in a particular activity²

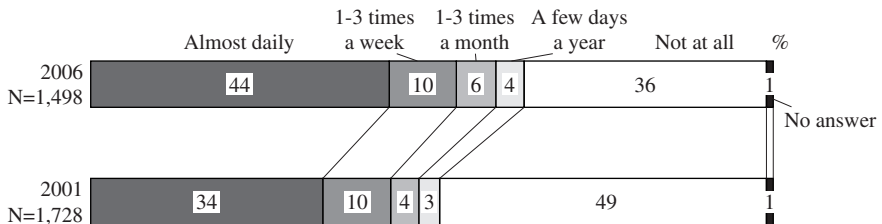
PERSONAL COMPUTER USE

Let us begin by looking at personal computer use. In this survey, three definitions of PC use were given: “Web browsing,” “e-mail,” and “other uses (i.e. offline use, such as word processing, spreadsheets, games, etc.),” and respondents were asked to record their activities. Before beginning analysis of the time use data, an incidental set of questions on use habits was included to check the relationship between PC use and work.

More “Almost Daily” PC Use for Work

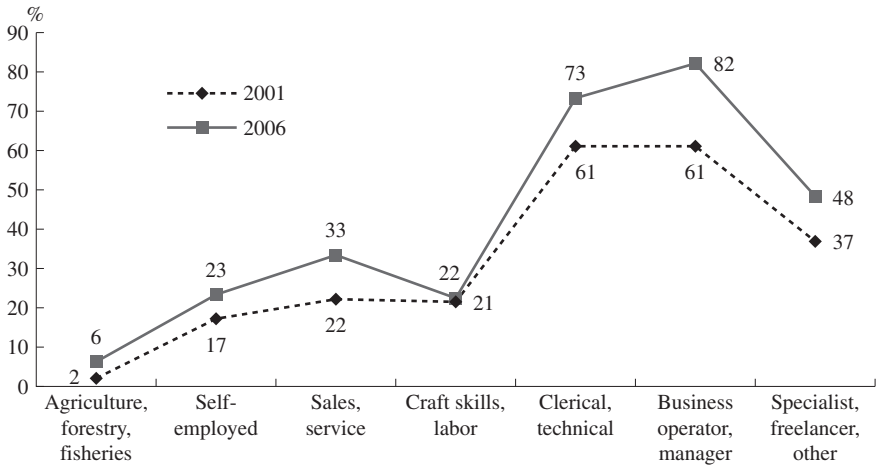
In the incidental questions, respondents in the “with occupation” category were asked how often they used a PC for work (Figure 3). Answers indicate that 44 percent used a PC “almost daily,” another 20 percent in total used a PC from “1–3 times a week” to “a few times a year,” and 36 percent “don’t use a PC at all.” Compared to 2001, fewer people are using PCs “not at all,” and more are using one “almost daily.” Figure 4, which examines the rate of

Figure 3. Work-related Use of Personal Computers (Workers)



² In the case of activities for which the user rate is low, average time for all respondents often does not match actual experience in daily life.

Figure 4. Rate of Persons Using PCs at Work “Almost Daily” (by Occupation)



respondents using a PC “almost daily” for work by occupation, shows that 73 percent of respondents in clerical or technical occupations and 82 percent of business operators or managers did so. In other words, the majority of white-collar workers use a PC daily for work. Compared to fewer than half using a PC daily in other occupations, this is a large difference that makes it clear that there are considerable occupation-based differences in PC use.

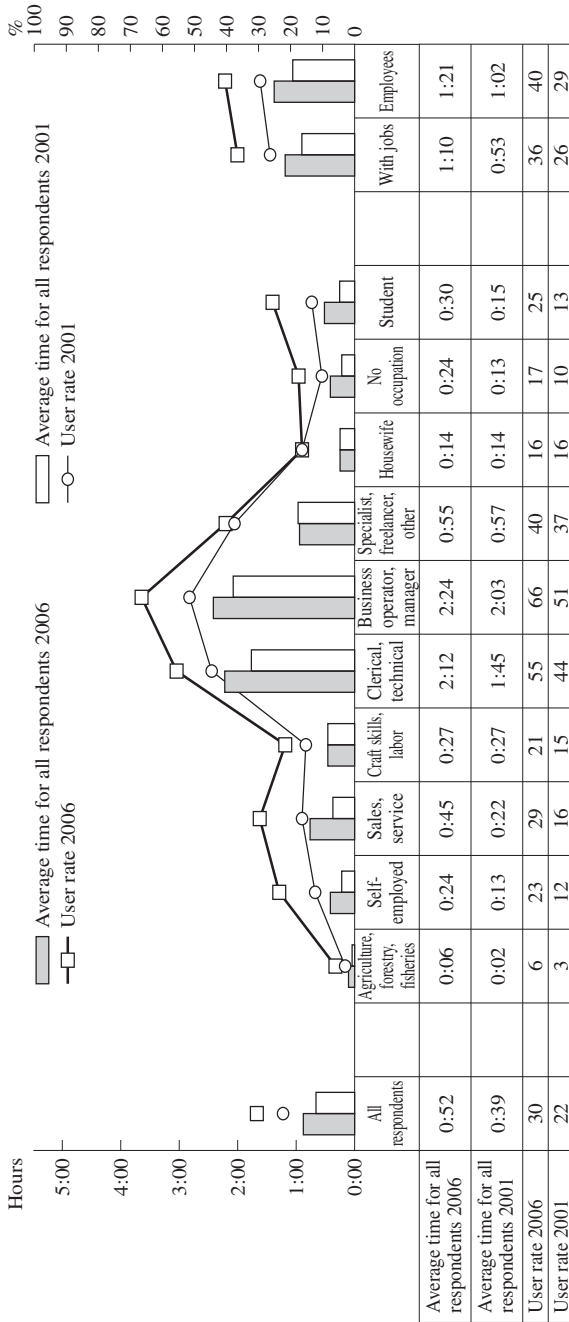
More Use on Monday than Sunday

Keeping in mind the trends of the above incidental questions, we analyzed time use data. The per day user rate for overall PC use among all respondents was 30 percent on Monday (vs. 22 percent in 2001) and 23 percent on Sunday (15 percent). Thus, PCs are used more extensively on Monday. In terms of average time per user among PC users, PCs were used for 2 hours and 52 minutes on Monday and 1 hour and 56 minutes on Sunday; here again, PC use on Monday is longer by approximately one hour. Therefore, average time for all respondents, which includes those who did not use a PC, was also 52 minutes on Monday (39 minutes in 2001) and 27 minutes on Sunday (16 minutes), showing that PC use was twice as long on Monday than Sunday. Thus, one of the characteristics of PC use is that PCs are used for longer on Monday than Sunday. Compared to 2001, both user rate and amount of time for all respondents increased on Monday and Sunday.

Workers’ PC Use Steadily Growing

Figure 5 shows user rate and average time for all respondents (Monday) for

Figure 5. User Rate and Time of PC Use (By Occupation, Monday)



Note: All occupations from “agriculture, forestry, fisheries” to “specialist, freelancer, other” are grouped together as “with jobs (*yushokokusha*).” All occupations from “sales, service” to “business operator, manager” are grouped together as “employees (*tsuotomenin*).” Due to small sample size and large errors, figures for “agriculture, forestry, fisheries” and “business operator, manager” are for reference only.

Figure 6. User Rate and Time for Each Type of PC Activity (All Respondents)

	Monday				Sunday			
	User rate (%) 2001	User rate (%) 2006	Average time per user 2001	Average time per user 2006	User rate (%) 2001	User rate (%) 2006	Average time per user 2001	Average time per user 2006
Web browsing	8	16	1:13	1:18	7	13	1:14	1:24
E-mail	12	14	1:07	1:09	8	10	0:37	0:46
Other use	13	16	3:15	3:07	7	9	2:07	2:11

all three PC uses covered in this study, by occupation. Data from 2001 for both user rate and average time are also shown. Even among the workers, the user rate exceeds 50 percent for business operators/managers and clerical/technical workers; average time for all was also remarkably long. Further, compared to 2001, both user rate and average time showed an upward trend among all workers, except in the agriculture/forestry/fisheries and specialist/freelancer/other segments. In particular, the user rate increased markedly among not only clerical/technical workers, who were using PCs extensively five years ago, but also among self-employed and sales/service workers; PC use, mainly work-related, has increased among these segments. But even so, the user rate among the self-employed and sales/service workers is still only about 20-30 percent.

The gap in PC use between workers and non-workers is also large; the user rate among housewives and those with no occupation is 16-17 percent and only 25 percent among students. Compared to 2001, the user rate among housewives and those with no occupation has not risen, indicating that PC use does not spread easily among segments with no opportunity to use PCs for work.

Offline Use Longer on Monday

In Figure 6, PC use was examined for each of these activities: “Web browsing,” “e-mail,” and “other uses (word processing, spreadsheets, games and other offline use).” In terms of user rate and time on Monday among all respondents, the user rate was 14-16 percent for all three activities, but the average time of 30 minutes for “other” activities was especially long. This is because average time per user for “other uses” was longer (3 hours 7 minutes) compared to the other two activities. On Sunday, Web browsing showed no change compared to Monday, but user rate and time declined slightly for “other uses” and “e-mail.” Compared to 2001, the user rate for all three activities has risen for both Monday and Sunday, but increases in “e-mail” and “other uses” were slight compared to the increase in “Web browsing.”

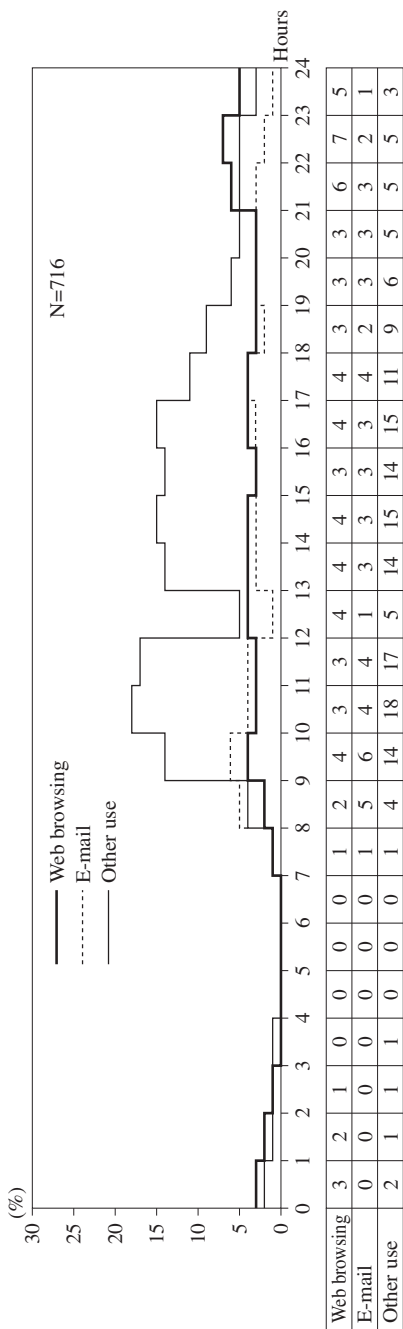
“E-mail” and “Other Uses” Not Increasing

Figure 7 shows user rate and time on Monday for the three PC activities by gender and age. The user rate for “Web browsing” was high (more than 20 percent) among men in their 20s to 40s and women in their 20s and 30s. Time was somewhat long for men in their 20s. The user rate for “e-mail” was high among men in their 30s and 40s, and tended to be higher among men in their 30s and over compared to women in the same age groups. Trends for “other

Figure 7. User Rate and Time for Each Type of PC Activity (By Gender and Age: Monday)

		Male		Male		Male		Male		Female		Female		Female		Female	
		Teens	20s	30s	40s	50s	60s	Teens	20s	30s	40s	50s	60s				
Web browsing	User rate	2006	12	29	24	26	14	9	12	24	22	16	7	2			
		2001	7	15	21	11	4	3	5	10	12	6	3	1			
	Average time for all respondents	2006	0:12	0:28	0:19	0:20	0:12	0:08	0:10	0:21	0:14	0:10	0:03	0:01			
		2001	0:07	0:14	0:18	0:06	0:04	0:03	0:02	0:07	0:06	0:04	0:01	0:00			
E-mail	User rate	2006	5	13	24	27	21	10	7	14	16	15	9	2			
		2001	4	14	22	21	11	3	4	21	17	13	6	2			
	Average time for all respondents	2006	0:03	0:10	0:20	0:22	0:14	0:06	0:06	0:06	0:11	0:14	0:03	0:02			
		2001	0:02	0:12	0:24	0:15	0:07	0:03	0:02	0:13	0:07	0:05	0:02	0:01			
Other use	User rate	2006	9	23	26	29	19	14	6	17	16	19	14	5			
		2001	5	16	24	24	16	6	5	14	17	14	9	3			
	Average time for all respondents	2006	0:12	0:40	0:59	1:04	0:39	0:22	0:05	0:25	0:30	0:40	0:23	0:04			
		2001	0:05	0:36	0:51	0:54	0:30	0:10	0:02	0:35	0:28	0:23	0:17	0:05			

Figure 8. Average PC User Rates at Each Hour of the Day (PC Users, Monday)



uses” were also similar to those for e-mail, with average time for all respondents among men in their 30s and 40s reaching around one hour.

In terms of changes compared to 2001, the user rate for “Web browsing” increased in a broad age range, mainly among men in their 20s and 40s and women in their 20s and 30s. Meanwhile, the user rate for “e-mail” grew among men in their 50s and 60s. For “other uses,” the user rate grew only among men in their 60s, with no increases among younger people and women.

In other words, much of the rise in PC use comes from increased “Web browsing.” On the other hand, growth of PC use for “e-mail” and “other uses,” which are mainly work-related, was sluggish among the young and the middle-aged. These activities, unlike mobile phone use and other IT-related activities led by younger people, are more frequent among middle-aged men, both in terms of user rate and time, with little change since 2001.

E-mail in the Morning, Web Browsing in the Evening

Lastly, use of personal computers throughout the day was examined, among PC users only. Figure 8 shows the average user rate hourly on Monday, for PC-based “Web browsing,” “e-mail,” and “other uses.” From that, one can see that different activities are carried out at different times of day.

Morning was the time of day when “e-mail” was frequently used. This activity peaks in the 9 A.M. time slot, meaning that many people check their e-mail before starting work. “Other uses,” also reflecting work-related PC use, increases after 9 A.M. and after a break around noon, with 10-20 percent of PC users continuing this activity until 6 P.M. On the other hand, fewer than 5 percent of PC users engaged in “Web browsing” during the day; this activity increased between 9 and 11 P.M. Another feature was that there were some who also browsed after midnight. Many people probably enjoy Web browsing on their PC as a free-time activity after they get home.

MOBILE PHONE USE

Mobile phones, equipped nowadays with multiple functions, are no longer simply devices intended for voice communication. This survey examined use of three of those functions—“calling,” “e-mail,” and “Web browsing” (information services via i-mode, EZweb, etc.).

Owned by 80 Percent

Responses to the incidental questions on use habits showed that 79 percent of all respondents owned a mobile phone (Figure 9). Among people in their 20s

Figure 9. Mobile Phone Ownership Rate (By Gender and Age)

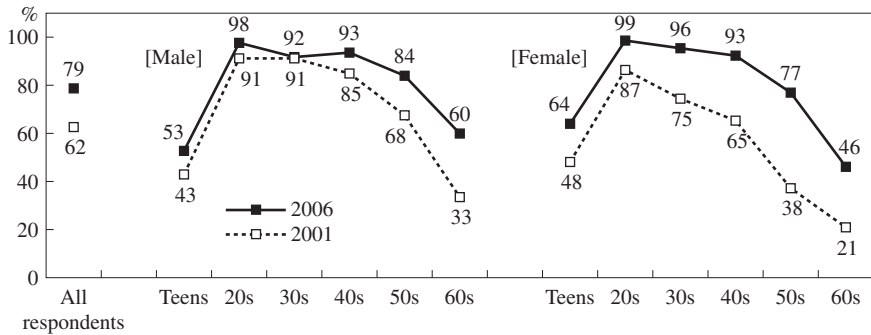
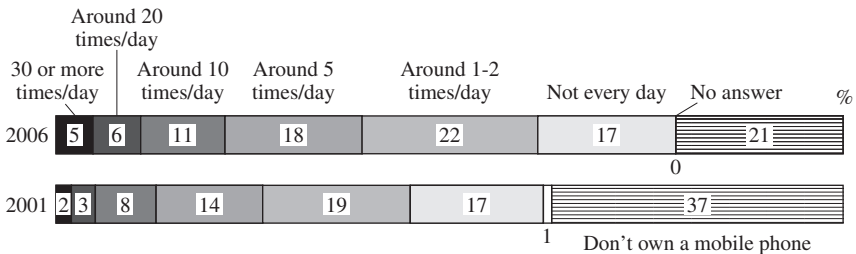


Figure 10. Frequency of Mobile Phone Use



to 40s, the ownership rate is over 90 percent, so it is safe to say that people in that age group consider a mobile phone a necessity.

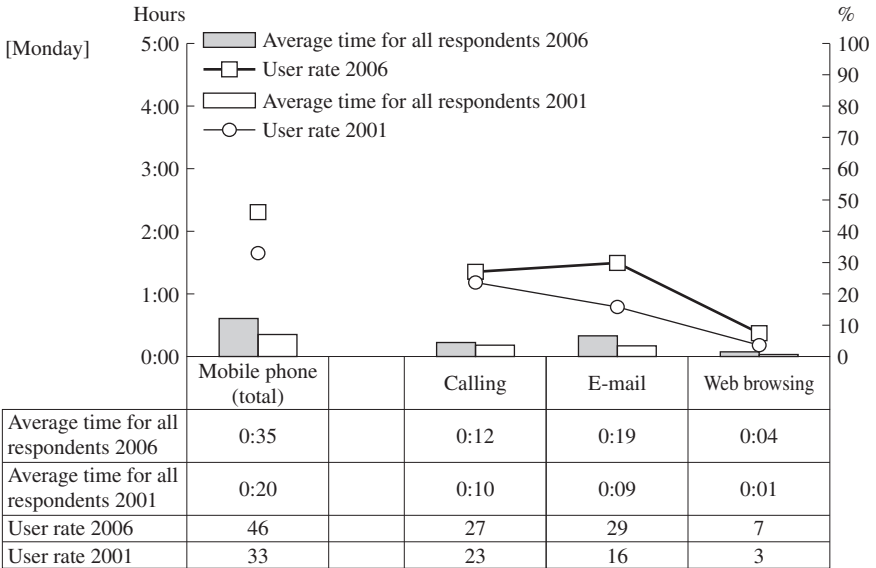
Compared to 2001, mobile phone ownership among all respondents increased from 62 percent to 79 percent. By gender and age group, ownership rose in all segments except men in their teens and 30s, with marked increases among women and especially women in their 50s. In 2001, it was mainly younger people—men in their 20s to 40s and women in their 20s—who owned mobile phones, but five years later ownership had spread to middle-aged and older age groups as well.

In terms of use frequency, 78 percent of mobile phone owners (and 61 percent overall) used their phone daily (once a day or more), showing that mobile phones are now used as a matter of course in daily life (Figure 10).

User Rates Per Day Slightly under 50%

Returning to data on activities, Figure 11 shows use of mobile phones over the span of a day. Whether the activity was “calling,” “e-mail” or “Web browsing,” about half of respondents, or 46 percent on Monday and 48 percent on Sunday, used a mobile phone in some way during the day. Average time per

Figure 11. User Rate and Time for Mobile Phone Use



[Sunday]	Mobile phone (total)	Calling	E-mail	Web browsing
Average time for all respondents 2006	0:35	0:10	0:20	0:04
Average time for all respondents 2001	0:20	0:09	0:10	0:01
User rate 2006	48	28	30	9
User rate 2001	34	25	17	3

user was 1 hour and 16 minutes on Monday and 1 hour and 12 minutes on Sunday. Average time for all respondents was 35 minutes on both Monday and Sunday, so there were no differences according to the day of the week.

The breakdown for mobile phone use shows that user rate for both Monday and Sunday is around 30 percent for “calling” and “e-mail” and slightly under 10 percent for “Web browsing.” Ranking these in descending order by average time per user gives “e-mail” (Monday 1 hour and 5 minutes, Sunday 1 hour and 6 minutes), “Web browsing” (Monday 54 minutes, Sunday 51 minutes), and “calling” (Monday 44 minutes, Sunday 36 minutes). Although there is slightly less “calling” on Sunday, there are no differences between Monday and Sunday for the other two activities.

Compared to 2001, user rates for all three activities have increased for both Monday and Sunday. In particular, the rate for “e-mail” has doubled. Average

time for all respondents has stayed the same for “calling” on Sunday but has increased for every other category, including “calling” on Monday.

Young Women Are Heavy E-mail Users

Looking at user rate and average time for all respondents by gender and age group, clear differences in use by gender and age emerge (Figure 12).

For “calling,” the user rate on Monday among men in their 30s is 44 percent and their average time is 24 minutes, meaning that they are the heaviest users of mobile phones for calling. The user rate among men in their 40s and 50s is over 30 percent and the average time for all respondents over 20 minutes. These figures show that men in their 30s to 50s often talk on a mobile phone. Men in their 30s and 50s who talk for a long time on Monday spend less time doing so on Sunday. Among women in their 20s to their 40s, the user rate for calling is high on Monday and Sunday alike, but time spent on calls is shorter than in the case of men. Conversely, on Monday men in their teens and women in their 60s have a user rate of less than 10 percent, indicative of less use.

Women in their teens and 20s are heavy e-mail users. On Monday, women in their 20s register the highest user rate, 61 percent, and for men in their 20s and women in their teens to their 40s the user rate is over 40 percent. Women in their teens spend the longest time on e-mail, their average time being 58 minutes on Monday and 1 hour and 8 minutes on Sunday. In the age groups from the teens to the 50s, women have higher user rates than men on both Monday and Sunday, supporting evidence that women are very active “e-mail” users.

For “Web browsing,” the user rate on Monday is highest among men in their 20s at 18 percent and also exceeds 10 percent among women in their teens to their 30s. The user rate for men and women in their 40s and over is under 10 percent on both Monday and Sunday, and length of use is also under 5 minutes. “Web browsing” is an activity engaged in mainly by younger people under 40.

A comparison of the relationship between “calling” and “e-mail” in terms of average time for all respondents (Monday) gives the following:

Men in their 30s to 60s use mobile phones more for “calling” than “e-mail.”

Women in their 50s and 60s are equally active in “calling” and “e-mail.”

Men in their teens and 20s, and women in their teens to their 40s, use “e-mail” more than “calling.”

Figure 12. User Rate and Time for Each Type of Mobile Phone Use (By Gender and Age)

		Calling						E-mail						Web browsing												
		Monday			Sunday			Monday			Sunday			Monday			Sunday									
		User rate 2001:2006	Avg. time for all 2001:2006	%	User rate 2001:2006	Avg. time for all 2001:2006	%	User rate 2001:2006	Avg. time for all 2001:2006	%	User rate 2001:2006	Avg. time for all 2001:2006	%	User rate 2001:2006	Avg. time for all 2001:2006	%	User rate 2001:2006	Avg. time for all 2001:2006	%							
All respondents		23	27	0:10	0:12	25	28	0:09	0:10	16	29	0:09	0:19	17	30	0:10	0:20	3	7	0:01	0:04	3	9	0:01	0:04	
	Male	Teens	15	8	0:04	0:02	15	11	0:05	0:05	26	28	0:18	0:31	27	30	0:24	0:27	5	9	0:01	0:07	5	11	0:01	0:09
		20s	37	37	0:18	0:14	42	37	0:19	0:17	28	42	0:17	0:34	29	49	0:14	0:42	7	18	0:03	0:11	8	22	0:04	0:09
		30s	37	44	0:22	0:24	34	41	0:13	0:14	13	28	0:04	0:09	14	27	0:04	0:10	4	9	0:01	0:03	6	10	0:03	0:05
	Female	40s	41	38	0:24	0:20	37	34	0:14	0:15	8	25	0:02	0:08	8	20	0:03	0:07	4	5	0:01	0:02	3	7	0:01	0:04
		50s	20	32	0:09	0:23	21	28	0:09	0:10	5	8	0:01	0:02	4	7	0:01	0:02	1	1	0:00	0:00	0	3	0:00	0:01
60s		12	20	0:05	0:09	13	17	0:03	0:05	2	4	0:00	0:01	0	5	0:00	0:01	1	1	0:00	0:00	0	1	0:00	0:00	
All respondents		13	18	0:05	0:07	18	16	0:06	0:09	31	40	0:36	0:58	37	44	0:41	1:08	9	14	0:02	0:12	8	21	0:02	0:15	
	Male	20s	45	36	0:16	0:14	47	46	0:15	0:14	48	61	0:22	0:50	55	65	0:27	0:49	7	16	0:02	0:13	6	18	0:03	0:11
		30s	21	28	0:07	0:08	24	39	0:08	0:15	26	48	0:08	0:25	22	52	0:10	0:25	5	12	0:02	0:04	5	13	0:01	0:04
		40s	20	30	0:05	0:08	26	34	0:10	0:11	13	50	0:05	0:21	16	47	0:05	0:20	1	9	0:00	0:02	0	10	0:00	0:02
	Female	50s	14	27	0:05	0:09	16	28	0:05	0:08	5	27	0:02	0:10	5	27	0:03	0:10	1	2	0:00	0:00	1	2	0:00	0:00
		60s	5	10	0:02	0:05	7	15	0:02	0:05	1	7	0:00	0:02	1	8	0:00	0:02	0	0	0:00	0:00	0	0	0:00	0:00

“Calling” Not Increasing among Younger People

Figure 12 also tracks changes in use in the five years between 2001 and 2006. For “calling,” both user rates and time increased on Monday among men in their 50s and women in their 40s and 50s, and on Sunday among women in their 30s, 50s, and 60s. User rate also increased on Monday among men in their 60s. On the other hand, there were no similar increases among younger age groups. On Monday, in particular, the user rate for men in their teens dropped from 15 percent to 8 percent.

For “e-mail,” only men in their teens and their 50s show no increases in user rate and time, on both Monday and Sunday. In all other segments, either or both user rate and time have increased. User rates and times are higher for both Monday and Sunday among men in their 20s and 30s and women in their 30s to their 60s, and there has been a marked increase in the user rate among women in their 30s to their 60s.

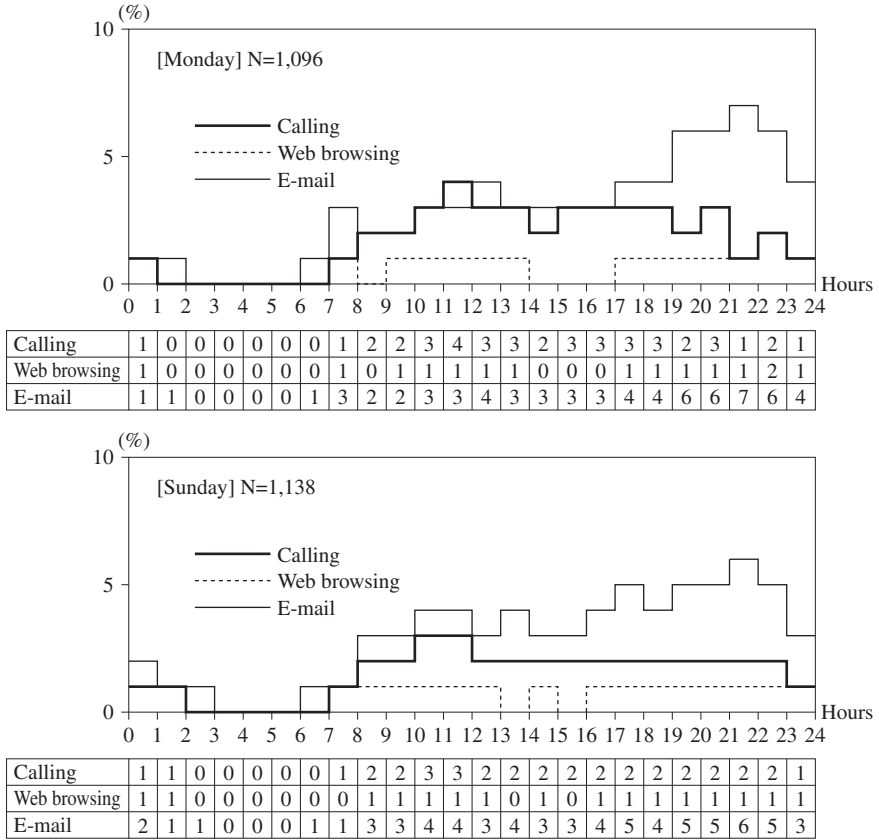
User rates for “Web browsing” have increased on both Monday and Sunday among men in their 20s and women in their teens to their 40s. In contrast to “e-mail,” which increased among the middle-aged and older segments, “Web browsing” grew among younger age groups and middle-aged women.

Mobile phones have come to be used for calling, the device’s original function, by 30–40 percent of respondents in a broad age segment from their 20s to their 50s, because use of mobile phones has increased among older people. E-mail, a function soon added to mobile phones, was used mainly by young people in 2001, but the 2006 survey showed that use of e-mail has increased especially among women in the intermediate age groups; more than half of women in their 20s to their 40s use e-mail. The great leap in mobile phone use has been spurred by more extensive use of e-mail. In 2001, Web browsing was not very widely used at all; the user rate was under 10 percent in all age groups and length of use was also under 5 minutes. But the 2006 survey shows that use had increased somewhat, mainly among the young. With more new contents like video, music downloads, SNS and others being added all the time, people are likely to spend more time Web browsing in the future.

“Calling” in the Daytime, “E-mailing” at Night

Figure 13 shows average user rate for each hour of the day among mobile phone users. From 7 A.M. onward on Monday and 8 A.M. onward on Sunday, “e-mail” was used consistently by around 3 percent of users, peaking at over 5 percent between the hours of 7 P.M. and 11 P.M. Mobile phones were used for “calling” by 2–3 percent of users between 8 A.M. and 11 P.M. on Monday and Sunday alike, with no marked peak hours of use.

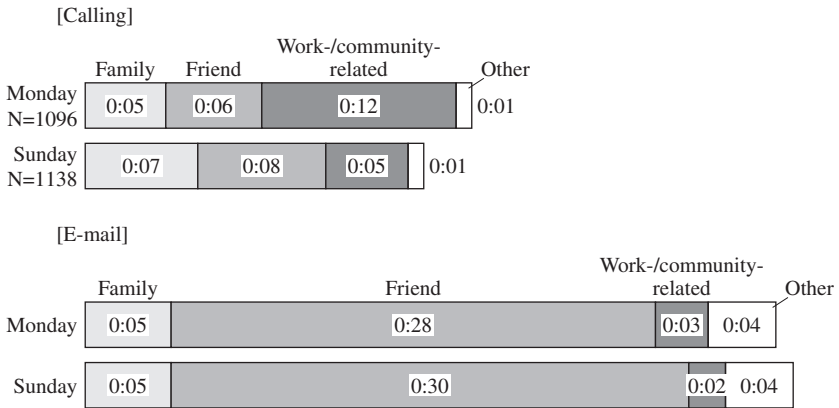
Figure 13. Average User Rates of Mobile Phones at Each Hour of the Day (Mobile Phone Users)



“Calling” for Work, “E-mailing” with Friends

Next, Figure 14 compares data on average time for all respondents to examine who respondents were calling or e-mailing. For “calling,” on Monday respondents spent 12 minutes talking with people for work or community affairs, 5 minutes with family and 6 minutes with friends; they spoke twice as long with work- or community affairs-related partners. On Sunday, talking with these people dropped to 5 minutes, and more time was spent talking with family (7 minutes) and friends (8 minutes), thus little difference in time spent among the three. There were no differences, on the other hand, between e-mail recipients on Monday and Sunday; on both days, users spent nearly 30 minutes e-mailing friends, by far the longest time spent on this activity.

Figure 14. Mobile Phone Communication (Calling/E-mail) Partner (Mobile Phone Users, Average Time for All Respondents)



Meanwhile, they spent 5 minutes on e-mail to family on Monday and Sunday, and only 3 minutes on the same to work- or community affairs-related individuals on Monday.

Mobile Phones Used in Many Daily Activities

For information on occasions for using mobile phones, Figure 15 provides data on activities carried out simultaneously with mobile phone use for “calling” or “e-mail.” On Monday, work-related (17 minutes), TV (15 minutes) and in transit (9 minutes) were the most common simultaneous activities for all mobile phones. The breakdown shows that while working, “calling” was the most common activity, at 12 minutes; for watching TV, “e-mail” was most common, at 11 minutes; when in transit, equal time was spent on “calling” and “e-mail” (3 minutes and 4 minutes, respectively).



On Sunday, mobile phone use while working declined (5 minutes), but mobile phone use while watching TV (16 minutes) and engaging in leisure activities (10 minutes) were more common. The breakdown shows that “e-mail” was the more frequent of the simultaneous activities. The data demonstrate that users often talked by mobile phone on Monday during work and that they used e-mail during their free time to communicate with people in their private lives. This finding coincides with the observation above that partners when “calling” on mobile phones are work- or community affairs-related, and that “e-mail” is often directed to friends.

Figure 16 examines data by gender and age group on Monday. Many men

Figure 15. Activities Simultaneous with Mobile Phone Use, Average Time for All Respondents (Mobile Phone Users)

(minutes)

	Monday				Sunday			
	Mobile phone	Calling	E-mail	Web browsing	Mobile phone	Calling	E-mail	Web browsing
Personal chores	4	1	2	0	4	1	2	0
Eating	6	1	4	1	6	2	4	1
Work-related	17	12	4	1	5	4	2	0
Schoolwork	5	0	4	0	3	0	2	0
Housework	5	2	3	0	6	2	4	0
Social participation	1	0	0	0	1	1	1	0
Leisure activities	5	1	3	1	10	3	6	2
Television	15	3	11	2	16	4	10	2
Radio	1	1	0	0	1	0	0	0
Print	1	0	1	0	3	1	2	0
CD/MD/tape	3	0	1	1	4	1	2	1
Videos	1	0	0	0	1	0	1	0
Video game	1	0	0	0	1	0	1	0
In transit	9	3	4	2	6	2	3	1
Other	3	1	1	1	3	0	1	2

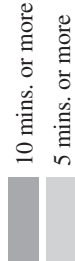
 10 mins. or more
 5 mins. or more

in their 30s and 40s and in their 50s and 60s used mobile phones for “calling” while working (30 minutes and 40 minutes, respectively). These segments account for most mobile phone use for “calling” during work.

Doing “e-mail” while watching TV was extremely common among men and women in their teens and 20s and accounted for 25 minutes among women in these age groups. Women in these age groups are heavy mobile phone users of “e-mail,” in terms of both user rate and time. They use mobile phones during a wide range of daily activities in addition to watching TV, such as schoolwork, in transit, eating, leisure activities, personal chores and so on. Other segments using “e-mail” for more than 5 minutes while carrying out some other activity were men in their teens and 20s for TV (17 minutes), leisure activities (9 minutes), schoolwork (8 minutes), work-related (6 minutes), and in transit (5 minutes); men in their 30s and 40s for work-related (6 minutes); women in their 30s and 40s for watching TV (10 minutes), housework (9 minutes), eating (5 minutes); and women in their 50s and 60s for

Figure 16. Activities Simultaneous with Mobile Phone Use, Average Time for All Respondents (Mobile Phone Users, by Gender and Age, Monday)

	Teen and 20s males		30s-40s males		50s-60s males		Teen and 20s females		30s-40s females		50s-60s females		(minutes)	
	Calling	E-mail	Calling	E-mail	Calling	E-mail	Calling	E-mail	Calling	E-mail	Calling	E-mail		
	Web browsing	Web browsing	Web browsing	Web browsing	Web browsing	Web browsing	Web browsing	Web browsing	Web browsing	Web browsing	Web browsing	Web browsing		
Personal chores	0	4	0	1	0	0	0	1	6	1	0	2	1	0
Eating	1	4	2	2	0	0	0	1	10	2	1	5	0	2
Work-related	4	6	2	30	6	1	40	2	2	2	2	4	0	3
Schoolwork	0	8	1	0	0	0	0	1	16	2	0	0	0	0
Housework	0	0	0	0	0	0	0	1	2	0	3	9	1	5
Social participation	0	0	0	0	0	0	3	0	0	0	0	1	0	0
Leisure activities	1	9	3	0	0	1	1	0	6	3	0	1	1	1
Television	2	17	3	3	3	1	3	0	3	25	4	2	10	1
Radio	0	0	0	1	1	0	1	0	0	1	0	0	0	1
Print	0	2	0	0	1	0	0	0	1	1	0	1	0	0
CDs/MDs/tapes	0	2	2	0	0	0	0	0	4	2	0	1	1	0
Video	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Video games	0	3	1	0	0	0	0	0	0	0	0	0	0	0
In transit	2	5	4	5	2	1	4	2	11	4	3	4	1	2
Other	1	1	2	1	0	1	1	0	2	3	0	1	1	0
	N=151	N=203	N=124	N=206	N=269	N=143								



watching TV (6 minutes). These figures demonstrate that mobile phone e-mail was used in a variety of situations characteristic of the respective segments' daily routines.

INTERNET USE

Next, observations were carried out on Internet use ("Web browsing" and "e-mail") either by PC or mobile phone and including all purposes of use of the Internet (work, entertainment, etc.).

Per Day User Rate Slightly under 50 Percent

Internet user rate per day among respondents was 45 percent on Monday (2001: 28 percent) and 44 percent on Sunday (26 percent). Average time per user among those using the Internet was 1 hour and 39 minutes on Monday and 1 hour and 31 minutes on Sunday. There are no major differences in user rate or time based on weekday or weekend. Further, average time for all respondents was 45 minutes (2001: 23 minutes) on Monday and 40 minutes on Sunday (19 minutes). Compared to 2001, user rate and time for both Monday and Sunday showed large increases.

Marked Rise in Users in All Age Groups

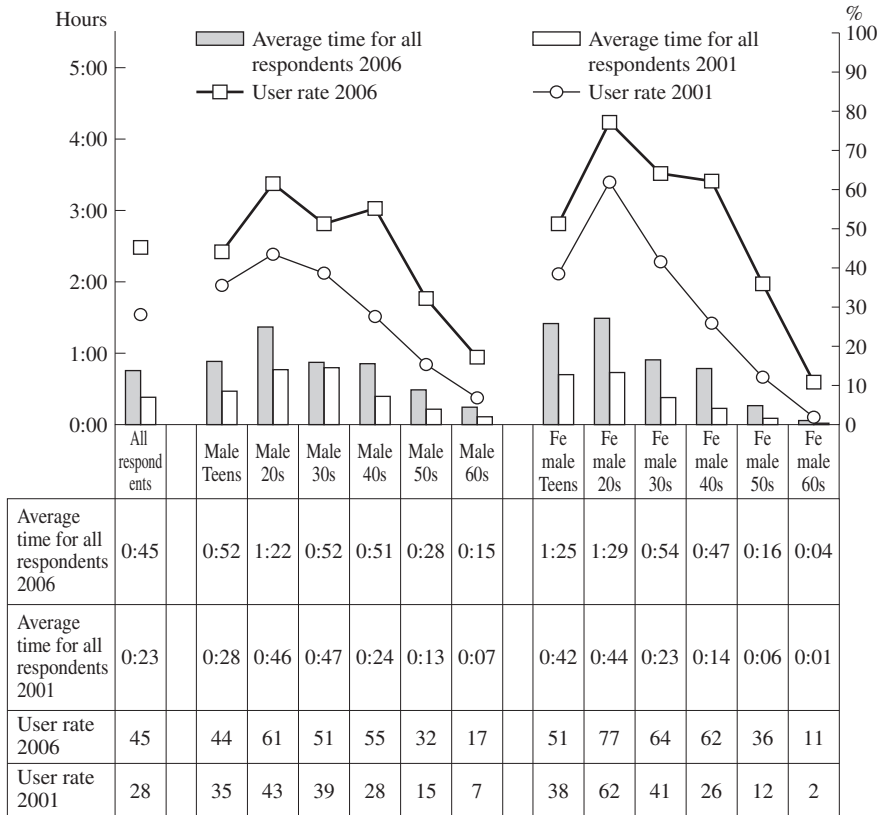
Internet use among men and women on Monday (Figure 17) shows that the user rate among men in their 20s to their 40s and women in their teens to their 40s exceeds 50 percent. It is highest among women in their 20s, at 77 percent. Even in their 50s, more than 30 percent of both men and women use the Internet. Average time for all respondents is over 1 hour for men in their 20s and women in their teens and 20s.

Compared to 2001, Internet use has increased in most age groups. In 2001, the Internet user rate was relatively high among younger people up to their 30s but over the past five years the user rate for those in their 40s in particular has grown. Today, Internet users constitute a majority among people in their teens to their 40s, most markedly in their 20s. One can thus say that many people use the Internet daily as a matter of course.

Mobile Phone "E-mail" Accounts for Nearly Half of Internet Time

The preceding sections have given an overview of Web browsing and e-mail use for personal computers and mobile phones separately. Now we would like to examine actual Internet use more closely, by analyzing average time for all respondents in terms of four Internet use modes: Web browsing on a personal

Figure 17. User Rate and Time for Internet Use (By Gender and Age, Monday)

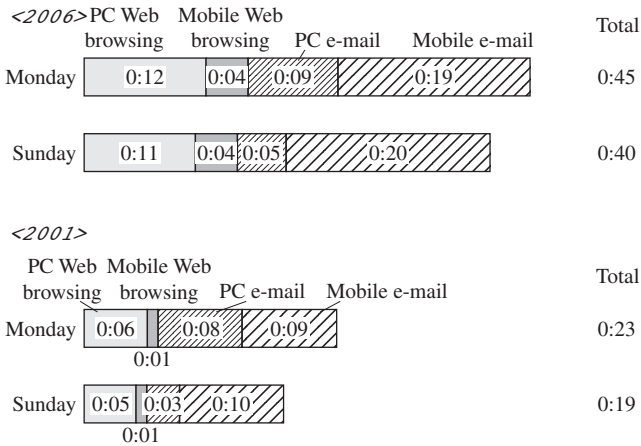


computer, Web browsing on a mobile phone, e-mail by personal computer, and e-mail by mobile phone.

Figure 18 shows the distribution of time spent by all respondents on these four activities. On both Monday and Sunday, the longest time is spent on “e-mail by mobile phone” (Monday 19 minutes, Sunday 20 minutes), accounting for 40-50 percent of overall Internet use. This is followed by “Web browsing on a personal computer” (Monday 12 minutes, Sunday 11 minutes), which constitutes one-quarter of Internet use in total. Less time is spent on “e-mail by personal computer” and “Web browsing on a mobile phone,” so the Internet is used a majority of the time for “e-mail by mobile phone” and “Web browsing on a personal computer.”

Compared to 2001, more time is being spent on these activities, except for “e-mail by PC,” on Monday, and on all four activities on Sunday. In particu-

Figure 18. Breakdown of Internet Use (By Mode and Medium, All Respondents, Average Time for All Respondents)



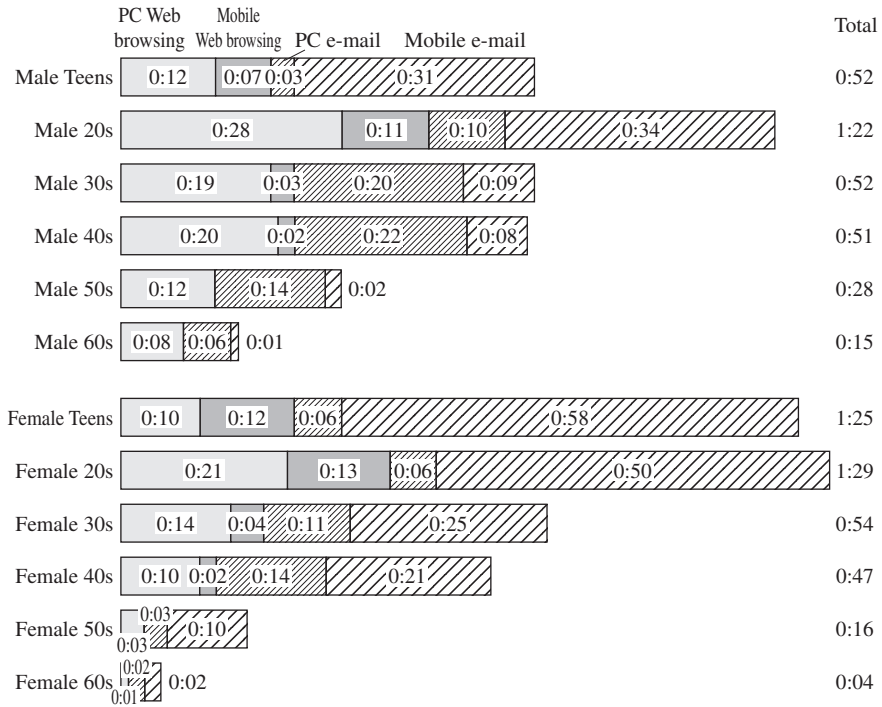
lar, “e-mail by mobile phone” and “Web browsing by PC” are being used about twice as long as in 2001, and it is clear that these two activities have grown quickly over the past five years.

Women Use Mobile Phones; Older Men Use PCs

Next, the four Internet use modes are examined in terms of men and women’s age groups (Figure 19, Monday). In terms of most time spent, women in their teens and 20s spend nearly one hour on “e-mail by mobile phone.” Men in their teens and 20s also spend over 30 minutes on this activity. Young people thus spend a lot of time on mobile phone e-mail use. Other age groups with relatively heavy use are men and women in their 20s who spend over 20 minutes “Web browsing on a PC.” Women in their 30s and 40s also spend more than 20 minutes on “e-mail by mobile phone.” Men in their 30s and 40s spend 20 minutes each on “Web browsing by PC” and “e-mail by PC.” This shows that men and women in different age groups use the Internet for different modes.

With these differences in time spent borne in mind, Internet use among men and women in the various age groups can be summed up as follows. For either PC or mobile phone, women who use e-mail by mobile phone extensively tend to spend a large proportion of their time using e-mail, regardless of age group. Among men, those in their teens spend more time using e-mail, but those in their 20s and older spend equal amounts of time Web browsing and using e-mail. Next, adding the breakdown for use by PC or mobile phone,

Figure 19. Breakdown of Internet Use (By Mode and Medium, By Gender and Age, Average Time for All Respondents, Monday)

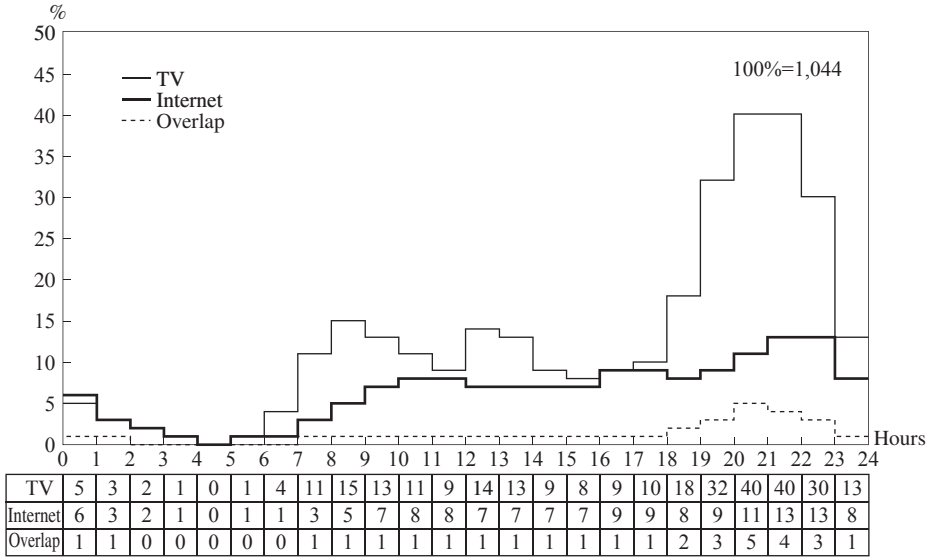


men and women in their teens and women in their 20s use mobile phones longer, and mostly for e-mail. In contrast, women in their 30s and 40s spend the same amount of time using PCs and mobile phones. Whereas they spend more time using a mobile phone for e-mail, on a PC they spend equal amounts of time on e-mail and Web browsing. Men in their 20s also spend the same amount of time using a PC and a mobile phone, but they spend more time Web browsing by PC. Men in their 30s and over spend more time using a PC but very little time on the Internet via mobile phone for either e-mail or Web browsing.

Many Use the Internet While Watching TV

Lastly, the survey examines Internet use while carrying out daily activities, to observe the settings in which this occurs. On Monday, the activity most frequently overlapping with Internet use is work-related (27 minutes), followed by watching TV (17 minutes), and leisure activities (12 minutes). On Sunday,

Figure 20. Average User Rates for TV and Internet at Each Hour of the Day (Internet Users, Sunday)



there is less overlap with work-related (7 minutes), while the most is with leisure activities (19 minutes) and watching TV (19 minutes). This shows that it is relatively common for people to use the Internet while watching TV, on either day.

Figure 20 (Sunday) details hourly average user rates for TV and Internet and for Internet use while watching TV. First, comparing TV and Internet, the user rate for TV is very high, especially in the evening (7-11 P.M.); the peak hours are 8-10 P.M. For the Internet, the user rate stays at a consistent 7-9 percent throughout the day, with no marked use peaks; it increases only slightly between 8 and 11 P.M. As a result, more people watch TV in the morning, at noon and at night, but during times of day (10 A.M.-noon, 2-6 P.M., after midnight) when the user rate for TV is low, the user rates for the Internet and TV are similar.

The rate of people watching TV and using the Internet simultaneously (overlap between Internet and TV) is close to zero during the daytime, but is 4-5 percent between 8 and 10 P.M. This means that in this time frame, from one-third to one-half of respondents using the Internet are doing so while watching TV. It is probably correct to assume that using the Internet while watching TV is common in the evening when many people watch TV.

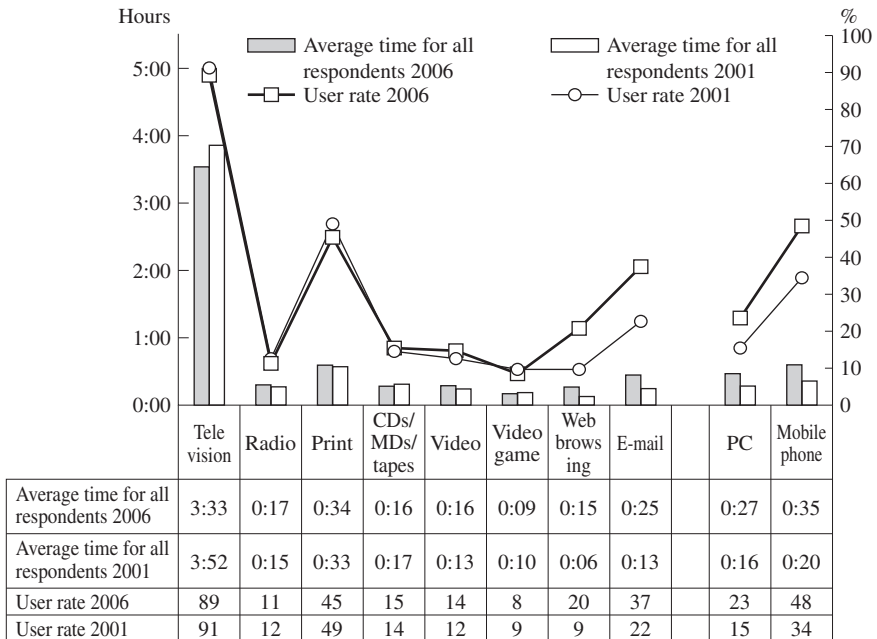
COMPARISON WITH MASS MEDIA

So far, this paper has described the details of respondents' IT-related activities. How does IT use compare to other activities, particularly those related to conventional mass media? The "Time Use Survey in the IT Age" investigates activities related to television, radio, print media (newspapers, magazines, manga, and books), CDs/MDs/tapes, video, and video games, which were compared to the Internet use modes of Web browsing and e-mail. To minimize the influence of work-related media use and grasp the details of media use as part of free time activity, data from Sunday were used. Incidentally, trends from Monday data were similar.

Mobile Phone User Rate the Same Level for Print Media

Figure 21 compares user rates and time spent by all respondents on each medium, Web browsing and e-mail, either by PC or mobile phone, and PC and mobile phone use, regardless of what activity they were being used for. In terms of user rate, TV ranks highest (89 percent), followed by print media (45 percent) and e-mail use (37 percent). In terms of PC or mobile phone use,

Figure 21. User Rate and Average Time by Medium (All Respondents, Sunday)



regardless of whether for e-mail, Web browsing or other use, the user rate for mobile phone was 48 percent. This was the same level as for print media and second only to TV.

Next, average time spent watching TV among all respondents was 3 hours 33 minutes, far ahead of any other activity as in the case of user rate, because TV was overwhelmingly high in terms of average time per user (Sunday, 4 hours 1 minute). Thus, TV remains by far the activity that respondents spend the most time on. Next come print media (34 minutes) and e-mail use (25 minutes). Average time for PC use is 27 minutes, while mobile phone use is 35 minutes, the second-longest time after TV. In terms of volume, mobile phone and PC use now occupies as much time as print media.

Compared to 2001, Web browsing and e-mail use have increased markedly, as has the user rate and time spent using a PC and a mobile phone. Where conventional media are concerned, the user rate for TV and time spent watching TV, as well as the user rate for print media, have declined, while they have remained unchanged for other media. As a result, the difference in use of TV and print media versus the Internet is now narrowing.

People in Their 20s Use the Internet as Much as TV

Next is a look at user rate and use time among men and women by age group, shown in Figures 22 and 23, respectively. For user rate, TV scores highest among all age groups. In second place is e-mail among men in their 20s and 30s and women from their teens to their 40s, and print media among men in their 40s and over and women in their 50s and over. For men in their teens, video games rank in second place after TV. The user rate for Web browsing is higher than for print media among men in their 20s and at similar levels to print media among men in their 30s and women in their teens and 20s.

Chiefly because of the high user rate for e-mail use, the user rate for the Internet (Web browsing + e-mail) among respondents up until around their 40s ranks in second place after TV. Among people in their 20s, in particular, the figure is 66 percent for men and 76 percent for women, which is quite close to the level for TV. This shows that the great majority of young people access the Internet as readily as they do TV.

The Dividing Line Is the 40s

Figure 23 details average time for all respondents. Every segment spends the longest time watching TV. But whereas men and women in their teens and 20s spend less than 3 hours on this activity, men in their 60s watch TV for over 5 hours, so the age-based difference is quite large. The second-ranking activity

Figure 23. Average Time for All Respondents by Medium (by Gender and Age, Sunday)

All respondents	Teen males	20s males	30s males	40s males	50s males	60s males
Television	3:33	2:45	3:19	3:37	4:23	5:02
Print	0:34	0:45	0:24	0:26	0:39	0:50
E-mail	0:25	0:39	0:23	0:22	Radio	0:27
Radio	0:17	0:32	0:22	0:18	CDs/MDs	0:17
CDs/MDs	0:16	0:31	E-mail	0:15	Web	0:04
Video	0:16	0:24	Radio	0:11	Video	CDs/MDs
Web	0:15	Video	0:13	0:07	E-mail	0:03
Video game	0:09	Radio	0:10	0:03	Video game	0:01
Internet	0:40	0:56	0:40	0:37	Internet	0:07
Teen females	20s females	30s females	40s females	50s females	60s females	
Television	2:29	2:59	3:02	3:03	3:51	
E-mail	1:16	0:57	0:30	Print	0:35	
Print	0:32	Print	0:27	E-mail	Radio	
CDs/MDs	0:31	CDs/MDs	0:25	Video	0:25	
Web	0:28	0:27	0:20	0:16	0:14	
Video	0:16	Video	0:14	CDs/MDs	0:12	
Video game	0:12	Radio	0:05	E-mail	0:12	
Radio	0:05	Video game	0:04	Video game	0:03	
Internet	1:44	0:06	0:44	0:02	Video game	
		1:24	0:34	0:16	0:01	
			0:16	Internet	0:05	

Note: Bold indicates a significant increase in average time compared to 2001. Shaded indicates a significant decrease in average time compared to 2001.

in terms of time spent is print media for men and women in their 40s and over, e-mail among men in their 20s and women from their teens to their 30s, Web browsing for men in their 30s, and video games for men in their teens, but all age groups spend much less time on these activities than on TV.

This data on time spent on media activities brings into focus the characteristics of media use in each age group. Roughly speaking, younger men and women, from their teens to around their 30s, use a variety of media for varying lengths of time during the day. In addition to TV, they spend over 40 minutes on the Internet, over 20 minutes on print media, and over 10 minutes on CDs/MDs/tapes and video as well. In contrast, people in their 50s and over spend much longer on using three conventional media—4 to 5 hours a day for TV, over 30 minutes for print media, and over 20 minutes for radio, while devoting only around 10 minutes to the Internet.

Based on this information, it appears that at this time, the dividing line between the segment that enthusiastically adopts new media and uses various media in accordance with purpose of use and the segment that spends a long time in contact with conventional media, just as they have up to now, is the 40s.

CONCLUSION

The above is an overview of IT use and changes in IT-related behavior. People are spending much more time now on IT-related activities, which is most likely affecting other daily living activities. To supplement the information collected regarding daily activities, in the incidental questions on use habits respondents were asked about the type of Web contents they accessed. Compared to five years ago, much higher percentages of respondents were putting the Internet to practical uses such as “ordering merchandise” (11 percent in 2001 → 31 percent in 2006), “reserving tickets or hotels” (9 percent → 24 percent) or “making a bank transfer/checking a bank account balance (4 percent → 9 percent). This shows that more people are now using the Internet instead of going out to shop or to the bank.

It is also apparent that younger people, who are avid Internet users, are on the verge of change as far as how they spend their free time and their contacts with media, not only in terms of how long they spend on this but also their methods and attitudes. For example, in one of the incidental questions, respondents were presented with three hypothetical situations—“when you want to learn the latest news about a serious accident or incident,” “when you want to look something up concerning a hobby or leisure activity,” and “when

you want to look up the meaning of a word”—and asked whether they would access the Internet rather than mass media first. Those answering that they would do so in the case of “a serious accident/incident” accounted for 27 percent (2001: 12 percent), 59 percent (39 percent) for “hobby/leisure,” and 32 percent (13 percent) for “looking up the meaning of a word.” For all three items, those answering “yes” were particularly numerous among men in their 20s to their 40s and women in their 30s. From this we can infer that people are increasingly relying on the Internet for obtaining the information they need.

(Translated by Julie Kuma)